**********
***** CERTIFICATE OF ANALYSIS *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-50 |
| Sample Title: | B-5 Sub pipe trench I/W #1 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.266E+002 g |
| Sample Taken On: | 12/6/2004 12:00:00 PM |
| Acquisition Started: | 12/6/2004 9:46:43 AM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1802.8 seconds |
| Dead Time: | 0.15 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.19E+001 | 4.69E+000 | 1.06E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.98E-003 | 5.33E-002 | 1.01E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.69E-002 | 5.54E-002 | 9.01E-002 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 2.79E-002 | 7.01E-002 | 1.34E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.76E-001 | 1.40E-001 | 1.66E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.30E-002 | 5.60E-002 | 9.19E-002 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.78E-002 | 1.28E-001 | 2.43E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.33E-002 | 5.95E-002 | 9.56E-002 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 7.67E-002 | 6.58E-002 | 1.34E-001 |
| TL-208 | 4.55E-001 | 2.42E-001 | 1.24E-001 | FOUND | | |
| PB-212 | 1.03E+000 | 1.24E-001 | 2.55E-001 | FOUND | | |
| BI-214 | 8.52E-001 | 5.41E-001 | 2.61E-001 | FOUND | | |
| PB-214 | 9.41E-001 | 1.67E-001 | 3.32E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 9.79E-001 | 1.28E+000 | 2.35E+000 |
| AC-228 | 9.80E-001 | 2.30E-001 | 4.38E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -5.25E+000 | 2.19E+001 | 3.87E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.15E+000 | 1.77E+000 | 3.12E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.63E-001 | 2.16E-001 | 3.73E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -5.47E-001 | 9.20E+000 | 1.72E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 8.07E-002 | 1.09E+000 | 1.83E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -9.95E+000 | 1.84E+002 | 3.31E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.10E-001 | 7.65E-002 | 1.46E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 8.07E-002 | 1.09E+000 | 1.83E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.52E-002 | 3.52E-001 | 6.39E-001 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-70 |
| Sample Title: | B-5 South wing I/W line trench bottom #- |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.885E+002 g |
| Sample Taken On: | 12/6/2004 12:00:00 PM |
| Acquisition Started: | 12/7/2004 11:31:39 AM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1802.8 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.03E+001 | 6.02E+000 | 1.41E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -9.38E-003 | 5.30E-002 | 9.66E-002 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.24E-002 | 5.30E-002 | 8.76E-002 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.83E-002 | 6.35E-002 | 1.38E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -9.76E-002 | 1.32E-001 | 2.15E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -8.35E-002 | 6.10E-002 | 9.33E-002 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -4.18E-002 | 1.46E-001 | 2.60E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -3.96E-002 | 5.92E-002 | 9.30E-002 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.09E-001 | 7.15E-002 | 1.50E-001 |
| TL-208 | 2.84E-001 | 2.46E-001 | 1.21E-001 | FOUND | | |
| PB-212 | 7.58E-001 | 1.39E-001 | 2.63E-001 | FOUND | | |
| BI-214 | 8.56E-001 | 3.58E-001 | 2.42E-001 | FOUND | | |
| PB-214 | 6.42E-001 | 1.21E-001 | 2.66E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.94E+000 | 1.34E+000 | 2.55E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.29E-001 | 3.32E-001 | 7.41E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.99E+001 | 2.41E+001 | 4.75E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.88E+000 | 2.64E+000 | 4.07E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -8.79E-002 | 2.25E-001 | 3.55E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.23E-001 | 1.02E+001 | 1.92E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.13E+000 | 1.07E+000 | 1.98E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 4.29E+001 | 1.98E+002 | 3.65E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 7.96E-002 | 8.15E-002 | 1.52E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.13E+000 | 1.07E+000 | 1.98E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.83E-002 | 3.73E-001 | 6.80E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0412-75
Sample Title: B-5 I/W S/W Spoils pile #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.668E+002 g
Sample Taken On: 12/6/2004 12:00:00 PM
Acquisition Started: 12/7/2004 8:52:04 AM
Live Time: 1800.0 seconds
Real Time: 1802.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.32E+001 | 6.78E+000 | 1.43E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.18E-002 | 6.93E-002 | 1.26E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.51E-002 | 5.85E-002 | 9.65E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.13E-002 | 6.83E-002 | 1.44E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.63E-001 | 1.96E-001 | 2.44E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.99E-002 | 7.00E-002 | 1.18E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -5.75E-003 | 1.79E-001 | 3.29E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.70E-002 | 6.66E-002 | 1.11E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.95E-002 | 8.06E-002 | 1.64E-001 |
| TL-208 | 3.72E-001 | 2.76E-001 | 1.43E-001 | FOUND | | |
| PB-212 | 8.66E-001 | 1.46E-001 | 3.08E-001 | FOUND | | |
| BI-214 | 7.72E-001 | 1.90E-001 | 2.99E-001 | FOUND | | |
| PB-214 | 5.33E-001 | 3.78E-001 | 3.54E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.54E-001 | 1.44E+000 | 2.58E+000 |
| AC-228 | 1.18E+000 | 6.41E-001 | 4.81E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.14E+001 | 2.48E+001 | 4.17E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.07E+000 | 2.41E+000 | 4.24E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 1.24E-002 | 2.56E-001 | 4.31E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.00E+000 | 1.29E+001 | 2.33E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.83E+000 | 1.24E+000 | 2.26E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.30E+002 | 2.37E+002 | 4.46E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.02E-001 | 8.77E-002 | 1.67E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.83E+000 | 1.24E+000 | 2.26E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.11E-001 | 4.07E-001 | 6.68E-001 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0412-89
Sample Title: B-5 I/W SW soil pile spoils #9
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.713E+002 g
Sample Taken On: 12/7/2004 12:00:00 PM
Acquisition Started: 12/8/2004 6:58:59 AM
Live Time: 1200.0 seconds
Real Time: 1201.6 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 1.89E+001 | 6.71E+000 | 1.46E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -1.38E-002 | 7.26E-002 | 1.33E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 5.50E-002 | 6.46E-002 | 1.15E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 5.37E-002 | 6.80E-002 | 1.53E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.35E-001 | 1.82E-001 | 2.58E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -6.41E-002 | 6.10E-002 | 9.63E-002 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 9.80E-002 | 1.87E-001 | 3.58E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -6.63E-003 | 6.14E-002 | 1.10E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.48E-002 | 7.78E-002 | 1.67E-001 |
| TL-208 | 3.56E-001 | 2.74E-001 | 1.53E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 6.42E-001 | 1.73E-001 | 3.51E-001 |
| BI-214 | 5.89E-001 | 4.83E-001 | 2.69E-001 | FOUND | | |
| PB-214 | 6.21E-001 | 1.44E-001 | 3.33E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.84E-001 | 1.44E+000 | 2.60E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.04E+000 | 3.83E-001 | 8.82E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -4.44E+000 | 2.53E+001 | 4.51E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.64E+000 | 2.32E+000 | 4.14E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 8.37E-002 | 2.23E-001 | 3.92E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 8.66E+000 | 1.01E+001 | 2.29E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -3.53E-002 | 1.21E+000 | 2.03E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -3.17E+001 | 2.24E+002 | 3.99E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.04E-001 | 8.53E-002 | 1.65E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -3.53E-002 | 1.21E+000 | 2.03E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.16E-002 | 3.97E-001 | 7.28E-001 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-102 |
| Sample Title: | B-5 South wing I/W line Spoils N side #5 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.233E+002 g |
| Sample Taken On: | 12/8/2004 12:00:00 PM |
| Acquisition Started: | 12/8/2004 12:06:44 PM |
| Live Time: | 1200.0 seconds |
| Real Time: | 1201.8 seconds |
| Dead Time: | 0.15 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.28E+001 | 2.84E+000 | 1.89E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.14E-002 | 7.83E-002 | 1.38E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.94E-003 | 6.60E-002 | 1.11E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 6.94E-002 | 9.08E-002 | 1.90E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 7.58E-002 | 1.65E-001 | 3.36E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.09E-002 | 6.69E-002 | 1.20E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -5.34E-002 | 1.78E-001 | 3.20E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.86E-002 | 6.71E-002 | 1.12E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.83E-002 | 9.22E-002 | 1.67E-001 |
| TL-208 | 2.91E-001 | 1.41E-001 | 1.75E-001 | FOUND | | |
| PB-212 | 1.12E+000 | 3.90E-001 | 3.27E-001 | FOUND | | |
| BI-214 | 8.67E-001 | 6.06E-001 | 3.51E-001 | FOUND | | |
| PB-214 | 7.04E-001 | 2.49E-001 | 3.59E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 6.61E-001 | 1.49E+000 | 2.76E+000 |
| AC-228 | 5.20E-001 | 2.65E-001 | 5.58E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.28E+000 | 2.60E+001 | 4.73E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -8.14E-001 | 2.49E+000 | 4.10E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.10E-001 | 2.90E-001 | 4.50E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 4.70E-001 | 1.13E+001 | 2.18E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.13E-001 | 1.29E+000 | 2.24E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -5.88E+001 | 2.49E+002 | 4.48E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.57E-003 | 8.81E-002 | 1.60E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.13E-001 | 1.29E+000 | 2.24E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.65E-001 | 4.36E-001 | 7.76E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0412-106
Sample Title: B-5 Roof drain sub soil composite #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.699E+002 g
Sample Taken On: 12/7/2004 12:00:00 PM
Acquisition Started: 12/9/2004 7:22:57 AM
Live Time: 1500.0 seconds
Real Time: 1501.8 seconds
Dead Time: 0.12 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.54E+001 | 6.42E+000 | 1.38E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.09E-002 | 6.19E-002 | 1.13E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.51E-002 | 6.17E-002 | 1.08E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.59E-002 | 6.15E-002 | 1.36E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.01E-002 | 1.37E-001 | 2.66E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 4.80E-002 | 5.70E-002 | 1.20E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.09E-001 | 1.74E-001 | 2.87E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.60E-002 | 6.44E-002 | 1.11E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.84E-002 | 8.10E-002 | 1.56E-001 |
| TL-208 | 3.23E-001 | 3.67E-001 | 1.63E-001 | FOUND | | |
| PB-212 | 7.03E-001 | 1.52E-001 | 3.36E-001 | FOUND | | |
| BI-214 | 5.91E-001 | 1.65E-001 | 3.29E-001 | FOUND | | |
| PB-214 | 6.63E-001 | 1.68E-001 | 2.63E-001 | FOUND | | |
| RA-226 | 1.96E+000 | 1.02E+000 | 2.68E+000 | FOUND | | |
| AC-228 | 9.19E-001 | 2.69E-001 | 5.91E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.22E+001 | 2.71E+001 | 5.01E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.35E+000 | 2.34E+000 | 4.13E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -2.55E-001 | 2.68E-001 | 3.98E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -5.92E-001 | 1.22E+001 | 2.31E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.19E-001 | 1.20E+000 | 2.08E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.18E+002 | 2.34E+002 | 4.34E+002 |
| U-235 | 1.19E-001 | 6.23E-002 | 1.63E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.19E-001 | 1.20E+000 | 2.08E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.31E-001 | 4.01E-001 | 7.13E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0412-116
Sample Title: B-5 South wing I/W trench soil #8
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.699E+002 g
Sample Taken On: 12/8/2004 12:00:00 PM
Acquisition Started: 12/8/2004 3:13:25 PM
Live Time: 1200.0 seconds
Real Time: 1201.5 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.23E+001 | 6.58E+000 | 1.39E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.07E-002 | 6.03E-002 | 1.29E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 3.67E-002 | 5.71E-002 | 1.02E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 4.92E-002 | 7.62E-002 | 1.61E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -9.32E-002 | 1.41E-001 | 2.35E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -7.99E-002 | 7.39E-002 | 1.15E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 7.51E-002 | 1.76E-001 | 3.44E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.82E-002 | 6.39E-002 | 1.13E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.23E-003 | 7.91E-002 | 1.48E-001 |
| TL-208 | 2.86E-001 | 8.63E-002 | 1.32E-001 | FOUND | | |
| PB-212 | 7.94E-001 | 1.62E-001 | 3.61E-001 | FOUND | | |
| BI-214 | 6.78E-001 | 1.88E-001 | 2.68E-001 | FOUND | | |
| PB-214 | 8.33E-001 | 1.81E-001 | 2.66E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.49E+000 | 1.42E+000 | 2.73E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 5.94E-001 | 3.45E-001 | 7.65E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.88E+001 | 2.67E+001 | 4.48E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.48E-002 | 2.03E+000 | 3.53E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 2.75E-001 | 2.52E-001 | 4.47E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 3.60E+000 | 1.05E+001 | 2.13E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 7.30E-001 | 1.12E+000 | 1.99E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.16E+002 | 1.99E+002 | 3.87E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 4.61E-002 | 8.78E-002 | 1.63E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 7.30E-001 | 1.12E+000 | 1.99E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.33E-002 | 4.47E-001 | 8.19E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0412-121
Sample Title: B-5 I/W,S/W, Roof Drain, Trench -#1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.780E+002 g
Sample Taken On: 12/9/2004 12:00:00 PM
Acquisition Started: 12/13/2004 8:36:54 AM
Live Time: 900.0 seconds
Real Time: 901.1 seconds
Dead Time: 0.12 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.18E+001 | 8.90E+000 | 2.68E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 8.93E-003 | 7.96E-002 | 1.47E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 9.45E-003 | 8.76E-002 | 1.50E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -5.90E-003 | 9.36E-002 | 1.93E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 4.68E-002 | 2.27E-001 | 4.41E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -3.54E-002 | 9.45E-002 | 1.75E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -5.90E-002 | 2.18E-001 | 3.99E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.01E-002 | 7.97E-002 | 1.47E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.97E-002 | 1.17E-001 | 2.41E-001 |
| TL-208 | 3.74E-001 | 4.19E-001 | 2.09E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 8.62E-001 | 2.36E-001 | 4.90E-001 |
| BI-214 | 9.22E-001 | 2.60E-001 | 4.18E-001 | FOUND | | |
| PB-214 | 7.82E-001 | 2.99E-001 | 3.90E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.44E-001 | 1.94E+000 | 3.51E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.33E-001 | 4.80E-001 | 1.10E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.34E+001 | 3.42E+001 | 6.67E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.05E+000 | 2.79E+000 | 5.15E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.17E-001 | 3.27E-001 | 5.35E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -8.24E+000 | 1.61E+001 | 1.31E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.36E+000 | 1.64E+000 | 3.07E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 6.63E+001 | 2.76E+002 | 5.27E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.63E-002 | 1.18E-001 | 2.14E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.36E+000 | 1.64E+000 | 3.07E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -6.02E-002 | 5.61E-001 | 1.03E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0412-122
Sample Title: B-5 I/W S-N Roof drain trench bottom #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.250E+002 g
Sample Taken On: 12/9/2004 12:00:00 PM
Acquisition Started: 12/13/2004 10:05:24 AM
Live Time: 1800.0 seconds
Real Time: 1802.3 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.28E+001 | 2.58E+000 | 1.62E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.66E-002 | 6.58E-002 | 1.13E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.85E-002 | 5.63E-002 | 9.76E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -6.18E-003 | 5.60E-002 | 1.10E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.34E-001 | 1.78E-001 | 2.62E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.55E-002 | 6.46E-002 | 1.16E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.45E-001 | 1.60E-001 | 2.61E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.92E-002 | 6.72E-002 | 1.08E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.33E-002 | 7.90E-002 | 1.55E-001 |
| TL-208 | 3.52E-001 | 8.74E-002 | 1.55E-001 | FOUND | | |
| PB-212 | 1.01E+000 | 2.61E-001 | 2.73E-001 | FOUND | | |
| BI-214 | 9.90E-001 | 3.81E-001 | 3.56E-001 | FOUND | | |
| PB-214 | 9.27E-001 | 2.77E-001 | 3.52E-001 | FOUND | | |
| RA-226 | 2.42E+000 | 1.13E+000 | 2.82E+000 | FOUND | | |
| AC-228 | 1.04E+000 | 3.30E-001 | 5.26E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 3.26E+000 | 2.45E+001 | 4.45E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.61E+000 | 2.42E+000 | 4.09E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -3.16E-001 | 3.24E-001 | 3.96E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.87E+000 | 1.28E+001 | 2.37E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.03E+000 | 1.14E+000 | 2.01E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -4.60E+001 | 2.01E+002 | 3.59E+002 |
| U-235 | 1.48E-001 | 6.92E-002 | 1.72E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.03E+000 | 1.14E+000 | 2.01E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.19E-001 | 3.96E-001 | 7.49E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0412-123
Sample Title: B-5 I/W SW Roof drain spoils SE Corn. #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.940E+002 g
Sample Taken On: 12/9/2004 12:00:00 PM
Acquisition Started: 12/13/2004 11:19:58 AM
Live Time: 2100.0 seconds
Real Time: 2102.7 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.47E+001 | 2.60E+000 | 1.65E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.89E-002 | 5.76E-002 | 1.13E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.62E-002 | 5.83E-002 | 9.58E-002 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 6.09E-002 | 6.88E-002 | 1.44E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.48E-001 | 1.75E-001 | 2.55E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -2.41E-002 | 5.83E-002 | 1.01E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -8.28E-002 | 1.73E-001 | 2.99E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.13E-002 | 6.00E-002 | 1.01E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.79E-002 | 7.33E-002 | 1.50E-001 |
| TL-208 | 4.49E-001 | 9.19E-002 | 1.72E-001 | FOUND | | |
| PB-212 | 1.20E+000 | 1.54E-001 | 3.34E-001 | FOUND | | |
| BI-214 | 1.08E+000 | 3.74E-001 | 3.03E-001 | FOUND | | |
| PB-214 | 8.38E-001 | 1.63E-001 | 2.56E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.11E+000 | 1.43E+000 | 2.78E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.41E+000 | 4.19E-001 | 9.10E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.95E+001 | 2.40E+001 | 3.99E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.02E+000 | 2.15E+000 | 3.73E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 9.86E-002 | 2.30E-001 | 3.94E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 9.94E+000 | 1.20E+001 | 2.46E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.24E+000 | 1.14E+000 | 2.00E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.71E+001 | 2.15E+002 | 3.68E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.38E-001 | 8.55E-002 | 1.63E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.24E+000 | 1.14E+000 | 2.00E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.33E-001 | 4.21E-001 | 7.74E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-129 |
| Sample Title: | B-5 Fire line by H/W man hole #9 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.530E+002 g |
| Sample Taken On: | 12/9/2004 12:00:00 PM |
| Acquisition Started: | 12/13/2004 10:41:01 AM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1802.3 seconds |
| Dead Time: | 0.13 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.17E+001 | 5.14E+000 | 1.64E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.40E-002 | 6.36E-002 | 1.31E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.03E-002 | 5.94E-002 | 1.01E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 3.42E-002 | 8.66E-002 | 1.61E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.01E-002 | 1.64E-001 | 2.94E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.63E-002 | 7.05E-002 | 1.01E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.00E-001 | 1.61E-001 | 2.75E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.76E-002 | 6.33E-002 | 1.10E-001 |
| CS-137 | 1.23E-001 | 1.04E-001 | 1.06E-001 | FOUND | | |
| TL-208 | 3.81E-001 | 3.33E-001 | 1.45E-001 | FOUND | | |
| PB-212 | 1.47E+000 | 2.98E-001 | 2.79E-001 | FOUND | | |
| BI-214 | 7.60E-001 | 1.63E-001 | 2.84E-001 | FOUND | | |
| PB-214 | 5.68E-001 | 1.30E-001 | 2.87E-001 | FOUND | | |
| RA-226 | 2.61E+000 | 3.40E+000 | 2.41E+000 | FOUND | | |
| AC-228 | 7.65E-001 | 3.09E-001 | 4.95E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -3.96E+000 | 2.47E+001 | 4.41E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.12E+000 | 2.26E+000 | 3.94E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -2.44E-002 | 2.33E-001 | 3.88E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.43E+000 | 1.13E+001 | 2.08E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.22E+000 | 1.13E+000 | 2.10E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -4.93E+001 | 2.00E+002 | 3.56E+002 |
| U-235 | 1.59E-001 | 2.07E-001 | 1.47E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.22E+000 | 1.13E+000 | 2.10E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.25E-001 | 4.25E-001 | 7.78E-001 |

Uncertainty reported at 2.0 sigma

# C E R T I F I C A T E O F A N A L Y S I S

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-136 |
| Sample Title: | B-5 Highbay I/W line spoils soil #1 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 9.002E+002 g |
| Sample Taken On: | 12/13/2004 12:00:00 PM |
| Acquisition Started: | 12/13/2004 4:19:14 PM |
| Live Time: | 1200.0 seconds |
| Real Time: | 1201.5 seconds |
| Dead Time: | 0.12 % |
| Efficiency ID: | srs035 |

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 1.97E+001 | 6.06E+000 | 1.27E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.60E-002 | 5.16E-002 | 1.08E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.06E-002 | 5.48E-002 | 9.10E-002 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.70E-002 | 3.98E-002 | 9.49E-002 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.52E-002 | 1.54E-001 | 2.77E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 1.04E-002 | 5.46E-002 | 1.04E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -8.05E-002 | 1.59E-001 | 2.76E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -6.97E-002 | 6.49E-002 | 8.99E-002 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.52E-003 | 7.59E-002 | 1.41E-001 |
| TL-208 | 2.27E-001 | 6.08E-002 | 1.33E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 6.95E-001 | 1.62E-001 | 3.27E-001 |
| BI-214 | 1.73E+000 | 6.18E-001 | 2.99E-001 | FOUND | | |
| PB-214 | 8.39E-001 | 1.47E-001 | 3.11E-001 | FOUND | | |
| RA-226 | 1.73E+000 | 9.95E-001 | 2.62E+000 | FOUND | | |
| AC-228 | 6.74E-001 | 2.27E-001 | 4.93E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.52E+001 | 2.47E+001 | 4.60E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.06E+000 | 2.30E+000 | 4.03E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -2.66E-001 | 2.94E-001 | 3.70E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 3.87E-002 | 1.01E+001 | 1.96E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.14E+000 | 1.12E+000 | 2.10E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -8.93E+001 | 1.86E+002 | 3.23E+002 |
| U-235 | 1.05E-001 | 6.06E-002 | 1.59E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.14E+000 | 1.12E+000 | 2.10E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.74E-001 | 3.89E-001 | 6.76E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-145 |
| Sample Title: | B-5 N E Storm drain SE-NW diag #5 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.081E+002 g |
| Sample Taken On: | 12/13/2004 12:00:00 PM |
| Acquisition Started: | 12/14/2004 10:04:05 AM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1802.5 seconds |
| Dead Time: | 0.14 % |
| Efficiency ID: | srs035 |

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 1.74E+001 | 5.21E+000 | 1.21E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.62E-002 | 4.82E-002 | 9.64E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.50E-002 | 5.27E-002 | 8.41E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.98E-002 | 5.24E-002 | 1.11E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.18E-001 | 1.27E-001 | 2.02E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -6.26E-002 | 6.50E-002 | 1.06E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.83E-002 | 1.45E-001 | 2.70E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.96E-002 | 5.74E-002 | 9.81E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.08E-003 | 6.52E-002 | 1.21E-001 |
| TL-208 | 2.49E-001 | 7.05E-002 | 1.38E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 6.49E-001 | 1.44E-001 | 2.90E-001 |
| BI-214 | 6.46E-001 | 5.39E-001 | 2.62E-001 | FOUND | | |
| PB-214 | 7.75E-001 | 2.94E-001 | 2.42E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.98E+000 | 1.32E+000 | 2.59E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.29E-001 | 3.45E-001 | 7.55E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.21E+000 | 2.24E+001 | 3.93E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 7.30E-001 | 1.95E+000 | 3.39E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.93E-002 | 2.14E-001 | 3.56E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -6.40E-001 | 1.04E+001 | 1.91E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.56E+000 | 9.96E-001 | 1.82E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 5.34E+000 | 1.84E+002 | 3.34E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.76E-002 | 7.98E-002 | 1.50E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.56E+000 | 9.95E-001 | 1.82E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.95E-001 | 3.59E-001 | 6.23E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-148 |
| Sample Title: | B-5 I/W Line spoils composite #8 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.056E+002 g |
| Sample Taken On: | 12/13/2004 12:00:00 PM |
| Acquisition Started: | 12/14/2004 10:51:46 AM |
| Live Time: | 2400.0 seconds |
| Real Time: | 2403.5 seconds |
| Dead Time: | 0.14 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.60E+001 | 5.05E+000 | 1.38E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.40E-002 | 5.91E-002 | 1.20E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -7.42E-003 | 5.33E-002 | 8.76E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.64E-003 | 5.34E-002 | 1.05E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.38E-001 | 1.55E-001 | 2.17E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.73E-003 | 5.54E-002 | 1.01E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.39E-001 | 1.58E-001 | 2.62E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.00E-002 | 5.61E-002 | 9.35E-002 |
| CS-137 | 6.31E-002 | 3.99E-002 | 1.03E-001 | FOUND | | |
| TL-208 | 3.13E-001 | 2.29E-001 | 1.45E-001 | FOUND | | |
| PB-212 | 1.01E+000 | 1.48E-001 | 2.47E-001 | FOUND | | |
| BI-214 | 7.58E-001 | 4.44E-001 | 2.67E-001 | FOUND | | |
| PB-214 | 6.43E-001 | 1.45E-001 | 6.18E-001 | FOUND | | |
| RA-226 | 1.78E+000 | 9.78E-001 | 2.49E+000 | FOUND | | |
| AC-228 | 1.17E+000 | 2.08E-001 | 5.15E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.77E+001 | 2.27E+001 | 4.32E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.41E+000 | 2.19E+000 | 3.58E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -7.68E-002 | 2.25E-001 | 3.64E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 4.26E+000 | 1.17E+001 | 2.23E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.66E-001 | 1.06E+000 | 1.80E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -6.90E+001 | 2.09E+002 | 3.53E+002 |
| U-235 | 1.08E-001 | 5.96E-002 | 1.52E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.66E-001 | 1.06E+000 | 1.80E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.54E-001 | 3.69E-001 | 6.07E-001 |

