**********
*****  G A M M A  S P E C T R U M  A N A L Y S I S  *****
**********

Filename: C:\GENIE2K\CAMFILES\UNC 2017\IMC Samples\IMC-2002\UNC-IMC-200

Report Generated On : 5/15/2017 10:46:31 AM

Sample Title : W3H-IMC-2002-S-P-7
Sample Description :
Sample Identification : IMC-2002-S-P-7
Sample Type :
Sample Geometry : cylinder

Peak Locate Threshold : 3.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 1.000 keV

Sample Size : 3.645E+002 grams

Sample Taken On : 5/1/2017 12:00:00 AM
Acquisition Started : 5/10/2017 2:17:45 PM

Live Time : 1800.0 seconds
Real Time : 1800.5 seconds

Dead Time : 0.03 %

Energy Calibration Used Done On : 4/13/2017
Efficiency Calibration Used Done On : 5/15/2017
Efficiency ID : H-IMC-2002-S-P-7

**********
***** P E A K A N A L Y S I S R E P O R T *****
**********

Detector Name: 8566
Sample Title: W3H-IMC-2002-S-P-7
Peak Analysis Performed on: 5/15/2017 10:46:25 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

| | Peak No. | ROI start | ROI end | Peak centroid | Energy (keV) | FWHM (keV) | Net Peak Area | Net Area Uncert. | Continuum Counts |
|---|---|---|---|---|---|---|---|---|---|
| F | 1 | 57- | 70 | 65.32 | 16.46 | 0.66 | 3.15E+002 | 35.75 | 1.89E+002 |
| F | 2 | 205- | 219 | 213.40 | 53.51 | 0.70 | 1.45E+002 | 22.66 | 1.58E+002 |
| M | 3 | 286- | 314 | 291.12 | 72.96 | 0.76 | 1.25E+002 | 52.52 | 2.03E+002 |
| m | 4 | 286- | 314 | 299.38 | 75.03 | 0.77 | 2.92E+002 | 106.08 | 2.12E+002 |
| m | 5 | 286- | 314 | 308.58 | 77.33 | 0.78 | 1.62E+002 | 62.25 | 2.16E+002 |
| M | 6 | 332- | 364 | 337.18 | 84.49 | 0.75 | 3.53E+002 | 38.17 | 1.90E+002 |
| m | 7 | 332- | 364 | 348.83 | 87.40 | 0.76 | 6.92E+001 | 22.40 | 2.39E+002 |
| m | 8 | 332- | 364 | 359.56 | 90.09 | 0.77 | 1.67E+002 | 28.62 | 2.49E+002 |
| F | 9 | 365- | 388 | 373.05 | 93.46 | 1.12 | 2.54E+002 | 120.45 | 3.64E+002 |
| F | 10 | 428- | 442 | 436.99 | 109.47 | 0.86 | 1.01E+002 | 88.54 | 1.90E+002 |
| F | 11 | 567- | 579 | 574.38 | 143.85 | 0.88 | 4.57E+002 | 41.31 | 1.38E+002 |
| F | 12 | 645- | 659 | 652.54 | 163.41 | 0.83 | 2.11E+002 | 86.16 | 1.18E+002 |
| F | 13 | 734- | 749 | 741.72 | 185.72 | 0.95 | 2.02E+003 | 146.28 | 1.04E+002 |
| F | 14 | 815- | 826 | 819.75 | 205.25 | 0.85 | 1.67E+002 | 26.52 | 5.85E+001 |
| F | 15 | 947- | 958 | 952.86 | 238.56 | 0.75 | 1.39E+002 | 26.61 | 8.40E+001 |
| F | 16 | 1175- | 1186 | 1179.98 | 295.40 | 0.84 | 4.27E+001 | 46.19 | 3.96E+001 |
| F | 17 | 1399- | 1410 | 1405.11 | 351.73 | 0.92 | 7.04E+001 | 19.57 | 3.96E+001 |
| F | 18 | 2031- | 2050 | 2039.63 | 510.52 | 2.02 | 6.25E+001 | 17.26 | 3.00E+001 |
| F | 19 | 2322- | 2336 | 2328.85 | 582.89 | 1.42 | 5.57E+001 | 17.34 | 2.50E+001 |
| F | 20 | 2425- | 2439 | 2432.19 | 608.75 | 1.54 | 4.65E+001 | 16.83 | 2.88E+001 |
| F | 21 | 5823- | 5849 | 5835.35 | 1460.38 | 2.98 | 2.00E+002 | 28.61 | 1.05E+001 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.960 sigma

