

Health Physics Sample Records

Sample ID: 142508

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: ☒

Description: 14060614BD 08 NORTH LAYDOWN # 15

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: 06/09/14 08:54

Comments: COUNT TO MDA

Origin

Mat. Size/Volume: 2119 GRAMS

Docmnt/MO/Act #:

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

Description: NORTH LAYDOWN # 15

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 06/06/14 11:50

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 2119 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: No

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: COUNT TO MDA

Material Loc:

Health Physics Sample Records

Sample ID: 142508

Type: RLSSS
















Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 14060614BD 08 NORTH LAYDOWN # 15

Analysis

| Geometry | MCA ID | Quant. | Units | Method | FP/AP | Lab | Analysis By | Date | Mod ID | Mod Date |
|----------------------|--------|------------|------------------|---|----------|-----------|----------------|----------------|--------|----------|
| A_1L_marinelli_sand_ | 30417 | 2119 | GR | | .000 | | NEEBE, DAVID J | 06/09/14 20:13 | | |
| Isotope | Mode | Activity | Activity Uncert. | LLD/MDA | % Abund. | Atom. No. | Comments | | Mod Id | Mod Date |
| 0 K-40 | NT | 0.00001136 | 1.22E-6 |  | 86.068% | 40 | | | | |
| 0 TL-208 | NT | 2.164E-7 | 5.6E-8 |  | 1.640% | 208 | | | | |
| 0 PB-212 | NT | 4.107E-7 | 8.18E-8 |  | 3.112% | 212 | | | | |
| 0 BI-214 | NT | 6.861E-7 | 1.075E-7 |  | 5.198% | 214 | | | | |
| 0 PB-214 | NT | 5.257E-7 | 1.16E-7 |  | 3.983% | 214 | | | | |
| 0 BE-7 | AP | 5.3213E-7 | |  | 0.000% | 7 | | | | |
| 0 MN-54 | AP | 8.8458E-8 | |  | 0.000% | 54 | | | | |
| 0 MN-56 | AP | 5.4196E-8 | |  | 0.000% | 56 | | | | |
| 0 CO-57 | AP | 7.3191E-8 | |  | 0.000% | 57 | | | | |
| 0 CO-58 | AP | 8.0045E-8 | |  | 0.000% | 58 | | | | |
| 0 CO-60 | AP | 7.5924E-8 | |  | 0.000% | 60 | | | | |
| 0 SB-124 | AP | 7.5131E-8 | |  | 0.000% | 124 | | | | |
| 0 SB-125 | FP | 2.033E-7 | |  | 0.000% | 125 | | | | |
| 0 CS-134 | FP | 7.1385E-8 | |  | 0.000% | 134 | | | | |
| 0 CS-137 | FP | 7.6689E-8 | |  | 0.000% | 137 | | | | |

Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/11/14 08:12

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:


Health Physics Sample Records

Sample ID: **142508**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 14060614BD 08 NORTH LAYDOWN # 15

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/11/14 08:12

Comments:

