

## Health Physics Sample Records

Sample ID: 142516

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: ☐

Description: 140523BD02 BACKGROUND SECURITY # 2

### 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: 06/10/14 13:15

Comments: COUNT TO MDA

### Origin

Mat. Size/Volume: 1764 GRAMS

Docmnt/MO/Act #:

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

Description: BACKGROUND SECURITY # 2

### Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 05/23/14 11:20

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 1764 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:

Depth: 3" (in.)

Equip ID:

Stored By: ,

Date: 00/00/00 00:00

Sample Loc:

Other: COUNT TO MDA

Material Loc:

# Health Physics Sample Records

Sample ID: 142516

Type: RLSSS



















Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 140523BD02 BACKGROUND SECURITY # 2

## Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
A_1L_marinelli_sand_	1011	1764	GR		.000		DYNES, WILLIAM J	06/10/14 13:43		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments		Mod Id	Mod Date
0 K-40	NT	0.00001431	1.69E-6		72.765%	40				
0 TL-208	NT	3.184E-7	1.245E-7		1.619%	208				
0 PB-212	NT	6.544E-7	1.171E-7		3.328%	212				
0 BI-214	NT	3.869E-7	1.238E-7		1.967%	214				
0 PB-214	NT	5.384E-7	2.302E-7		2.738%	214				
0 RA-226	NT	2.717E-6	1.142E-6		13.816%	226				
0 AC-228	NT	5.727E-7	1.808E-7		2.912%	228				
0 U-235	NT	1.682E-7	7.4E-8		0.855%	235				
0 BE-7	AP	1.0196E-6			0.000%	7				
0 MN-54	AP	1.3763E-7			0.000%	54				
0 MN-56	AP	1.5907E-7			0.000%	56				
0 CO-57	AP	1.0102E-7			0.000%	57				
0 CO-58	AP	1.2632E-7			0.000%	58				
0 CO-60	AP	4.8612E-8			0.000%	60				
0 SB-124	AP	8.3534E-8			0.000%	124				
0 SB-125	FP	2.963E-7			0.000%	125				
0 CS-134	FP	8.3958E-8			0.000%	134				
0 CS-137	FP	1.0464E-7			0.000%	137				

## Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/11/14 08:17

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments: COUNT TO MDA

## Health Physics Sample Records

Sample ID: **142516**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 140523BD02 BACKGROUND SECURITY # 2

### Review/Approve

#### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/11/14 08:18

Comments: U-235 is likely a mis-ID off the Ra-226 energy peak

#### Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

#### Final Approval

Approved: COOPER, TERRY L

Date: 06/11/14 08:18

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          10-JUN-2014 13:31  *
*-----*
*          >>>> SAMPLE  PARAMETERS <<<<          *
*
* Title      : 140523BD02 BACKGROUND SECURITY # 2          *
*
* ID         : 1011                      Acquisition date: 10-JUN-2014 13:28:47  *
* Start Time: 10-JUN-2014 13:28:00          *
* Stop Time : 10-JUN-2014 13:28:00          Counting System   : U1GSP          *
* Quantity  : 1.76400E+03 GR                IHPS Sample Number: 142516          *
* Geometry  : A_1L_marinelli_sand_1        Analysis Library  : HP_NATURAL          *
*          Operator: BILL DYNES          *
*-----*
*          >>>> A -1922924  PARAMETERS <<<<          *
*
* Elapsed Live Time : 0 00:03:00.26  Calibration      : 10-JUN-2014 00:04          *
* Elapsed Real Time : 0 00:03:00.33  Energy Offset    : -1.04456E-01          *
* Deadtime          : 0.0%            Energy Slope     : 4.99840E-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	186.08	23	21	1.48	372.47	367	9	41.9	1.80E+00	U-235 RA-226
1	238.63	65	17	1.33	477.61	472	10	17.4	3.95E-01	PB-212
1	295.17	20	14	1.89	590.70	586	11	42.6	4.97E-01	PB-214
1	352.25	41	9	1.66	704.90	700	9	20.1	1.46E+00	PB-214
1	583.04	19	7	0.79	1166.54	1158	14	38.7	7.88E+00	TL-208
1	609.30	19	5	1.73	1219.07	1214	10	31.7	3.77E-01	BI-214
1	911.45	13	0	1.26	1823.40	1817	10	29.6	6.16E-01	AC-228
1	1460.84	81	0	2.18	2922.05	2916	12	11.2	5.08E-01	K-40

