

Health Physics Sample Records

Sample ID: 142478

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: ☐

Description: 140603BD 7 CAMP MESA # 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:

Reviewed: DYNES, WILLIAM J

Date: 06/05/14 09:25

Comments:

Origin

Mat. Size/Volume: 1611 GRAMS

Docmnt/MO/Act #:

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

Description: CAMP MESA # 2

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 06/03/14 12:30

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 1611 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: (in.) **Equip ID:**

Stored By: , **Date:** 00/00/00 00:00

Sample Loc:

Other:

Material Loc:

Health Physics Sample Records

Sample ID: 142478

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: ☐

Description: 140603BD 7 CAMP MESA # 2

Analysis

| Geometry | MCA ID | Quant. | Units | Method | FP/AP | Lab | Analysis By | Date | Mod ID | Mod Date |
|----------------------|--------|------------|------------------|-------------------------------------|----------|-----------|-----------------|----------------|--------|----------|
| A_1L_marinelli_sand_ | 30357 | 1611 GR | | | .000 | | PARK, MICHAEL C | 06/05/14 15:13 | | |
| Isotope | Mode | Activity | Activity Uncert. | LLD/MDA | % Abund. | Atom. No. | Comments | | Mod Id | Mod Date |
| 0 K-40 | NT | 0.00001237 | 1.43E-6 | <input type="checkbox"/> | 83.859% | 40 | | | | |
| 0 TL-208 | NT | 3.643E-7 | 6.97E-8 | <input type="checkbox"/> | 2.470% | 208 | | | | |
| 0 PB-212 | NT | 6.257E-7 | 9.59E-8 | <input type="checkbox"/> | 4.242% | 212 | | | | |
| 0 BI-214 | NT | 7.037E-7 | 1.209E-7 | <input type="checkbox"/> | 4.771% | 214 | | | | |
| 0 PB-214 | NT | 6.873E-7 | 1.985E-7 | <input type="checkbox"/> | 4.659% | 214 | | | | |
| 0 BE-7 | AP | 7.5113E-7 | | <input checked="" type="checkbox"/> | 0.000% | 7 | | | | |
| 0 MN-54 | AP | 1.0782E-7 | | <input checked="" type="checkbox"/> | 0.000% | 54 | | | | |
| 0 MN-56 | AP | 3.2475E-8 | | <input checked="" type="checkbox"/> | 0.000% | 56 | | | | |
| 0 CO-57 | AP | 6.5814E-8 | | <input checked="" type="checkbox"/> | 0.000% | 57 | | | | |
| 0 CO-58 | AP | 1.0143E-7 | | <input checked="" type="checkbox"/> | 0.000% | 58 | | | | |
| 0 CO-60 | AP | 4.5904E-8 | | <input checked="" type="checkbox"/> | 0.000% | 60 | | | | |
| 0 SB-124 | AP | 6.1358E-8 | | <input checked="" type="checkbox"/> | 0.000% | 124 | | | | |
| 0 SB-125 | FP | 2.233E-7 | | <input checked="" type="checkbox"/> | 0.000% | 125 | | | | |
| 0 CS-134 | FP | 8.0981E-8 | | <input checked="" type="checkbox"/> | 0.000% | 134 | | | | |
| 0 CS-137 | FP | 7.9919E-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 14:40

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

Health Physics Sample Records

Sample ID: **142478**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 140603BD 7 CAMP MESA # 2

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 14:40

Comments:

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 14:40

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          5-JUN-2014 15:02  *
*-----*
*          >>>> SAMPLE  PARAMETERS <<<<          *
*-----*
* Title      : 140603BD 7 CAMP MESA # 2          *
* ID         : 30357                               Acquisition date: 5-JUN-2014 14:59:24. *
* Start Time: 5-JUN-2014 14:59:00.                *
* Stop Time : 5-JUN-2014 14:59:00.                Counting System   : U2GSP          *
* Quantity  : 1.61100E+03 GR                      IHPS Sample Number: 142478        *
* Geometry  : A_1L_marinelli_sand_1              Analysis Library  : HP_NATURAL        *
*          Operator: MICHAEL PARK                  *
*-----*
*          >>>> A #41-TP11679B  PARAMETERS <<<<          *
*-----*
* Elapsed Live Time : 0 00:03:00.44  Calibration      : 5-JUN-2014 08:09:          *
* Elapsed Real Time : 0 00:03:00.49  Energy Offset    : 2.12659E-01          *
* Deadtime          : 0.0%           Energy Slope     : 4.99528E-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 | 77.31 | 32 | 26 | 1.34 | 154.35 | 152 | 8 | 34.1 | 3.31E+00 | BI-214 PB-212 PB-214 |
| 1 | 238.46 | 61 | 9 | 1.00 | 476.95 | 473 | 7 | 15.3 | 3.03E+00 | PB-212 |
| 1 | 295.02 | 25 | 9 | 1.40 | 590.16 | 586 | 9 | 28.9 | 9.96E-01 | PB-214 |
| 1 | 351.75 | 32 | 8 | 1.32 | 703.74 | 698 | 9 | 23.5 | 5.05E-01 | PB-214 |
| 1 | 583.12 | 25 | 0 | 2.53 | 1166.92 | 1162 | 9 | 19.1 | 4.95E-01 | TL-208 |
| 1 | 609.19 | 35 | 0 | 1.89 | 1219.11 | 1213 | 11 | 17.2 | 5.04E-01 | BI-214 |
| 1 | 1460.95 | 75 | 0 | 2.35 | 2924.25 | 2917 | 13 | 11.6 | 4.95E-01 | K-40 |