**********
***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****
**********

Sample Title: W3H-IMC-2002-S-P-7
Nuclide Library Used: C:\GENIE2K\CAMFILES\UNC 2017 NLB 0328201

..... IDENTIFIED NUCLIDES .....

| Nuclide Name | Id Confidence | Energy (keV) | Yield (%) | Activity (pCi/gram) | Activity Uncertainty |
|---|---|---|---|---|---|
| K-40 | 0.969 | 1460.82* | 10.66 | 9.96450E+000 | 1.65956E+000 |
| Pb-212 | 0.942 | 74.82* | 10.28 | 2.16785E+000 | 9.00092E-001 |
| | | 77.11* | 17.10 | 7.03175E-001 | 3.05045E-001 |
| | | 86.83 | 2.07 | | |
| | | 87.35* | 3.97 | 1.18879E+000 | 4.53015E-001 |
| | | 89.78* | 1.46 | 7.69227E+000 | 2.02588E+000 |
| | | 115.18 | 0.60 | | |
| | | 238.63* | 43.60 | 3.04261E-001 | 7.57070E-002 |
| | | 300.09 | 3.30 | | |
| BI-214 | 0.185 | 76.86* | 0.55 | 2.20629E+001 | 9.59168E+000 |
| | | 79.29 | 0.91 | | |
| | | 609.32* | 45.49 | 2.51182E-001 | 9.56399E-002 |
| | | 665.45 | 1.53 | | |
| | | 768.36 | 4.89 | | |
| | | 806.18 | 1.26 | | |
| | | 934.06 | 3.11 | | |
| | | 1120.29 | 14.92 | | |
| | | 1155.21 | 1.63 | | |
| | | 1238.11 | 5.83 | | |
| | | 1280.98 | 1.43 | | |
| | | 1377.67 | 3.99 | | |
| | | 1385.31 | 0.79 | | |
| | | 1401.52 | 1.33 | | |
| | | 1407.99 | 2.39 | | |
| | | 1509.21 | 2.13 | | |
| | | 1583.20 | 0.70 | | |
| | | 1661.27 | 1.05 | | |
| | | 1729.59 | 2.88 | | |
| | | 1764.49 | 15.30 | | |
| | | 1847.43 | 2.03 | | |
| | | 2118.51 | 1.16 | | |
| | | 2204.06 | 4.92 | | |
| | | 2447.70 | 1.55 | | |
| PB-214 | 0.846 | 74.82* | 5.80 | 3.84232E+000 | 1.63196E+000 |
| | | 77.11* | 9.70 | 1.23962E+000 | 5.49219E-001 |
| | | 86.83 | 1.70 | | |
| | | 87.35* | 2.24 | 2.10691E+000 | 8.22794E-001 |
| | | 89.78* | 0.82 | 1.36960E+001 | 3.79753E+000 |
| | | 241.99 | 7.25 | | |
| | | 258.76 | 0.53 | | |
| | | 295.22* | 18.42 | 2.72378E-001 | 2.97569E-001 |
| | | 351.93* | 35.60 | 2.77553E-001 | 8.72389E-002 |

| Nuclide Name | Id Confidence | Energy (keV) | Yield (%) | Activity (pCi/gram) | Activity Uncertainty |
|---|---|---|---|---|---|
| PB-214 | 0.846 | 785.96 | 1.06 | | |
| | | 839.07 | 0.58 | | |
| Ra-226 | 0.883 | 81.07 | 0.20 | | |
| | | 83.79* | 0.32 | 7.59999E+001 | 1.73184E+001 |
| | | 186.21* | 3.64 | 4.31684E+001 | 7.95427E+000 |
| U-234 | 0.988 | 53.20* | 0.12 | 1.45416E+002 | 4.17012E+001 |
| | | 120.90 | 0.04 | | |
| U-235 | 0.998 | 89.96* | 3.43 | 3.27422E+000 | 8.68652E-001 |
| | | 93.35* | 5.54 | 3.03053E+000 | 1.56344E+000 |
| | | 104.82 | 0.69 | | |
| | | 105.60 | 1.31 | | |
| | | 108.58 | 0.50 | | |
| | | 109.19* | 1.66 | 3.90634E+000 | 3.54823E+000 |
| | | 143.76* | 10.96 | 2.81254E+000 | 6.11038E-001 |
| | | 163.36* | 5.08 | 2.97428E+000 | 1.33821E+000 |
| | | 194.94 | 0.63 | | |
| | | 202.12 | 1.08 | | |
| | | 205.32* | 5.02 | 2.80421E+000 | 6.28528E-001 |

