

Health Physics Sample Records

Sample ID: 142462

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140529BD 32 STARYARD SURVEY PT 32

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: COUNT TO MDA

Reviewed: DYNES, WILLIAM J

Date: 06/04/14 07:47

Comments:

Origin

Mat. Size/Volume: 2135 GRAMS

Docmnt/MO/Act #:

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

Description: STARYARD SURVEY PT 32

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 05/29/14 12:40

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 2135 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

Sample ID: **142462**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140529BD 32 STARYARD SURVEY PT 32

### Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
C_1L_marinelli_sand_	30365	2135	GR		.000		PARK, MICHAEL C	06/05/14 15:43		

  

Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date
0	K-40	NT	0.00001384	1.31E-6	<input type="checkbox"/>	84.416%	40		
0	TL-208	NT	3.006E-7	5.99E-8	<input type="checkbox"/>	1.833%	208		
0	PB-212	NT	5.803E-7	1.164E-7	<input type="checkbox"/>	3.540%	212		
0	BI-214	NT	3.662E-7	1.136E-7	<input type="checkbox"/>	2.234%	214		
0	PB-214	NT	6.745E-7	2.323E-7	<input type="checkbox"/>	4.114%	214		
0	AC-228	NT	6.333E-7	1.779E-7	<input type="checkbox"/>	3.863%	228		
0	BE-7	AP	6.649E-7		<input checked="" type="checkbox"/>	0.000%	7		
0	MN-54	AP	1.1559E-7		<input checked="" type="checkbox"/>	0.000%	54		
0	MN-56	AP	1.1358E-7		<input checked="" type="checkbox"/>	0.000%	56		
0	CO-57	AP	8.7728E-8		<input checked="" type="checkbox"/>	0.000%	57		
0	CO-58	AP	9.4446E-8		<input checked="" type="checkbox"/>	0.000%	58		
0	CO-60	AP	1.0788E-7		<input checked="" type="checkbox"/>	0.000%	60		
0	SB-124	AP	9.7855E-8		<input checked="" type="checkbox"/>	0.000%	124		
0	SB-125	FP	1.8441E-7		<input checked="" type="checkbox"/>	0.000%	125		
0	CS-134	FP	7.7676E-8		<input checked="" type="checkbox"/>	0.000%	134		
0	CS-137	FP	1.0764E-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 13:30

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

## Health Physics Sample Records

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Sample ID: 142462

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140529BD 32 STARYARD SURVEY PT 32

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### Review/Approve

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#### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 13:31

Comments:

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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 13:31

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          5-JUN-2014 15:40  *
*-----*
*                >>>> SAMPLE PARAMETERS <<<<<                *
*-----*
* Title       : 140529BD 32 STARYARD SURVEY PT 32                *
* ID          : 30365                      Acquisition date: 5-JUN-2014 15:37:10. *
* Start Time: 5-JUN-2014 15:37:00.                    *
* Stop Time: 5-JUN-2014 15:37:00.                    Counting System : U2GSP      *
* Quantity   : 2.13500E+03 GR                      IHPS Sample Number: 142462    *
* Geometry   : C_1L_marinelli_sand_1                Analysis Library : HP_NATURAL *
*                               Operator: MICHAEL PARK                *
*-----*
*                >>>> C #41-TP11750A PARAMETERS <<<<<                *
*-----*
* Elapsed Live Time : 0 00:03:00.43 Calibration : 5-JUN-2014 08:14: *
* Elapsed Real Time : 0 00:03:00.50 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	77.26	41	49	0.96	154.85	152	7	32.4	4.90E+00	BI-214 PB-212 PB-214
1	87.31	40	39	1.97	174.95	172	8	30.5	8.69E-01	PB-212 PB-214
1	238.39	74	43	1.21	477.21	473	9	20.0	2.99E+00	PB-212
1	295.14	33	24	1.42	590.74	585	11	34.4	1.66E+00	PB-214
1	339.32	22	15	0.96	679.12	673	10	36.4	8.17E+00	AC-228
1	351.95	50	10	1.55	704.40	700	12	18.9	3.49E-01	PB-214
1	511.32	17	5	2.99	1023.20	1018	10	32.7	1.79E+00	TL-208
1	583.29	30	2	2.00	1167.15	1163	9	19.9	3.70E-01	TL-208
1	609.36	25	11	1.35	1219.31	1215	9	31.0	1.76E+00	BI-214
1	911.11	20	5	1.92	1822.84	1818	9	28.1	1.01E-01	AC-228
1	1460.70	117	0	1.96	2921.93	2916	13	9.4	9.35E-01	K-40