Uncertainty reported at 2.0 sigma

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

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-149 |
| Sample Title: | B-5 I/W Trench bottom composite #9 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.175E+002 g |
| Sample Taken On: | 12/13/2004 12:00:00 PM |
| Acquisition Started: | 12/14/2004 11:18:32 AM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1802.6 seconds |
| Dead Time: | 0.14 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.51E+001 | 5.78E+000 | 1.25E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.93E-002 | 6.70E-002 | 1.13E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 5.47E-002 | 6.32E-002 | 1.11E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.81E-002 | 6.61E-002 | 1.54E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.41E-001 | 1.74E-001 | 2.70E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.58E-002 | 6.26E-002 | 1.11E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.05E-002 | 1.74E-001 | 3.21E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.74E-002 | 6.34E-002 | 1.19E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.12E-002 | 8.01E-002 | 1.53E-001 |
| TL-208 | 4.34E-001 | 3.36E-001 | 1.55E-001 | FOUND | | |
| PB-212 | 1.12E+000 | 1.58E-001 | 3.40E-001 | FOUND | | |
| BI-214 | 6.08E-001 | 1.52E-001 | 2.92E-001 | FOUND | | |
| PB-214 | 9.96E-001 | 2.44E-001 | 3.14E-001 | FOUND | | |
| RA-226 | 2.12E+000 | 2.50E+000 | 3.33E+000 | FOUND | | |
| AC-228 | 9.67E-001 | 2.54E-001 | 5.59E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.97E-001 | 2.86E+001 | 4.94E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 4.36E-001 | 2.24E+000 | 3.86E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 6.58E-002 | 2.45E-001 | 4.15E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.13E+001 | 1.04E+001 | 2.30E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.06E+000 | 1.16E+000 | 2.14E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.90E+000 | 2.23E+002 | 4.04E+002 |
| U-235 | 1.29E-001 | 1.52E-001 | 2.03E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.06E+000 | 1.16E+000 | 2.14E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.52E-001 | 4.05E-001 | 7.15E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-169 |
| Sample Title: | B-5 I/W Spoils pile #2 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.130E+002 g |
| Sample Taken On: | 12/14/2004 12:00:00 PM |
| Acquisition Started: | 12/15/2004 10:39:21 AM |
| Live Time: | 1500.0 seconds |
| Real Time: | 1502.4 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.20E+001 | 2.62E+000 | 1.88E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.12E-002 | 6.74E-002 | 1.29E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 8.19E-003 | 5.73E-002 | 9.72E-002 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -1.46E-002 | 6.04E-002 | 1.16E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -9.04E-002 | 1.39E-001 | 2.32E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 2.10E-002 | 5.83E-002 | 1.15E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 6.23E-003 | 1.57E-001 | 2.93E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.34E-002 | 6.30E-002 | 1.08E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.29E-002 | 6.51E-002 | 1.26E-001 |
| TL-208 | 3.61E-001 | 2.68E-001 | 1.37E-001 | FOUND | | |
| PB-212 | 1.16E+000 | 2.88E-001 | 3.38E-001 | FOUND | | |
| BI-214 | 8.03E-001 | 1.77E-001 | 2.94E-001 | FOUND | | |
| PB-214 | 5.37E-001 | 1.24E-001 | 3.25E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.38E+000 | 1.47E+000 | 2.84E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.17E+000 | 3.97E-001 | 8.83E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.72E+001 | 2.37E+001 | 4.62E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 8.40E-001 | 2.23E+000 | 3.85E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 9.53E-003 | 2.32E-001 | 3.90E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.55E+001 | 1.17E+001 | 2.59E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 5.35E-001 | 1.22E+000 | 2.10E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.00E+002 | 2.35E+002 | 3.88E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.46E-001 | 8.95E-002 | 1.73E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 5.35E-001 | 1.22E+000 | 2.10E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 6.28E-002 | 4.11E-001 | 7.54E-001 |

Uncertainty reported at 2.0 sigma

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-179 |
| Sample Title: | B-5 High Bay Trench bottom I/W #12 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.770E+002 g |
| Sample Taken On: | 12/14/2004 12:00:00 PM |
| Acquisition Started: | 12/15/2004 10:12:21 AM |
| Live Time: | 1500.0 seconds |
| Real Time: | 1502.5 seconds |
| Dead Time: | 0.17 % |
| Efficiency ID: | srs035 |

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.04E+001 | 5.62E+000 | 1.76E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.85E-002 | 5.05E-002 | 1.08E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 4.81E-002 | 5.71E-002 | 1.01E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.37E-002 | 6.74E-002 | 1.35E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.69E-002 | 1.40E-001 | 2.44E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -9.55E-003 | 5.47E-002 | 9.70E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.16E-002 | 1.58E-001 | 2.84E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.03E-001 | 6.72E-002 | 9.71E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.40E-002 | 6.66E-002 | 1.18E-001 |
| TL-208 | 3.98E-001 | 8.66E-002 | 1.34E-001 | FOUND | | |
| PB-212 | 9.79E-001 | 1.38E-001 | 4.88E-001 | FOUND | | |
| BI-214 | 1.08E+000 | 6.37E-001 | 2.67E-001 | FOUND | | |
| PB-214 | 6.86E-001 | 2.10E-001 | 2.57E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.13E+000 | 1.33E+000 | 2.66E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.37E+000 | 4.01E-001 | 8.96E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.50E+001 | 2.41E+001 | 4.59E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 6.57E-001 | 2.10E+000 | 3.63E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 9.71E-003 | 2.22E-001 | 3.74E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 4.36E+000 | 9.28E+000 | 1.93E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.68E-001 | 1.00E+000 | 1.78E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.97E+001 | 2.16E+002 | 3.88E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.74E-001 | 8.05E-002 | 1.60E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.68E-001 | 1.00E+000 | 1.78E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.95E-002 | 3.75E-001 | 6.76E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-199 |
| Sample Title: | B-5 Manhole spoils composite #2 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.925E+002 g |
| Sample Taken On: | 12/14/2004 12:00:00 PM |
| Acquisition Started: | 12/15/2004 5:02:59 PM |
| Live Time: | 3600.0 seconds |
| Real Time: | 3605.5 seconds |
| Dead Time: | 0.15 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.46E+001 | 4.22E+000 | 1.38E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.42E-003 | 3.94E-002 | 7.07E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.93E-002 | 3.98E-002 | 6.21E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.12E-002 | 4.33E-002 | 9.23E-002 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -6.23E-002 | 1.09E-001 | 1.75E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.78E-002 | 4.43E-002 | 6.90E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 5.84E-002 | 1.07E-001 | 1.99E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.17E-002 | 4.45E-002 | 6.57E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.32E-002 | 5.14E-002 | 1.02E-001 |
| TL-208 | 3.98E-001 | 1.73E-001 | 1.03E-001 | FOUND | | |
| PB-212 | 1.26E+000 | 2.23E-001 | 2.17E-001 | FOUND | | |
| BI-214 | 1.17E+000 | 2.75E-001 | 1.87E-001 | FOUND | | |
| PB-214 | 9.81E-001 | 1.67E-001 | 2.12E-001 | FOUND | | |
| RA-226 | 2.42E+000 | 7.53E-001 | 1.91E+000 | FOUND | | |
| AC-228 | 1.07E+000 | 2.64E-001 | 3.74E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -8.13E+000 | 1.73E+001 | 2.98E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.71E+000 | 1.56E+000 | 2.50E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.48E-001 | 1.63E-001 | 2.74E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.04E+000 | 7.46E+000 | 1.46E+001 |
| TH-234 | 2.05E+000 | 5.97E-001 | 1.50E+000 | FOUND | | |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -3.65E+001 | 1.41E+002 | 2.40E+002 |
| U-235 | 1.47E-001 | 4.60E-002 | 1.16E-001 | FOUND | | |
| U-238 | 2.05E+000 | 5.94E-001 | 1.50E+000 | FOUND | | |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.06E-001 | 2.70E-001 | 4.89E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0412-200
Sample Title: B-5 H/W spoils pile composite #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.081E+002 g
Sample Taken On: 12/14/2004 12:00:00 PM
Acquisition Started: 12/16/2004 7:26:45 AM
Live Time: 2100.0 seconds
Real Time: 2103.2 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g ) | Activity Uncert. (pCi/g ) | Nuclide MDA (pCi/g ) | Line Activity (pCi/g ) | Line Act Uncert. (pCi/g ) | Line MDA (pCi/g ) |
| K-40 | 2.71E+001 | 5.82E+000 | 1.45E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.25E-003 | 6.45E-002 | 1.20E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.02E-002 | 5.60E-002 | 9.04E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -2.72E-003 | 5.47E-002 | 1.02E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -8.82E-002 | 1.50E-001 | 2.41E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.00E-002 | 5.94E-002 | 1.05E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.36E-002 | 1.45E-001 | 2.70E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.01E-002 | 7.34E-002 | 1.13E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.30E-002 | 7.38E-002 | 1.42E-001 |
| TL-208 | 4.29E-001 | 2.81E-001 | 1.41E-001 | FOUND | | |
| PB-212 | 1.10E+000 | 3.60E-001 | 2.84E-001 | FOUND | | |
| BI-214 | 1.03E+000 | 3.97E-001 | 3.45E-001 | FOUND | | |
| PB-214 | 1.08E+000 | 5.66E-001 | 3.13E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 5.19E+000 | 1.45E+000 | 2.94E+000 |
| AC-228 | 9.60E-001 | 3.47E-001 | 4.75E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.39E+001 | 2.30E+001 | 4.28E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.05E+000 | 2.20E+000 | 3.75E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -3.68E-002 | 2.18E-001 | 3.58E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.40E+000 | 1.15E+001 | 2.21E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.50E+000 | 1.11E+000 | 1.98E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.32E+001 | 2.18E+002 | 3.90E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.35E-001 | 8.80E-002 | 1.73E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.50E+000 | 1.11E+000 | 1.98E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.68E-002 | 4.28E-001 | 7.64E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-206 |
| Sample Title: | B-5 I/W 6" pipe trench Hg #3 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 8.110E+002 g |
| Sample Taken On: | 12/15/2004 12:00:00 PM |
| Acquisition Started: | 12/15/2004 12:16:59 PM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1802.9 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.36E+001 | 4.64E+000 | 1.37E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.63E-002 | 4.28E-002 | 8.61E-002 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.17E-002 | 4.70E-002 | 7.51E-002 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.10E-002 | 3.98E-002 | 9.71E-002 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -6.29E-002 | 1.22E-001 | 2.05E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -2.78E-002 | 4.67E-002 | 7.90E-002 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -6.33E-003 | 1.36E-001 | 2.47E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.40E-002 | 5.00E-002 | 7.45E-002 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 7.79E-002 | 5.14E-002 | 1.12E-001 |
| TL-208 | 3.14E-001 | 7.28E-002 | 1.16E-001 | FOUND | | |
| PB-212 | 8.18E-001 | 1.26E-001 | 2.43E-001 | FOUND | | |
| BI-214 | 6.17E-001 | 4.48E-001 | 2.20E-001 | FOUND | | |
| PB-214 | 7.12E-001 | 1.13E-001 | 2.64E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.24E+000 | 1.21E+000 | 2.32E+000 |
| AC-228 | 1.09E+000 | 6.06E-001 | 3.55E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.05E-001 | 1.93E+001 | 3.47E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.45E+000 | 1.79E+000 | 3.10E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -6.69E-002 | 1.95E-001 | 3.19E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 2.85E+000 | 8.71E+000 | 1.71E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.12E+000 | 9.21E-001 | 1.64E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.04E+002 | 1.63E+002 | 2.79E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.21E-002 | 7.29E-002 | 1.34E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.12E+000 | 9.21E-001 | 1.64E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 4.15E-002 | 3.61E-001 | 6.55E-001 |

Uncertainty reported at 2.0 sigma

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

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-216 |
| Sample Title: | B-5 Hi Bay spoils pile #3 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.150E+002 g |
| Sample Taken On: | 12/15/2004 12:00:00 PM |
| Acquisition Started: | 12/16/2004 1:24:04 PM |
| Live Time: | 1696.2 seconds |
| Real Time: | 1699.0 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.47E+001 | 4.43E+000 | 2.17E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 5.68E-003 | 7.25E-002 | 1.35E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.48E-002 | 6.23E-002 | 1.01E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.54E-002 | 7.91E-002 | 1.60E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.02E-001 | 2.03E-001 | 3.09E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.76E-002 | 6.57E-002 | 1.18E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.26E-001 | 1.55E-001 | 2.61E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.56E-002 | 7.16E-002 | 1.22E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.07E-001 | 8.46E-002 | 1.74E-001 |
| TL-208 | 3.05E-001 | 8.89E-002 | 1.62E-001 | FOUND | | |
| PB-212 | 1.02E+000 | 1.76E-001 | 3.41E-001 | FOUND | | |
| BI-214 | 7.56E-001 | 5.68E-001 | 3.02E-001 | FOUND | | |
| PB-214 | 8.60E-001 | 2.52E-001 | 3.62E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.01E+000 | 1.46E+000 | 2.80E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 8.60E-001 | 3.79E-001 | 8.30E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -2.21E+000 | 2.58E+001 | 4.62E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.77E+000 | 2.69E+000 | 4.54E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 6.43E-002 | 2.46E-001 | 4.20E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 3.39E+000 | 1.18E+001 | 2.34E+001 |
| TH-234 | 1.50E+000 | 7.79E-001 | 1.78E+000 | FOUND | | |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.70E+002 | 2.29E+002 | 4.34E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 3.49E-002 | 8.99E-002 | 1.64E-001 |
| U-238 | 1.50E+000 | 7.78E-001 | 1.78E+000 | FOUND | | |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -6.01E-002 | 4.05E-001 | 7.25E-001 |

Uncertainty reported at 2.0 sigma

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

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-220 |
| Sample Title: | B-5 Hi Bay I/W trench bottome #4 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.730E+002 g |
| Sample Taken On: | 12/15/2004 12:00:00 PM |
| Acquisition Started: | 12/16/2004 1:58:09 PM |
| Live Time: | 1500.0 seconds |
| Real Time: | 1502.3 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.24E+001 | 6.29E+000 | 1.48E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 6.36E-003 | 6.15E-002 | 1.19E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 6.66E-002 | 6.11E-002 | 1.10E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -2.41E-002 | 5.22E-002 | 9.30E-002 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.60E-002 | 1.74E-001 | 3.05E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -5.68E-002 | 6.79E-002 | 1.09E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 6.83E-003 | 1.63E-001 | 3.05E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.32E-002 | 6.52E-002 | 1.01E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.26E-002 | 8.14E-002 | 1.57E-001 |
| TL-208 | 3.85E-001 | 3.32E-001 | 1.55E-001 | FOUND | | |
| PB-212 | 1.38E+000 | 2.93E-001 | 2.98E-001 | FOUND | | |
| BI-214 | 9.87E-001 | 5.72E-001 | 2.75E-001 | FOUND | | |
| PB-214 | 6.39E-001 | 2.32E-001 | 3.70E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.66E+000 | 1.61E+000 | 3.00E+000 |
| AC-228 | 1.05E+000 | 2.79E-001 | 5.30E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.10E+001 | 2.51E+001 | 4.38E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.51E-001 | 2.42E+000 | 4.20E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.25E-002 | 2.43E-001 | 4.09E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.26E+000 | 1.24E+001 | 2.30E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.91E+000 | 1.16E+000 | 2.15E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.36E+002 | 2.33E+002 | 4.38E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 4.05E-002 | 9.49E-002 | 1.73E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.91E+000 | 1.16E+000 | 2.15E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.73E-001 | 4.49E-001 | 8.62E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-232 |
| Sample Title: | B-5 HW TB Composite #2 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.664E+002 g |
| Sample Taken On: | 12/15/2004 12:00:00 PM |
| Acquisition Started: | 12/16/2004 2:32:14 PM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1802.9 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.56E+001 | 5.92E+000 | 1.42E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.01E-002 | 5.46E-002 | 9.70E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.47E-003 | 6.17E-002 | 1.03E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.54E-003 | 6.02E-002 | 1.18E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -6.72E-002 | 1.92E-001 | 3.02E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.47E-002 | 5.97E-002 | 9.85E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.73E-002 | 1.62E-001 | 3.01E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.14E-002 | 6.46E-002 | 1.13E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.09E-002 | 7.40E-002 | 1.43E-001 |
| TL-208 | 3.81E-001 | 2.68E-001 | 1.52E-001 | FOUND | | |
| PB-212 | 1.41E+000 | 2.94E-001 | 3.35E-001 | FOUND | | |
| BI-214 | 9.48E-001 | 5.45E-001 | 2.63E-001 | FOUND | | |
| PB-214 | 7.26E-001 | 2.23E-001 | 3.24E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.76E+000 | 1.48E+000 | 2.76E+000 |
| AC-228 | 1.11E+000 | 3.14E-001 | 5.52E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.48E+001 | 2.48E+001 | 4.69E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.39E+000 | 2.23E+000 | 3.88E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.03E-001 | 2.59E-001 | 4.08E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -3.59E+000 | 1.24E+001 | 2.22E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.73E+000 | 1.13E+000 | 2.04E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.14E+002 | 2.30E+002 | 3.74E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.07E-001 | 8.88E-002 | 1.74E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.73E+000 | 1.13E+000 | 2.04E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.78E-001 | 4.14E-001 | 7.71E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-235 |
| Sample Title: | B-5 I/W surrounding soil comp post pipe |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.462E+002 g |
| Sample Taken On: | 12/15/2004 12:00:00 PM |
| Acquisition Started: | 12/16/2004 3:01:33 PM |
| Live Time: | 1389.6 seconds |
| Real Time: | 1392.1 seconds |
| Dead Time: | 0.18 % |
| Efficiency ID: | srs035 |

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.15E+001 | 5.61E+000 | 1.63E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.19E-002 | 6.98E-002 | 1.35E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 7.39E-002 | 6.26E-002 | 1.13E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.76E-002 | 5.83E-002 | 1.26E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -8.33E-002 | 1.58E-001 | 2.58E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -7.54E-002 | 6.66E-002 | 1.04E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -5.73E-002 | 1.36E-001 | 3.32E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.15E-002 | 7.28E-002 | 9.84E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.49E-002 | 7.38E-002 | 1.42E-001 |
| TL-208 | 4.41E-001 | 2.81E-001 | 1.29E-001 | FOUND | | |
| PB-212 | 1.09E+000 | 1.60E-001 | 2.77E-001 | FOUND | | |
| BI-214 | 9.67E-001 | 6.13E-001 | 2.88E-001 | FOUND | | |
| PB-214 | 8.39E-001 | 2.47E-001 | 3.16E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.99E+000 | 1.45E+000 | 2.79E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.01E+000 | 3.64E-001 | 8.28E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 9.58E+000 | 2.50E+001 | 4.65E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.36E+000 | 2.54E+000 | 4.36E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.61E-001 | 2.73E-001 | 4.06E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.78E+000 | 1.16E+001 | 2.29E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.98E+000 | 1.23E+000 | 2.25E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.42E+001 | 2.12E+002 | 3.75E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.47E-002 | 8.78E-002 | 1.65E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.98E+000 | 1.23E+000 | 2.25E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.21E-001 | 4.33E-001 | 8.01E-001 |

Uncertainty reported at 2.0 sigma

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

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-236 |
| Sample Title: | B-5 Storm drain comp. spoils pile #6 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.665E+002 g |
| Sample Taken On: | 12/15/2004 12:00:00 PM |
| Acquisition Started: | 12/16/2004 3:33:34 PM |
| Live Time: | 1586.5 seconds |
| Real Time: | 1589.0 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.49E+001 | 6.29E+000 | 1.48E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 6.93E-002 | 6.40E-002 | 1.38E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 4.08E-002 | 5.73E-002 | 1.01E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 3.68E-002 | 8.35E-002 | 1.66E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.48E-002 | 1.55E-001 | 2.84E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 2.66E-002 | 6.11E-002 | 1.21E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.57E-002 | 1.62E-001 | 3.05E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.82E-002 | 7.42E-002 | 1.09E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 9.77E-002 | 8.15E-002 | 1.68E-001 |
| TL-208 | 3.60E-001 | 2.17E-001 | 1.62E-001 | FOUND | | |
| PB-212 | 1.35E+000 | 3.01E-001 | 2.89E-001 | FOUND | | |
| BI-214 | 8.55E-001 | 5.58E-001 | 3.23E-001 | FOUND | | |
| PB-214 | 1.02E+000 | 2.48E-001 | 3.60E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.43E+000 | 1.43E+000 | 2.79E+000 |
| AC-228 | 1.17E+000 | 2.49E-001 | 5.34E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.00E+001 | 2.66E+001 | 4.93E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.46E+000 | 2.25E+000 | 3.95E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 5.66E-002 | 2.54E-001 | 4.27E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 8.19E-001 | 1.14E+001 | 2.19E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.17E+000 | 1.27E+000 | 2.31E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 5.74E+001 | 2.09E+002 | 3.86E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.14E-001 | 8.88E-002 | 1.69E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.17E+000 | 1.27E+000 | 2.31E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.18E-002 | 4.33E-001 | 7.63E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-254 |
| Sample Title: | B5 HW N run composite spoils #3 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.577E+002 g |
| Sample Taken On: | 12/16/2004 12:00:00 PM |
| Acquisition Started: | 12/21/2004 7:50:02 AM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1803.1 seconds |
| Dead Time: | 0.17 % |
| Efficiency ID: | srs035 |

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.69E+001 | 6.33E+000 | 1.25E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.98E-002 | 6.01E-002 | 1.17E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.11E-002 | 5.96E-002 | 9.64E-002 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.81E-002 | 6.74E-002 | 1.37E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.78E-002 | 1.57E-001 | 2.87E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.15E-002 | 5.80E-002 | 1.01E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.51E-002 | 1.64E-001 | 3.06E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.17E-002 | 5.40E-002 | 9.04E-002 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.14E-002 | 7.41E-002 | 1.36E-001 |
| TL-208 | 5.48E-001 | 9.88E-002 | 1.46E-001 | FOUND | | |
| PB-212 | 1.56E+000 | 3.12E-001 | 3.07E-001 | FOUND | | |
| BI-214 | 1.34E+000 | 3.97E-001 | 3.20E-001 | FOUND | | |
| PB-214 | 9.31E-001 | 1.81E-001 | 3.09E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.16E+000 | 1.47E+000 | 2.78E+000 |
| AC-228 | 1.58E+000 | 4.48E-001 | 4.73E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.41E+001 | 2.41E+001 | 4.45E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.08E-001 | 2.14E+000 | 3.68E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.04E-001 | 2.48E-001 | 3.99E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 6.89E-001 | 1.11E+001 | 2.06E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 8.89E-001 | 1.23E+000 | 2.12E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -8.74E+001 | 2.14E+002 | 3.74E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.19E-001 | 8.94E-002 | 1.68E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 8.89E-001 | 1.23E+000 | 2.12E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.31E-001 | 4.16E-001 | 7.21E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-258 |
| Sample Title: | B-5 SE Corner below I/W line #7 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.995E+002 g |
| Sample Taken On: | 12/16/2004 12:00:00 PM |
| Acquisition Started: | 12/21/2004 10:28:51 AM |
| Live Time: | 1500.0 seconds |
| Real Time: | 1502.5 seconds |
| Dead Time: | 0.17 % |
| Efficiency ID: | srs035 |