Summary of Nuclide Activity
Sample ID : 30357

Page : 2
Acquisition date : 5-JUN-2014 14:59:24

Total number of lines in spectrum 7
Number of unidentified lines 0
Number of lines tentatively identified by NID 7 100.00%

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 | 1.237E-05 | 1.237E-05 | 0.143E-05 | 11.56 | A |
| TL-208 | 3.05M | 1.52 | 2.402E-07 | 3.643E-07 | 0.697E-07 | 19.14 | A |
| PB-212 | 10.64H | 1.00 | 6.244E-07 | 6.257E-07 | 0.959E-07 | 15.32 | A |
| BI-214 | 19.90M | 1.07 | 6.584E-07 | 7.037E-07 | 1.209E-07 | 17.18 | A |
| PB-214 | 26.80M | 1.05 | 6.542E-07 | 6.873E-07 | 1.985E-07 | 28.88 | A |
| Total Activity : | | | 1.454E-05 | 1.475E-05 | | | |

Grand Total Activity : 1.454E-05 1.475E-05

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

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

Unidentified Energy Lines
Sample ID : 30357

Page : 3
Acquisition date : 5-JUN-2014 14:59:24

None

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30357

Page : 4
Acquisition date : 5-JUN-2014 14:59:24

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 | 75 | 10.67* | 5.314E-01 | 1.237E-05 | 1.237E-05 | 11.56 |
| 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 | 25 | 86.00* | 1.128E+00 | 2.402E-07 | 3.643E-07 | 19.14 |
| | 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 | 32 | 17.70 | 1.791E+00 | 9.337E-07 | 9.357E-07 | 34.12 |
| | 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 | 61 | 43.60* | 2.083E+00 | 6.244E-07 | 6.257E-07 | 15.32 |
| | 300.03 | ----- | 3.34 | 1.834E+00 | ----- | Line Not Found | ----- |
| BI-214 | 76.86 | 32 | 0.58 | 1.791E+00 | 2.850E-05 | 3.045E-05 | 34.12 |
| | 79.29 | ----- | 0.97 | 1.869E+00 | ----- | Line Not Found | ----- |
| | 609.31 | 35 | 46.10* | 1.084E+00 | 6.584E-07 | 7.037E-07 | 17.18 |
| | 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 | 32 | 11.00 | 1.791E+00 | 1.502E-06 | 1.579E-06 | 34.12 |
| | 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 | 25 | 19.20* | 1.853E+00 | 6.542E-07 | 6.873E-07 | 28.88 |
| | 351.87 | 32 | 37.10 | 1.662E+00 | 4.898E-07 | 5.146E-07 | 23.49 |
| | 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 : 30357

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Acquisition date : 5-JUN-2014 14:59:24

Flag: "*" = Keyline

Minimum Detectable Activity Report
Sample ID : 30357

Page : 7
Acquisition date : 5-JUN-2014 14:59:24

| Nuclide | Bckgnd Sum | Energy (keV) | MDA (uCi/GR) |
|---------|---------------|-----------------|-----------------|
| BE-7 | 3. | 477.61 | 7.5113E-07 |
| MN-54 | 2. | 834.83 | 1.0782E-07 |
| MN-56 | 0. | 846.81 | 3.2475E-08 |
| CO-57 | 8. | 122.06 | 6.5814E-08 |
| CO-58 | 2. | 810.79 | 1.0143E-07 |
| CO-60 | 0. | 1332.50 | 4.5904E-08 |
| SB-124 | 1. | 602.73 | 6.1358E-08 |
| SB-125 | 3. | 427.88 | 2.2330E-07 |
| CS-134 | 2. | 604.71 | 8.0981E-08 |
| CS-137 | 1. | 661.66 | 7.9919E-08 |