* = Energy line found in the spectrum.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.10
Errors quoted at 1.960 sigma

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*****  I N T E R F E R E N C E  C O R R E C T E D  R E P O R T  *****
**********

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/gram) | Wt mean Activity Uncertainty |
|---|---|---|---|
| K-40 | 0.969 | 9.964499E+000 | 1.659557E+000 |
| Pb-212 | 0.942 | 3.461718E-001 | 7.206998E-002 |
| BI-214 | 0.185 | 2.517374E-001 | 9.561975E-002 |
| PB-214 | 0.846 | 3.063297E-001 | 8.227004E-002 |
| Ra-226 | 0.883 | 4.888774E+001 | 7.228307E+000 |
| U-234 | 0.988 | 1.454159E+002 | 4.170123E+001 |
| U-235 | 0.998 | 2.887900E+000 | 3.603074E-001 |

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at  1.960 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 5/15/2017 10:46:24 AM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

| | Peak No. | Energy (keV) | Peak Size in Counts per Second | Peak CPS % Uncertainty | Peak Type | Tol. Nuclide |
|---|---|---|---|---|---|---|
| F | 1 | 16.46 | 1.7473E-001 | 11.37 | | |
| M | 3 | 72.96 | 6.9624E-002 | 41.91 | | |
| F | 18 | 510.52 | 3.4743E-002 | 27.61 | | |
| F | 19 | 582.89 | 3.0965E-002 | 31.12 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.960 sigma

**********
***** N U C L I D E M D A R E P O R T *****
**********

Detector Name: 8566
Sample Geometry: cylinder
Sample Title: W3H-IMC-2002-S-P-7
Nuclide Library Used: C:\GENIE2K\CAMFILES\UNC 2017 NLB 0328201

