

Health Physics Sample Records

Sample ID: 142458

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140529BD 21 STARYARD SURVEY PT 21

Common

Resp Org: P4000 - PROJECT MANAGEMEN

Cross Ref Sample ID:

Priority:

Contact: COOPER, TERRY L

Survey No:

Reference ID:

Accounting Subcode:

Unknown Mat:

Hazardous Mat:

Comments:

Reviewed: DYNES, WILLIAM J

Date: 06/04/14 07:20

Comments:

Origin

Mat. Size/Volume: 2037 GRAMS

Docmnt/MO/Act #:

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

Description: STARYARD SURVEY PT 21

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 05/29/14 11:55

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 2037 GRAMS

Instructions: COUNT TO MDA

Comments: COUNT TO MDA

RLSSS

Exempt: No

Evaluated: No

Chem Notification: No

State Permit:

Offsite Analysis: No

Effluent Permit:

Container Surveyed:

Cleared For Release: Yes

Container Evaluated:

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: 140529BD 21 STARYARD SURVEY PT 21

Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
A_1L_marinelli_sand_	30360	2037	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	0.00001382	1.37E-6	<input type="checkbox"/>	86.480%	40				
0 TL-208	NT	3.592E-7	6.47E-8	<input type="checkbox"/>	2.248%	208				
0 PB-212	NT	5.037E-7	8.96E-8	<input type="checkbox"/>	3.152%	212				
0 BI-214	NT	6.376E-7	1.147E-7	<input type="checkbox"/>	3.990%	214				
0 PB-214	NT	6.6E-7	2.308E-7	<input type="checkbox"/>	4.130%	214				
0 BE-7	AP	4.9206E-7		<input checked="" type="checkbox"/>	0.000%	7				
0 MN-54	AP	1.274E-7		<input checked="" type="checkbox"/>	0.000%	54				
0 MN-56	AP	8.9274E-8		<input checked="" type="checkbox"/>	0.000%	56				
0 CO-57	AP	8.7899E-8		<input checked="" type="checkbox"/>	0.000%	57				
0 CO-58	AP	1.2804E-7		<input checked="" type="checkbox"/>	0.000%	58				
0 CO-60	AP	3.6312E-8		<input checked="" type="checkbox"/>	0.000%	60				
0 SB-124	AP	6.4217E-8		<input checked="" type="checkbox"/>	0.000%	124				
0 SB-125	FP	2.4123E-7		<input checked="" type="checkbox"/>	0.000%	125				
0 CS-134	FP	7.5032E-8		<input checked="" type="checkbox"/>	0.000%	134				
0 CS-137	FP	1.3669E-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 13:24

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

Health Physics Sample Records

Sample ID: 142458

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140529BD 21 STARYARD SURVEY PT 21

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 13:25

Comments: 338 keV peak is Ac-228

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 13:25

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          5-JUN-2014 15:30  *
*-----*
*                >>>> SAMPLE PARAMETERS <<<<<                *
*-----*
* Title       : 140529BD 21 STARYARD SURVEY PT 21                *
* ID          : 30360                      Acquisition date: 5-JUN-2014 15:27:19. *
* Start Time : 5-JUN-2014 15:27:00.          Counting System   : U2GSP          *
* Stop Time  : 5-JUN-2014 15:27:00.          IHPS Sample Number: 142458      *
* Quantity   : 2.03700E+03 GR                 Analysis Library   : HP_NATURAL   *
* Geometry   : A_1L_marinelli_sand_1         Operator: MICHAEL PARK          *
*-----*
*                >>>> A #41-TP11679B PARAMETERS <<<<<                *
*-----*
* Elapsed Live Time : 0 00:03:00.40      Calibration       : 5-JUN-2014 08:09: *
* Elapsed Real Time  : 0 00:03:00.47      Energy Offset     : 2.12659E-01      *
* Deadtime           : 0.0%                Energy Slope      : 4.99528E-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	77.13	30	58	1.52	153.98	151	8	48.1	8.71E-01	BI-214 PB-212 PB-214
1	87.12	28	22	1.03	173.97	172	6	31.3	3.32E+00	PB-212 PB-214
1	238.54	62	26	1.33	477.11	473	8	17.8	5.04E+00	PB-212
1	295.09	30	20	1.76	590.30	585	13	35.0	8.78E-01	PB-214
1	338.44	18	5	1.75	677.09	674	9	30.9	1.12E+00	
1	352.01	46	10	1.12	704.27	700	8	19.3	1.31E+00	PB-214
1	583.35	32	0	1.92	1167.37	1162	10	18.0	7.83E-01	TL-208
1	609.04	41	3	1.44	1218.80	1214	11	18.0	3.15E-01	BI-214
1	1460.74	107	0	2.12	2923.83	2918	12	9.9	1.24E+00	K-40

Summary of Nuclide Activity
Sample ID : 30360

Page : 2
Acquisition date : 5-JUN-2014 15:27:19

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	1.382E-05	1.382E-05	0.137E-05	9.89	A
TL-208	3.05M	1.49	2.418E-07	3.592E-07	0.647E-07	18.02	A
PB-212	10.64H	1.00	5.027E-07	5.037E-07	0.896E-07	17.80	A
BI-214	19.90M	1.07	5.985E-07	6.376E-07	1.147E-07	17.99	A
PB-214	26.80M	1.05	6.297E-07	6.600E-07	2.308E-07	34.97	A
Total Activity :			1.579E-05	1.598E-05			

