

Health Physics Sample Records

Sample ID: 142429

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140528BD01 Star 01-20

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: 05/29/14 11:10

Comments:

Origin

Mat. Size/Volume: 1000 ml

Docmnt/MO/Act #:

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

Description: STAR 01 SAMPLE

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 05/28/14 11:33

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 1993 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: N/A

Depth: 3" (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: 140528BD01 Star 01-20

Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
A_1L_marinelli_sand_	30266	1993	GR		.000		ABERNATHY, AGNES B	05/29/14 14:58		

Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date
0 K-40	NT	9.81E-6	1.226E-6	<input type="checkbox"/>	80.847%	40			
0 TL-208	NT	2.646E-7	6.24E-8	<input type="checkbox"/>	2.181%	208			
0 PB-212	NT	5.317E-7	1.044E-7	<input type="checkbox"/>	4.382%	212			
0 BI-214	NT	4.862E-7	1.16E-7	<input type="checkbox"/>	4.007%	214			
0 PB-214	NT	5.196E-7	1.564E-7	<input type="checkbox"/>	4.282%	214			
0 AC-228	NT	5.22E-7	1.46E-7	<input type="checkbox"/>	4.302%	228			
0 BE-7	AP	2.9967E-7		<input checked="" type="checkbox"/>	0.000%	7			
0 MN-54	AP	9.3967E-8		<input checked="" type="checkbox"/>	0.000%	54			
0 MN-56	AP	1.0712E-7		<input checked="" type="checkbox"/>	0.000%	56			
0 CO-57	AP	6.886E-8		<input checked="" type="checkbox"/>	0.000%	57			
0 CO-58	AP	6.7443E-8		<input checked="" type="checkbox"/>	0.000%	58			
0 CO-60	AP	1.2741E-7		<input checked="" type="checkbox"/>	0.000%	60			
0 SB-124	AP	6.9893E-8		<input checked="" type="checkbox"/>	0.000%	124			
0 SB-125	FP	1.8578E-7		<input checked="" type="checkbox"/>	0.000%	125			
0 CS-134	FP	1.1156E-7		<input checked="" type="checkbox"/>	0.000%	134			
0 CS-137	FP	1.2816E-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 08:31

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

Health Physics Sample Records

Sample ID: **142429**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140528BD01 Star 01-20

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 08:31

Comments:

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 08:32

Comments:

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*****
* .      SONGS                      HEALTH PHYSICS REPORT          29-MAY-2014 14:50  *
* -----
*                >>>> SAMPLE  PARAMETERS <<<<<                *
*
* Title       : 140528BD01 STAR 01-20                          *
*
* ID          : 30266                      Acquisition date: 29-MAY-2014 14:47:30 *
* Start Time: 29-MAY-2014 14:47:00                          *
* Stop Time : 29-MAY-2014 14:47:00          Counting System   : U2GSP      *
* Quantity   : 1.99300E+03 GR                IHPS Sample Number: 142429 *
* Geometry   : A_1L_marinelli_sand_1        Analysis Library   : HP_NATURAL *
*                               Operator: AGNES ABERNATHY      *
* -----
*                >>>> A #41-TP11679B  PARAMETERS <<<<<                *
*
* Elapsed Live Time : 0 00:03:00.40  Calibration      : 28-MAY-2014 21:10 *
* Elapsed Real Time : 0 00:03:00.46  Energy Offset     : 2.58874E-01 *
* Deadtime          : 0.0%           Energy Slope      : 4.99485E-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	238.68	64	34	1.12	477.33	474	7	19.6	3.59E+00	PB-212
1	295.33	23	7	1.59	590.75	588	7	30.1	1.35E+00	PB-214
1	338.13	20	8	1.78	676.44	672	8	31.1	1.53E-01	AC-228
1	352.10	29	16	1.37	704.41	700	9	30.9	4.96E-01	PB-214
1	583.19	22	2	2.24	1167.07	1162	9	23.6	5.50E-01	TL-208
1	609.35	30	8	1.74	1219.45	1214	10	23.9	3.67E-01	BI-214
1	911.11	15	0	1.62	1823.61	1819	9	28.0	7.09E-01	AC-228
1	1460.98	74	3	1.76	2924.53	2919	11	12.5	3.41E-01	K-40

Summary of Nuclide Activity
Sample ID : 30266

Page : 2
Acquisition date : 29-MAY-2014 14:47:30

Total number of lines in spectrum 8
Number of unidentified lines 0
Number of lines tentatively identified by NID 8 100.00%

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	9.810E-06	9.810E-06	1.226E-06	12.50	A
TL-208	3.05M	1.55	1.710E-07	2.646E-07	0.624E-07	23.58	A
PB-212	10.64H	1.00	5.305E-07	5.317E-07	1.044E-07	19.63	A
BI-214	19.90M	1.07	4.535E-07	4.862E-07	1.160E-07	23.86	A
PB-214	26.80M	1.05	4.934E-07	5.196E-07	1.564E-07	30.10	A
AC-228	6.13H	1.00	5.200E-07	5.220E-07	1.460E-07	27.96	A
Total Activity :			1.198E-05	1.213E-05			