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.38E+001 | 6.05E+000 | 1.77E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.81E-002 | 5.80E-002 | 1.18E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -5.88E-003 | 5.98E-002 | 1.00E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.28E-002 | 7.62E-002 | 1.45E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.51E-001 | 1.50E-001 | 2.40E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.37E-002 | 6.02E-002 | 9.53E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 5.56E-002 | 1.73E-001 | 3.12E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.27E-002 | 6.57E-002 | 1.14E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.05E-002 | 7.93E-002 | 1.62E-001 |
| TL-208 | 2.68E-001 | 2.38E-002 | 1.67E-001 | FOUND | | |
| PB-212 | 6.63E-001 | 1.39E-001 | 2.50E-001 | FOUND | | |
| BI-214 | 6.35E-001 | 1.56E-001 | 2.59E-001 | FOUND | | |
| PB-214 | 8.18E-001 | 4.35E-001 | 2.99E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.36E+000 | 1.38E+000 | 2.71E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 7.70E-001 | 3.53E-001 | 7.78E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 8.46E+000 | 2.48E+001 | 4.59E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.40E+000 | 2.71E+000 | 4.44E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 2.29E-001 | 2.28E-001 | 4.04E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.60E+000 | 1.02E+001 | 2.08E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -3.31E-001 | 1.09E+000 | 1.80E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.71E+001 | 2.19E+002 | 4.02E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.62E-001 | 8.39E-002 | 1.66E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -3.31E-001 | 1.09E+000 | 1.80E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.30E-001 | 4.02E-001 | 7.80E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-259 |
| Sample Title: | B5 I/W, S.S. spoils SE comp. corner #8 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.318E+002 g |
| Sample Taken On: | 12/16/2004 12:00:00 PM |
| Acquisition Started: | 12/21/2004 10:35:33 AM |
| Live Time: | 1500.0 seconds |
| Real Time: | 1502.5 seconds |
| Dead Time: | 0.17 % |
| Efficiency ID: | srs035 |