Unidentified Energy Lines  
Sample ID : 1011

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None

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 1011

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Acquisition date : 10-JUN-2014 13:28:47

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	81	10.67*	4.482E-01	1.431E-05	1.431E-05	11.80
TL-208	72.80	-----	2.14	1.155E+00	-----	Line Not Found	-----
	74.97	-----	3.60	1.239E+00	-----	Line Not Found	-----
	84.79	-----	1.27	1.578E+00	-----	Line Not Found	-----
	252.45	-----	0.80	1.887E+00	-----	Line Not Found	-----
	277.28	-----	6.80	1.783E+00	-----	Line Not Found	-----
	510.61	-----	21.60	1.121E+00	-----	Line Not Found	-----
	583.02	19	86.00*	9.954E-01	1.929E-07	3.184E-07	39.12
PB-212	763.06	-----	1.64	7.714E-01	-----	Line Not Found	-----
	860.30	-----	12.00	6.870E-01	-----	Line Not Found	-----
	74.81	-----	10.50	1.233E+00	-----	Line Not Found	-----
	77.11	-----	17.70	1.319E+00	-----	Line Not Found	-----
	87.19	-----	6.27	1.650E+00	-----	Line Not Found	-----
	90.13	-----	1.86	1.730E+00	-----	Line Not Found	-----
	115.12	-----	0.59	2.162E+00	-----	Line Not Found	-----
BI-214	238.58	65	43.60*	1.948E+00	6.527E-07	6.544E-07	17.90
	300.03	-----	3.34	1.694E+00	-----	Line Not Found	-----
	76.86	-----	0.58	1.310E+00	-----	Line Not Found	-----
	79.29	-----	0.97	1.397E+00	-----	Line Not Found	-----
	609.31	19	46.10*	9.557E-01	3.574E-07	3.869E-07	31.99
	665.44	-----	1.56	8.797E-01	-----	Line Not Found	-----
	768.35	-----	4.88	7.663E-01	-----	Line Not Found	-----
PB-214	806.16	-----	1.23	7.315E-01	-----	Line Not Found	-----
	934.04	-----	3.16	6.352E-01	-----	Line Not Found	-----
	1120.27	-----	15.00	5.391E-01	-----	Line Not Found	-----
	1155.18	-----	1.69	5.255E-01	-----	Line Not Found	-----
	1238.11	-----	5.92	4.976E-01	-----	Line Not Found	-----
	1280.95	-----	1.47	4.855E-01	-----	Line Not Found	-----
	1377.66	-----	4.02	4.629E-01	-----	Line Not Found	-----
	1385.30	-----	0.78	4.614E-01	-----	Line Not Found	-----
	1401.48	-----	1.39	4.583E-01	-----	Line Not Found	-----
	1407.97	-----	2.48	4.571E-01	-----	Line Not Found	-----
	1509.22	-----	2.19	4.415E-01	-----	Line Not Found	-----
	1583.22	-----	0.72	4.336E-01	-----	Line Not Found	-----
	1661.26	-----	1.15	4.280E-01	-----	Line Not Found	-----
	1729.58	-----	3.05	4.255E-01	-----	Line Not Found	-----
	1764.49	-----	15.90	4.249E-01	-----	Line Not Found	-----
	1847.41	-----	2.12	4.256E-01	-----	Line Not Found	-----
	53.17	-----	1.10	3.707E-01	-----	Line Not Found	-----
	74.81	-----	6.52	1.233E+00	-----	Line Not Found	-----
	77.11	-----	11.00	1.319E+00	-----	Line Not Found	-----
	87.19	-----	3.88	1.650E+00	-----	Line Not Found	-----
	90.13	-----	1.15	1.730E+00	-----	Line Not Found	-----
PB-214	241.92	-----	7.46	1.933E+00	-----	Line Not Found	-----
	258.94	-----	0.55	1.859E+00	-----	Line Not Found	-----
	295.09	20	19.20*	1.713E+00	5.075E-07	5.384E-07	42.75
	351.87	41	37.10	1.514E+00	6.179E-07	6.555E-07	20.57
	785.83	-----	1.09	7.498E-01	-----	Line Not Found	-----
	839.00	-----	0.59	7.038E-01	-----	Line Not Found	-----