Grand Total Activity : 1.198E-05 1.213E-05

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

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

Unidentified Energy Lines
Sample ID : 30266

Page : 3
Acquisition date : 29-MAY-2014 14:47:30

None

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30266

Page : 4
Acquisition date : 29-MAY-2014 14:47:30

No interference correction performed

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected uCi/GR	Decay Corr uCi/GR	1-Sigma %Error
K-40	1460.83	74	10.67*	5.314E-01	9.810E-06	9.810E-06	12.50
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	22	86.00*	1.128E+00	1.710E-07	2.646E-07	23.58
	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	-----	17.70	1.782E+00	-----	Line Not Found	-----
	87.19	-----	6.27	2.129E+00	-----	Line Not Found	-----
	90.13	-----	1.86	2.206E+00	-----	Line Not Found	-----
	115.12	-----	0.59	2.535E+00	-----	Line Not Found	-----
	238.58	64	43.60*	2.082E+00	5.305E-07	5.317E-07	19.63
	300.03	-----	3.34	1.834E+00	-----	Line Not Found	-----
BI-214	76.86	-----	0.58	1.772E+00	-----	Line Not Found	-----
	79.29	-----	0.97	1.869E+00	-----	Line Not Found	-----
	609.31	30	46.10*	1.084E+00	4.535E-07	4.862E-07	23.86
	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	-----	11.00	1.782E+00	-----	Line Not Found	-----
	87.19	-----	3.88	2.129E+00	-----	Line Not Found	-----
	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	23	19.20*	1.851E+00	4.934E-07	5.196E-07	30.10
	351.87	29	37.10	1.661E+00	3.580E-07	3.770E-07	30.94
	785.83	-----	1.09	8.495E-01	-----	Line Not Found	-----
	839.00	-----	0.59	7.964E-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	2.201E+00	-----	Line Not Found	-----
	93.35	-----	5.60	2.279E+00	-----	Line Not Found	-----
	99.55	-----	1.30	2.389E+00	-----	Line Not Found	-----
	105.36	-----	2.00	2.463E+00	-----	Line Not Found	-----
	108.99	-----	0.67	2.496E+00	-----	Line Not Found	-----
	129.03	-----	2.90	2.562E+00	-----	Line Not Found	-----
	153.89	-----	0.84	2.496E+00	-----	Line Not Found	-----
	209.39	-----	4.10	2.221E+00	-----	Line Not Found	-----
	216.24	-----	0.80	2.187E+00	-----	Line Not Found	-----
	270.26	-----	3.80	1.948E+00	-----	Line Not Found	-----
	328.07	-----	3.50	1.738E+00	-----	Line Not Found	-----
	338.42	20	12.40	1.705E+00	7.224E-07	7.252E-07	31.13
	340.94	-----	0.52	1.696E+00	-----	Line Not Found	-----
	409.62	-----	2.20	1.499E+00	-----	Line Not Found	-----
	463.10	-----	4.60	1.368E+00	-----	Line Not Found	-----
	562.65	-----	1.01	1.164E+00	-----	Line Not Found	-----
	581.52	-----	3.00	1.131E+00	-----	Line Not Found	-----
	726.63	-----	0.87	9.173E-01	-----	Line Not Found	-----
	755.28	-----	1.32	8.833E-01	-----	Line Not Found	-----
	772.28	-----	1.09	8.641E-01	-----	Line Not Found	-----
	782.12	-----	0.59	8.534E-01	-----	Line Not Found	-----
	794.79	-----	4.60	8.400E-01	-----	Line Not Found	-----
	830.59	-----	0.63	8.043E-01	-----	Line Not Found	-----
	835.60	-----	1.71	7.996E-01	-----	Line Not Found	-----
	840.44	-----	0.94	7.951E-01	-----	Line Not Found	-----
	904.29	-----	0.89	7.403E-01	-----	Line Not Found	-----
	911.16	15	29.00*	7.349E-01	5.200E-07	5.220E-07	27.96
	964.64	-----	5.80	6.962E-01	-----	Line Not Found	-----
	968.97	-----	17.40	6.933E-01	-----	Line Not Found	-----
	1246.60	-----	0.57	5.673E-01	-----	Line Not Found	-----
	1459.19	-----	1.06	5.315E-01	-----	Line Not Found	-----
	1496.00	-----	1.05	5.296E-01	-----	Line Not Found	-----
	1501.44	-----	0.58	5.294E-01	-----	Line Not Found	-----
	1580.30	-----	0.71	5.295E-01	-----	Line Not Found	-----
	1588.23	-----	3.60	5.298E-01	-----	Line Not Found	-----
	1630.47	-----	1.95	5.324E-01	-----	Line Not Found	-----
	1638.10	-----	0.54	5.330E-01	-----	Line Not Found	-----

Flag: "*" = Keyline

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	0.	477.61	2.9967E-07
MN-54	2.	834.83	9.3967E-08
MN-56	3.	846.81	1.0712E-07
CO-57	14.	122.06	6.8860E-08
CO-58	1.	810.79	6.7443E-08
CO-60	2.	1332.50	1.2741E-07
SB-124	2.	602.73	6.9893E-08
SB-125	3.	427.88	1.8578E-07
CS-134	8.	604.71	1.1156E-07
CS-137	7.	661.66	1.2816E-07