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.21E+001 | 6.78E+000 | 1.86E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.04E-001 | 6.80E-002 | 1.55E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 5.00E-002 | 6.48E-002 | 1.15E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 6.31E-002 | 7.00E-002 | 1.61E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.67E-002 | 1.67E-001 | 2.94E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 2.25E-003 | 6.50E-002 | 1.23E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -4.03E-002 | 1.65E-001 | 3.00E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.34E-001 | 9.59E-002 | 1.11E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -1.38E-003 | 8.60E-002 | 1.55E-001 |
| TL-208 | 4.04E-001 | 3.62E-001 | 1.71E-001 | FOUND | | |
| PB-212 | 1.47E+000 | 2.80E-001 | 3.03E-001 | FOUND | | |
| BI-214 | 7.93E-001 | 6.33E-001 | 2.89E-001 | FOUND | | |
| PB-214 | 7.67E-001 | 1.56E-001 | 3.37E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.09E+000 | 1.51E+000 | 2.82E+000 |
| AC-228 | 7.41E-001 | 2.93E-001 | 4.89E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 8.69E+000 | 2.90E+001 | 5.31E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.41E+000 | 2.68E+000 | 4.44E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.90E-002 | 2.45E-001 | 4.13E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 0.00E+000 | 1.54E+001 | 2.81E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.28E+000 | 1.35E+000 | 2.39E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.82E+002 | 2.58E+002 | 4.87E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.52E-002 | 9.20E-002 | 1.72E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.28E+000 | 1.35E+000 | 2.39E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 8.57E-002 | 4.20E-001 | 7.84E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0412-271
Sample Title: B-5 8" Line running E/W spoils #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.944E+002 g
Sample Taken On: 12/21/2004 12:00:00 PM
Acquisition Started: 12/21/2004 3:44:09 PM
Live Time: 1200.0 seconds
Real Time: 1202.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.01E+001 | 6.00E+000 | 1.42E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.65E-002 | 5.77E-002 | 1.15E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -6.65E-002 | 6.05E-002 | 9.31E-002 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 7.38E-002 | 7.15E-002 | 1.65E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.94E-001 | 2.57E-001 | 2.70E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 3.82E-002 | 6.62E-002 | 1.34E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.63E-001 | 1.72E-001 | 3.52E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.05E-002 | 7.08E-002 | 1.12E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.83E-002 | 7.71E-002 | 1.46E-001 |
| TL-208 | 4.20E-001 | 9.46E-002 | 1.26E-001 | FOUND | | |
| PB-212 | 1.14E+000 | 2.82E-001 | 3.10E-001 | FOUND | | |
| BI-214 | 7.42E-001 | 5.78E-001 | 3.58E-001 | FOUND | | |
| PB-214 | 7.81E-001 | 1.76E-001 | 2.82E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 8.99E-001 | 1.46E+000 | 2.71E+000 |
| AC-228 | 1.14E+000 | 2.83E-001 | 6.03E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 8.74E+000 | 2.71E+001 | 4.99E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -7.57E-001 | 2.29E+000 | 3.81E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.78E-002 | 2.38E-001 | 3.98E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 2.28E+000 | 1.26E+001 | 2.43E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 8.37E-001 | 1.25E+000 | 2.18E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 3.60E-001 | 2.21E+002 | 3.83E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.75E-002 | 8.97E-002 | 1.63E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 8.37E-001 | 1.25E+000 | 2.18E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -6.41E-002 | 4.25E-001 | 7.66E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-281 |
| Sample Title: | B-5 Vent pipe spoils composite E/W #2 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 5.768E+002 g |
| Sample Taken On: | 12/22/2004 12:00:00 PM |
| Acquisition Started: | 12/22/2004 7:39:57 AM |
| Live Time: | 1719.6 seconds |
| Real Time: | 1722.6 seconds |
| Dead Time: | 0.17 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.70E+001 | 6.92E+000 | 1.63E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -4.82E-002 | 6.27E-002 | 1.02E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.65E-003 | 6.56E-002 | 1.08E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 8.11E-002 | 7.20E-002 | 1.68E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -8.82E-002 | 1.76E-001 | 3.01E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.36E-002 | 7.05E-002 | 1.28E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -7.29E-002 | 1.85E-001 | 3.20E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.23E-002 | 7.50E-002 | 1.22E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.06E-002 | 8.74E-002 | 1.67E-001 |
| TL-208 | 3.41E-001 | 1.48E-001 | 1.55E-001 | FOUND | | |
| PB-212 | 1.03E+000 | 1.57E-001 | 2.91E-001 | FOUND | | |
| BI-214 | 1.84E+000 | 2.02E-001 | 3.77E-001 | FOUND | | |
| PB-214 | 7.38E-001 | 2.42E-001 | 4.00E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.27E+000 | 1.51E+000 | 2.92E+000 |
| AC-228 | 1.14E+000 | 9.55E-001 | 5.69E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 6.66E-001 | 2.77E+001 | 5.01E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.81E+000 | 2.46E+000 | 4.24E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -9.13E-002 | 2.57E-001 | 4.17E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.16E+000 | 1.37E+001 | 2.34E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.36E+000 | 1.34E+000 | 2.36E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -3.68E+001 | 2.26E+002 | 4.04E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.03E-002 | 9.24E-002 | 1.72E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.36E+000 | 1.34E+000 | 2.36E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -6.25E-002 | 4.74E-001 | 8.43E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0412-285
Sample Title: B5 High Bay Conc I/W under pipe #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.665E+002 g
Sample Taken On: 12/21/2004 12:00:00 PM
Acquisition Started: 12/27/2004 8:46:04 AM
Live Time: 1200.0 seconds
Real Time: 1202.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.98E+001 | 2.60E+000 | 2.16E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.25E-002 | 7.32E-002 | 1.45E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 5.84E-002 | 6.03E-002 | 1.09E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 4.44E-003 | 7.19E-002 | 1.42E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.01E-001 | 2.02E-001 | 2.94E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.25E-002 | 6.80E-002 | 1.12E-001 |
| SB-125 | NOT FOUND/DATA for | 600.56 keV | | -1.36E-001 | 2.18E-001 | 3.73E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.16E-002 | 6.12E-002 | 8.79E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.53E-002 | 7.25E-002 | 1.52E-001 |
| TL-208 | 2.84E-001 | 8.61E-002 | 1.55E-001 | FOUND | | |
| PB-212 | 9.96E-001 | 1.59E-001 | 4.85E-001 | FOUND | | |
| BI-214 | 9.92E-001 | 6.18E-001 | 3.03E-001 | FOUND | | |
| PB-214 | 9.08E-001 | 4.77E-001 | 3.77E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.09E+000 | 1.50E+000 | 2.91E+000 |
| AC-228 | 1.30E+000 | 2.81E-001 | 5.27E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.17E+001 | 2.39E+001 | 4.54E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 4.64E+000 | 3.02E+000 | 4.73E+000 |
| PA-234 | NOT FOUND/DATA for | 883.24 keV | | -3.47E-001 | 5.49E-001 | 5.08E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.78E+000 | 1.17E+001 | 2.30E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.60E+000 | 1.23E+000 | 2.25E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 7.49E+001 | 2.20E+002 | 4.10E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.32E-002 | 9.19E-002 | 1.71E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.60E+000 | 1.23E+000 | 2.25E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 8.53E-002 | 5.09E-001 | 8.97E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0412-286
Sample Title: B5 High Bay H/W? #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.006E+002 g
Sample Taken On: 12/21/2004 12:00:00 PM
Acquisition Started: 12/27/2004 9:13:00 AM
Live Time: 1500.0 seconds
Real Time: 1502.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.32E+001 | 2.70E+000 | 1.77E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.03E-001 | 6.86E-002 | 1.52E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 8.18E-003 | 5.93E-002 | 1.01E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.36E-002 | 6.80E-002 | 1.40E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.43E-002 | 1.51E-001 | 2.58E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 6.80E-003 | 6.31E-002 | 1.19E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 7.83E-003 | 1.74E-001 | 3.21E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.55E-002 | 6.18E-002 | 1.02E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.47E-002 | 7.08E-002 | 1.35E-001 |
| TL-208 | 3.84E-001 | 2.31E-001 | 1.50E-001 | FOUND | | |
| PB-212 | 1.15E+000 | 3.97E-001 | 3.46E-001 | FOUND | | |
| BI-214 | 8.11E-001 | 1.86E-001 | 2.89E-001 | FOUND | | |
| PB-214 | 8.77E-001 | 1.75E-001 | 3.09E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 5.99E-001 | 1.54E+000 | 2.78E+000 |
| AC-228 | 7.84E-001 | 3.51E-001 | 5.20E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.00E+000 | 2.59E+001 | 4.59E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.39E+000 | 2.68E+000 | 4.38E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 7.46E-002 | 2.34E-001 | 4.01E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 7.73E+000 | 1.15E+001 | 2.38E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.17E+000 | 1.17E+000 | 2.05E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 6.23E+001 | 2.21E+002 | 4.11E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.12E-001 | 9.11E-002 | 1.72E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.17E+000 | 1.17E+000 | 2.05E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.44E-002 | 4.41E-001 | 7.96E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-293 |
| Sample Title: | B5 Roof vent drain N side running E/W #1 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 9.012E+002 g |
| Sample Taken On: | 12/21/2004 12:00:00 PM |
| Acquisition Started: | 12/27/2004 10:19:52 AM |
| Live Time: | 1500.0 seconds |
| Real Time: | 1502.5 seconds |
| Dead Time: | 0.17 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.04E+001 | 5.01E+000 | 1.45E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 8.40E-003 | 4.41E-002 | 8.70E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.51E-002 | 4.73E-002 | 8.20E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.57E-002 | 4.93E-002 | 1.09E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.05E-002 | 1.22E-001 | 2.25E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.20E-004 | 4.34E-002 | 8.07E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -8.93E-002 | 1.25E-001 | 2.10E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -8.55E-002 | 5.34E-002 | 6.21E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.23E-002 | 5.67E-002 | 1.14E-001 |
| TL-208 | 2.05E-001 | 1.79E-001 | 9.79E-002 | FOUND | | |
| PB-212 | 6.59E-001 | 1.17E-001 | 2.17E-001 | FOUND | | |
| BI-214 | 6.54E-001 | 4.62E-001 | 1.95E-001 | FOUND | | |
| PB-214 | 3.79E-001 | 1.18E-001 | 1.99E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 6.99E-001 | 1.13E+000 | 2.07E+000 |
| AC-228 | 7.75E-001 | 2.28E-001 | 3.64E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.53E+001 | 1.97E+001 | 3.32E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.16E+000 | 1.71E+000 | 3.02E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.05E-001 | 2.02E-001 | 3.07E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.48E+000 | 8.75E+000 | 1.71E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.37E+000 | 9.40E-001 | 1.71E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.29E+001 | 1.63E+002 | 2.88E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.34E-002 | 6.70E-002 | 1.22E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.37E+000 | 9.39E-001 | 1.71E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -8.74E-002 | 3.03E-001 | 5.40E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0412-298
Sample Title: B-5 Terracotta Pipe Spoils Soil #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 4.040E+002 g
Sample Taken On: 12/28/2004 12:00:00 PM
Acquisition Started: 12/28/2004 7:25:34 AM
Live Time: 1800.0 seconds
Real Time: 1803.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 3.63E+001 | 9.12E+000 | 1.96E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.63E-002 | 9.50E-002 | 1.64E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 7.83E-002 | 8.94E-002 | 1.59E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.59E-002 | 1.27E-001 | 2.42E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -8.67E-002 | 2.30E-001 | 4.11E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 3.92E-002 | 1.01E-001 | 1.93E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.41E-001 | 2.40E-001 | 3.67E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.68E-002 | 8.15E-002 | 1.40E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.46E-002 | 1.14E-001 | 2.25E-001 |
| TL-208 | 4.86E-001 | 1.30E-001 | 2.09E-001 | FOUND | | |
| PB-212 | 1.80E+000 | 5.77E-001 | 4.59E-001 | FOUND | | |
| BI-214 | 1.30E+000 | 2.58E-001 | 4.07E-001 | FOUND | | |
| PB-214 | 1.28E+000 | 2.63E-001 | 4.40E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.05E+000 | 2.22E+000 | 4.20E+000 |
| AC-228 | 2.00E+000 | 5.56E-001 | 7.80E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 9.94E+000 | 3.88E+001 | 7.12E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 4.36E+000 | 3.75E+000 | 6.22E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.47E-001 | 3.96E-001 | 6.75E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -7.95E+000 | 1.76E+001 | 3.10E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.52E+000 | 1.77E+000 | 3.11E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 4.19E+002 | 3.52E+002 | 6.69E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.72E-001 | 1.36E-001 | 2.66E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.52E+000 | 1.77E+000 | 3.11E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -6.93E-001 | 6.45E-001 | 1.06E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-304 |
| Sample Title: | B5 I/W Terracotta Pipe Trench Bottom-1 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.130E+002 g |
| Sample Taken On: | 12/28/2004 12:00:00 PM |
| Acquisition Started: | 12/28/2004 2:22:08 PM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1802.9 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.38E+001 | 6.40E+000 | 1.30E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.99E-002 | 6.55E-002 | 1.27E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.17E-003 | 6.40E-002 | 1.06E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.69E-002 | 7.62E-002 | 1.63E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.77E-001 | 1.83E-001 | 2.49E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 9.02E-003 | 6.09E-002 | 1.15E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.31E-003 | 1.72E-001 | 3.12E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.84E-002 | 7.44E-002 | 1.13E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.60E-002 | 7.63E-002 | 1.48E-001 |
| TL-208 | 2.78E-001 | 1.95E-001 | 1.51E-001 | FOUND | | |
| PB-212 | 1.26E+000 | 1.79E-001 | 2.39E-001 | FOUND | | |
| BI-214 | 1.08E+000 | 6.22E-001 | 2.95E-001 | FOUND | | |
| PB-214 | 7.58E-001 | 1.45E-001 | 3.42E-001 | FOUND | | |
| RA-226 | 4.07E+000 | 1.28E+000 | 2.96E+000 | FOUND | | |
| AC-228 | 7.75E-001 | 1.01E-001 | 6.17E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.33E+000 | 2.35E+001 | 4.19E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 6.38E-001 | 2.23E+000 | 3.89E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 3.13E-002 | 2.42E-001 | 4.10E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -6.48E+000 | 1.02E+001 | 1.72E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.86E+000 | 1.19E+000 | 2.16E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.94E+001 | 2.14E+002 | 3.92E+002 |
| U-235 | 2.48E-001 | 7.79E-002 | 1.80E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.86E+000 | 1.18E+000 | 2.16E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.64E-001 | 4.27E-001 | 7.42E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0412-306
Sample Title: B5 I/W Trench Bottom - #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 4.130E+002 g
Sample Taken On: 12/28/2004 12:00:00 PM
Acquisition Started: 1/6/2005 2:31:04 PM
Live Time: 600.0 seconds
Real Time: 600.7 seconds
Dead Time: 0.11 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 3.43E+001 | 6.36E+000 | 4.40E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.97E-002 | 1.36E-001 | 3.02E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.29E-003 | 1.68E-001 | 2.88E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.05E-002 | 1.45E-001 | 2.94E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.56E-001 | 3.31E-001 | 7.42E-001 |
| AG-110m | NOT FOUND/DATA for | 1384.30 keV | | 0.00E+000 | 0.00E+000 | 3.70E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.36E-001 | 4.65E-001 | 9.86E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.25E-002 | 1.58E-001 | 2.86E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.66E-002 | 2.00E-001 | 4.01E-001 |
| TL-208 | 4.57E-001 | 2.16E-001 | 3.60E-001 | FOUND | | |
| PB-212 | 1.43E+000 | 3.59E-001 | 7.36E-001 | FOUND | | |
| BI-214 | 1.11E+000 | 4.69E-001 | 7.38E-001 | FOUND | | |
| PB-214 | 1.45E+000 | 1.75E+000 | 7.99E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 5.34E+000 | 3.90E+000 | 7.98E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.34E+000 | 9.34E-001 | 2.18E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.66E+001 | 6.20E+001 | 1.20E+002 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 6.41E+000 | 7.53E+000 | 1.36E+001 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -5.28E-001 | 7.71E-001 | 1.12E+000 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.36E+001 | 4.22E+001 | 8.26E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.03E+000 | 2.92E+000 | 5.44E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 6.93E+001 | 5.34E+002 | 1.02E+003 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.82E-001 | 2.35E-001 | 4.77E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.03E+000 | 2.92E+000 | 5.44E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -6.00E-001 | 1.10E+000 | 1.90E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0412-307
Sample Title: B5 I/W Trench Bottom - #4
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.400E+002 g
Sample Taken On: 12/28/2004 12:00:00 PM
Acquisition Started: 1/6/2005 2:44:57 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.41E+001 | 4.70E+000 | 3.98E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -4.79E-002 | 1.08E-001 | 1.90E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.62E-002 | 1.24E-001 | 2.08E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -1.61E-002 | 1.61E-001 | 3.17E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.09E-001 | 4.17E-001 | 7.54E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 6.85E-002 | 1.29E-001 | 2.82E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.37E-001 | 3.45E-001 | 5.74E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.05E-001 | 1.71E-001 | 1.95E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.82E-002 | 1.74E-001 | 3.50E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 2.42E-001 | 1.79E-001 | 3.99E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 1.16E+000 | 3.54E-001 | 7.60E-001 |
| BI-214 | 1.07E+000 | 9.63E-002 | 5.28E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 1.07E+000 | 4.77E-001 | 1.01E+000 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 5.85E-001 | 2.78E+000 | 5.17E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.56E+000 | 8.16E-001 | 1.90E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -2.93E+001 | 5.03E+001 | 8.82E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 7.02E-002 | 4.25E+000 | 7.70E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | 2.64E-001 | 5.21E-001 | 9.13E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -5.96E+000 | 2.34E+001 | 4.40E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.58E+000 | 2.35E+000 | 4.31E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.32E+002 | 4.94E+002 | 9.01E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.31E-001 | 1.69E-001 | 3.33E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.58E+000 | 2.35E+000 | 4.31E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -8.73E-002 | 9.19E-001 | 1.64E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0412-308
Sample Title: B5 I/W Trench Bottom - #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.950E+002 g
Sample Taken On: 12/28/2004 12:00:00 PM
Acquisition Started: 1/6/2005 2:57:32 PM
Live Time: 600.0 seconds
Real Time: 601.1 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.19E+001 | 1.51E+001 | 3.57E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -6.54E-004 | 1.19E-001 | 2.40E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.45E-002 | 1.13E-001 | 1.98E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -2.68E-002 | 1.30E-001 | 2.36E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.74E-001 | 3.26E-001 | 7.13E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 6.52E-002 | 1.37E-001 | 2.74E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -2.79E-001 | 3.16E-001 | 4.96E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.65E-002 | 1.12E-001 | 2.18E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.77E-003 | 1.20E-001 | 2.43E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.19E-001 | 2.15E-001 | 4.68E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.40E-001 | 3.56E-001 | 7.29E-001 |
| BI-214 | 1.03E+000 | 3.79E-001 | 6.14E-001 | FOUND | | |
| PB-214 | 1.23E+000 | 3.56E-001 | 5.69E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 4.63E+000 | 2.92E+000 | 6.00E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.67E+000 | 8.73E-001 | 1.96E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.05E-001 | 5.79E+001 | 1.06E+002 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.24E+000 | 4.52E+000 | 8.44E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 2.56E-001 | 4.58E-001 | 8.25E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.47E+000 | 1.46E+001 | 3.66E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.67E+000 | 2.36E+000 | 4.28E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.01E+002 | 5.68E+002 | 1.01E+003 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.46E-001 | 1.79E-001 | 3.48E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.67E+000 | 2.36E+000 | 4.28E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.27E+000 | 9.84E-001 | 1.57E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0412-309
Sample Title: B-5 West I/W trench bottom #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 4.680E+002 g
Sample Taken On: 12/28/2004 12:00:00 PM
Acquisition Started: 12/28/2004 3:25:55 PM
Live Time: 1800.0 seconds
Real Time: 1803.1 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 3.40E+001 | 8.40E+000 | 1.91E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.07E-002 | 8.24E-002 | 1.60E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.37E-003 | 8.00E-002 | 1.34E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.30E-001 | 1.08E-001 | 2.25E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.75E-002 | 2.08E-001 | 3.73E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 2.75E-002 | 8.11E-002 | 1.57E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -6.59E-002 | 2.44E-001 | 4.33E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.05E-001 | 8.88E-002 | 1.29E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.93E-002 | 9.97E-002 | 2.02E-001 |
| TL-208 | 3.97E-001 | 1.12E-001 | 3.89E-001 | FOUND | | |
| PB-212 | 1.42E+000 | 1.98E-001 | 3.05E-001 | FOUND | | |
| BI-214 | 1.71E+000 | 5.47E-001 | 3.56E-001 | FOUND | | |
| PB-214 | 1.07E+000 | 1.96E-001 | 4.45E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.36E+000 | 1.89E+000 | 3.54E+000 |
| AC-228 | 1.27E+000 | 4.28E-001 | 7.82E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.23E+001 | 3.35E+001 | 6.05E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.87E+000 | 3.39E+000 | 5.62E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -5.80E-002 | 3.34E-001 | 5.55E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.74E+001 | 1.43E+001 | 1.94E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.12E+000 | 1.60E+000 | 2.87E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.92E+002 | 2.92E+002 | 4.97E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.44E-001 | 1.16E-001 | 2.20E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.12E+000 | 1.60E+000 | 2.87E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.62E-001 | 5.40E-001 | 1.00E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0412-310
Sample Title: B-5 West H/W trench bottom #5
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.790E+002 g
Sample Taken On: 12/28/2004 12:00:00 PM
Acquisition Started: 12/28/2004 3:21:33 PM
Live Time: 1600.8 seconds
Real Time: 1603.6 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g ) | Activity Uncert. (pCi/g ) | Nuclide MDA (pCi/g ) | Line Activity (pCi/g ) | Line Act Uncert. (pCi/g ) | Line MDA (pCi/g ) |
| K-40 | 2.63E+001 | 7.23E+000 | 2.44E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -3.53E-003 | 5.78E-002 | 1.25E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -5.10E-004 | 6.91E-002 | 1.16E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 5.62E-003 | 6.75E-002 | 1.41E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.14E-002 | 1.62E-001 | 3.06E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -8.92E-002 | 8.56E-002 | 1.10E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 6.34E-002 | 1.83E-001 | 3.48E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.32E-002 | 7.08E-002 | 1.17E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.36E-001 | 9.78E-002 | 2.02E-001 |
| TL-208 | 3.90E-001 | 1.04E-001 | 1.60E-001 | FOUND | | |
| PB-212 | 1.51E+000 | 3.46E-001 | 4.02E-001 | FOUND | | |
| BI-214 | 1.17E+000 | 6.13E-001 | 3.24E-001 | FOUND | | |
| PB-214 | 1.09E+000 | 2.14E-001 | 3.78E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.71E+000 | 1.70E+000 | 3.28E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.22E+000 | 4.35E-001 | 9.77E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.24E+001 | 2.88E+001 | 4.74E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.23E+000 | 3.02E+000 | 5.08E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -3.29E-001 | 3.09E-001 | 4.59E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -2.80E+000 | 1.12E+001 | 1.95E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.17E+000 | 1.34E+000 | 2.47E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.53E+002 | 2.88E+002 | 4.70E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.63E-001 | 1.05E-001 | 2.02E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.17E+000 | 1.34E+000 | 2.47E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.32E-001 | 4.93E-001 | 9.21E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0412-311
Sample Title: B-5 H/W Spoils pile - #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.820E+002 g
Sample Taken On: 12/28/2004 12:00:00 PM
Acquisition Started: 12/29/2004 7:38:45 AM
Live Time: 1500.0 seconds
Real Time: 1502.5 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.72E+001 | 6.72E+000 | 2.20E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 7.54E-002 | 6.57E-002 | 1.42E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.78E-002 | 6.19E-002 | 1.08E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.39E-002 | 7.69E-002 | 1.58E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.76E-002 | 1.40E-001 | 2.23E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.06E-003 | 5.50E-002 | 1.02E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.09E-002 | 1.81E-001 | 3.32E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.33E-002 | 6.62E-002 | 1.15E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -6.01E-003 | 7.29E-002 | 1.29E-001 |
| TL-208 | 3.59E-001 | 9.29E-002 | 1.59E-001 | FOUND | | |
| PB-212 | 1.22E+000 | 2.17E-001 | 3.39E-001 | FOUND | | |
| BI-214 | 8.93E-001 | 1.98E-001 | 3.26E-001 | FOUND | | |
| PB-214 | 7.89E-001 | 1.86E-001 | 3.30E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.18E+000 | 1.55E+000 | 2.88E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.33E+000 | 4.33E-001 | 9.64E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 8.43E+000 | 2.54E+001 | 4.65E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.79E+000 | 2.68E+000 | 4.53E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -4.35E-002 | 2.60E-001 | 4.26E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.14E+000 | 1.06E+001 | 2.20E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.00E+000 | 1.26E+000 | 2.30E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.08E+002 | 2.34E+002 | 3.84E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.55E-002 | 9.50E-002 | 1.74E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.00E+000 | 1.26E+000 | 2.30E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 5.21E-002 | 4.48E-001 | 8.18E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0412-314
Sample Title: B-5 H/W Trench Soil (Post Decon)
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.470E+002 g
Sample Taken On: 12/29/2004 12:00:00 PM
Acquisition Started: 12/29/2004 11:55:25 AM
Live Time: 1800.0 seconds
Real Time: 1802.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.60E+001 | 6.57E+000 | 1.80E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.87E-002 | 5.87E-002 | 1.23E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.39E-003 | 6.15E-002 | 1.03E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.95E-002 | 6.69E-002 | 1.51E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.95E-002 | 1.70E-001 | 2.88E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -5.22E-002 | 6.87E-002 | 1.15E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.73E-001 | 1.68E-001 | 3.36E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.27E-003 | 6.13E-002 | 1.12E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.78E-002 | 7.09E-002 | 1.24E-001 |
| TL-208 | 4.08E-001 | 9.05E-002 | 1.34E-001 | FOUND | | |
| PB-212 | 1.23E+000 | 4.32E-001 | 3.11E-001 | FOUND | | |
| BI-214 | 9.19E-001 | 1.81E-001 | 3.05E-001 | FOUND | | |
| PB-214 | 8.27E-001 | 4.78E-001 | 3.01E-001 | FOUND | | |
| RA-226 | 5.18E+000 | 4.25E+000 | 3.24E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.63E-001 | 3.67E-001 | 7.94E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.87E+001 | 2.69E+001 | 4.47E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.07E+000 | 2.32E+000 | 4.02E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.55E-001 | 2.39E-001 | 4.09E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -8.17E+000 | 1.24E+001 | 2.04E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.22E+000 | 1.31E+000 | 2.42E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.19E+002 | 2.34E+002 | 4.02E+002 |
| U-235 | 3.15E-001 | 2.59E-001 | 1.97E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.22E+000 | 1.31E+000 | 2.42E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -7.27E-002 | 4.04E-001 | 7.13E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0412-315
Sample Title: B-5 I/W H/W Spoils #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.453E+002 g
Sample Taken On: 12/29/2004 12:00:00 PM
Acquisition Started: 1/4/2005 8:18:24 AM
Live Time: 1200.0 seconds
Real Time: 1201.8 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g ) | Activity Uncert. (pCi/g ) | Nuclide MDA (pCi/g ) | Line Activity (pCi/g ) | Line Act Uncert. (pCi/g ) | Line MDA (pCi/g ) |
| K-40 | 2.58E+001 | 6.67E+000 | 1.71E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.06E-003 | 6.16E-002 | 1.19E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.68E-002 | 5.75E-002 | 1.03E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.46E-002 | 7.19E-002 | 1.65E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -9.36E-002 | 1.73E-001 | 2.92E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.14E-002 | 7.06E-002 | 1.19E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 5.04E-002 | 1.73E-001 | 3.35E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.96E-002 | 7.92E-002 | 1.20E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.26E-002 | 8.47E-002 | 1.67E-001 |
| TL-208 | 3.48E-001 | 3.01E-001 | 1.88E-001 | FOUND | | |
| PB-212 | 9.56E-001 | 1.75E-001 | 3.11E-001 | FOUND | | |
| BI-214 | 9.56E-001 | 7.71E-001 | 3.75E-001 | FOUND | | |
| PB-214 | 7.68E-001 | 1.54E-001 | 3.13E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 6.62E-001 | 1.54E+000 | 2.83E+000 |
| AC-228 | 8.83E-001 | 2.62E-001 | 5.00E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 6.98E-001 | 2.87E+001 | 5.10E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.11E+000 | 2.49E+000 | 4.39E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.41E-001 | 2.46E-001 | 4.32E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.89E+000 | 9.99E+000 | 2.12E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.29E+000 | 1.29E+000 | 2.32E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -8.27E+001 | 2.13E+002 | 3.75E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.15E-002 | 9.26E-002 | 1.68E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.29E+000 | 1.29E+000 | 2.32E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.08E-001 | 4.70E-001 | 8.74E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0412-318 |
| Sample Title: | B-5 I/W Trench Bottom #4 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.260E+002 g |
| Sample Taken On: | 12/29/2004 12:00:00 PM |
| Acquisition Started: | 1/4/2005 9:10:32 AM |
| Live Time: | 2100.0 seconds |
| Real Time: | 2103.0 seconds |
| Dead Time: | 0.14 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.56E+001 | 5.49E+000 | 1.43E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.50E-002 | 6.02E-002 | 1.22E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -8.22E-003 | 5.69E-002 | 9.42E-002 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.48E-002 | 5.77E-002 | 1.27E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -3.09E-002 | 1.63E-001 | 2.79E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 2.52E-002 | 5.96E-002 | 1.15E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 4.71E-003 | 1.53E-001 | 2.78E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 7.18E-003 | 5.66E-002 | 1.03E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.43E-002 | 6.49E-002 | 1.28E-001 |
| TL-208 | 3.57E-001 | 8.05E-002 | 1.43E-001 | FOUND | | |
| PB-212 | 1.06E+000 | 1.43E-001 | 2.46E-001 | FOUND | | |
| BI-214 | 9.90E-001 | 5.71E-001 | 2.31E-001 | FOUND | | |
| PB-214 | 8.63E-001 | 1.58E-001 | 3.00E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.05E+000 | 1.44E+000 | 2.68E+000 |
| AC-228 | 1.04E+000 | 1.96E-001 | 4.90E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -6.80E+000 | 2.27E+001 | 3.96E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.87E-001 | 2.17E+000 | 3.72E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -6.19E-002 | 2.46E-001 | 3.99E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -9.30E-001 | 1.18E+001 | 2.11E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 7.54E-001 | 1.12E+000 | 1.93E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 8.45E+001 | 2.27E+002 | 4.13E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.89E-001 | 8.62E-002 | 1.66E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 7.54E-001 | 1.12E+000 | 1.93E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -3.20E-001 | 3.98E-001 | 6.75E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0412-320
Sample Title: B-5 I/W Trench bottom #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.598E+002 g
Sample Taken On: 12/30/2004 12:00:00 PM
Acquisition Started: 1/4/2005 2:05:26 PM
Live Time: 1800.0 seconds
Real Time: 1801.1 seconds
Dead Time: 0.06 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.53E+001 | 6.53E+000 | 1.96E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.95E-002 | 6.12E-002 | 1.24E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.59E-002 | 5.80E-002 | 9.43E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.25E-002 | 5.94E-002 | 1.41E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -5.90E-002 | 1.50E-001 | 2.56E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.77E-002 | 5.84E-002 | 1.13E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.25E-001 | 1.63E-001 | 3.34E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.39E-002 | 5.77E-002 | 1.07E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.37E-002 | 6.69E-002 | 1.34E-001 |
| TL-208 | 3.55E-001 | 8.53E-002 | 1.49E-001 | FOUND | | |
| PB-212 | 1.08E+000 | 1.53E-001 | 3.27E-001 | FOUND | | |
| BI-214 | 9.50E-001 | 5.13E-001 | 2.57E-001 | FOUND | | |
| PB-214 | 7.68E-001 | 4.38E-001 | 2.98E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.45E+000 | 1.49E+000 | 2.84E+000 |
| AC-228 | 1.03E+000 | 3.02E-001 | 4.80E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.98E+000 | 2.51E+001 | 4.53E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.63E-001 | 2.10E+000 | 3.64E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 8.19E-002 | 2.43E-001 | 4.13E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.52E+000 | 1.22E+001 | 2.20E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.93E+000 | 1.21E+000 | 2.18E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -5.31E+000 | 2.21E+002 | 3.84E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.22E-002 | 9.13E-002 | 1.63E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.93E+000 | 1.20E+000 | 2.18E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -7.91E-003 | 4.21E-001 | 7.56E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0412-321
