

Health Physics Sample Records

Sample ID: 142436

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: ☐

Description: 140528BD 07 STAR 7-20 Dirt Sample

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 11:21

Comments:

Origin

Mat. Size/Volume: 1000 ml

Docmnt/MO/Act #:

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

Description: STAR 02 SOIL SAMPLE

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 05/28/14 13:07

Count Time: 900 (secs.)

Tritium Req:

Sample Size/Volume: 1797 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: 3" (in.)

Equip ID:

Stored By: ,

Date: 00/00/00 00:00

Sample Loc:

Other:

Material Loc:

Health Physics Sample Records

Sample ID: 142436

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: ☒

Description: 140528BD 07 STAR 7-20 Dirt Sample

Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
A_1L_marinelli_sand_	30269	1797	GR		.000		ABERNATHY, AGNES B	05/29/14 16:03		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments		Mod Id	Mod Date
0 K-40	NT	0.00001113	1.4E-6	<input type="checkbox"/>	80.245%	40				
0 TL-208	NT	1.713E-7	7.65E-8	<input type="checkbox"/>	1.235%	208				
0 PB-212	NT	5.552E-7	1.29E-7	<input type="checkbox"/>	4.003%	212				
0 BI-214	NT	4.754E-7	1.025E-7	<input type="checkbox"/>	3.428%	214				
0 PB-214	NT	7.766E-7	1.41E-7	<input type="checkbox"/>	5.599%	214				
0 AC-228	NT	7.616E-7	1.927E-7	<input type="checkbox"/>	5.491%	228				
0 BE-7	AP	7.19E-7		<input checked="" type="checkbox"/>	0.000%	7				
0 MN-54	AP	1.0786E-7		<input checked="" type="checkbox"/>	0.000%	54				
0 MN-56	AP	7.2016E-8		<input checked="" type="checkbox"/>	0.000%	56				
0 CO-57	AP	7.3632E-8		<input checked="" type="checkbox"/>	0.000%	57				
0 CO-58	AP	9.0871E-8		<input checked="" type="checkbox"/>	0.000%	58				
0 CO-60	AP	1.1196E-7		<input checked="" type="checkbox"/>	0.000%	60				
0 SB-124	AP	2.1042E-8		<input checked="" type="checkbox"/>	0.000%	124				
0 SB-125	FP	2.3439E-7		<input checked="" type="checkbox"/>	0.000%	125				
0 CS-134	FP	5.4608E-8		<input checked="" type="checkbox"/>	0.000%	134				
0 CS-137	FP	9.0421E-8		<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 09:46

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:


Health Physics Sample Records

Sample ID: **142436**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 140528BD 07 STAR 7-20 Dirt Sample

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 09:46

Comments:

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 09:46

Comments:

```

*****
*          SONGS                      HEALTH PHYSICS REPORT          29-MAY-2014 16:02  *
*-----*
*          >>>> SAMPLE  PARAMETERS <<<<<          *
*          *          *          *          *          *          *          *          *          *
* Title      : 140528BD 07 STAR 7-20 DIRT SAMPLE          *
*          *          *          *          *          *          *          *          *          *
* ID         : 30269          Acquisition date: 29-MAY-2014 15:58:52 *
* Start Time: 29-MAY-2014 15:58:00          *
* Stop Time : 29-MAY-2014 15:58:00          Counting System   : U2GSP          *
* Quantity  : 1.79700E+03 GR          IHPS Sample Number: 142436          *
* Geometry  : A_1L_marinelli_sand_1          Analysis Library : HP_NATURAL          *
*          Operator: AGNES ABERNATHY          *
*-----*
*          >>>> A #41-TP11679B  PARAMETERS <<<<<          *
*          *          *          *          *          *          *          *          *          *
* Elapsed Live Time : 0 00:03:00.43          Calibration      : 28-MAY-2014 21:10          *
* Elapsed Real Time : 0 00:03:00.48          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          *
*          *          *          *          *          *          *          *          *          *
*****