Summary of Nuclide Activity  
Sample ID : 30365

Page : 2  
Acquisition date : 5-JUN-2014 15:37:10

Total number of lines in spectrum 11  
Number of unidentified lines 0  
Number of lines tentatively identified by NID 11 100.00%

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	1.384E-05	1.384E-05	0.131E-05	9.44	A
TL-208	3.05M	1.43	2.095E-07	3.006E-07	0.599E-07	19.92	A
PB-212	10.64H	1.00	5.793E-07	5.803E-07	1.164E-07	20.05	A
BI-214	19.90M	1.06	3.456E-07	3.662E-07	1.136E-07	31.01	A
PB-214	26.80M	1.04	6.461E-07	6.745E-07	2.323E-07	34.44	A
AC-228	6.13H	1.00	6.313E-07	6.333E-07	1.779E-07	28.09	A
Total Activity :			1.626E-05	1.640E-05			

Grand Total Activity : 1.626E-05 1.640E-05

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

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

Unidentified Energy Lines  
Sample ID : 30365

Page : 3  
Acquisition date : 5-JUN-2014 15:37:10

None

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 30365

Page : 4  
Acquisition date : 5-JUN-2014 15:37:10

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	117	10.67*	5.560E-01	1.384E-05	1.384E-05	9.44
TL-208	72.80	-----	2.14	1.486E+00	-----	Line Not Found	-----
	74.97	-----	3.60	1.577E+00	-----	Line Not Found	-----
	84.79	-----	1.27	1.917E+00	-----	Line Not Found	-----
	252.45	-----	0.80	2.004E+00	-----	Line Not Found	-----
	277.28	-----	6.80	1.917E+00	-----	Line Not Found	-----
	510.61	17	21.60	1.296E+00	4.374E-07	6.275E-07	32.66
	583.02	30	86.00*	1.157E+00	2.095E-07	3.006E-07	19.92
	763.06	-----	1.64	8.934E-01	-----	Line Not Found	-----
	860.30	-----	12.00	7.922E-01	-----	Line Not Found	-----
	PB-212	74.81	-----	10.50	1.570E+00	-----	Line Not Found
77.11		41	17.70	1.666E+00	9.675E-07	9.692E-07	32.41
87.19		40	6.27	1.986E+00	2.258E-06	2.262E-06	30.46
90.13		-----	1.86	2.055E+00	-----	Line Not Found	-----
115.12		-----	0.59	2.376E+00	-----	Line Not Found	-----
238.58		74	43.60*	2.056E+00	5.793E-07	5.803E-07	20.05
300.03		-----	3.34	1.843E+00	-----	Line Not Found	-----
BI-214	76.86	41	0.58	1.666E+00	2.952E-05	3.128E-05	32.41
	79.29	-----	0.97	1.741E+00	-----	Line Not Found	-----
	609.31	25	46.10*	1.112E+00	3.456E-07	3.662E-07	31.01
	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	-----
PB-214	1847.41	-----	2.12	6.331E-01	-----	Line Not Found	-----
	53.17	-----	1.10	5.203E-01	-----	Line Not Found	-----
	74.81	-----	6.52	1.570E+00	-----	Line Not Found	-----
	77.11	41	11.00	1.666E+00	1.557E-06	1.625E-06	32.41
	87.19	40	3.88	1.986E+00	3.649E-06	3.809E-06	30.46
	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	33	19.20*	1.858E+00	6.461E-07	6.745E-07	34.44
	351.87	50	37.10	1.686E+00	5.614E-07	5.861E-07	18.85