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/11/14 08:12

Comments:

```

*****
*          SONGS                      HEALTH PHYSICS REPORT          9-JUN-2014 20:09  *
*-----*
*          >>>> SAMPLE PARAMETERS <<<<          *
*-----*
* Title      : 14060614BD 08 NORTH LAYDOWN # 15          *
* ID         : 30417                      Acquisition date: 9-JUN-2014 20:06:51. *
* Start Time: 9-JUN-2014 20:06:00.          *
* Stop Time: 9-JUN-2014 20:06:00.          Counting System   : U2GSP          *
* Quantity  : 2.11900E+03 GR                IHPS Sample Number: 142508          *
* Geometry  : A_1L_marinelli_sand_1        Analysis Library  : HP_NATURAL          *
* Operator: DAVID NEEBE                      *
*-----*
*          >>>> A #41-TP11679B PARAMETERS <<<<          *
*-----*
* Elapsed Live Time   : 0 00:03:00.41    Calibration       : 9-JUN-2014 19:32:  *
* Elapsed Real Time   : 0 00:03:00.45    Energy Offset      : 2.30553E-01          *
* Deadtime            : 0.0%              Energy Slope       : 4.99505E-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 |
|----|---------|------|-------|------|---------|------|----|------|----------|----------------------------|
| 1 | 77.31 | 37 | 24 | 1.23 | 154.31 | 151 | 7 | 27.9 | 3.95E+00 | BI-214 PB-212 PB-214 |
| 1 | 238.50 | 53 | 21 | 1.15 | 477.02 | 473 | 15 | 19.9 | 2.71E+00 | PB-212 |
| 1 | 242.07 | 16 | 18 | 1.15 | 484.16 | 473 | 15 | 48.0 | | PB-214 |
| 1 | 295.12 | 25 | 4 | 1.71 | 590.37 | 587 | 7 | 22.1 | 3.78E-02 | PB-214 |
| 1 | 352.09 | 35 | 7 | 1.46 | 704.43 | 701 | 9 | 22.3 | 1.32E+00 | PB-214 |
| 1 | 582.73 | 18 | 0 | 1.88 | 1166.19 | 1162 | 11 | 25.9 | 1.13E+00 | TL-208 |
| 1 | 609.35 | 45 | 2 | 1.22 | 1219.48 | 1215 | 8 | 15.7 | 2.13E-01 | BI-214 |
| 1 | 1460.93 | 91 | 0 | 1.90 | 2924.52 | 2918 | 13 | 10.8 | 6.07E-01 | K-40 |

Summary of Nuclide Activity
Sample ID : 30417

Page : 2
Acquisition date : 9-JUN-2014 20:06:51

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 | 1.136E-05 | 1.136E-05 | 0.122E-05 | 10.76 | A |
| TL-208 | 3.05M | 1.68 | 1.291E-07 | 2.164E-07 | 0.560E-07 | 25.86 | A |
| PB-212 | 10.64H | 1.00 | 4.096E-07 | 4.107E-07 | 0.818E-07 | 19.91 | A |
| BI-214 | 19.90M | 1.09 | 6.322E-07 | 6.861E-07 | 1.075E-07 | 15.67 | A |
| PB-214 | 26.80M | 1.06 | 4.947E-07 | 5.257E-07 | 1.160E-07 | 22.06 | A |
| Total Activity : | | | 1.302E-05 | 1.320E-05 | | | |

Grand Total Activity : 1.302E-05 1.320E-05

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

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

Unidentified Energy Lines
Sample ID : 30417

Page : 3
Acquisition date : 9-JUN-2014 20:06:51

None

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30417

Page : 4
Acquisition date : 9-JUN-2014 20:06:51

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 | 91 | 10.67* | 5.314E-01 | 1.136E-05 | 1.136E-05 | 10.76 |
| 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 | 18 | 86.00* | 1.129E+00 | 1.291E-07 | 2.164E-07 | 25.86 |
| | 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 | 37 | 17.70 | 1.791E+00 | 8.231E-07 | 8.252E-07 | 27.89 |
| | 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 | 53 | 43.60* | 2.083E+00 | 4.096E-07 | 4.107E-07 | 19.91 |
| | 300.03 | ----- | 3.34 | 1.834E+00 | ----- | Line Not Found | ----- |
| BI-214 | 76.86 | 37 | 0.58 | 1.791E+00 | 2.512E-05 | 2.726E-05 | 27.89 |
| | 79.29 | ----- | 0.97 | 1.869E+00 | ----- | Line Not Found | ----- |
| | 609.31 | 45 | 46.10* | 1.084E+00 | 6.322E-07 | 6.861E-07 | 15.67 |
| | 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 | 37 | 11.00 | 1.791E+00 | 1.325E-06 | 1.408E-06 | 27.89 |
| | 87.19 | ----- | 3.88 | 2.129E+00 | ----- | Line Not Found | ----- |
| | 90.13 | ----- | 1.15 | 2.206E+00 | ----- | Line Not Found | ----- |
| | 241.92 | 16 | 7.46 | 2.067E+00 | 7.505E-07 | 7.976E-07 | 48.01 |
| | 258.94 | ----- | 0.55 | 1.994E+00 | ----- | Line Not Found | ----- |
| | 295.09 | 25 | 19.20* | 1.852E+00 | 4.947E-07 | 5.257E-07 | 22.06 |
| | 351.87 | 35 | 37.10 | 1.661E+00 | 4.021E-07 | 4.273E-07 | 22.31 |
| | 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 : 30417

Page : 6
Acquisition date : 9-JUN-2014 20:06:51

Flag: "*" = Keyline

Minimum Detectable Activity Report
Sample ID : 30417

Page : 7
Acquisition date : 9-JUN-2014 20:06:51

| Nuclide | Bckgnd Sum | Energy (keV) | MDA (uCi/GR) |
|---------|---------------|-----------------|-----------------|
| BE-7 | 3. | 477.61 | 5.3213E-07 |
| MN-54 | 2. | 834.83 | 8.8458E-08 |
| MN-56 | 0. | 846.81 | 5.4196E-08 |
| CO-57 | 18. | 122.06 | 7.3191E-08 |
| CO-58 | 2. | 810.79 | 8.0045E-08 |
| CO-60 | 0. | 1332.50 | 7.5924E-08 |
| SB-124 | 3. | 602.73 | 7.5131E-08 |
| SB-125 | 4. | 427.88 | 2.0330E-07 |
| CS-134 | 3. | 604.71 | 7.1385E-08 |
| CS-137 | 2. | 661.66 | 7.6689E-08 |