Sample Title: B-5 Spoils composite #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.705E+002 g
Sample Taken On: 12/30/2004 12:00:00 PM
Acquisition Started: 1/4/2005 3:09:47 PM
Live Time: 1539.6 seconds
Real Time: 1541.0 seconds
Dead Time: 0.09 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g ) | Activity Uncert. (pCi/g ) | Nuclide MDA (pCi/g ) | Line Activity (pCi/g ) | Line Act Uncert. (pCi/g ) | Line MDA (pCi/g ) |
| K-40 | 2.41E+001 | 2.81E+000 | 1.81E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.57E-002 | 5.42E-002 | 1.10E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.42E-002 | 6.33E-002 | 1.03E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.40E-002 | 6.44E-002 | 1.48E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.19E-002 | 1.40E-001 | 2.53E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 2.65E-002 | 6.06E-002 | 1.21E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -6.56E-002 | 1.64E-001 | 2.90E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.75E-002 | 5.92E-002 | 1.01E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.18E-001 | 7.45E-002 | 1.62E-001 |
| TL-208 | 3.26E-001 | 8.63E-002 | 1.64E-001 | FOUND | | |
| PB-212 | 1.05E+000 | 1.75E-001 | 3.17E-001 | FOUND | | |
| BI-214 | 6.35E-001 | 1.73E-001 | 3.03E-001 | FOUND | | |
| PB-214 | 7.26E-001 | 4.83E-001 | 4.05E-001 | FOUND | | |
| RA-226 | 2.04E+000 | 1.06E+000 | 2.26E+000 | FOUND | | |
| AC-228 | 8.32E-001 | 3.95E-001 | 4.72E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.81E+001 | 2.55E+001 | 4.93E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -1.24E-001 | 2.30E+000 | 3.93E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 3.68E-002 | 2.57E-001 | 4.34E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.07E+000 | 1.19E+001 | 2.42E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -1.23E-001 | 1.22E+000 | 2.04E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.16E+002 | 2.34E+002 | 4.32E+002 |
| U-235 | 1.24E-001 | 6.44E-002 | 1.37E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -1.23E-001 | 1.22E+000 | 2.04E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.69E-002 | 4.09E-001 | 7.33E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0412-329
Sample Title: B-5 Spoils #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 4.973E+002 g
Sample Taken On: 12/2/2004 12:00:00 PM
Acquisition Started: 1/4/2005 9:47:50 AM
Live Time: 2100.0 seconds
Real Time: 2102.5 seconds
Dead Time: 0.12 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.99E+001 | 6.61E+000 | 1.70E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.08E-002 | 7.41E-002 | 1.33E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.97E-003 | 7.12E-002 | 1.18E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -5.56E-002 | 9.84E-002 | 1.70E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.29E-001 | 1.89E-001 | 2.61E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.10E-002 | 7.64E-002 | 1.34E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 7.69E-002 | 2.25E-001 | 4.11E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 3.63E-002 | 6.92E-002 | 1.34E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.65E-002 | 9.07E-002 | 1.69E-001 |
| TL-208 | 4.13E-001 | 9.35E-002 | 1.61E-001 | FOUND | | |
| PB-212 | 1.02E+000 | 1.62E-001 | 3.57E-001 | FOUND | | |
| BI-214 | 8.60E-001 | 2.01E-001 | 3.66E-001 | FOUND | | |
| PB-214 | 1.10E+000 | 1.74E-001 | 3.75E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.43E+000 | 1.73E+000 | 3.24E+000 |
| AC-228 | 1.09E+000 | 2.01E-001 | 5.96E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.88E+000 | 2.82E+001 | 5.12E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -5.13E-001 | 2.56E+000 | 4.28E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.38E-001 | 2.92E-001 | 4.70E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.01E+001 | 1.29E+001 | 2.65E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.10E-001 | 1.36E+000 | 2.35E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.02E+002 | 2.54E+002 | 4.39E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.29E-001 | 1.04E-001 | 1.95E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.10E-001 | 1.36E+000 | 2.35E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.17E-001 | 4.95E-001 | 8.75E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0412-331
Sample Title: B-5 Under H/W by dumpster-trench #5
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.159E+002 g
Sample Taken On: 12/27/2004 12:00:00 PM
Acquisition Started: 1/4/2005 11:01:22 AM
Live Time: 2700.0 seconds
Real Time: 2703.1 seconds
Dead Time: 0.11 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.55E+001 | 2.44E+000 | 1.44E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.44E-002 | 5.40E-002 | 9.67E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.82E-002 | 5.08E-002 | 8.60E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.38E-002 | 5.98E-002 | 1.31E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 4.03E-002 | 1.14E-001 | 2.22E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 6.60E-003 | 5.19E-002 | 9.57E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 8.33E-002 | 1.42E-001 | 2.68E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.82E-002 | 5.32E-002 | 8.33E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.21E-002 | 6.59E-002 | 1.28E-001 |
| TL-208 | 3.20E-001 | 7.16E-002 | 1.47E-001 | FOUND | | |
| PB-212 | 1.33E+000 | 2.91E-001 | 2.18E-001 | FOUND | | |
| BI-214 | 1.24E+000 | 4.73E-001 | 2.37E-001 | FOUND | | |
| PB-214 | 1.05E+000 | 1.35E-001 | 2.52E-001 | FOUND | | |
| RA-226 | 2.60E+000 | 3.13E+000 | 2.83E+000 | FOUND | | |
| AC-228 | 1.29E+000 | 3.39E-001 | 4.01E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 8.15E+000 | 2.24E+001 | 4.05E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.32E+000 | 1.99E+000 | 3.38E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.37E-001 | 2.29E-001 | 3.41E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -3.86E+000 | 8.58E+000 | 1.50E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.58E-001 | 9.95E-001 | 1.69E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.32E+002 | 1.94E+002 | 3.54E+002 |
| U-235 | 1.58E-001 | 1.91E-001 | 1.72E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.58E-001 | 9.95E-001 | 1.69E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.65E-001 | 3.59E-001 | 6.07E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-020
Sample Title: B5 SD/San Spoils Pile - #5
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.165E+002 g
Sample Taken On: 1/4/2005 12:00:00 PM
Acquisition Started: 1/5/2005 10:57:16 AM
Live Time: 1800.0 seconds
Real Time: 1802.8 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.14E+001 | 5.16E+000 | 1.33E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.16E-002 | 4.72E-002 | 7.68E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.74E-002 | 4.84E-002 | 7.78E-002 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.00E-001 | 5.63E-002 | 1.31E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.43E-001 | 1.10E-001 | 1.62E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.58E-002 | 4.62E-002 | 8.99E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.20E-002 | 1.30E-001 | 2.40E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.04E-002 | 4.72E-002 | 8.51E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.07E-001 | 6.42E-002 | 1.35E-001 |
| TL-208 | 3.10E-001 | 6.93E-002 | 1.30E-001 | FOUND | | |
| PB-212 | 1.28E+000 | 3.34E-001 | 2.17E-001 | FOUND | | |
| BI-214 | 7.72E-001 | 1.57E-001 | 2.44E-001 | FOUND | | |
| PB-214 | 6.60E-001 | 1.86E-001 | 2.95E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.69E+000 | 1.14E+000 | 2.17E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.16E+000 | 3.10E-001 | 7.07E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.88E+000 | 2.12E+001 | 3.75E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.37E+000 | 1.94E+000 | 3.19E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.13E-001 | 1.96E-001 | 3.09E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.85E+000 | 8.80E+000 | 1.58E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -1.55E-001 | 1.02E+000 | 1.69E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -9.16E+000 | 1.73E+002 | 3.10E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.02E-002 | 6.89E-002 | 1.28E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -1.55E-001 | 1.02E+000 | 1.69E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.01E-001 | 3.33E-001 | 5.65E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-041
Sample Title: B5 East-I/W Trench Bottom - #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.449E+002 g
Sample Taken On: 1/10/2005 12:00:00 PM
Acquisition Started: 1/11/2005 6:42:30 AM
Live Time: 1200.0 seconds
Real Time: 1201.7 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.68E+001 | 1.28E+002 | 1.86E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.50E-002 | 6.96E-002 | 1.22E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.14E-002 | 6.46E-002 | 1.06E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.09E-002 | 6.45E-002 | 1.52E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.78E-002 | 1.54E-001 | 2.88E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 5.89E-002 | 6.10E-002 | 1.32E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 6.62E-002 | 1.80E-001 | 3.50E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.13E-002 | 6.84E-002 | 1.14E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.71E-001 | 8.96E-002 | 1.99E-001 |
| TL-208 | 2.72E-001 | 8.95E-002 | 1.56E-001 | FOUND | | |
| PB-212 | 1.12E+000 | 3.27E-001 | 3.15E-001 | FOUND | | |
| BI-214 | 9.77E-001 | 6.53E-001 | 3.03E-001 | FOUND | | |
| PB-214 | 7.47E-001 | 1.56E-001 | 3.52E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.73E+000 | 1.45E+000 | 2.80E+000 |
| AC-228 | 1.08E+000 | 3.46E-001 | 5.34E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -9.22E+000 | 2.68E+001 | 4.72E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.83E+000 | 2.36E+000 | 4.21E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -6.71E-002 | 2.60E-001 | 4.30E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.87E+000 | 1.39E+001 | 2.52E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 6.13E-001 | 1.35E+000 | 2.34E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -6.29E+001 | 2.17E+002 | 3.90E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.66E-002 | 8.85E-002 | 1.65E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 6.13E-001 | 1.35E+000 | 2.34E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.17E-001 | 4.74E-001 | 8.09E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-042
Sample Title: B5 East-I/W Trench Bottom - #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.058E+002 g
Sample Taken On: 1/10/2005 12:00:00 PM
Acquisition Started: 1/11/2005 7:16:17 AM
Live Time: 1200.0 seconds
Real Time: 1201.4 seconds
Dead Time: 0.12 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.44E+001 | 7.73E+000 | 1.71E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.23E-002 | 6.50E-002 | 1.29E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.59E-002 | 6.26E-002 | 1.04E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.85E-002 | 7.69E-002 | 1.46E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.02E-002 | 1.48E-001 | 2.82E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.36E-002 | 6.87E-002 | 1.30E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -6.28E-002 | 1.98E-001 | 3.40E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.93E-003 | 6.54E-002 | 1.20E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.21E-002 | 8.87E-002 | 1.71E-001 |
| TL-208 | 3.84E-001 | 1.00E-001 | 1.60E-001 | FOUND | | |
| PB-212 | 1.40E+000 | 4.57E-001 | 3.75E-001 | FOUND | | |
| BI-214 | 5.93E-001 | 1.96E-001 | 3.29E-001 | FOUND | | |
| PB-214 | 9.69E-001 | 2.72E-001 | 3.54E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.21E+000 | 1.69E+000 | 3.26E+000 |
| AC-228 | 9.53E-001 | 2.90E-001 | 5.72E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.16E+001 | 2.72E+001 | 5.27E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.01E+000 | 2.51E+000 | 4.41E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 4.92E-002 | 2.65E-001 | 4.56E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.30E+001 | 1.03E+001 | 2.50E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.58E-001 | 1.26E+000 | 2.22E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.09E+002 | 2.60E+002 | 4.98E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.45E-002 | 1.03E-001 | 1.93E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.58E-001 | 1.26E+000 | 2.22E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.94E-001 | 4.63E-001 | 7.95E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-043
Sample Title: B5 East- I/W Spolis Pile - #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.303E+002 g
Sample Taken On: 1/10/2005 12:00:00 PM
Acquisition Started: 1/11/2005 8:27:35 AM
Live Time: 1200.0 seconds
Real Time: 1201.8 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.11E+001 | 2.81E+000 | 2.14E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.26E-002 | 6.00E-002 | 1.21E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.83E-002 | 6.10E-002 | 1.06E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.99E-002 | 7.23E-002 | 1.74E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 4.77E-002 | 1.61E-001 | 3.24E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 7.83E-003 | 6.50E-002 | 1.26E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.56E-002 | 1.91E-001 | 3.46E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.21E-002 | 6.74E-002 | 1.11E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.02E-001 | 8.89E-002 | 1.86E-001 |
| TL-208 | 3.94E-001 | 1.47E-001 | 1.75E-001 | FOUND | | |
| PB-212 | 1.35E+000 | 3.17E-001 | 3.35E-001 | FOUND | | |
| BI-214 | 5.71E-001 | 1.75E-001 | 2.78E-001 | FOUND | | |
| PB-214 | 5.62E-001 | 1.81E-001 | 3.16E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 9.82E-001 | 1.54E+000 | 2.87E+000 |
| AC-228 | 1.12E+000 | 3.58E-001 | 5.94E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.25E+000 | 3.09E+001 | 5.46E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.68E-001 | 2.45E+000 | 4.22E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.07E-001 | 2.62E-001 | 4.25E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.36E+000 | 1.40E+001 | 2.64E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.44E+000 | 1.25E+000 | 2.38E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 4.97E+001 | 2.34E+002 | 4.40E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | -1.69E-003 | 9.29E-002 | 1.66E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.44E+000 | 1.24E+000 | 2.38E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.38E-001 | 4.35E-001 | 8.25E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-044
Sample Title: B5 East- I/W Spolis Pile - #4
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.550E+002 g
Sample Taken On: 1/10/2005 12:00:00 PM
Acquisition Started: 1/11/2005 7:48:06 AM
Live Time: 1200.0 seconds
Real Time: 1201.7 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.96E+001 | 2.59E+000 | 1.81E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 6.95E-002 | 6.63E-002 | 1.46E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.46E-002 | 5.82E-002 | 9.50E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.24E-002 | 6.32E-002 | 1.57E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.10E-002 | 1.70E-001 | 3.13E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.17E-002 | 6.36E-002 | 1.02E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -7.41E-002 | 1.74E-001 | 3.07E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.40E-003 | 7.22E-002 | 1.25E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.00E-003 | 7.38E-002 | 1.39E-001 |
| TL-208 | 3.14E-001 | 9.35E-002 | 1.49E-001 | FOUND | | |
| PB-212 | 9.11E-001 | 3.66E-001 | 2.86E-001 | FOUND | | |
| BI-214 | 8.32E-001 | 3.75E-001 | 3.07E-001 | FOUND | | |
| PB-214 | 6.61E-001 | 1.46E-001 | 3.10E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.39E+000 | 1.50E+000 | 2.95E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.75E-001 | 3.89E-001 | 8.43E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.09E+001 | 2.57E+001 | 4.81E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.28E+000 | 2.35E+000 | 4.19E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -6.38E-003 | 2.31E-001 | 3.92E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 7.65E+000 | 1.23E+001 | 2.56E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -9.10E-002 | 1.25E+000 | 2.08E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -5.70E+001 | 2.25E+002 | 4.03E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 3.35E-002 | 9.25E-002 | 1.69E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -9.10E-002 | 1.25E+000 | 2.08E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.58E-001 | 4.68E-001 | 7.75E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0501-62
Sample Title: B5 H/W Re-dig Spolis Pile - #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.767E+002 g
Sample Taken On: 1/10/2005 12:00:00 PM
Acquisition Started: 1/12/2005 6:13:51 AM
Live Time: 1200.0 seconds
Real Time: 1201.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.11E+001 | 6.06E+000 | 1.78E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -9.16E-003 | 5.91E-002 | 1.11E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.06E-002 | 5.52E-002 | 9.09E-002 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.15E-002 | 6.67E-002 | 1.33E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.03E-002 | 1.25E-001 | 2.46E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.38E-002 | 5.34E-002 | 9.42E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.31E-001 | 1.37E-001 | 2.19E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | -4.91E-002 | 6.54E-002 | 1.00E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.90E-002 | 6.55E-002 | 1.28E-001 |
| TL-208 | 3.44E-001 | 8.58E-002 | 1.54E-001 | FOUND | | |
| PB-212 | 5.96E-001 | 1.38E-001 | 2.83E-001 | FOUND | | |
| BI-214 | 7.40E-001 | 4.71E-001 | 2.85E-001 | FOUND | | |
| PB-214 | 6.72E-001 | 1.67E-001 | 2.89E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.55E+000 | 1.43E+000 | 2.79E+000 |
| AC-228 | 8.42E-001 | 2.08E-001 | 4.24E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 7.94E+000 | 2.32E+001 | 4.27E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.44E+000 | 2.08E+000 | 3.70E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 8.43E-002 | 2.28E-001 | 3.93E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 7.95E-002 | 1.08E+001 | 2.01E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.55E-001 | 1.05E+000 | 1.87E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -5.75E+001 | 1.97E+002 | 3.51E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.20E-001 | 8.67E-002 | 1.66E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.55E-001 | 1.05E+000 | 1.87E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.09E-001 | 3.92E-001 | 6.61E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-76
Sample Title: B5 South H/W Term - #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.079E+002 g
Sample Taken On: 1/13/2004 12:00:00 PM
Acquisition Started: 1/13/2005 6:52:26 AM
Live Time: 1200.0 seconds
Real Time: 1201.7 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.03E+001 | 7.17E+000 | 1.38E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.86E-003 | 1.47E-001 | 2.69E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 8.48E-002 | 1.73E-001 | 3.03E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 3.67E-002 | 8.68E-002 | 1.81E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 4.42E-002 | 4.52E-001 | 8.86E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 7.96E-002 | 1.75E-001 | 3.58E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.14E-002 | 2.35E-001 | 4.30E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -9.63E-002 | 9.92E-002 | 1.60E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.30E-002 | 8.20E-002 | 1.48E-001 |
| TL-208 | 2.65E-001 | 8.62E-002 | 1.56E-001 | FOUND | | |
| PB-212 | 9.68E-001 | 3.78E-001 | 3.30E-001 | FOUND | | |
| BI-214 | 1.24E+000 | 4.94E-001 | 3.25E-001 | FOUND | | |
| PB-214 | 5.62E-001 | 1.69E-001 | 3.79E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 5.62E-001 | 1.50E+000 | 2.77E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.36E-001 | 4.13E-001 | 9.17E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.44E+000 | 2.73E+001 | 5.05E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.09E+000 | 2.46E+000 | 4.39E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.45E-001 | 2.76E-001 | 4.23E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 4.80E-001 | 1.09E+001 | 2.13E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.31E+000 | 1.24E+000 | 2.26E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.05E+002 | 2.49E+002 | 4.10E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | -2.28E-003 | 9.28E-002 | 1.66E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.31E+000 | 1.24E+000 | 2.26E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.30E-002 | 4.02E-001 | 7.31E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-77
Sample Title: B5 South H/W "Footer wall" Term - #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.969E+002 g
Sample Taken On: 1/13/2004 12:00:00 PM
Acquisition Started: 1/13/2005 7:15:09 AM
Live Time: 1200.0 seconds
Real Time: 1201.5 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.20E+001 | 2.86E+000 | 1.94E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.74E-002 | 1.49E-001 | 3.04E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.41E-003 | 1.82E-001 | 3.05E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -4.30E-002 | 8.80E-002 | 1.60E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.55E-001 | 4.73E-001 | 9.58E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -8.32E-002 | 1.89E-001 | 3.25E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -4.68E-002 | 2.29E-001 | 4.02E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.43E-002 | 9.41E-002 | 1.71E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.99E-002 | 8.10E-002 | 1.77E-001 |
| TL-208 | 3.72E-001 | 1.03E-001 | 1.78E-001 | FOUND | | |
| PB-212 | 1.36E+000 | 4.81E-001 | 3.28E-001 | FOUND | | |
| BI-214 | 9.25E-001 | 2.18E-001 | 3.21E-001 | FOUND | | |
| PB-214 | 7.98E-001 | 4.63E-001 | 3.27E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.07E+000 | 1.71E+000 | 3.26E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.19E+000 | 4.61E-001 | 1.04E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -2.78E+001 | 2.91E+001 | 4.86E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.96E+000 | 2.92E+000 | 5.03E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -4.32E-002 | 2.86E-001 | 4.70E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -6.04E+000 | 1.43E+001 | 2.36E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 5.25E-001 | 1.33E+000 | 2.30E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.67E+001 | 2.69E+002 | 4.92E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.54E-002 | 1.03E-001 | 1.91E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 5.25E-001 | 1.33E+000 | 2.30E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.88E-001 | 4.72E-001 | 8.24E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-078
Sample Title: B5 High-bay Center H/W Trench-#3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.651E+002 g
Sample Taken On: 1/12/2005 12:00:00 PM
Acquisition Started: 1/12/2005 4:17:04 PM
Live Time: 1800.0 seconds
Real Time: 1802.3 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.26E+001 | 5.20E+000 | 1.15E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -9.88E-003 | 4.98E-002 | 9.13E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.28E-002 | 4.66E-002 | 8.16E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.17E-002 | 5.92E-002 | 1.27E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.57E-002 | 1.10E-001 | 1.87E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 7.00E-003 | 5.56E-002 | 1.03E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.40E-002 | 1.32E-001 | 2.34E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.84E-002 | 5.56E-002 | 9.48E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.63E-002 | 6.63E-002 | 1.36E-001 |
| TL-208 | 3.17E-001 | 2.25E-001 | 1.22E-001 | FOUND | | |
| PB-212 | 7.57E-001 | 1.19E-001 | 2.76E-001 | FOUND | | |
| BI-214 | 9.45E-001 | 3.36E-001 | 2.52E-001 | FOUND | | |
| PB-214 | 6.54E-001 | 1.42E-001 | 2.51E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.16E+000 | 1.23E+000 | 2.28E+000 |
| AC-228 | 7.02E-001 | 3.05E-001 | 4.09E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -5.49E+000 | 1.98E+001 | 3.45E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.55E+000 | 2.15E+000 | 3.53E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 9.30E-003 | 2.03E-001 | 3.38E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.18E+000 | 9.42E+000 | 1.94E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.37E-001 | 9.13E-001 | 1.59E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.05E+002 | 1.75E+002 | 3.28E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.60E-002 | 7.46E-002 | 1.41E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.37E-001 | 9.13E-001 | 1.59E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.35E-001 | 3.52E-001 | 6.64E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0501-207 |
| Sample Title: | Sanitary Spoils Pile - #2 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.343E+002 g |
| Sample Taken On: | 1/26/2005 12:00:00 PM |
| Acquisition Started: | 1/26/2005 3:46:57 PM |
| Live Time: | 1200.0 seconds |
| Real Time: | 1201.9 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.09E+001 | 2.73E+000 | 1.79E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.24E-002 | 6.91E-002 | 1.28E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.86E-002 | 6.17E-002 | 9.81E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.51E-002 | 7.31E-002 | 1.48E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.78E-001 | 2.13E-001 | 2.70E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -7.17E-002 | 6.56E-002 | 9.86E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -2.22E-002 | 1.53E-001 | 2.83E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.82E-002 | 6.68E-002 | 1.04E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.52E-002 | 8.00E-002 | 1.67E-001 |
| TL-208 | 3.29E-001 | 2.11E-001 | 1.48E-001 | FOUND | | |
| PB-212 | 1.20E+000 | 3.04E-001 | 3.39E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 7.85E-001 | 2.35E-001 | 5.20E-001 |
| PB-214 | 7.37E-001 | 2.58E-001 | 4.46E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.19E+000 | 1.57E+000 | 3.05E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.16E+000 | 4.32E-001 | 9.75E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.05E+001 | 2.65E+001 | 4.53E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 8.78E-001 | 2.43E+000 | 4.31E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.84E-001 | 2.83E-001 | 4.14E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.17E-001 | 9.79E+000 | 1.96E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.45E+000 | 1.19E+000 | 2.18E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.61E+002 | 2.60E+002 | 4.98E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.42E-001 | 9.48E-002 | 1.85E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.45E+000 | 1.18E+000 | 2.18E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.50E-001 | 4.27E-001 | 6.85E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-208
Sample Title: B-5 M/H I/W Spoils Pile - #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.203E+002 g
Sample Taken On: 1/26/2005 12:00:00 PM
Acquisition Started: 1/26/2005 4:17:11 PM
Live Time: 1200.0 seconds
Real Time: 1202.1 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.23E+001 | 6.41E+000 | 1.77E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.14E-002 | 7.48E-002 | 1.50E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 4.32E-002 | 6.04E-002 | 1.07E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.33E-002 | 7.08E-002 | 1.65E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.30E-002 | 1.44E-001 | 2.62E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -4.63E-002 | 5.80E-002 | 9.71E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.53E-002 | 1.47E-001 | 2.71E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.37E-002 | 6.86E-002 | 1.17E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.36E-002 | 8.96E-002 | 1.68E-001 |
| TL-208 | 3.27E-001 | 9.26E-002 | 1.58E-001 | FOUND | | |
| PB-212 | 1.10E+000 | 2.75E-001 | 2.92E-001 | FOUND | | |
| BI-214 | 7.10E-001 | 5.04E-001 | 2.88E-001 | FOUND | | |
| PB-214 | 8.23E-001 | 2.26E-001 | 3.35E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 6.81E-001 | 1.38E+000 | 2.56E+000 |
| AC-228 | 9.60E-001 | 3.11E-001 | 5.01E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 5.80E-001 | 2.47E+001 | 4.50E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.19E+000 | 2.57E+000 | 4.30E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 8.37E-002 | 2.64E-001 | 4.47E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 8.56E-001 | 9.62E+000 | 1.92E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.21E-001 | 1.17E+000 | 2.00E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.68E+002 | 2.37E+002 | 4.43E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 3.16E-002 | 8.39E-002 | 1.54E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.21E-001 | 1.17E+000 | 2.00E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.11E-001 | 4.19E-001 | 7.69E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC 0501 209
Sample Title: B5 I/W Trench Bottom - #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.430E+002 g
Sample Taken On: 1/26/2005 12:00:00 PM
Acquisition Started: 1/27/2005 7:45:28 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.30E+001 | 1.89E+000 | 2.24E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 5.94E-002 | 7.38E-002 | 1.63E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.72E-002 | 7.07E-002 | 1.23E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.89E-002 | 8.53E-002 | 1.95E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.22E-001 | 1.81E-001 | 3.08E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 1.48E-002 | 8.23E-002 | 1.61E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.49E-002 | 1.92E-001 | 3.73E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.24E-002 | 9.44E-002 | 1.33E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -5.85E-003 | 8.98E-002 | 1.70E-001 |
| TL-208 | 3.60E-001 | 6.01E-001 | 1.60E-001 | FOUND | | |
| PB-212 | 7.91E-001 | 1.70E-001 | 3.40E-001 | FOUND | | |
| BI-214 | 1.37E+000 | 6.04E-001 | 3.46E-001 | FOUND | | |
| PB-214 | 4.68E-001 | 2.55E-001 | 4.52E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.18E+000 | 1.78E+000 | 3.37E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 6.36E-001 | 4.62E-001 | 1.00E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.25E+000 | 3.63E+001 | 6.36E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -1.60E+000 | 2.53E+000 | 3.89E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.60E-002 | 3.04E-001 | 5.08E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 5.89E+000 | 1.45E+001 | 3.06E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.43E+000 | 1.42E+000 | 2.61E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 7.69E+001 | 2.65E+002 | 5.02E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.23E-003 | 1.09E-001 | 1.98E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.43E+000 | 1.42E+000 | 2.61E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 6.04E-002 | 5.49E-001 | 1.01E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC 0501 210
Sample Title: B5 I/W Trench Bottom - #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.167E+002 g
Sample Taken On: 1/26/2005 12:00:00 PM
Acquisition Started: 1/27/2005 8:06:53 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.25E+001 | 7.56E+000 | 9.00E-001 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.43E-002 | 7.12E-002 | 1.49E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.19E-002 | 6.88E-002 | 1.13E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 3.07E-002 | 8.98E-002 | 1.69E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.51E-001 | 1.83E-001 | 2.96E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 1.17E-002 | 5.96E-002 | 1.21E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.16E-002 | 2.03E-001 | 3.55E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.11E-002 | 7.97E-002 | 1.09E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.41E-002 | 7.46E-002 | 1.71E-001 |
| TL-208 | 4.15E-001 | 3.75E-001 | 1.68E-001 | FOUND | | |
| PB-212 | 1.20E+000 | 4.70E-001 | 2.89E-001 | FOUND | | |
| BI-214 | 9.50E-001 | 7.60E-001 | 3.62E-001 | FOUND | | |
| PB-214 | 8.33E-001 | 1.77E-001 | 3.38E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.40E+000 | 1.69E+000 | 3.33E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.12E-001 | 4.26E-001 | 9.38E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -5.83E+000 | 2.83E+001 | 5.11E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 9.58E-001 | 2.81E+000 | 4.98E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -7.74E-002 | 2.65E-001 | 4.40E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 9.41E-001 | 1.35E+001 | 2.68E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 5.65E-001 | 1.45E+000 | 2.52E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -8.34E+001 | 2.60E+002 | 4.63E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.13E-001 | 1.04E-001 | 2.01E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 5.65E-001 | 1.45E+000 | 2.52E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.95E-002 | 5.06E-001 | 8.96E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC 0501 211
Sample Title: B5 I/W Trench Bottom - #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.816E+002 g
Sample Taken On: 1/26/2005 12:00:00 PM
Acquisition Started: 1/27/2005 8:30:03 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.07E+001 | 9.16E+000 | 1.65E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.46E-002 | 6.69E-002 | 1.45E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -6.84E-002 | 6.73E-002 | 1.03E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.07E-002 | 9.18E-002 | 1.94E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -4.66E-002 | 1.77E-001 | 3.09E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -7.86E-002 | 7.42E-002 | 1.16E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.48E-001 | 2.08E-001 | 4.17E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.06E-001 | 8.18E-002 | 1.05E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -1.97E-002 | 1.04E-001 | 1.83E-001 |
| TL-208 | 4.60E-001 | 1.16E-001 | 1.50E-001 | FOUND | | |
| PB-212 | 9.73E-001 | 1.78E-001 | 3.09E-001 | FOUND | | |
| BI-214 | 8.56E-001 | 6.75E-001 | 3.06E-001 | FOUND | | |
| PB-214 | 7.50E-001 | 2.11E-001 | 3.70E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.00E+000 | 1.81E+000 | 3.50E+000 |
| AC-228 | 9.79E-001 | 3.05E-001 | 5.93E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -7.92E+000 | 3.00E+001 | 5.34E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 4.75E-001 | 2.85E+000 | 4.96E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | 1.58E-002 | 3.02E-001 | 5.15E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 8.89E+000 | 1.41E+001 | 3.01E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.15E+000 | 1.39E+000 | 2.62E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -4.00E+001 | 2.43E+002 | 4.44E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.39E-002 | 1.13E-001 | 2.11E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.15E+000 | 1.38E+000 | 2.62E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.07E-001 | 4.96E-001 | 9.68E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-218
Sample Title: B5 I/W Spoils Composite #5
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.794E+002 g
Sample Taken On: 1/27/2005 12:00:00 PM
Acquisition Started: 1/31/2005 3:39:32 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.32E+001 | 8.62E+000 | 2.27E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.52E-002 | 9.36E-002 | 1.97E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.21E-002 | 7.71E-002 | 1.34E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 5.63E-002 | 1.21E-001 | 2.50E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.70E-001 | 2.17E-001 | 3.40E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.82E-002 | 8.80E-002 | 1.53E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.41E-002 | 2.08E-001 | 3.77E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.35E-002 | 7.03E-002 | 1.42E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.02E-001 | 8.88E-002 | 2.01E-001 |
| TL-208 | 3.27E-001 | 1.24E-001 | 2.11E-001 | FOUND | | |
| PB-212 | 1.12E+000 | 4.60E-001 | 4.48E-001 | FOUND | | |
| BI-214 | 8.06E-001 | 2.50E-001 | 4.05E-001 | FOUND | | |
| PB-214 | 9.59E-001 | 3.26E-001 | 3.99E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.73E+000 | 2.09E+000 | 4.18E+000 |
| AC-228 | 8.97E-001 | 3.67E-001 | 6.31E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.87E+000 | 3.37E+001 | 6.21E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.22E+000 | 2.97E+000 | 5.39E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 3.59E-002 | 3.14E-001 | 5.43E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.44E+000 | 1.26E+001 | 2.67E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 6.46E-001 | 1.49E+000 | 2.64E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -9.37E+001 | 2.86E+002 | 5.11E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.90E-001 | 1.24E-001 | 2.46E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 6.46E-001 | 1.49E+000 | 2.64E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.06E-001 | 4.72E-001 | 8.23E-001 |