```

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
3	74.92	20	19	1.04	149.48	143	20	42.8	1.19E+00	PB-212 PB-214 TL-208
3	77.19	30	17	1.05	154.01	143	20	29.2		BI-214 PB-212 PB-214
1	238.82	60	29	1.49	477.61	472	13	23.2	2.85E+00	PB-212
1	295.11	31	0	2.22	590.31	585	10	18.2	9.27E-01	PB-214
1	352.02	35	2	1.37	704.26	700	9	18.7	4.15E-01	PB-214
1	583.53	12	6	1.31	1167.76	1163	8	44.7	8.07E-01	TL-208
1	609.36	26	2	1.28	1219.48	1215	8	21.6	6.20E-01	BI-214
1	910.99	19	2	2.38	1823.38	1819	9	25.3	4.69E-01	AC-228
1	1460.96	76	3	1.94	2924.49	2918	13	12.6	4.50E-01	K-40

Summary of Nuclide Activity
Sample ID : 30269

Page : 2
Acquisition date : 29-MAY-2014 15:58:52

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	1.113E-05	1.113E-05	0.140E-05	12.57	A
TL-208	3.05M	1.68	1.018E-07	1.713E-07	0.765E-07	44.69	A
PB-212	10.64H	1.00	5.538E-07	5.552E-07	1.290E-07	23.23	A
BI-214	19.90M	1.09	4.379E-07	4.754E-07	1.025E-07	21.55	A
PB-214	26.80M	1.06	7.305E-07	7.766E-07	1.410E-07	18.15	A
AC-228	6.13H	1.00	7.582E-07	7.616E-07	1.927E-07	25.30	A

Total Activity : 1.371E-05 1.387E-05

Grand Total Activity : 1.371E-05 1.387E-05

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

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

Unidentified Energy Lines
Sample ID : 30269

Page : 3
Acquisition date : 29-MAY-2014 15:58:52

None

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30269

Page : 4
Acquisition date : 29-MAY-2014 15:58:52

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	76	10.67*	5.314E-01	1.113E-05	1.113E-05	12.57
TL-208	72.80	-----	2.14	1.594E+00	-----	Line Not Found	-----
	74.97	20	3.60	1.690E+00	2.794E-06	4.700E-06	42.76
	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	12	86.00*	1.127E+00	1.018E-07	1.713E-07	44.69
	763.06	-----	1.64	8.744E-01	-----	Line Not Found	-----
	860.30	-----	12.00	7.770E-01	-----	Line Not Found	-----
	74.81	20	10.50	1.690E+00	9.579E-07	9.604E-07	42.76
PB-212	77.11	30	17.70	1.786E+00	7.814E-07	7.834E-07	29.23
	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	60	43.60*	2.081E+00	5.538E-07	5.552E-07	23.23
BI-214	300.03	-----	3.34	1.834E+00	-----	Line Not Found	-----
	76.86	30	0.58	1.786E+00	2.385E-05	2.589E-05	29.23
	79.29	-----	0.97	1.869E+00	-----	Line Not Found	-----
	609.31	26	46.10*	1.084E+00	4.379E-07	4.754E-07	21.55
	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	-----
PB-214	1764.49	-----	15.90	5.503E-01	-----	Line Not Found	-----
	1847.41	-----	2.12	5.694E-01	-----	Line Not Found	-----
	53.17	-----	1.10	5.543E-01	-----	Line Not Found	-----
	74.81	20	6.52	1.690E+00	1.543E-06	1.640E-06	42.76
	77.11	30	11.00	1.786E+00	1.257E-06	1.337E-06	29.23
	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	31	19.20*	1.852E+00	7.305E-07	7.766E-07	18.15
	351.87	35	37.10	1.662E+00	4.754E-07	5.054E-07	18.66
	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 uCi/GR	Decay Corr uCi/GR	1-Sigma %Error
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	-----	12.40	1.704E+00	-----	Line Not Found	-----
	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	19	29.00*	7.350E-01	7.582E-07	7.616E-07	25.30
	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

Minimum Detectable Activity Report
Sample ID : 30269

Page : 7
Acquisition date : 29-MAY-2014 15:58:52

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	4.	477.61	7.1900E-07
MN-54	3.	834.83	1.0786E-07
MN-56	1.	846.81	7.2016E-08
CO-57	13.	122.06	7.3632E-08
CO-58	2.	810.79	9.0871E-08
CO-60	1.	1332.50	1.1196E-07
SB-124	0.	602.73	2.1042E-08
SB-125	4.	427.88	2.3439E-07
CS-134	1.	604.71	5.4608E-08
CS-137	2.	661.66	9.0421E-08