

# Health Physics Sample Records

Sample ID: 142460

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: ☐

Description: 140529BD 27 STARYARD SURVEY PT 27

## 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 07:38

Comments:

## Origin

Mat. Size/Volume: 1714 GRAMS

Docmnt/MO/Act #:

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

Description: STARYARD SURVEY PT 27

## Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 05/29/14 12:15

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 1714 GRAMS

Instructions:

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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## Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
B_1L_marinelli_sand_	30341	1714	GR		.000		PARK, MICHAEL C	06/04/14 15:48		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments		Mod Id	Mod Date
0 K-40	NT	0.00001073	1.62E-6		5.037%	40				
0 TL-208	NT	2.971E-7	8.58E-8		0.139%	208				
0 PB-212	NT	5.584E-7	9.52E-8		0.262%	212				
0 BI-214	NT	6.36E-7	1.181E-7		0.299%	214				
0 PB-214	NT	7.529E-7	1.325E-7		0.353%	214				
0 RN-222	NT	0.0001971	0.0000467		92.518%	222				
0 RA-224	NT	2.966E-6	7.94E-7		1.392%	224				
0 BE-7	AP	1.151E-6			0.000%	7				
0 MN-54	AP	1.2421E-7			0.000%	54				
0 MN-56	AP	1.0188E-7			0.000%	56				
0 CO-57	AP	8.9216E-8			0.000%	57				
0 CO-58	AP	1.5692E-7			0.000%	58				
0 CO-60	AP	1.3393E-7			0.000%	60				
0 SB-124	AP	7.3627E-8			0.000%	124				
0 SB-125	FP	1.8204E-7			0.000%	125				
0 CS-134	FP	1.0826E-7			0.000%	134				
0 CS-137	FP	1.3883E-7			0.000%	137				

## Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/10/14 13:29

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:


## Health Physics Sample Records

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Type: RLSSS

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Status: APPROVED

Rasterized: 

Description: 140529BD 27 STARYARD SURVEY PT 27

### Review/Approve

#### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 13:29

Comments:

#### Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

#### Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 13:29

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          4-JUN-2014 15:42      *
*-----*
*          >>>> SAMPLE  PARAMETERS <<<<          *
*-----*
* Title      : 140529BD 27 STARYARD SURVEY PT 27          *
* ID         : 30341                      Acquisition date: 4-JUN-2014 15:39:42. *
* Start Time: 4-JUN-2014 15:39:00.                      *
* Stop Time : 4-JUN-2014 15:39:00.                      Counting System   : U2GSP      *
* Quantity  : 1.71400E+03 GR                      IHPS Sample Number: 142460      *
* Geometry  : B_1L_marinelli_sand_1              Analysis Library  : HP_NATURAL      *
* Operator  : MICHAEL PARK                      *
*-----*
*          >>>> B #42-TP11663A  PARAMETERS <<<<          *
*-----*
* Elapsed Live Time : 0 00:03:00.47 Calibration      : 3-JUN-2014 20:43:      *
* Elapsed Real Time : 0 00:03:00.50 Energy Offset    : -4.80178E-01      *
* Deadtime          : 0.0% Energy Slope             : 5.00073E-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
5	238.47	50	8	1.25	477.82	473	15	17.1	9.45E-01	PB-212
5	241.58	24	4	1.78	484.04	473	15	26.8		RA-224
										PB-214
1	352.00	42	3	2.03	704.85	699	12	17.6	6.42E-01	PB-214
1	510.59	16	0	1.50	1021.97	1018	7	23.7	2.46E-01	RN-222
										TL-208
1	583.65	17	2	1.40	1168.08	1163	8	28.9	5.26E-01	TL-208
1	609.45	27	0	2.11	1219.65	1215	9	18.6	5.07E-01	BI-214
1	1460.99	55	2	1.82	2922.42	2916	11	15.1	1.86E+00	K-40

Summary of Nuclide Activity  
Sample ID : 30341

Page : 2  
Acquisition date : 4-JUN-2014 15:39:42

Total number of lines in spectrum 7  
Number of unidentified lines 0  
Number of lines tentatively identified by NID 7 100.00%

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	1.073E-05	1.073E-05	0.162E-05	15.12	A
TL-208	3.05M	1.62	1.837E-07	2.971E-07	0.858E-07	28.87	A
PB-212	10.64H	1.00	5.571E-07	5.584E-07	0.952E-07	17.05	A
BI-214	19.90M	1.08	5.892E-07	6.360E-07	1.181E-07	18.57	A
PB-214	26.80M	1.06	7.113E-07	7.529E-07	1.325E-07	17.60	KA
RN-222	3.83D	1.00	1.970E-04	1.971E-04	0.467E-04	23.69	A
RA-224	3.66D	1.00	2.965E-06	2.966E-06	0.794E-06	26.76	A
Total Activity :			2.128E-04	2.130E-04			

Grand Total Activity : 2.128E-04 2.130E-04

Flags: "K" = Keyline not found "M" = Manually accepted  
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines  
Sample ID : 30341

Page : 3  
Acquisition date : 4-JUN-2014 15:39:42

None

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 30341

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Acquisition date : 4-JUN-2014 15:39:42

No interference correction performed

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma
					uCi/GR	uCi/GR	
K-40	1460.83	55	10.67*	4.211E-01	1.073E-05	1.073E-05	15.12
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	16	21.60	1.035E+00	6.386E-07	1.033E-06	23.69
PB-212	583.02	17	86.00*	9.190E-01	1.837E-07	2.971E-07	28.87
	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	-----	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	50	43.60*	1.805E+00	5.571E-07	5.584E-07	17.05
	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	27	46.10*	8.831E-01	5.892E-07	6.360E-07	18.57
	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	-----	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	-----
	241.92	24	7.46	1.792E+00	1.550E-06	1.640E-06	26.76
	258.94	-----	0.55	1.718E+00	-----	Line Not Found	-----
	295.09	-----	19.20*	1.579E+00	-----	Line Not Found	-----
	351.87	42	37.10	1.395E+00	7.113E-07	7.529E-07	17.60
	785.83	-----	1.09	6.925E-01	-----	Line Not Found	-----
	839.00	-----	0.59	6.497E-01	-----	Line Not Found	-----



Nuclide Line Activity Report (continued)  
Sample ID : 30341

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Acquisition date : 4-JUN-2014 15:39:42

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected uCi/GR	Decay Corr uCi/GR	1-Sigma %Error
RN-222	510.00	16	0.07*	1.035E+00	1.970E-04	1.971E-04	23.69
RA-224	83.79	-----	0.20	1.474E+00	-----	Line Not Found	-----
	240.76	24	3.90*	1.792E+00	2.965E-06	2.966E-06	26.76

Flag: "\*" = Keyline

Minimum Detectable Activity Report  
Sample ID : 30341

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Acquisition date : 4-JUN-2014 15:39:42

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	7.	477.61	1.1510E-06
MN-54	2.	834.83	1.2421E-07
MN-56	1.	846.81	1.0188E-07
CO-57	12.	122.06	8.9216E-08
CO-58	4.	810.79	1.5692E-07
CO-60	1.	1173.24	1.3393E-07
SB-124	1.	602.73	7.3627E-08
SB-125	1.	427.88	1.8204E-07
CS-134	3.	604.71	1.0826E-07
CS-137	3.	661.66	1.3883E-07