Uncertainty reported at 2.0 sigma

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0501-220 |
| Sample Title: | B-5 I/W Trench Bottom #9 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.481E+002 g |
| Sample Taken On: | 1/27/2005 12:00:00 PM |
| Acquisition Started: | 1/31/2005 9:22:56 AM |
| Live Time: | 900.0 seconds |
| Real Time: | 901.6 seconds |
| Dead Time: | 0.17 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.04E+001 | 3.02E+000 | 2.62E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.53E-002 | 7.61E-002 | 1.46E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.19E-002 | 6.98E-002 | 1.22E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.35E-002 | 8.04E-002 | 1.75E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 5.77E-002 | 2.14E-001 | 3.86E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | 1.75E-002 | 8.45E-002 | 1.82E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.49E-002 | 1.93E-001 | 3.71E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -9.35E-002 | 9.66E-002 | 1.24E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.56E-002 | 9.19E-002 | 1.83E-001 |
| TL-208 | 3.37E-001 | 1.07E-001 | 1.81E-001 | FOUND | | |
| PB-212 | 9.40E-001 | 1.97E-001 | 3.67E-001 | FOUND | | |
| BI-214 | 8.25E-001 | 4.68E-001 | 3.90E-001 | FOUND | | |
| PB-214 | 7.72E-001 | 5.96E-001 | 4.08E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 7.76E-001 | 1.80E+000 | 3.34E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.49E+000 | 5.04E-001 | 1.19E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.34E+001 | 3.13E+001 | 6.10E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.42E+000 | 2.84E+000 | 5.01E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.75E-001 | 3.27E-001 | 5.24E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.66E+000 | 1.02E+001 | 2.12E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 6.51E-001 | 1.51E+000 | 2.65E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.12E+002 | 2.98E+002 | 5.84E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.70E-002 | 1.14E-001 | 2.10E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 6.51E-001 | 1.51E+000 | 2.65E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.17E-001 | 5.27E-001 | 9.33E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-221
Sample Title: B-5 I/W Trench Bottom #8
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.030E+002 g
Sample Taken On: 1/27/2005 12:00:00 PM
Acquisition Started: 1/31/2005 10:26:53 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 3.33E+001 | 1.51E+001 | 3.80E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 7.45E-002 | 1.21E-001 | 2.59E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.78E-002 | 1.11E-001 | 1.86E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.26E-001 | 1.29E-001 | 2.99E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.14E-001 | 2.74E-001 | 4.00E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.13E-001 | 1.24E-001 | 1.82E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.34E-003 | 2.91E-001 | 5.38E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.70E-001 | 1.13E-001 | 1.56E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.34E-001 | 1.38E-001 | 2.97E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.44E-001 | 1.99E-001 | 4.26E-001 |
| PB-212 | 1.35E+000 | 2.70E-001 | 6.05E-001 | FOUND | | |
| BI-214 | 1.07E+000 | 3.23E-001 | 4.80E-001 | FOUND | | |
| PB-214 | 1.20E+000 | 3.16E-001 | 5.73E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.61E+000 | 2.39E+000 | 4.59E+000 |
| AC-228 | 1.73E+000 | 5.44E-001 | 1.07E+000 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.98E+001 | 4.49E+001 | 8.56E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 4.27E+000 | 4.35E+000 | 7.78E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -4.66E-001 | 5.53E-001 | 7.30E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.26E+001 | 2.17E+001 | 4.98E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -2.25E-002 | 2.13E+000 | 3.62E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.89E+002 | 4.12E+002 | 8.07E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | -1.31E-002 | 1.49E-001 | 2.68E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -2.25E-002 | 2.13E+000 | 3.62E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -9.11E-002 | 8.19E-001 | 1.49E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-222
Sample Title: B-5 I/W Trench Bottom #9
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.481E+002 g
Sample Taken On: 1/27/2005 12:00:00 PM
Acquisition Started: 2/15/2005 10:34:38 AM
Live Time: 900.0 seconds
Real Time: 900.7 seconds
Dead Time: 0.08 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.59E+001 | 4.07E+000 | 2.27E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.24E-002 | 7.67E-002 | 1.57E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.68E-002 | 7.81E-002 | 1.35E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -3.90E-002 | 7.88E-002 | 1.40E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.10E-002 | 1.66E-001 | 3.22E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 1.26E-002 | 8.45E-002 | 1.64E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.09E-002 | 2.13E-001 | 3.93E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.52E-003 | 8.32E-002 | 1.54E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.48E-002 | 1.09E-001 | 2.15E-001 |
| TL-208 | 3.11E-001 | 1.06E-001 | 1.72E-001 | FOUND | | |
| PB-212 | 7.79E-001 | 1.94E-001 | 4.33E-001 | FOUND | | |
| BI-214 | 7.19E-001 | 2.13E-001 | 4.17E-001 | FOUND | | |
| PB-214 | 6.84E-001 | 2.80E-001 | 3.33E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.04E+000 | 1.89E+000 | 3.47E+000 |
| AC-228 | 1.24E+000 | 1.32E+000 | 4.26E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.45E+001 | 2.90E+001 | 5.75E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -7.92E-001 | 2.92E+000 | 4.90E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -4.77E-002 | 3.22E-001 | 5.39E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 5.50E+000 | 1.67E+001 | 3.35E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 7.25E-001 | 1.53E+000 | 2.68E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -5.99E+001 | 2.61E+002 | 4.71E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.35E-002 | 1.09E-001 | 2.05E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 7.25E-001 | 1.53E+000 | 2.68E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 4.44E-001 | 5.67E-001 | 1.10E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0501-223
Sample Title: B-5 I/W Trench Bottom #10
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.103E+002 g
Sample Taken On: 1/27/2005 12:00:00 PM
Acquisition Started: 2/15/2005 10:59:10 AM
Live Time: 900.0 seconds
Real Time: 900.8 seconds
Dead Time: 0.09 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.33E+001 | 7.99E+000 | 1.91E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.57E-002 | 8.11E-002 | 1.66E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -8.39E-003 | 9.11E-002 | 1.47E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 5.34E-002 | 9.46E-002 | 2.05E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.20E-001 | 2.35E-001 | 4.81E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -5.61E-003 | 8.54E-002 | 1.63E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.95E-002 | 2.09E-001 | 3.85E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -6.63E-002 | 7.99E-002 | 1.33E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -8.76E-003 | 8.80E-002 | 1.67E-001 |
| TL-208 | 3.60E-001 | 1.12E-001 | 1.62E-001 | FOUND | | |
| PB-212 | 1.24E+000 | 3.71E-001 | 3.71E-001 | FOUND | | |
| BI-214 | 1.08E+000 | 5.45E-001 | 3.09E-001 | FOUND | | |
| PB-214 | 1.07E+000 | 7.43E-001 | 3.85E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.38E+000 | 1.83E+000 | 3.50E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 8.48E-001 | 5.08E-001 | 1.11E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.85E+001 | 3.23E+001 | 5.61E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 7.65E-001 | 2.89E+000 | 5.16E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -4.95E-002 | 3.29E-001 | 5.44E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -7.33E+000 | 1.40E+001 | 2.40E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 7.63E-001 | 1.39E+000 | 2.49E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 4.31E+002 | 2.86E+002 | 5.78E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 4.54E-002 | 1.13E-001 | 2.10E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 7.63E-001 | 1.39E+000 | 2.49E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.55E-001 | 5.62E-001 | 1.08E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-224
Sample Title: B-5 I/W Trench Bottom #11
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.102E+002 g
Sample Taken On: 1/27/2005 12:00:00 PM
Acquisition Started: 2/15/2005 3:50:47 PM
Live Time: 900.0 seconds
Real Time: 900.9 seconds
Dead Time: 0.10 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.46E+001 | 9.93E+000 | 2.12E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.72E-002 | 8.00E-002 | 1.66E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.80E-004 | 7.87E-002 | 1.34E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.49E-002 | 1.02E-001 | 2.32E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.76E-001 | 2.39E-001 | 3.18E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.27E-002 | 8.83E-002 | 1.47E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.23E-002 | 2.03E-001 | 3.75E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.93E-002 | 8.98E-002 | 1.62E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.13E-002 | 9.68E-002 | 1.97E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.75E-001 | 1.33E-001 | 3.02E-001 |
| PB-212 | 1.35E+000 | 5.83E-001 | 3.45E-001 | FOUND | | |
| BI-214 | 1.00E+000 | 2.63E-001 | 3.99E-001 | FOUND | | |
| PB-214 | 8.59E-001 | 5.34E-001 | 3.88E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.18E+000 | 2.00E+000 | 3.86E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.00E+000 | 4.63E-001 | 1.08E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.95E+001 | 3.47E+001 | 6.65E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.59E+000 | 3.25E+000 | 5.73E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.28E-001 | 3.56E-001 | 5.22E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 4.25E-001 | 1.06E+001 | 2.23E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 4.09E-001 | 1.54E+000 | 2.67E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 7.85E+001 | 2.90E+002 | 5.46E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.36E-001 | 1.20E-001 | 2.33E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 4.09E-001 | 1.54E+000 | 2.67E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.47E-001 | 5.32E-001 | 1.04E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-225
Sample Title: B-5 I/W Trench Bottom #12
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.902E+002 g
Sample Taken On: 1/27/2005 12:00:00 PM
Acquisition Started: 2/15/2005 4:28:49 PM
Live Time: 900.0 seconds
Real Time: 901.0 seconds
Dead Time: 0.11 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.05E+001 | 3.01E+000 | 2.53E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.05E-002 | 7.10E-002 | 1.49E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.34E-002 | 7.43E-002 | 1.28E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.76E-002 | 7.86E-002 | 1.56E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.10E-002 | 1.86E-001 | 3.22E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.45E-002 | 6.99E-002 | 1.32E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.58E-002 | 1.94E-001 | 3.72E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.37E-003 | 7.71E-002 | 1.39E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.30E-002 | 9.11E-002 | 1.85E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.96E-001 | 1.24E-001 | 2.71E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 7.99E-001 | 2.23E-001 | 4.53E-001 |
| BI-214 | 6.69E-001 | 2.13E-001 | 3.35E-001 | FOUND | | |
| PB-214 | 6.13E-001 | 1.83E-001 | 3.55E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.12E+000 | 1.70E+000 | 3.35E+000 |
| AC-228 | 8.45E-001 | 4.15E-001 | 5.09E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.48E+001 | 2.70E+001 | 4.73E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.47E+000 | 2.75E+000 | 4.95E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.88E-002 | 2.68E-001 | 4.63E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -8.35E+000 | 1.37E+001 | 2.30E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -5.50E-002 | 1.34E+000 | 2.27E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -6.10E+001 | 2.40E+002 | 4.32E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.01E-002 | 1.07E-001 | 2.00E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -5.50E-002 | 1.34E+000 | 2.27E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.95E-001 | 4.37E-001 | 8.49E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0501-226 |
| Sample Title: | B-5 I/W Trench Bottom #13 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.507E+002 g |
| Sample Taken On: | 1/27/2005 12:00:00 PM |
| Acquisition Started: | 1/31/2005 9:05:21 AM |
| Live Time: | 900.0 seconds |
| Real Time: | 901.5 seconds |
| Dead Time: | 0.17 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.98E+001 | 8.17E+000 | 1.97E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.72E-002 | 7.67E-002 | 1.26E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.86E-002 | 8.71E-002 | 1.35E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 8.01E-002 | 8.80E-002 | 2.10E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.51E-001 | 2.26E-001 | 3.25E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 4.10E-002 | 6.23E-002 | 1.38E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.26E-001 | 2.18E-001 | 3.70E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.05E-002 | 9.12E-002 | 1.44E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.60E-002 | 8.67E-002 | 1.77E-001 |
| TL-208 | 3.82E-001 | 1.15E-001 | 1.89E-001 | FOUND | | |
| PB-212 | 8.72E-001 | 1.80E-001 | 3.59E-001 | FOUND | | |
| BI-214 | 9.77E-001 | 2.47E-001 | 3.68E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 9.00E-001 | 2.73E-001 | 5.89E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.18E+000 | 1.85E+000 | 3.71E+000 |
| AC-228 | 9.26E-001 | 3.98E-001 | 6.00E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.59E+001 | 3.19E+001 | 5.62E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.26E+000 | 2.65E+000 | 4.82E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -8.52E-002 | 3.03E-001 | 5.03E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.34E+000 | 1.50E+001 | 2.68E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -1.64E-001 | 1.43E+000 | 2.39E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.75E+002 | 2.90E+002 | 5.59E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.17E-001 | 1.14E-001 | 2.30E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -1.64E-001 | 1.43E+000 | 2.39E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.09E-001 | 5.43E-001 | 1.05E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-227
Sample Title: B-5 I/W Trench Bottom #14
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.469E+002 g
Sample Taken On: 1/27/2005 12:00:00 PM
Acquisition Started: 1/31/2005 10:45:56 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.16E+001 | 9.08E+000 | 2.22E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -9.01E-003 | 7.09E-002 | 1.33E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.20E-002 | 7.95E-002 | 1.24E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -2.73E-003 | 9.56E-002 | 1.94E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.43E-001 | 1.77E-001 | 2.90E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.86E-002 | 6.52E-002 | 1.17E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.41E-002 | 2.03E-001 | 3.72E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.82E-002 | 8.02E-002 | 1.33E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.08E-002 | 7.31E-002 | 1.59E-001 |
| TL-208 | 3.17E-001 | 1.09E-001 | 1.91E-001 | FOUND | | |
| PB-212 | 9.38E-001 | 1.74E-001 | 3.63E-001 | FOUND | | |
| BI-214 | 8.61E-001 | 2.30E-001 | 3.26E-001 | FOUND | | |
| PB-214 | 6.14E-001 | 1.74E-001 | 3.99E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.34E+000 | 1.83E+000 | 3.58E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.35E-001 | 4.78E-001 | 1.03E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -3.93E+001 | 2.99E+001 | 4.79E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.05E+000 | 3.00E+000 | 5.40E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -3.64E-003 | 3.10E-001 | 5.23E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.55E+000 | 9.69E+000 | 2.12E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.44E+000 | 1.43E+000 | 2.63E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 5.02E+001 | 2.42E+002 | 4.64E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.15E-001 | 1.11E-001 | 2.15E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.44E+000 | 1.43E+000 | 2.63E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.22E-001 | 4.90E-001 | 9.34E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0501-228
Sample Title: B-5 I/W Trench Bottom #15
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.870E+002 g
Sample Taken On: 1/27/2005 12:00:00 PM
Acquisition Started: 1/31/2005 10:00:37 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.59E+001 | 3.96E+000 | 3.02E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 7.98E-003 | 1.01E-001 | 1.78E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 9.53E-002 | 9.31E-002 | 1.73E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.12E-002 | 1.00E-001 | 1.94E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.04E-001 | 3.30E-001 | 4.56E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.74E-002 | 9.07E-002 | 1.83E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.15E-001 | 2.51E-001 | 5.06E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.13E-002 | 1.06E-001 | 1.80E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.61E-002 | 1.17E-001 | 2.15E-001 |
| TL-208 | 3.33E-001 | 1.28E-001 | 2.16E-001 | FOUND | | |
| PB-212 | 9.40E-001 | 2.26E-001 | 5.07E-001 | FOUND | | |
| BI-214 | 9.95E-001 | 2.82E-001 | 4.44E-001 | FOUND | | |
| PB-214 | 1.09E+000 | 9.11E-001 | 5.49E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.62E+000 | 2.45E+000 | 4.69E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.54E+000 | 6.59E-001 | 1.49E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 3.67E+000 | 4.02E+001 | 7.41E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 4.10E+000 | 3.80E+000 | 6.74E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -2.67E-001 | 4.11E-001 | 6.44E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.86E-001 | 1.93E+001 | 3.43E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.80E-001 | 1.87E+000 | 3.22E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.38E+002 | 3.49E+002 | 6.84E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.06E-001 | 1.49E-001 | 2.91E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.80E-001 | 1.87E+000 | 3.22E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.02E-001 | 6.66E-001 | 1.14E+000 |

Uncertainty reported at 2.0 sigma

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0501-229 |
| Sample Title: | B-5 Trench Bottom #1 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.674E+002 g |
| Sample Taken On: | 1/31/2005 12:00:00 PM |
| Acquisition Started: | 1/31/2005 12:51:28 PM |
| Live Time: | 900.0 seconds |
| Real Time: | 901.4 seconds |
| Dead Time: | 0.15 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.04E+001 | 7.56E+000 | 1.73E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.30E-002 | 7.57E-002 | 1.40E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.28E-002 | 7.97E-002 | 1.31E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.49E-002 | 8.59E-002 | 1.95E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.14E-002 | 2.31E-001 | 3.96E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | 3.36E-004 | 8.26E-002 | 1.76E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.73E-001 | 1.79E-001 | 3.94E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.02E-001 | 9.67E-002 | 1.29E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.81E-002 | 1.22E-001 | 2.41E-001 |
| TL-208 | 3.14E-001 | 1.42E-001 | 1.84E-001 | FOUND | | |
| PB-212 | 1.05E+000 | 2.15E-001 | 3.61E-001 | FOUND | | |
| BI-214 | 8.17E-001 | 7.36E-001 | 4.00E-001 | FOUND | | |
| PB-214 | 1.04E+000 | 9.12E-001 | 4.91E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.01E+000 | 1.90E+000 | 3.72E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.07E+000 | 5.18E-001 | 1.18E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.91E+000 | 3.45E+001 | 6.32E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.50E+000 | 3.47E+000 | 6.10E+000 |
| PA-234 | NOT FOUND/DATA for | 883.24 keV | | -6.89E-001 | 8.60E-001 | 6.02E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.48E+000 | 1.55E+001 | 3.28E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.52E+000 | 1.43E+000 | 2.67E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -6.55E+001 | 2.80E+002 | 5.12E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.26E-001 | 1.14E-001 | 2.25E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.52E+000 | 1.43E+000 | 2.67E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 5.37E-001 | 5.89E-001 | 1.17E+000 |