	785.83	-----	1.09	8.674E-01	-----	Line Not Found	-----
839.00	-----	0.59	8.122E-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	2.051E+00	-----	Line Not Found	-----
	93.35	-----	5.60	2.124E+00	-----	Line Not Found	-----
	99.55	-----	1.30	2.229E+00	-----	Line Not Found	-----
	105.36	-----	2.00	2.301E+00	-----	Line Not Found	-----
	108.99	-----	0.67	2.335E+00	-----	Line Not Found	-----
	129.03	-----	2.90	2.414E+00	-----	Line Not Found	-----
	153.89	-----	0.84	2.377E+00	-----	Line Not Found	-----
	209.39	-----	4.10	2.168E+00	-----	Line Not Found	-----
	216.24	-----	0.80	2.141E+00	-----	Line Not Found	-----
	270.26	-----	3.80	1.941E+00	-----	Line Not Found	-----
	328.07	-----	3.50	1.756E+00	-----	Line Not Found	-----
	338.42	22	12.40	1.722E+00	7.312E-07	7.335E-07	36.36
	340.94	-----	0.52	1.718E+00	-----	Line Not Found	-----
	409.62	-----	2.20	1.531E+00	-----	Line Not Found	-----
	463.10	-----	4.60	1.401E+00	-----	Line Not Found	-----
	562.65	-----	1.01	1.195E+00	-----	Line Not Found	-----
	581.52	-----	3.00	1.160E+00	-----	Line Not Found	-----
	726.63	-----	0.87	9.382E-01	-----	Line Not Found	-----
	755.28	-----	1.32	9.027E-01	-----	Line Not Found	-----
	772.28	-----	1.09	8.827E-01	-----	Line Not Found	-----
	782.12	-----	0.59	8.716E-01	-----	Line Not Found	-----
	794.79	-----	4.60	8.576E-01	-----	Line Not Found	-----
	830.59	-----	0.63	8.205E-01	-----	Line Not Found	-----
	835.60	-----	1.71	8.155E-01	-----	Line Not Found	-----
	840.44	-----	0.94	8.108E-01	-----	Line Not Found	-----
	904.29	-----	0.89	7.542E-01	-----	Line Not Found	-----
	911.16	20	29.00*	7.487E-01	6.313E-07	6.333E-07	28.09
	964.64	-----	5.80	7.091E-01	-----	Line Not Found	-----
	968.97	-----	17.40	7.061E-01	-----	Line Not Found	-----
	1246.60	-----	0.57	5.825E-01	-----	Line Not Found	-----
	1459.19	-----	1.06	5.560E-01	-----	Line Not Found	-----
	1496.00	-----	1.05	5.563E-01	-----	Line Not Found	-----
	1501.44	-----	0.58	5.565E-01	-----	Line Not Found	-----
	1580.30	-----	0.71	5.624E-01	-----	Line Not Found	-----
	1588.23	-----	3.60	5.634E-01	-----	Line Not Found	-----
	1630.47	-----	1.95	5.696E-01	-----	Line Not Found	-----
	1638.10	-----	0.54	5.709E-01	-----	Line Not Found	-----

Flag: "\*" = Keyline

Minimum Detectable Activity Report  
Sample ID : 30365

Page : 7  
Acquisition date : 5-JUN-2014 15:37:10

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	5.	477.61	6.6490E-07
MN-54	5.	834.83	1.1559E-07
MN-56	0.	1810.80	1.1358E-07
CO-57	24.	122.06	8.7728E-08
CO-58	3.	810.79	9.4446E-08
CO-60	2.	1173.24	1.0788E-07
SB-124	7.	602.73	9.7855E-08
SB-125	4.	427.88	1.8441E-07
CS-134	4.	604.71	7.7676E-08
CS-137	5.	661.66	1.0764E-07