| | Nuclide Name | Energy (keV) | Yield (%) | Line MDA (pCi/gram) | Nuclide MDA (pCi/gram) | Activity (pCi/gram) | Dec. Leve (pCi/gram |
|---|---|---|---|---|---|---|---|
| + | K-40 | 1460.82* | 10.66 | 9.753E-001 | 9.75E-001 | 9.964E+000 | 4.202E-00 |
| | Pb-210 | 46.54 | 4.25 | 2.719E+000 | 2.72E+000 | 1.856E+000 | 1.306E+00 |
| | BI-212 | 727.33 | 6.67 | 1.877E+000 | 1.88E+000 | 6.767E-001 | 8.796E-00 |
| | | 785.37 | 1.10 | 1.148E+001 | | 2.187E+000 | 5.358E+00 |
| | | 1078.62 | 0.56 | 2.785E+001 | | 1.894E+001 | 1.294E+00 |
| | | 1620.50 | 1.47 | 9.098E+000 | | -5.125E+000 | 4.014E+00 |
| + | Pb-212 | 74.82* | 10.28 | 5.224E-001 | 1.11E-001 | 2.168E+000 | 2.512E-00 |
| | | 77.11* | 17.10 | 3.086E-001 | | 7.032E-001 | 1.484E-00 |
| | | 86.83 | 2.07 | 4.022E+000 | | -6.263E+000 | 1.966E+00 |
| | | 87.35* | 3.97 | 1.283E+000 | | 1.189E+000 | 6.182E-00 |
| | | 89.78* | 1.46 | 3.503E+000 | | 7.692E+000 | 1.689E+00 |
| | | 115.18 | 0.60 | 9.252E+000 | | -2.057E+000 | 4.481E+00 |
| | | 238.63* | 43.60 | 1.106E-001 | | 3.043E-001 | 5.231E-00 |
| | | 300.09 | 3.30 | 2.016E+000 | | 2.242E-001 | 9.590E-00 |
| + | BI-214 | 76.86* | 0.55 | 9.682E+000 | 1.58E-001 | 2.206E+001 | 4.657E+00 |
| | | 79.29 | 0.91 | 8.734E+000 | | 3.475E-001 | 4.258E+00 |
| | | 609.32* | 45.49 | 1.576E-001 | | 2.512E-001 | 7.150E-00 |
| | | 665.45 | 1.53 | 7.663E+000 | | 3.074E+000 | 3.595E+00 |
| | | 768.36 | 4.89 | 2.606E+000 | | 7.331E-001 | 1.218E+00 |
| | | 806.18 | 1.26 | 8.928E+000 | | -2.350E+000 | 4.122E+00 |
| | | 934.06 | 3.11 | 3.977E+000 | | -7.695E-001 | 1.830E+00 |
| | | 1120.29 | 14.92 | 1.087E+000 | | -6.288E-001 | 5.050E-00 |
| | | 1155.21 | 1.63 | 9.514E+000 | | -1.921E+000 | 4.395E+00 |
| | | 1238.11 | 5.83 | 2.924E+000 | | 1.471E+000 | 1.355E+00 |
| | | 1280.98 | 1.43 | 1.125E+001 | | -1.327E+000 | 5.177E+00 |
| | | 1377.67 | 3.99 | 3.681E+000 | | 1.698E+000 | 1.669E+00 |
| | | 1385.31 | 0.79 | 1.694E+001 | | 2.349E+000 | 7.601E+00 |
| | | 1401.52 | 1.33 | 1.088E+001 | | 1.522E+000 | 4.916E+00 |
| | | 1407.99 | 2.39 | 6.420E+000 | | 1.076E-001 | 2.919E+00 |
| | | 1509.21 | 2.13 | 6.784E+000 | | 4.706E+000 | 3.045E+00 |
| | | 1583.20 | 0.70 | 2.023E+001 | | -1.011E+001 | 9.020E+00 |
| | | 1661.27 | 1.05 | 8.532E+000 | | -1.704E-001 | 3.497E+00 |
| | | 1729.59 | 2.88 | 4.312E+000 | | -1.694E+000 | 1.866E+00 |
| | | 1764.49 | 15.30 | 1.104E+000 | | 6.593E-001 | 4.965E-00 |
| | | 1847.43 | 2.03 | 6.100E+000 | | 1.458E-001 | 2.611E+00 |
| > | | 2118.51 | 1.16 | 0.000E+000 | | 0.000E+000 | 0.000E+00 |
| > | | 2204.06 | 4.92 | 0.000E+000 | | 0.000E+000 | 0.000E+00 |
| > | | 2447.70 | 1.55 | 0.000E+000 | | 0.000E+000 | 0.000E+00 |
| + | PB-214 | 74.82* | 5.80 | 9.260E-001 | 1.32E-001 | 3.842E+000 | 4.452E-00 |
| | | 77.11* | 9.70 | 5.440E-001 | | 1.240E+000 | 2.616E-00 |
| | | 86.83 | 1.70 | 4.898E+000 | | -7.626E+000 | 2.394E+00 |
| | | 87.35* | 2.24 | 2.274E+000 | | 2.107E+000 | 1.096E+00 |