Uncertainty reported at 2.0 sigma

# CERTIFICATE OF ANALYSIS

Site Location: CE Windsor
Sample ID: MAC-0501-230
Sample Title: B-5 Spoils Pile #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.444E+002 g
Sample Taken On: 1/31/2005 12:00:00 PM
Acquisition Started: 1/31/2005 1:16:26 PM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.13E+001 | 9.53E+000 | 1.47E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.19E-002 | 7.80E-002 | 1.63E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -5.60E-002 | 7.45E-002 | 1.14E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.09E-002 | 1.02E-001 | 1.53E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -5.44E-002 | 2.06E-001 | 3.40E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.11E-001 | 8.01E-002 | 1.03E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.26E-001 | 2.21E-001 | 4.60E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.77E-002 | 7.13E-002 | 1.15E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -5.52E-002 | 9.60E-002 | 1.64E-001 |
| TL-208 | 2.78E-001 | 1.00E-001 | 1.48E-001 | FOUND | | |
| PB-212 | 1.22E+000 | 3.42E-001 | 3.44E-001 | FOUND | | |
| BI-214 | 6.34E-001 | 2.18E-001 | 3.17E-001 | FOUND | | |
| PB-214 | 5.98E-001 | 2.04E-001 | 3.80E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.73E+000 | 1.89E+000 | 3.72E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.22E-001 | 4.93E-001 | 1.07E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.70E+000 | 3.22E+001 | 5.78E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.30E+000 | 2.59E+000 | 4.75E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.53E-001 | 2.96E-001 | 4.66E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.05E+001 | 1.50E+001 | 3.26E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.42E-001 | 1.38E+000 | 2.46E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 4.71E+001 | 2.47E+002 | 4.73E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.09E-001 | 1.15E-001 | 2.20E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.42E-001 | 1.38E+000 | 2.46E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.07E-001 | 5.02E-001 | 9.49E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC 0502 001
Sample Title: B-5 Spoils Pile S/W end high bay ventlin
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.455E+002 g
Sample Taken On: 2/1/2005 12:00:00 PM
Acquisition Started: 2/9/2005 10:11:34 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.37E+001 | 8.18E+000 | 1.75E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.91E-002 | 5.78E-002 | 1.35E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 4.03E-002 | 7.74E-002 | 1.37E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 1.74E-002 | 9.60E-002 | 1.94E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.86E-002 | 1.78E-001 | 3.31E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 9.29E-003 | 8.41E-002 | 1.64E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.05E-002 | 2.10E-001 | 3.91E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.95E-002 | 1.01E-001 | 1.30E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.39E-002 | 9.45E-002 | 1.92E-001 |
| TL-208 | 4.00E-001 | 2.67E+000 | 1.77E-001 | FOUND | | |
| PB-212 | 1.14E+000 | 2.16E-001 | 3.91E-001 | FOUND | | |
| BI-214 | 1.10E+000 | 8.36E-001 | 3.69E-001 | FOUND | | |
| PB-214 | 9.19E-001 | 1.75E-001 | 4.00E-001 | FOUND | | |
| RA-226 | 3.78E+000 | 2.84E+000 | 3.68E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | -4.41E-002 | 1.97E-001 | 1.07E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 8.86E+000 | 3.45E+001 | 6.34E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.11E+000 | 3.04E+000 | 5.36E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 2.13E-001 | 2.85E-001 | 5.11E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -3.53E+000 | 1.58E+001 | 2.94E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.45E+000 | 1.49E+000 | 2.71E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 6.83E+001 | 3.25E+002 | 5.74E+002 |
| U-235 | 2.30E-001 | 1.73E-001 | 2.24E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.45E+000 | 1.49E+000 | 2.71E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -4.61E-001 | 5.47E-001 | 9.00E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC 0502 002
Sample Title: B-5 Spoils Pile S/W end high bay ventlin
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.492E+002 g
Sample Taken On: 2/1/2005 12:00:00 PM
Acquisition Started: 2/2/2005 8:02:02 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.45E+001 | 8.15E+000 | 2.12E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 6.24E-003 | 6.57E-002 | 1.32E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.62E-003 | 6.94E-002 | 1.19E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -5.50E-002 | 9.01E-002 | 1.64E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.07E-001 | 2.54E-001 | 3.22E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -1.05E-001 | 8.94E-002 | 1.29E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.17E-001 | 1.80E-001 | 3.10E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | -1.17E-001 | 1.18E-001 | 1.32E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.55E-002 | 8.59E-002 | 1.82E-001 |
| TL-208 | 3.83E-001 | 1.05E-001 | 1.51E-001 | FOUND | | |
| PB-212 | 1.12E+000 | 1.83E-001 | 2.59E-001 | FOUND | | |
| BI-214 | 8.30E-001 | 9.13E-001 | 3.49E-001 | FOUND | | |
| PB-214 | 5.94E-001 | 2.86E-001 | 3.98E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.76E+000 | 1.82E+000 | 3.49E+000 |
| AC-228 | 1.01E+000 | 3.36E-001 | 6.32E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.14E+001 | 3.15E+001 | 5.57E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -4.23E-001 | 2.85E+000 | 4.83E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.62E-001 | 3.03E-001 | 4.84E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 9.98E+000 | 1.45E+001 | 3.14E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.07E-002 | 1.35E+000 | 2.32E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -7.71E+001 | 2.63E+002 | 4.70E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.17E-002 | 1.10E-001 | 2.07E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.07E-002 | 1.35E+000 | 2.32E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.53E-001 | 4.76E-001 | 8.17E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0502-065
Sample Title: B-5 E. H/W trench #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.783E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 2/28/2005 2:12:31 PM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.56E+001 | 3.43E+000 | 2.55E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -4.30E-002 | 8.17E-002 | 1.39E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 5.96E-003 | 7.14E-002 | 1.23E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 7.08E-002 | 8.99E-002 | 1.99E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.02E-001 | 1.73E-001 | 2.93E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 3.01E-002 | 7.32E-002 | 1.49E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 7.67E-002 | 1.97E-001 | 3.89E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -3.48E-002 | 7.24E-002 | 1.27E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -3.38E-002 | 9.46E-002 | 1.67E-001 |
| TL-208 | 2.92E-001 | 9.76E-002 | 1.70E-001 | FOUND | | |
| PB-212 | 7.70E-001 | 1.60E-001 | 2.92E-001 | FOUND | | |
| BI-214 | 6.03E-001 | 2.12E-001 | 3.48E-001 | FOUND | | |
| PB-214 | 9.23E-001 | 7.40E-001 | 4.41E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.90E+000 | 1.79E+000 | 3.46E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 6.71E-001 | 4.37E-001 | 9.59E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.12E+000 | 3.08E+001 | 5.47E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.95E+000 | 2.82E+000 | 5.08E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.10E-001 | 2.94E-001 | 4.72E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -2.52E+000 | 1.29E+001 | 1.86E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -1.12E+000 | 1.38E+000 | 2.18E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.20E+002 | 2.52E+002 | 4.98E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.14E-002 | 1.09E-001 | 1.99E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -1.12E+000 | 1.38E+000 | 2.18E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.29E-002 | 4.53E-001 | 8.50E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0502-066
Sample Title: B-5 E. H/W trench #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.568E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 2/28/2005 2:56:22 PM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.30E+001 | 8.72E+000 | 1.84E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.55E-002 | 8.77E-002 | 1.75E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.90E-002 | 8.03E-002 | 1.30E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 4.37E-002 | 9.04E-002 | 1.91E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 5.02E-002 | 1.66E-001 | 3.50E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 1.34E-002 | 6.08E-002 | 1.25E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.67E-002 | 2.22E-001 | 4.15E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.22E-002 | 8.11E-002 | 1.27E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.21E-002 | 8.66E-002 | 1.71E-001 |
| TL-208 | 3.73E-001 | 3.63E-001 | 1.69E-001 | FOUND | | |
| PB-212 | 1.13E+000 | 1.95E-001 | 3.80E-001 | FOUND | | |
| BI-214 | 6.56E-001 | 8.79E-001 | 3.02E-001 | FOUND | | |
| PB-214 | 6.51E-001 | 1.69E-001 | 3.72E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.27E+000 | 1.81E+000 | 3.41E+000 |
| AC-228 | NOT FOUND/DATA for 338.32 keV | | | 6.02E-001 | 6.72E-001 | 1.27E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 8.03E+000 | 3.25E+001 | 6.03E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.08E-001 | 2.95E+000 | 5.12E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 9.30E-002 | 3.03E-001 | 5.29E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -4.79E+000 | 1.55E+001 | 2.66E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.73E+000 | 1.50E+000 | 2.76E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -7.59E+001 | 2.55E+002 | 4.58E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.16E-002 | 1.11E-001 | 2.10E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.73E+000 | 1.50E+000 | 2.76E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -5.92E-002 | 5.09E-001 | 9.22E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0502-067
Sample Title: B-5 E. H/W trench #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.832E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 2/28/2005 3:23:34 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.64E+001 | 9.48E+000 | 1.47E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.07E-002 | 7.50E-002 | 1.45E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -7.19E-002 | 8.04E-002 | 1.26E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.41E-003 | 7.86E-002 | 1.37E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.89E-001 | 2.20E-001 | 3.14E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.18E-002 | 8.77E-002 | 1.50E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 8.36E-002 | 2.17E-001 | 4.34E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.66E-002 | 8.84E-002 | 1.40E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.64E-002 | 1.09E-001 | 2.09E-001 |
| TL-208 | 3.43E-001 | 3.98E-001 | 1.73E-001 | FOUND | | |
| PB-212 | 1.10E+000 | 2.03E-001 | 4.67E-001 | FOUND | | |
| BI-214 | 8.02E-001 | 2.36E-001 | 3.78E-001 | FOUND | | |
| PB-214 | 8.48E-001 | 1.95E-001 | 3.56E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.71E+000 | 1.80E+000 | 3.64E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.47E-001 | 5.00E-001 | 1.08E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.03E+001 | 3.50E+001 | 6.55E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.13E+000 | 3.19E+000 | 5.73E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 9.02E-002 | 3.26E-001 | 5.66E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -3.76E+000 | 1.64E+001 | 2.49E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 4.34E-001 | 1.71E+000 | 2.92E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.79E+001 | 2.71E+002 | 5.08E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.99E-002 | 1.10E-001 | 2.07E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 4.34E-001 | 1.71E+000 | 2.92E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.00E-001 | 5.24E-001 | 1.03E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0502-068
Sample Title: B-5 E. H/W trench #4
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.902E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 2/28/2005 3:51:12 PM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 1.92E+001 | 3.05E+000 | 2.14E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.66E-002 | 9.59E-002 | 1.97E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.99E-002 | 7.74E-002 | 1.25E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -9.52E-003 | 1.17E-001 | 2.01E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.54E-001 | 3.18E-001 | 3.83E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 5.64E-003 | 8.40E-002 | 1.59E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 8.50E-002 | 2.21E-001 | 4.38E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.31E-002 | 8.36E-002 | 1.29E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.39E-001 | 1.11E-001 | 1.60E-001 |
| TL-208 | 3.66E-001 | 3.04E-001 | 1.88E-001 | FOUND | | |
| PB-212 | 1.07E+000 | 2.15E-001 | 3.97E-001 | FOUND | | |
| BI-214 | 5.28E-001 | 2.12E-001 | 3.31E-001 | FOUND | | |
| PB-214 | 8.11E-001 | 1.92E-001 | 4.54E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.23E+000 | 1.99E+000 | 3.72E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.58E-002 | 3.23E-001 | 1.24E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -9.55E+000 | 3.40E+001 | 5.98E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.24E+000 | 3.19E+000 | 5.67E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.46E-001 | 3.63E-001 | 5.05E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.47E-002 | 1.46E+001 | 2.78E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 9.31E-001 | 1.52E+000 | 2.72E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.13E+002 | 2.75E+002 | 5.33E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.01E-001 | 1.22E-001 | 2.32E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 9.31E-001 | 1.52E+000 | 2.72E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.76E-001 | 6.00E-001 | 1.05E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0502-069
Sample Title: B-5 E. H/W trench #5
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.026E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 2/28/2005 4:08:36 PM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.46E+001 | 3.42E+000 | 2.13E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.64E-003 | 9.45E-002 | 1.67E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.01E-002 | 7.94E-002 | 1.32E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 8.24E-003 | 9.54E-002 | 1.96E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.04E-002 | 1.80E-001 | 3.43E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.24E-002 | 8.77E-002 | 1.46E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.42E-001 | 2.40E-001 | 4.72E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -9.00E-002 | 1.05E-001 | 1.65E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.88E-002 | 1.10E-001 | 2.25E-001 |
| TL-208 | 3.94E-001 | 1.21E-001 | 2.01E-001 | FOUND | | |
| PB-212 | 1.24E+000 | 3.87E-001 | 4.12E-001 | FOUND | | |
| BI-214 | 9.45E-001 | 7.56E-001 | 4.09E-001 | FOUND | | |
| PB-214 | 9.05E-001 | 1.89E-001 | 3.25E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.03E+000 | 2.10E+000 | 4.00E+000 |
| AC-228 | 1.60E+000 | 4.86E-001 | 6.21E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 8.13E+000 | 3.36E+001 | 6.19E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.73E+000 | 3.05E+000 | 5.46E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 6.20E-002 | 3.24E-001 | 5.62E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.15E-001 | 1.85E+001 | 3.46E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.69E-001 | 1.59E+000 | 2.75E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.41E+002 | 2.95E+002 | 5.16E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.44E-002 | 1.28E-001 | 2.38E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.69E-001 | 1.59E+000 | 2.75E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.75E-001 | 5.28E-001 | 9.00E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0502-71
Sample Title: B5-FSS #1 E. Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.405E+002 g
Sample Taken On: 4/1/2004 12:00:00 PM
Acquisition Started: 3/1/2005 7:21:04 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.09E+001 | 8.23E+000 | 2.84E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.01E-001 | 1.81E-001 | 3.66E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.60E-001 | 1.66E-001 | 2.57E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.11E-001 | 9.68E-002 | 2.40E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -3.05E-001 | 5.63E-001 | 8.40E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -8.15E-002 | 2.26E-001 | 4.07E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.38E-001 | 2.91E-001 | 4.71E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.14E-001 | 1.16E-001 | 1.82E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 7.70E-003 | 9.56E-002 | 1.69E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 2.76E-001 | 1.28E-001 | 2.78E-001 |
| PB-212 | 1.01E+000 | 2.02E-001 | 3.14E-001 | FOUND | | |
| BI-214 | 8.21E-001 | 6.70E-001 | 3.73E-001 | FOUND | | |
| PB-214 | 9.65E-001 | 2.24E-001 | 3.36E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.74E+000 | 1.94E+000 | 3.70E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.26E+000 | 5.10E-001 | 1.17E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.23E+001 | 3.02E+001 | 5.75E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.22E+000 | 2.99E+000 | 5.29E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 8.62E-002 | 2.70E-001 | 4.77E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 8.72E+000 | 1.42E+001 | 3.07E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.35E+000 | 1.43E+000 | 2.62E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 5.70E+001 | 2.99E+002 | 5.60E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.26E-001 | 1.18E-001 | 2.26E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.35E+000 | 1.43E+000 | 2.62E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.91E-003 | 5.20E-001 | 9.55E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0502-72
Sample Title: B5-FSS #2 E. Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.253E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 7:57:41 AM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.44E+001 | 1.11E+001 | 1.85E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.63E-002 | 9.01E-002 | 1.88E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.97E-002 | 8.76E-002 | 1.33E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.56E-002 | 1.01E-001 | 2.31E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.13E-001 | 2.32E-001 | 3.66E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -9.02E-002 | 8.36E-002 | 1.23E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -7.32E-002 | 2.33E-001 | 4.21E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.74E-002 | 9.24E-002 | 1.63E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.39E-002 | 1.21E-001 | 2.34E-001 |
| TL-208 | 3.01E-001 | 4.30E-001 | 2.02E-001 | FOUND | | |
| PB-212 | 7.30E-001 | 1.97E-001 | 3.74E-001 | FOUND | | |
| BI-214 | 6.99E-001 | 6.60E-002 | 4.02E-001 | FOUND | | |
| PB-214 | 5.36E-001 | 2.98E-001 | 4.21E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 8.18E-001 | 2.02E+000 | 3.78E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.63E-002 | 2.39E-001 | 1.24E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.51E+000 | 3.61E+001 | 6.52E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.11E+000 | 2.93E+000 | 5.28E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 4.39E-002 | 3.40E-001 | 5.88E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.21E-001 | 1.77E+001 | 3.36E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -1.28E-001 | 1.55E+000 | 2.63E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -5.98E+001 | 3.12E+002 | 5.72E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.61E-002 | 1.23E-001 | 2.33E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -1.28E-001 | 1.55E+000 | 2.63E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.44E-002 | 5.95E-001 | 1.10E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0502-73
Sample Title: B5-FSS #3 E. Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.486E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 8:17:18 AM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.41E+001 | 8.98E+000 | 2.28E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -2.38E-003 | 7.05E-002 | 1.39E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.15E-002 | 7.28E-002 | 1.26E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | -2.75E-002 | 9.61E-002 | 1.77E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.41E-001 | 2.09E-001 | 2.67E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -8.15E-002 | 8.26E-002 | 1.29E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -4.49E-002 | 1.98E-001 | 3.61E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.20E-002 | 8.44E-002 | 1.48E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.38E-002 | 9.74E-002 | 1.91E-001 |
| TL-208 | 2.34E-001 | 1.02E-001 | 2.00E-001 | FOUND | | |
| PB-212 | 1.57E+000 | 4.63E-001 | 3.18E-001 | FOUND | | |
| BI-214 | 6.26E-001 | 9.47E-001 | 3.66E-001 | FOUND | | |
| PB-214 | 4.91E-001 | 6.08E-001 | 3.86E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.03E+000 | 1.77E+000 | 3.58E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 8.17E-001 | 4.66E-001 | 1.04E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.41E+001 | 3.07E+001 | 5.92E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.96E-001 | 2.94E+000 | 5.12E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 8.93E-002 | 2.85E-001 | 4.93E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.56E+000 | 1.67E+001 | 3.04E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 6.98E-001 | 1.35E+000 | 2.40E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -6.40E+001 | 2.75E+002 | 4.71E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.52E-001 | 1.08E-001 | 2.14E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 6.98E-001 | 1.35E+000 | 2.40E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.47E-001 | 5.29E-001 | 1.02E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0502-74
Sample Title: B5-FSS #4 E. Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.878E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 8:34:34 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.16E+001 | 6.84E+000 | 2.19E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.54E-002 | 6.36E-002 | 1.41E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.60E-002 | 6.28E-002 | 1.11E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.72E-003 | 7.61E-002 | 1.55E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 5.65E-002 | 1.49E-001 | 3.11E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.27E-002 | 6.74E-002 | 1.07E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.02E-002 | 1.89E-001 | 3.61E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.22E-002 | 6.53E-002 | 1.01E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.17E-002 | 8.11E-002 | 1.68E-001 |
| TL-208 | 2.66E-001 | 3.04E-001 | 1.35E-001 | FOUND | | |
| PB-212 | 7.90E-001 | 2.95E-001 | 3.56E-001 | FOUND | | |
| BI-214 | 7.91E-001 | 2.01E-001 | 2.64E-001 | FOUND | | |
| PB-214 | 6.79E-001 | 1.88E-001 | 2.80E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.57E+000 | 1.52E+000 | 2.94E+000 |
| AC-228 | 9.89E-001 | 2.78E-001 | 5.04E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.47E+001 | 2.48E+001 | 4.32E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.22E+000 | 2.79E+000 | 4.92E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -9.15E-003 | 2.63E-001 | 4.45E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -5.67E-001 | 1.05E+001 | 1.92E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.06E+000 | 1.28E+000 | 2.31E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.32E+002 | 2.43E+002 | 4.03E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.36E-002 | 9.28E-002 | 1.75E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.06E+000 | 1.28E+000 | 2.31E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.62E-002 | 4.18E-001 | 7.66E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0502-75
Sample Title: B5-FSS #5 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.739E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 9:19:35 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.15E+001 | 7.83E+000 | 1.65E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.69E-002 | 7.45E-002 | 1.62E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.57E-003 | 6.98E-002 | 1.17E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.12E-002 | 6.42E-002 | 1.35E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.30E-001 | 2.19E-001 | 3.28E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.17E-002 | 7.85E-002 | 1.23E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -6.19E-002 | 1.93E-001 | 3.40E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -8.92E-002 | 6.96E-002 | 1.01E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.71E-002 | 1.09E-001 | 2.04E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.02E-001 | 1.13E-001 | 2.42E-001 |
| PB-212 | 8.50E-001 | 4.93E-001 | 4.47E-001 | FOUND | | |
| BI-214 | 7.22E-001 | 7.53E-001 | 3.43E-001 | FOUND | | |
| PB-214 | 6.53E-001 | 2.13E-001 | 4.28E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.20E+000 | 1.65E+000 | 3.27E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.84E-001 | 1.61E+000 | 6.29E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.84E+001 | 2.87E+001 | 4.96E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.52E+000 | 2.59E+000 | 4.68E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.30E-001 | 3.20E-001 | 4.51E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -5.55E+000 | 1.45E+001 | 2.60E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.23E-001 | 1.40E+000 | 2.48E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.50E+001 | 2.52E+002 | 4.75E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.27E-001 | 1.01E-001 | 1.99E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.23E-001 | 1.40E+000 | 2.48E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.25E-001 | 4.82E-001 | 9.13E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0502-76
Sample Title: B5- #6 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.721E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 9:36:05 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.67E+001 | 8.47E+000 | 1.90E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.92E-002 | 7.59E-002 | 1.57E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.61E-002 | 7.29E-002 | 1.27E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.82E-002 | 8.41E-002 | 1.87E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.07E-001 | 1.85E-001 | 2.59E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.21E-002 | 7.84E-002 | 1.47E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.22E-001 | 1.97E-001 | 4.00E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.39E-002 | 7.85E-002 | 1.32E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.13E-002 | 8.64E-002 | 1.77E-001 |
| TL-208 | 3.65E-001 | 1.12E-001 | 1.87E-001 | FOUND | | |
| PB-212 | 9.01E-001 | 1.74E-001 | 3.80E-001 | FOUND | | |
| BI-214 | 1.21E+000 | 5.79E-001 | 3.44E-001 | FOUND | | |
| PB-214 | 5.84E-001 | 2.58E-001 | 3.75E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.30E+000 | 1.79E+000 | 3.51E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.07E+000 | 4.56E-001 | 1.05E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.14E+000 | 2.84E+001 | 5.34E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.46E+000 | 2.85E+000 | 5.12E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -7.26E-002 | 2.82E-001 | 4.70E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -3.13E+000 | 1.16E+001 | 2.05E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 9.10E-001 | 1.40E+000 | 2.50E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -6.00E+001 | 2.66E+002 | 4.83E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.83E-002 | 1.09E-001 | 2.05E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 9.10E-001 | 1.40E+000 | 2.50E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.01E-002 | 4.87E-001 | 8.80E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0502-77
Sample Title: B5- #7 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.114E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 9:56:28 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.37E+001 | 8.48E+000 | 1.57E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -3.97E-003 | 8.69E-002 | 1.65E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.55E-002 | 7.35E-002 | 1.21E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.04E-002 | 1.01E-001 | 2.13E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.12E-001 | 2.52E-001 | 3.88E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -5.68E-002 | 1.04E-001 | 1.59E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -5.23E-002 | 2.23E-001 | 4.08E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.25E-002 | 8.15E-002 | 1.15E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.02E-001 | 9.14E-002 | 2.01E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.14E-001 | 1.45E-001 | 3.06E-001 |
| PB-212 | 9.82E-001 | 3.57E-001 | 4.30E-001 | FOUND | | |
| BI-214 | 8.27E-001 | 2.31E-001 | 3.50E-001 | FOUND | | |
| PB-214 | 7.54E-001 | 2.10E-001 | 4.53E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.64E+000 | 1.84E+000 | 3.54E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.09E+000 | 5.17E-001 | 1.17E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -7.43E+000 | 3.40E+001 | 6.05E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.92E+000 | 3.08E+000 | 5.56E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.35E-001 | 3.02E-001 | 4.92E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -9.23E+000 | 1.59E+001 | 2.69E+001 |
| TH-234 | 1.74E+000 | 9.71E-001 | 2.32E+000 | FOUND | | |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -3.40E+001 | 2.70E+002 | 4.95E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 7.64E-002 | 1.11E-001 | 2.11E-001 |
| U-238 | 1.74E+000 | 9.70E-001 | 2.32E+000 | FOUND | | |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -5.26E-002 | 5.14E-001 | 9.43E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0502-78
Sample Title: B5- #8 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.971E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 10:20:45 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.01E+001 | 8.45E+000 | 1.69E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.58E-002 | 6.82E-002 | 1.47E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.45E-002 | 6.73E-002 | 1.19E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.75E-003 | 8.76E-002 | 1.73E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -9.93E-002 | 1.87E-001 | 2.87E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -8.91E-002 | 6.82E-002 | 9.66E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.22E-001 | 2.15E-001 | 3.72E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.49E-003 | 8.34E-002 | 1.55E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.01E-001 | 8.17E-002 | 1.83E-001 |
| TL-208 | 2.57E-001 | 6.59E-001 | 1.78E-001 | FOUND | | |
| PB-212 | 7.94E-001 | 1.74E-001 | 3.07E-001 | FOUND | | |
| BI-214 | 5.80E-001 | 2.01E-001 | 3.48E-001 | FOUND | | |
| PB-214 | 6.13E-001 | 1.97E-001 | 3.25E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 5.76E-001 | 1.63E+000 | 2.99E+000 |
| AC-228 | 1.15E+000 | 3.96E-001 | 5.71E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.53E+001 | 2.94E+001 | 4.94E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.91E+000 | 2.86E+000 | 5.06E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.28E-001 | 2.98E-001 | 4.85E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.35E+000 | 1.28E+001 | 2.28E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 9.82E-001 | 1.31E+000 | 2.37E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.51E+002 | 2.57E+002 | 4.35E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.30E-002 | 9.67E-002 | 1.84E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 9.82E-001 | 1.31E+000 | 2.37E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.49E-001 | 4.74E-001 | 7.93E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0502-79
Sample Title: B5- #9 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.780E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 10:38:45 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.27E+001 | 1.17E+001 | 2.79E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.01E-002 | 8.18E-002 | 1.73E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 5.60E-002 | 7.76E-002 | 1.40E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -3.91E-002 | 8.93E-002 | 1.54E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.49E-001 | 3.08E-001 | 4.66E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 3.93E-002 | 8.59E-002 | 1.76E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.24E-001 | 2.19E-001 | 4.46E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 6.71E-003 | 7.17E-002 | 1.42E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -8.12E-003 | 8.99E-002 | 1.69E-001 |
| TL-208 | 2.89E-001 | 3.92E-001 | 1.52E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 1.01E+000 | 2.47E-001 | 5.12E-001 |
| BI-214 | 5.61E-001 | 6.28E-001 | 3.09E-001 | FOUND | | |
| PB-214 | 8.42E-001 | 1.67E-001 | 3.43E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.74E+000 | 2.01E+000 | 3.90E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.59E-001 | 5.39E-001 | 1.17E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 8.65E+000 | 3.23E+001 | 6.08E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.88E+000 | 2.77E+000 | 5.08E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 8.58E-003 | 3.32E-001 | 5.66E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.19E+001 | 1.54E+001 | 2.34E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.80E-001 | 1.57E+000 | 2.77E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.24E+002 | 2.89E+002 | 5.50E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.49E-002 | 1.19E-001 | 2.24E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.80E-001 | 1.57E+000 | 2.77E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.36E-002 | 5.65E-001 | 1.03E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0502-080
Sample Title: B5- #10 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.475E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 10:57:57 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.25E+001 | 1.05E+001 | 2.21E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.10E-002 | 8.89E-002 | 1.73E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.94E-002 | 7.19E-002 | 1.18E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.86E-002 | 9.39E-002 | 2.11E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -8.91E-002 | 2.25E-001 | 3.70E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.55E-002 | 7.13E-002 | 1.27E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.30E-001 | 2.11E-001 | 4.29E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 2.98E-002 | 8.77E-002 | 1.71E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.94E-002 | 1.01E-001 | 1.91E-001 |
| TL-208 | 3.73E-001 | 3.06E-001 | 1.75E-001 | FOUND | | |
| PB-212 | 9.34E-001 | 4.35E-001 | 3.64E-001 | FOUND | | |
| BI-214 | 7.83E-001 | 6.89E-001 | 3.78E-001 | FOUND | | |
| PB-214 | 9.64E-001 | 2.29E-001 | 3.91E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.78E+000 | 1.84E+000 | 3.52E+000 |
| AC-228 | 9.58E-001 | 9.39E-002 | 5.51E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 8.19E+000 | 3.28E+001 | 6.10E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 8.55E-001 | 2.89E+000 | 5.18E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.68E-001 | 3.21E-001 | 4.81E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 8.60E+000 | 1.23E+001 | 2.81E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 6.30E-001 | 1.42E+000 | 2.49E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.20E+002 | 2.75E+002 | 4.78E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.26E-001 | 1.09E-001 | 2.13E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 6.30E-001 | 1.42E+000 | 2.49E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.22E-001 | 5.15E-001 | 9.68E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0502-081
Sample Title: B5- #11 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.324E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 1:13:17 PM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.85E+001 | 5.49E+000 | 2.23E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.69E-002 | 9.09E-002 | 1.54E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.10E-002 | 7.93E-002 | 1.31E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.68E-002 | 9.17E-002 | 1.88E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.51E-002 | 2.14E-001 | 3.47E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -8.46E-003 | 8.48E-002 | 1.59E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.56E-002 | 2.07E-001 | 3.96E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.09E-003 | 7.63E-002 | 1.44E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -4.39E-002 | 9.82E-002 | 1.67E-001 |
| TL-208 | 2.06E-001 | 9.47E-002 | 1.69E-001 | FOUND | | |
| PB-212 | 8.28E-001 | 1.78E-001 | 3.76E-001 | FOUND | | |
| BI-214 | 7.11E-001 | 2.18E-001 | 3.10E-001 | FOUND | | |
| PB-214 | 7.30E-001 | 2.18E-001 | 3.49E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.94E+000 | 1.88E+000 | 3.61E+000 |
| AC-228 | 9.69E-001 | 2.06E-001 | 5.29E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.25E+001 | 3.28E+001 | 6.11E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.24E+000 | 2.90E+000 | 5.18E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -4.66E-002 | 2.90E-001 | 4.70E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.77E+000 | 1.40E+001 | 2.48E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.19E+000 | 1.44E+000 | 2.61E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.75E+002 | 2.85E+002 | 5.54E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.33E-001 | 1.18E-001 | 2.26E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.19E+000 | 1.44E+000 | 2.61E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.72E-001 | 5.34E-001 | 9.16E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0502-082
Sample Title: B5- #12 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.756E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 1:46:40 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.45E+001 | 8.69E+000 | 2.14E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.14E-002 | 7.83E-002 | 1.62E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 2.63E-002 | 7.41E-002 | 1.30E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.41E-002 | 8.87E-002 | 1.95E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.82E-002 | 2.30E-001 | 4.07E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.62E-002 | 7.38E-002 | 1.28E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -3.88E-002 | 2.01E-001 | 3.66E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.18E-002 | 7.23E-002 | 1.15E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 3.94E-002 | 8.51E-002 | 1.72E-001 |
| TL-208 | 4.10E-001 | 1.17E-001 | 1.88E-001 | FOUND | | |
| PB-212 | 1.37E+000 | 3.59E-001 | 4.26E-001 | FOUND | | |
| BI-214 | 1.16E+000 | 5.04E-001 | 3.59E-001 | FOUND | | |
| PB-214 | 6.96E-001 | 2.78E-001 | 3.60E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 9.49E-001 | 1.71E+000 | 3.22E+000 |
| AC-228 | 9.71E-001 | 3.94E-001 | 5.76E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 4.53E+000 | 3.10E+001 | 5.72E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -2.98E-002 | 2.30E+000 | 4.07E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.35E-001 | 3.14E-001 | 4.97E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 2.04E+000 | 1.36E+001 | 2.71E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.23E+000 | 1.35E+000 | 2.48E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -3.49E+001 | 2.73E+002 | 4.93E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.07E-002 | 1.01E-001 | 1.85E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.23E+000 | 1.35E+000 | 2.48E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -8.81E-002 | 5.14E-001 | 9.33E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0502-083
Sample Title: B5- #13 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.675E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 2:21:16 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.34E+001 | 8.76E+000 | 2.12E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.47E-002 | 7.03E-002 | 1.53E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 4.50E-003 | 6.77E-002 | 1.16E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 4.67E-002 | 9.55E-002 | 2.02E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.65E-001 | 2.83E-001 | 3.46E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.15E-002 | 7.10E-002 | 1.24E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 9.11E-002 | 2.11E-001 | 4.10E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -3.30E-002 | 8.09E-002 | 1.44E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -2.75E-002 | 8.25E-002 | 1.49E-001 |
| TL-208 | 3.22E-001 | 3.86E-001 | 1.83E-001 | FOUND | | |
| PB-212 | 9.31E-001 | 1.94E-001 | 3.54E-001 | FOUND | | |
| BI-214 | 9.85E-001 | 2.35E-001 | 3.36E-001 | FOUND | | |
| PB-214 | 7.58E-001 | 2.74E-001 | 4.05E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 4.15E-001 | 1.71E+000 | 3.15E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 4.17E-001 | 4.41E-001 | 9.19E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.03E+000 | 2.93E+001 | 5.43E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.54E+000 | 3.02E+000 | 5.40E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 2.18E-001 | 2.75E-001 | 4.92E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.01E+001 | 1.64E+001 | 2.74E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.67E+000 | 1.33E+000 | 2.49E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.39E+002 | 2.68E+002 | 5.17E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 5.68E-002 | 1.04E-001 | 1.95E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.67E+000 | 1.33E+000 | 2.49E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.36E-001 | 4.48E-001 | 7.85E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0502-084
Sample Title: B5- #14 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.539E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 3:12:00 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.42E+001 | 3.27E+000 | 1.78E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.24E-002 | 8.20E-002 | 1.56E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.10E-003 | 7.51E-002 | 1.27E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -5.62E-003 | 8.54E-002 | 1.68E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.62E-002 | 1.93E-001 | 3.67E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -7.60E-002 | 9.81E-002 | 1.68E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.91E-002 | 1.66E-001 | 3.29E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.33E-002 | 9.06E-002 | 1.43E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.65E-002 | 9.84E-002 | 1.81E-001 |
| TL-208 | 3.37E-001 | 1.10E-001 | 1.38E-001 | FOUND | | |
| PB-212 | 1.03E+000 | 3.98E-001 | 4.32E-001 | FOUND | | |
| BI-214 | 8.11E-001 | 7.04E-001 | 3.20E-001 | FOUND | | |
| PB-214 | 7.70E-001 | 6.84E-002 | 3.82E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 4.48E+000 | 1.83E+000 | 3.83E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | -9.54E-002 | 2.37E-001 | 1.07E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.09E+001 | 2.82E+001 | 5.02E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 5.29E-001 | 2.65E+000 | 4.75E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 9.83E-002 | 2.96E-001 | 5.20E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.81E+000 | 1.09E+001 | 2.54E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -1.06E+000 | 1.44E+000 | 2.29E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.32E+001 | 2.63E+002 | 4.88E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.69E-002 | 1.10E-001 | 2.11E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -1.06E+000 | 1.44E+000 | 2.29E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.17E-001 | 5.53E-001 | 1.02E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0502-085
Sample Title: B5- #15 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.512E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 3:36:30 PM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.32E+001 | 3.17E+000 | 1.66E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.78E-002 | 7.87E-002 | 1.56E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.62E-002 | 7.24E-002 | 1.19E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 1.09E-002 | 8.31E-002 | 1.68E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.00E-001 | 1.99E-001 | 2.86E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -2.66E-002 | 7.80E-002 | 1.42E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.31E-002 | 2.27E-001 | 3.95E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -6.24E-002 | 7.53E-002 | 1.24E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 3.41E-002 | 9.29E-002 | 1.86E-001 |
| TL-208 | 2.45E-001 | 9.77E-002 | 1.70E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.43E-001 | 2.22E-001 | 4.63E-001 |
| BI-214 | 7.09E-001 | 2.17E-001 | 3.28E-001 | FOUND | | |
| PB-214 | 7.25E-001 | 2.10E-001 | 3.93E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.32E+000 | 1.71E+000 | 3.39E+000 |
| AC-228 | 9.74E-001 | 3.07E-001 | 6.90E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.80E+000 | 3.04E+001 | 5.43E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.61E+000 | 2.67E+000 | 4.88E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -2.53E-001 | 3.46E-001 | 4.81E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 7.91E+000 | 1.43E+001 | 3.03E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.05E-001 | 1.30E+000 | 2.21E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -6.89E+001 | 2.58E+002 | 4.69E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.26E-001 | 1.04E-001 | 2.05E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.05E-001 | 1.30E+000 | 2.21E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.02E-001 | 5.35E-001 | 9.40E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0502-086
Sample Title: B5- #16 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.774E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 4:04:10 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.52E+001 | 8.19E+000 | 1.54E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.10E-002 | 8.10E-002 | 1.66E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.65E-002 | 7.27E-002 | 1.24E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.36E-002 | 1.05E-001 | 1.86E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.21E-001 | 2.20E-001 | 3.69E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.51E-003 | 7.31E-002 | 1.41E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.44E-001 | 1.80E-001 | 3.81E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.70E-001 | 9.49E-002 | 1.06E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.23E-002 | 9.28E-002 | 1.71E-001 |
| TL-208 | 2.94E-001 | 1.30E-001 | 1.72E-001 | FOUND | | |
| PB-212 | 1.19E+000 | 3.40E-001 | 4.24E-001 | FOUND | | |
| BI-214 | 1.04E+000 | 8.25E-001 | 2.69E-001 | FOUND | | |
| PB-214 | 8.71E-001 | 2.97E-001 | 3.91E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.52E+000 | 1.65E+000 | 3.32E+000 |
| AC-228 | 8.55E-001 | 2.52E-001 | 6.12E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.39E+000 | 3.11E+001 | 5.70E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.47E+000 | 2.32E+000 | 4.31E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.44E-001 | 2.96E-001 | 5.22E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -7.09E+000 | 1.43E+001 | 2.47E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.42E+000 | 1.41E+000 | 2.58E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 4.47E+001 | 2.51E+002 | 4.73E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.32E-002 | 1.03E-001 | 1.88E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.42E+000 | 1.41E+000 | 2.58E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.27E-001 | 4.93E-001 | 9.52E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0502-087
Sample Title: B5- #17 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.632E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 4:28:35 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.55E+001 | 9.83E+000 | 2.03E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -9.85E-002 | 8.40E-002 | 1.15E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -4.89E-003 | 7.77E-002 | 1.27E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 6.79E-002 | 9.58E-002 | 2.10E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.25E-001 | 2.15E-001 | 3.00E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -2.37E-002 | 8.18E-002 | 1.44E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 3.10E-001 | 2.20E-001 | 4.76E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -9.11E-002 | 1.01E-001 | 1.17E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 7.39E-002 | 7.96E-002 | 1.74E-001 |
| TL-208 | 3.90E-001 | 3.30E-001 | 1.66E-001 | FOUND | | |
| PB-212 | 8.13E-001 | 1.73E-001 | 4.17E-001 | FOUND | | |
| BI-214 | 9.19E-001 | 2.28E-001 | 3.42E-001 | FOUND | | |
| PB-214 | 7.14E-001 | 1.76E-001 | 4.10E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.08E+000 | 1.85E+000 | 3.69E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 5.03E-001 | 4.18E-001 | 9.10E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -9.73E+000 | 3.16E+001 | 5.58E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.43E-001 | 2.79E+000 | 4.80E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -9.02E-002 | 3.02E-001 | 4.91E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -6.13E+000 | 8.50E+000 | 1.16E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.50E+000 | 1.39E+000 | 2.55E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -4.38E+001 | 2.87E+002 | 5.08E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.37E-001 | 1.12E-001 | 2.17E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.50E+000 | 1.39E+000 | 2.55E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.01E-001 | 5.34E-001 | 9.59E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0502-088
Sample Title: B5- #18 E. H/W Trench
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.782E+002 g
Sample Taken On: 2/28/2005 12:00:00 PM
Acquisition Started: 3/1/2005 4:49:01 PM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.71E+001 | 8.84E+000 | 2.35E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -1.32E-002 | 7.13E-002 | 1.34E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 2.51E-002 | 6.60E-002 | 1.16E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.89E-001 | 1.11E-001 | 2.68E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.72E-001 | 2.05E-001 | 3.11E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.20E-001 | 8.90E-002 | 1.32E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.64E-001 | 1.98E-001 | 3.29E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -8.68E-002 | 8.53E-002 | 1.23E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.52E-001 | 1.17E-001 | 2.45E-001 |
| TL-208 | 2.78E-001 | 1.82E-001 | 1.53E-001 | FOUND | | |
| PB-212 | 7.34E-001 | 1.63E-001 | 4.25E-001 | FOUND | | |
| BI-214 | 7.96E-001 | 2.19E-001 | 3.20E-001 | FOUND | | |
| PB-214 | 1.05E+000 | 3.06E-001 | 3.70E-001 | FOUND | | |
| RA-226 | 8.66E+000 | 7.86E+000 | 4.82E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.21E+000 | 4.89E-001 | 1.11E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.66E+001 | 3.11E+001 | 5.97E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.06E+000 | 2.89E+000 | 5.13E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -8.37E-002 | 3.10E-001 | 4.97E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -5.85E+000 | 1.36E+001 | 2.33E+001 |
| TH-234 | 2.33E+000 | 1.10E+000 | 2.90E+000 | FOUND | | |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.09E+002 | 2.84E+002 | 5.39E+002 |
| U-235 | 5.27E-001 | 4.79E-001 | 2.93E-001 | FOUND | | |
| U-238 | 2.33E+000 | 1.09E+000 | 2.90E+000 | FOUND | | |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 7.32E-002 | 5.52E-001 | 1.02E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0503-05 |
| Sample Title: | Spoils Pile #2 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.885E+002 g |
| Sample Taken On: | 3/10/2005 12:59:00 PM |
| Acquisition Started: | 3/15/2005 7:18:02 AM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1802.9 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.13E+001 | 5.54E+000 | 1.35E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -6.99E-003 | 4.75E-002 | 8.27E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.92E-002 | 5.13E-002 | 8.75E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.02E-002 | 4.93E-002 | 1.04E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.03E-001 | 1.35E-001 | 2.19E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -7.01E-002 | 5.54E-002 | 7.04E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.03E-002 | 1.39E-001 | 2.58E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.79E-002 | 5.83E-002 | 9.73E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.84E-002 | 5.93E-002 | 1.15E-001 |
| TL-208 | 3.51E-001 | 7.74E-002 | 1.23E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 8.84E-001 | 1.60E-001 | 3.12E-001 |
| BI-214 | 8.36E-001 | 1.64E-001 | 2.57E-001 | FOUND | | |
| PB-214 | 6.74E-001 | 1.90E-001 | 2.15E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.17E+000 | 1.14E+000 | 2.14E+000 |
| AC-228 | 6.50E-001 | 3.35E-001 | 4.86E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.21E+000 | 2.16E+001 | 3.89E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -2.56E-002 | 1.90E+000 | 3.24E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.34E-001 | 2.25E-001 | 3.29E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.10E+000 | 9.39E+000 | 1.88E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.47E-001 | 9.47E-001 | 1.62E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.27E+002 | 1.91E+002 | 3.55E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.69E-002 | 6.89E-002 | 1.27E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.47E-001 | 9.46E-001 | 1.62E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.02E-001 | 3.32E-001 | 5.81E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0503-06 |
| Sample Title: | Soil near 15" vertical line |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.819E+002 g |
| Sample Taken On: | 3/10/2005 12:59:00 PM |
| Acquisition Started: | 3/14/2005 11:21:25 AM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1802.9 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.99E+001 | 5.18E+000 | 1.55E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.61E-002 | 5.23E-002 | 9.65E-002 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.27E-002 | 5.08E-002 | 8.12E-002 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.95E-002 | 6.62E-002 | 1.39E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -8.10E-002 | 1.20E-001 | 2.04E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -2.38E-002 | 5.18E-002 | 8.81E-002 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.95E-002 | 1.43E-001 | 2.65E-001 |
| CS-134 | NOT FOUND/DATA for 795.84 keV | | | -5.84E-003 | 6.02E-002 | 9.88E-002 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 7.84E-002 | 5.82E-002 | 1.22E-001 |
| TL-208 | 4.15E-001 | 8.24E-002 | 1.40E-001 | FOUND | | |
| PB-212 | 1.48E+000 | 2.59E-001 | 2.63E-001 | FOUND | | |
| BI-214 | 7.93E-001 | 1.43E-001 | 2.48E-001 | FOUND | | |
| PB-214 | 7.06E-001 | 2.04E-001 | 2.92E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 4.43E-001 | 1.25E+000 | 2.23E+000 |
| AC-228 | 1.16E+000 | 2.32E-001 | 4.40E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.70E+001 | 2.27E+001 | 4.22E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 9.53E-001 | 1.81E+000 | 3.15E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 7.08E-003 | 2.06E-001 | 3.41E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 6.08E-001 | 8.90E+000 | 1.69E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 6.93E-001 | 9.72E-001 | 1.68E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -5.20E+001 | 1.66E+002 | 2.95E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.17E-002 | 7.59E-002 | 1.40E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 6.93E-001 | 9.72E-001 | 1.68E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.13E-001 | 3.41E-001 | 6.30E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-08
Sample Title: Spoils pile sample #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.219E+002 g
Sample Taken On: 3/10/2005 12:59:00 PM
Acquisition Started: 3/14/2005 1:11:37 PM
Live Time: 1800.0 seconds
Real Time: 1802.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g ) | Activity Uncert. (pCi/g ) | Nuclide MDA (pCi/g ) | Line Activity (pCi/g ) | Line Act Uncert. (pCi/g ) | Line MDA (pCi/g ) |
| K-40 | 2.22E+001 | 4.85E+000 | 1.21E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.27E-002 | 4.82E-002 | 8.36E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.08E-002 | 5.01E-002 | 8.44E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.76E-003 | 4.93E-002 | 9.96E-002 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.49E-001 | 1.34E-001 | 1.76E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.70E-002 | 5.34E-002 | 9.01E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.57E-003 | 1.32E-001 | 2.39E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.22E-002 | 5.36E-002 | 9.44E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.16E-002 | 6.25E-002 | 1.22E-001 |
| TL-208 | 4.03E-001 | 7.70E-002 | 1.28E-001 | FOUND | | |
| PB-212 | 9.92E-001 | 1.26E-001 | 2.03E-001 | FOUND | | |
| BI-214 | 7.49E-001 | 1.53E-001 | 2.43E-001 | FOUND | | |
| PB-214 | 4.81E-001 | 9.37E-002 | 2.71E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.75E+000 | 1.14E+000 | 2.17E+000 |
| AC-228 | 7.54E-001 | 1.95E-001 | 4.18E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 7.95E+000 | 1.96E+001 | 3.62E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.03E-003 | 2.03E+000 | 3.41E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.83E-001 | 2.09E-001 | 3.13E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 8.74E+000 | 1.01E+001 | 1.98E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.03E+000 | 8.99E-001 | 1.60E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -4.77E+001 | 1.79E+002 | 3.12E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.87E-002 | 6.94E-002 | 1.29E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.03E+000 | 8.99E-001 | 1.60E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -6.93E-002 | 3.40E-001 | 6.03E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-13
Sample Title: Black stuff from spoils pile
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.041E+002 g
Sample Taken On: 3/10/2005 12:59:00 PM
Acquisition Started: 3/14/2005 12:35:17 PM
Live Time: 1800.0 seconds
Real Time: 1802.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.20E+001 | 7.44E+000 | 1.90E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.03E-002 | 8.04E-002 | 1.62E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.92E-002 | 7.45E-002 | 1.22E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -2.31E-002 | 1.00E-001 | 1.78E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.14E-001 | 1.84E-001 | 2.97E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 3.12E-004 | 7.65E-002 | 1.42E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -5.73E-002 | 2.04E-001 | 3.61E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -8.10E-002 | 9.21E-002 | 1.36E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.77E-002 | 9.32E-002 | 1.82E-001 |
| TL-208 | 4.16E-001 | 1.09E-001 | 2.05E-001 | FOUND | | |
| PB-212 | 1.86E+000 | 3.74E-001 | 3.63E-001 | FOUND | | |
| BI-214 | 1.31E+000 | 7.45E-001 | 3.56E-001 | FOUND | | |
| PB-214 | 1.51E+000 | 6.38E-001 | 4.63E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.48E+000 | 1.88E+000 | 3.44E+000 |
| AC-228 | 1.28E+000 | 3.65E-001 | 5.41E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 6.60E+000 | 3.28E+001 | 5.93E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.99E+000 | 3.27E+000 | 5.36E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.58E-001 | 2.90E-001 | 5.00E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -6.43E-001 | 1.41E+001 | 2.62E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.65E+000 | 1.43E+000 | 2.73E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.94E+002 | 2.69E+002 | 4.41E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.10E-001 | 1.15E-001 | 2.13E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.65E+000 | 1.43E+000 | 2.73E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.89E-001 | 5.33E-001 | 9.84E-001 |