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected uCi/GR	Decay Corr uCi/GR	1-Sigma %Error
RA-226	81.07	-----	0.18	1.459E+00	-----	Line Not Found	-----
	186.11	23	3.28*	2.179E+00	2.717E-06	2.717E-06	42.04
AC-228	89.96	-----	3.40	1.726E+00	-----	Line Not Found	-----
	93.35	-----	5.60	1.811E+00	-----	Line Not Found	-----
	99.55	-----	1.30	1.943E+00	-----	Line Not Found	-----
	105.36	-----	2.00	2.042E+00	-----	Line Not Found	-----
	108.99	-----	0.67	2.093E+00	-----	Line Not Found	-----
	129.03	-----	2.90	2.254E+00	-----	Line Not Found	-----
	153.89	-----	0.84	2.276E+00	-----	Line Not Found	-----
	209.39	-----	4.10	2.079E+00	-----	Line Not Found	-----
	216.24	-----	0.80	2.048E+00	-----	Line Not Found	-----
	270.26	-----	3.80	1.812E+00	-----	Line Not Found	-----
	328.07	-----	3.50	1.593E+00	-----	Line Not Found	-----
	338.42	-----	12.40	1.558E+00	-----	Line Not Found	-----
	340.94	-----	0.52	1.550E+00	-----	Line Not Found	-----
	409.62	-----	2.20	1.348E+00	-----	Line Not Found	-----
	463.10	-----	4.60	1.219E+00	-----	Line Not Found	-----
	562.65	-----	1.01	1.028E+00	-----	Line Not Found	-----
	581.52	-----	3.00	9.978E-01	-----	Line Not Found	-----
	726.63	-----	0.87	8.087E-01	-----	Line Not Found	-----
	755.28	-----	1.32	7.791E-01	-----	Line Not Found	-----
	772.28	-----	1.09	7.625E-01	-----	Line Not Found	-----
	782.12	-----	0.59	7.532E-01	-----	Line Not Found	-----
	794.79	-----	4.60	7.416E-01	-----	Line Not Found	-----
	830.59	-----	0.63	7.107E-01	-----	Line Not Found	-----
	835.60	-----	1.71	7.065E-01	-----	Line Not Found	-----
	840.44	-----	0.94	7.026E-01	-----	Line Not Found	-----
	904.29	-----	0.89	6.549E-01	-----	Line Not Found	-----
	911.16	13	29.00*	6.501E-01	5.702E-07	5.727E-07	31.57
	964.64	-----	5.80	6.162E-01	-----	Line Not Found	-----
	968.97	-----	17.40	6.137E-01	-----	Line Not Found	-----
	1246.60	-----	0.57	4.951E-01	-----	Line Not Found	-----
	1459.19	-----	1.06	4.485E-01	-----	Line Not Found	-----
	1496.00	-----	1.05	4.432E-01	-----	Line Not Found	-----
	1501.44	-----	0.58	4.425E-01	-----	Line Not Found	-----
	1580.30	-----	0.71	4.338E-01	-----	Line Not Found	-----
	1588.23	-----	3.60	4.331E-01	-----	Line Not Found	-----
	1630.47	-----	1.95	4.299E-01	-----	Line Not Found	-----
	1638.10	-----	0.54	4.294E-01	-----	Line Not Found	-----
U-235	89.96	-----	3.36	1.726E+00	-----	Line Not Found	-----
	93.35	-----	5.50	1.811E+00	-----	Line Not Found	-----
	105.36	-----	1.98	2.042E+00	-----	Line Not Found	-----
	109.18	-----	1.50	2.096E+00	-----	Line Not Found	-----
	143.79	-----	10.50	2.283E+00	-----	Line Not Found	-----
	163.38	-----	4.70	2.256E+00	-----	Line Not Found	-----
	185.74	23	53.00*	2.179E+00	1.682E-07	1.682E-07	44.01
	194.96	-----	0.59	2.142E+00	-----	Line Not Found	-----
	202.13	-----	1.00	2.111E+00	-----	Line Not Found	-----
	205.33	-----	4.70	2.097E+00	-----	Line Not Found	-----



Nuclide Line Activity Report (continued)  
Sample ID : 1011

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Flag: "\*" = Keyline

Minimum Detectable Activity Report  
Sample ID : 1011

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Acquisition date : 10-JUN-2014 13:28:47

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	7.	477.61	1.0196E-06
MN-54	4.	834.83	1.3763E-07
MN-56	5.	846.81	1.5907E-07
CO-57	18.	122.06	1.0102E-07
CO-58	3.	810.79	1.2632E-07
CO-60	0.	1332.50	4.8612E-08
SB-124	2.	602.73	8.3534E-08
SB-125	5.	427.88	2.9630E-07
CS-134	2.	604.71	8.3958E-08
CS-137	2.	661.66	1.0464E-07