Grand Total Activity : 1.579E-05 1.598E-05

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

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

Unidentified Energy Lines
Sample ID : 30360

Page : 3
Acquisition date : 5-JUN-2014 15:27:19

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	338.44	18	5	1.75	677.09	674	9	1.02E-01	30.9	1.70E+00	T

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30360

Page : 4
Acquisition date : 5-JUN-2014 15:27:19

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	107	10.67*	5.314E-01	1.382E-05	1.382E-05	9.89
TL-208	72.80	-----	2.14	1.594E+00	-----	Line Not Found	-----
	74.97	-----	3.60	1.692E+00	-----	Line Not Found	-----
	84.79	-----	1.27	2.058E+00	-----	Line Not Found	-----
	252.45	-----	0.80	2.021E+00	-----	Line Not Found	-----
	277.28	-----	6.80	1.920E+00	-----	Line Not Found	-----
	510.61	-----	21.60	1.265E+00	-----	Line Not Found	-----
	583.02	32	86.00*	1.128E+00	2.418E-07	3.592E-07	18.02
	763.06	-----	1.64	8.744E-01	-----	Line Not Found	-----
	860.30	-----	12.00	7.770E-01	-----	Line Not Found	-----
	PB-212	74.81	-----	10.50	1.685E+00	-----	Line Not Found
77.11		30	17.70	1.783E+00	7.008E-07	7.022E-07	48.07
87.19		28	6.27	2.127E+00	1.562E-06	1.565E-06	31.29
90.13		-----	1.86	2.206E+00	-----	Line Not Found	-----
115.12		-----	0.59	2.535E+00	-----	Line Not Found	-----
238.58		62	43.60*	2.083E+00	5.027E-07	5.037E-07	17.80
300.03		-----	3.34	1.834E+00	-----	Line Not Found	-----
BI-214	76.86	30	0.58	1.783E+00	2.139E-05	2.278E-05	48.07
	79.29	-----	0.97	1.869E+00	-----	Line Not Found	-----
	609.31	41	46.10*	1.084E+00	5.985E-07	6.376E-07	17.99
	665.44	-----	1.56	9.985E-01	-----	Line Not Found	-----
	768.35	-----	4.88	8.685E-01	-----	Line Not Found	-----
	806.16	-----	1.23	8.283E-01	-----	Line Not Found	-----
	934.04	-----	3.16	7.177E-01	-----	Line Not Found	-----
	1120.27	-----	15.00	6.114E-01	-----	Line Not Found	-----
	1155.18	-----	1.69	5.973E-01	-----	Line Not Found	-----
	1238.11	-----	5.92	5.697E-01	-----	Line Not Found	-----
	1280.95	-----	1.47	5.585E-01	-----	Line Not Found	-----
	1377.66	-----	4.02	5.401E-01	-----	Line Not Found	-----
	1385.30	-----	0.78	5.391E-01	-----	Line Not Found	-----
	1401.48	-----	1.39	5.370E-01	-----	Line Not Found	-----
	1407.97	-----	2.48	5.362E-01	-----	Line Not Found	-----
	1509.22	-----	2.19	5.292E-01	-----	Line Not Found	-----
	1583.22	-----	0.72	5.296E-01	-----	Line Not Found	-----
	1661.26	-----	1.15	5.351E-01	-----	Line Not Found	-----
	1729.58	-----	3.05	5.442E-01	-----	Line Not Found	-----
	1764.49	-----	15.90	5.503E-01	-----	Line Not Found	-----
1847.41	-----	2.12	5.694E-01	-----	Line Not Found	-----	
PB-214	53.17	-----	1.10	5.543E-01	-----	Line Not Found	-----
	74.81	-----	6.52	1.685E+00	-----	Line Not Found	-----
	77.11	30	11.00	1.783E+00	1.128E-06	1.182E-06	48.07
	87.19	28	3.88	2.127E+00	2.524E-06	2.646E-06	31.29
	90.13	-----	1.15	2.206E+00	-----	Line Not Found	-----
	241.92	-----	7.46	2.067E+00	-----	Line Not Found	-----
	258.94	-----	0.55	1.994E+00	-----	Line Not Found	-----
	295.09	30	19.20*	1.852E+00	6.297E-07	6.600E-07	34.97
	351.87	46	37.10	1.662E+00	5.472E-07	5.735E-07	19.26
	785.83	-----	1.09	8.495E-01	-----	Line Not Found	-----
839.00	-----	0.59	7.964E-01	-----	Line Not Found	-----	

Nuclide Line Activity Report (continued)
Sample ID : 30360

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Acquisition date : 5-JUN-2014 15:27:19

Flag: "*" = Keyline

Minimum Detectable Activity Report
Sample ID : 30360

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Acquisition date : 5-JUN-2014 15:27:19

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	2.	477.61	4.9206E-07
MN-54	6.	834.83	1.2740E-07
MN-56	2.	846.81	8.9274E-08
CO-57	25.	122.06	8.7899E-08
CO-58	6.	810.79	1.2804E-07
CO-60	0.	1332.50	3.6312E-08
SB-124	2.	602.73	6.4217E-08
SB-125	6.	427.88	2.4123E-07
CS-134	3.	604.71	7.5032E-08
CS-137	8.	661.66	1.3669E-07