| | Nuclide Name | Energy (keV) | Yield (%) | Line MDA (pCi/gram) | Nuclide MDA (pCi/gram) | Activity (pCi/gram) | Dec. Leve (pCi/gram |
|---|---|---|---|---|---|---|---|
| + | PB-214 | 89.78* | 0.82 | 6.236E+000 | 1.32E-001 | 1.370E+001 | 3.007E+00 |
| | | 241.99 | 7.25 | 1.175E+000 | | -3.559E-001 | 5.692E-00 |
| | | 258.76 | 0.53 | 9.522E+000 | | 2.371E+000 | 4.498E+00 |
| | | 295.22* | 18.42 | 2.130E-001 | | 2.724E-001 | 9.789E-00 |
| | | 351.93* | 35.60 | 1.317E-001 | | 2.776E-001 | 6.053E-00 |
| | | 785.96 | 1.06 | 1.195E+001 | | 1.201E+000 | 5.575E+00 |
| | | 839.07 | 0.58 | 2.238E+001 | | 4.184E+000 | 1.042E+00 |
| + | Ra-226 | 81.07 | 0.20 | 3.431E+001 | 1.30E+000 | 7.847E+000 | 1.666E+00 |
| | | 83.79* | 0.32 | 1.440E+001 | | 7.600E+001 | 6.909E+00 |
| | | 186.21* | 3.64 | 1.303E+000 | | 4.317E+001 | 6.223E-00 |
| | AC-228 | 89.96 | 1.90 | 7.704E+011 | 1.18E+011 | -1.299E+012 | 3.760E+01 |
| | | 93.35 | 3.10 | 4.688E+011 | | -1.131E+012 | 2.288E+01 |
| | | 99.51 | 1.26 | 7.808E+011 | | -3.983E+011 | 3.770E+01 |
| | | 105.60 | 0.74 | 1.564E+012 | | 7.851E+011 | 7.595E+01 |
| | | 129.07 | 2.42 | 4.098E+011 | | -1.799E+011 | 1.979E+01 |
| | | 153.98 | 0.72 | 1.395E+012 | | 3.338E+011 | 6.725E+01 |
| | | 209.25 | 3.89 | 2.994E+011 | | -5.393E+010 | 1.440E+01 |
| | | 214.85 | 0.76 | 1.338E+012 | | 1.402E+012 | 6.389E+01 |
| | | 270.24 | 3.46 | 3.071E+011 | | 1.329E+011 | 1.455E+01 |
| | | 328.00 | 2.95 | 4.158E+011 | | 1.492E+011 | 1.964E+01 |
| | | 338.32 | 11.27 | 1.261E+011 | | 9.447E+010 | 5.993E+01 |
| | | 409.46 | 1.92 | 7.351E+011 | | -4.007E+011 | 3.453E+01 |
| | | 463.00 | 4.40 | 3.706E+011 | | -9.535E+010 | 1.743E+01 |
| | | 562.50 | 0.87 | 2.205E+012 | | 1.850E+012 | 1.035E+01 |
| | | 674.75 | 2.10 | 1.015E+012 | | -8.713E+010 | 4.740E+01 |
| | | 726.86 | 0.62 | 3.888E+012 | | 1.085E+012 | 1.822E+01 |
| | | 755.32 | 1.00 | 2.179E+012 | | -2.248E+012 | 1.011E+01 |
| | | 772.29 | 1.49 | 1.656E+012 | | 9.007E+011 | 7.742E+01 |
| | | 794.95 | 4.25 | 5.880E+011 | | 3.477E+010 | 2.746E+01 |
| | | 830.49 | 0.54 | 4.361E+012 | | 2.176E+012 | 2.022E+01 |
| | | 835.71 | 1.61 | 1.543E+012 | | 3.953E+011 | 7.182E+01 |
| | | 840.38 | 0.91 | 2.827E+012 | | 2.008E+012 | 1.318E+01 |
| | | 904.20 | 0.77 | 3.762E+012 | | -5.714E+012 | 1.761E+01 |
| | | 911.20 | 25.80 | 1.180E+011 | | 3.517E+010 | 5.539E+01 |
| | | 964.77 | 4.99 | 6.558E+011 | | 8.541E+011 | 3.083E+01 |
| | | 968.97 | 15.80 | 2.067E+011 | | 1.682E+011 | 9.715E+01 |
| | | 1247.08 | 0.50 | 6.381E+012 | | -1.624E+012 | 2.948E+01 |
| | | 1459.14 | 0.83 | 8.992E+012 | | 2.581E+013 | 4.329E+01 |
| | | 1495.91 | 0.86 | 2.981E+012 | | 1.316E+012 | 1.326E+01 |
| | | 1588.20 | 3.22 | 8.879E+011 | | 4.559E+010 | 3.977E+01 |
| | | 1630.63 | 1.51 | 1.634E+012 | | -8.508E+011 | 7.158E+01 |
| | TH-230 | 67.67 | 0.38 | 2.030E+001 | 2.03E+001 | 1.232E+000 | 9.848E+00 |
| | PA-234 | 742.81 | 0.11 | 1.183E+002 | 1.41E+001 | 2.069E+001 | 5.536E+00 |
| | | 766.42 | 0.32 | 3.877E+001 | | -1.109E+001 | 1.808E+00 |
| | | 1001.03 | 0.84 | 1.406E+001 | | -2.273E+001 | 6.409E+00 |
| | TH-234 | 63.29 | 3.70 | 2.069E+000 | 2.07E+000 | -8.335E-001 | 1.001E+00 |
| | | 92.38 | 2.13 | 4.052E+000 | | 1.359E+001 | 1.984E+00 |
| | | 92.80 | 2.10 | 3.862E+000 | | 9.477E-001 | 1.888E+00 |
| | | 112.81 | 0.21 | 2.648E+001 | | 2.842E+000 | 1.283E+00 |
| + | U-234 | 53.20* | 0.12 | 8.015E+001 | 8.01E+001 | 1.454E+002 | 3.872E+00 |
| | | 120.90 | 0.04 | 1.587E+002 | | 7.756E+001 | 7.687E+00 |

| | Nuclide Name | Energy (keV) | Yield (%) | Line MDA (pCi/gram) | Nuclide MDA (pCi/gram) | Activity (pCi/gram) | Dec. Leve (pCi/gram |
|---|---|---|---|---|---|---|---|
| + | U-235 | 89.96* | 3.43 | 1.491E+000 | 4.02E-001 | 3.274E+000 | 7.189E-00 |
| | | 93.35* | 5.54 | 1.708E+000 | | 3.031E+000 | 8.380E-00 |
| | | 104.82 | 0.69 | 8.793E+000 | | 9.002E+000 | 4.269E+00 |
| | | 105.60 | 1.31 | 4.587E+000 | | 2.302E+000 | 2.227E+00 |
| | | 108.58 | 0.50 | 1.257E+001 | | 2.368E+000 | 6.111E+00 |
| | | 109.19* | 1.66 | 3.374E+000 | | 3.906E+000 | 1.635E+00 |
| | | 143.76* | 10.96 | 4.019E-001 | | 2.813E+000 | 1.926E-00 |
| | | 163.36* | 5.08 | 8.948E-001 | | 2.974E+000 | 4.283E-00 |
| | | 194.94 | 0.63 | 7.654E+000 | | 4.825E+000 | 3.654E+00 |
| | | 202.12 | 1.08 | 6.366E+000 | | -6.519E+000 | 3.079E+00 |
| | | 205.32* | 5.02 | 7.119E-001 | | 2.804E+000 | 3.333E-00 |

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction

**********
**** L I N E A C T I V I T Y C O N S I S T E N C Y E V A L U A T O R ***
**********

## Analysis using Key Line Activities

Filename: C:\GENIE2K\CAMFILES\UNC 2017\IMC Samples\IMC-2002\UNC-IMC-200

Equation used to calculate plot: ln(Ratio) = A + B*ln(Energy)
where: Ratio = Activity/KL Activity

Notes:
'^' Denotes Key Line energy
* All uncertainties quoted at 1.96 sigma

| Nuclide | Energy (keV) | | Activity (pCi/gram) | Activity %Uncert* | Ratio[%Uncert] | A | B [uncert] |
|---|---|---|---|---|---|---|---|
| K-40 | 1460.8 | ^ | 9.96E+000 | 16.655 | | | |
| Pb-212 | 74.8 | | 2.17E+000 | 41.520 | 7.125[48.405] | 9.94 | -1.791 |
| | 77.1 | | 7.03E-001 | 43.381 | 2.311[50.010] | | [ 0.391] |
| | 87.3 | | 1.19E+000 | 38.107 | 3.907[45.511] | | |
| | 89.8 | | 7.69E+000 | 26.337 | 25.282[36.232] | | |
| | 238.6 | ^ | 3.04E-001 | 24.882 | 1.000[35.189] | | |
| BI-214 | 76.9 | | 2.21E+001 | 43.474 | 87.836[57.791] | 13.86 | -2.162 |
| | 609.3 | ^ | 2.51E-001 | 38.076 | 1.000[53.847] | | [ 0.382] |
| PB-214 | 74.8 | | 3.84E+000 | 42.473 | 13.844[52.839] | 10.55 | -1.787 |
| | 77.1 | | 1.24E+000 | 44.305 | 4.466[54.322] | | [ 0.337] |
| | 87.3 | | 2.11E+000 | 39.052 | 7.591[50.130] | | |
| | 89.8 | | 1.37E+001 | 27.727 | 49.346[41.914] | | |
| | 295.2 | | 2.72E-001 | 109.24 | 0.981[113.68] | | |
| | 351.9 | ^ | 2.78E-001 | 31.431 | 1.000[44.451] | | |
| Ra-226 | 83.8 | | 7.60E+001 | 22.787 | 1.761[29.305] | 3.70 | -0.708 |
| | 186.2 | ^ | 4.32E+001 | 18.426 | 1.000[26.058] | | [ 0.491] |
| U-234 | 53.2 | ^ | 1.45E+002 | 28.677 | | | |
| U-235 | 90.0 | | 3.27E+000 | 26.530 | 1.164[34.291] | 0.96 | -0.184 |
| | 93.3 | | 3.03E+000 | 51.590 | 1.078[55.978] | | [ 0.509] |
| | 109.2 | | 3.91E+000 | 90.833 | 1.389[93.395] | | |
| | 143.8 | ^ | 2.81E+000 | 21.726 | 1.000[30.725] | | |
| | 163.4 | | 2.97E+000 | 44.993 | 1.058[49.963] | | |
| | 205.3 | | 2.80E+000 | 22.414 | 0.997[31.215] | | |