Uncertainty reported at 2.0 sigma

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0503-14 |
| Sample Title: | East side trench South bottom |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.321E+002 g |
| Sample Taken On: | 3/10/2005 12:59:00 PM |
| Acquisition Started: | 3/15/2005 12:45:28 PM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1802.9 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.74E+001 | 2.85E+000 | 1.29E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -4.81E-002 | 5.87E-002 | 9.37E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.21E-002 | 5.80E-002 | 9.96E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.37E-002 | 6.59E-002 | 1.47E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.23E-001 | 1.59E-001 | 2.67E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.89E-003 | 6.46E-002 | 1.19E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.14E-002 | 1.76E-001 | 3.18E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.28E-002 | 6.03E-002 | 1.02E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.58E-002 | 7.81E-002 | 1.40E-001 |
| TL-208 | 4.22E-001 | 4.66E-001 | 1.51E-001 | FOUND | | |
| PB-212 | 1.14E+000 | 1.55E-001 | 2.77E-001 | FOUND | | |
| BI-214 | 1.01E+000 | 1.95E-001 | 2.84E-001 | FOUND | | |
| PB-214 | 8.18E-001 | 1.48E-001 | 3.22E-001 | FOUND | | |
| RA-226 | 2.01E+000 | 1.09E+000 | 2.32E+000 | FOUND | | |
| AC-228 | 1.05E+000 | 3.24E-001 | 5.19E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 3.65E-001 | 2.57E+001 | 4.60E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.66E+000 | 2.60E+000 | 4.32E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -5.45E-002 | 2.47E-001 | 4.06E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.49E+001 | 1.21E+001 | 2.57E+001 |
| TH-234 | 1.91E+000 | 2.44E+000 | 2.28E+000 | FOUND | | |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.57E+002 | 2.32E+002 | 4.30E+002 |
| U-235 | 1.22E-001 | 6.64E-002 | 1.41E-001 | FOUND | | |
| U-238 | 1.91E+000 | 2.44E+000 | 2.28E+000 | FOUND | | |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.54E-001 | 4.29E-001 | 8.03E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-015
Sample Title: B.5 IW E. trench bottom Center sample #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.402E+002 g
Sample Taken On: 3/10/2005 11:15:00 AM
Acquisition Started: 3/16/2005 11:29:53 AM
Live Time: 600.0 seconds
Real Time: 601.1 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.74E+001 | 4.61E+000 | 4.00E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -6.33E-003 | 1.15E-001 | 2.22E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.93E-002 | 1.02E-001 | 1.68E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 4.38E-002 | 1.27E-001 | 2.81E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.15E-001 | 2.91E-001 | 4.35E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -8.01E-002 | 1.62E-001 | 1.98E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.13E-001 | 3.14E-001 | 6.82E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.31E-001 | 1.70E-001 | 2.26E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 9.57E-002 | 1.42E-001 | 3.04E-001 |
| TL-208 | 5.29E-001 | 5.20E-001 | 2.54E-001 | FOUND | | |
| PB-212 | 1.42E+000 | 7.07E-001 | 5.28E-001 | FOUND | | |
| BI-214 | 1.46E+000 | 9.69E-001 | 4.32E-001 | FOUND | | |
| PB-214 | 6.93E-001 | 9.72E-001 | 4.62E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.81E+000 | 2.82E+000 | 5.66E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 3.28E-001 | 6.47E-001 | 1.32E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.98E+001 | 4.43E+001 | 8.63E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.99E+000 | 3.96E+000 | 7.15E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.29E-001 | 4.36E-001 | 7.20E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.60E+000 | 1.75E+001 | 3.40E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.68E+000 | 2.09E+000 | 4.04E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 5.96E+001 | 3.81E+002 | 7.03E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.75E-001 | 1.68E-001 | 3.32E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.68E+000 | 2.09E+000 | 4.04E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 6.26E-001 | 8.11E-001 | 1.63E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-016
Sample Title: B.5 IW E. trench bottom north sample #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.528E+002 g
Sample Taken On: 3/10/2005 11:15:00 AM
Acquisition Started: 3/16/2005 11:44:26 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.39E+001 | 4.22E+000 | 2.73E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.48E-002 | 1.05E-001 | 2.30E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 7.62E-002 | 1.10E-001 | 2.00E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 3.22E-002 | 9.93E-002 | 2.40E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.29E-001 | 3.02E-001 | 6.44E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -1.83E-002 | 1.19E-001 | 2.52E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.01E-001 | 3.39E-001 | 6.06E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.09E-001 | 1.09E-001 | 1.71E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -1.13E-001 | 1.50E-001 | 2.10E-001 |
| TL-208 | 4.30E-001 | 1.60E-001 | 2.34E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.99E-001 | 3.22E-001 | 6.73E-001 |
| BI-214 | 8.28E-001 | 3.10E-001 | 4.68E-001 | FOUND | | |
| PB-214 | 7.95E-001 | 2.46E-001 | 5.87E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.07E+000 | 2.52E+000 | 4.78E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.01E+000 | 6.86E-001 | 1.52E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.01E+001 | 4.47E+001 | 8.47E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -2.60E+000 | 4.08E+000 | 6.37E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.40E-001 | 4.24E-001 | 6.68E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.13E+001 | 2.07E+001 | 3.33E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.59E+000 | 2.19E+000 | 3.99E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.05E+002 | 3.80E+002 | 7.32E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.07E-001 | 1.56E-001 | 3.02E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.59E+000 | 2.19E+000 | 3.99E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.94E-001 | 6.37E-001 | 1.15E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-017
Sample Title: B5 IW/SS East side trench Bottom #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.155E+002 g
Sample Taken On: 3/14/2005 11:15:00 AM
Acquisition Started: 3/16/2005 12:02:35 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.07E+001 | 3.98E+000 | 3.93E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -4.68E-002 | 7.54E-002 | 1.22E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -6.54E-003 | 9.69E-002 | 1.65E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -1.62E-002 | 8.38E-002 | 1.69E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -4.80E-002 | 2.36E-001 | 4.52E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 6.27E-002 | 9.17E-002 | 2.00E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.03E-001 | 2.41E-001 | 5.36E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.20E-001 | 1.60E-001 | 1.80E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 3.92E-002 | 7.66E-002 | 1.80E-001 |
| TL-208 | 4.13E-001 | 1.47E-001 | 2.04E-001 | FOUND | | |
| PB-212 | 1.22E+000 | 2.72E-001 | 3.98E-001 | FOUND | | |
| BI-214 | 1.02E+000 | 3.22E-001 | 5.15E-001 | FOUND | | |
| PB-214 | 6.31E-001 | 2.40E-001 | 4.30E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.94E+000 | 2.04E+000 | 4.27E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 6.22E-001 | 5.81E-001 | 1.29E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -6.67E+000 | 4.55E+001 | 8.25E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 5.81E-003 | 3.52E+000 | 6.28E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.17E-001 | 3.36E-001 | 6.10E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -4.94E+000 | 1.84E+001 | 3.32E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -1.27E+000 | 1.99E+000 | 3.20E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.18E+002 | 3.34E+002 | 6.80E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 5.55E-002 | 1.30E-001 | 2.49E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -1.27E+000 | 1.99E+000 | 3.20E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.44E-001 | 6.45E-001 | 1.26E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-018
Sample Title: B5 IW/SS East side trench Bottom #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.083E+002 g
Sample Taken On: 3/14/2005 11:15:00 AM
Acquisition Started: 3/16/2005 12:13:34 PM
Live Time: 600.0 seconds
Real Time: 601.1 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.22E+001 | 1.37E+001 | 2.77E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.70E-002 | 1.03E-001 | 2.21E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.23E-002 | 9.98E-002 | 1.73E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 3.65E-002 | 1.17E-001 | 2.54E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.10E-001 | 2.85E-001 | 5.13E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -9.12E-003 | 9.61E-002 | 1.84E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -6.54E-003 | 2.59E-001 | 4.92E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.03E-002 | 9.97E-002 | 1.90E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -1.17E-002 | 1.27E-001 | 2.43E-001 |
| TL-208 | 3.17E-001 | 1.36E-001 | 2.13E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 5.93E-001 | 2.66E-001 | 5.46E-001 |
| BI-214 | 7.72E-001 | 6.69E+000 | 4.24E-001 | FOUND | | |
| PB-214 | 7.26E-001 | 2.57E-001 | 4.32E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.14E+000 | 2.17E+000 | 4.36E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 6.49E-001 | 5.84E-001 | 1.27E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.21E+001 | 4.11E+001 | 8.23E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.47E+000 | 3.63E+000 | 6.78E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 2.23E-002 | 3.78E-001 | 6.40E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.06E+001 | 1.91E+001 | 3.07E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.07E+000 | 1.94E+000 | 3.51E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.41E+002 | 3.44E+002 | 6.75E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.21E-001 | 1.39E-001 | 2.73E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.07E+000 | 1.94E+000 | 3.51E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.75E-001 | 6.97E-001 | 1.34E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-019
Sample Title: B5 IW/SS East side trench Bottom #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.388E+002 g
Sample Taken On: 3/14/2005 11:15:00 AM
Acquisition Started: 3/16/2005 1:27:36 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.17E+001 | 1.53E+001 | 2.20E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.52E-002 | 1.07E-001 | 2.21E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 4.42E-002 | 8.36E-002 | 1.55E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -9.21E-002 | 1.49E-001 | 1.30E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.03E-001 | 2.22E-001 | 4.92E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.90E-002 | 1.01E-001 | 1.77E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 6.27E-002 | 2.64E-001 | 5.04E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.11E-001 | 1.25E-001 | 1.59E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.47E-002 | 1.25E-001 | 2.32E-001 |
| TL-208 | 1.90E-001 | 1.17E-001 | 2.29E-001 | FOUND | | |
| PB-212 | 7.19E-001 | 2.21E-001 | 4.78E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 4.11E-001 | 3.02E-001 | 6.46E-001 |
| PB-214 | 7.14E-001 | 3.71E-001 | 4.50E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.03E+000 | 2.02E+000 | 4.05E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 0.00E+000 | 0.00E+000 | 1.39E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.63E+001 | 3.78E+001 | 7.58E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.49E+000 | 3.94E+000 | 6.80E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.10E-003 | 3.46E-001 | 6.06E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 4.44E+000 | 1.90E+001 | 3.89E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.45E-001 | 1.82E+000 | 3.26E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.05E+002 | 3.44E+002 | 5.97E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.39E-001 | 1.20E-001 | 2.46E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.45E-001 | 1.82E+000 | 3.26E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.43E-001 | 6.20E-001 | 1.06E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-020
Sample Title: B5 IW/SS East side trench Bottom #4
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.132E+002 g
Sample Taken On: 3/14/2005 11:15:00 AM
Acquisition Started: 3/16/2005 1:53:54 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.50E+001 | 5.26E+000 | 2.96E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -1.24E-002 | 8.93E-002 | 1.72E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.00E-002 | 9.68E-002 | 1.65E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -1.02E-001 | 1.33E-001 | 1.97E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -5.62E-002 | 2.44E-001 | 4.53E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -7.53E-002 | 1.09E-001 | 1.83E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.61E-001 | 2.31E-001 | 3.90E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 1.36E-002 | 1.20E-001 | 2.09E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 7.72E-002 | 1.09E-001 | 2.41E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.83E-001 | 1.70E-001 | 3.86E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.17E-001 | 2.53E-001 | 5.40E-001 |
| BI-214 | 9.79E-001 | 1.08E+000 | 4.42E-001 | FOUND | | |
| PB-214 | 8.34E-001 | 7.42E-002 | 5.02E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.62E+000 | 2.29E+000 | 4.62E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.16E+000 | 6.17E-001 | 1.44E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.90E+000 | 3.64E+001 | 6.93E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 9.71E-002 | 3.79E+000 | 6.74E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -3.25E-001 | 3.63E-001 | 5.42E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -5.53E+000 | 1.77E+001 | 3.33E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -2.40E-002 | 1.80E+000 | 3.12E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.02E+002 | 3.73E+002 | 6.45E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.91E-001 | 1.37E-001 | 2.81E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -2.40E-002 | 1.80E+000 | 3.12E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.50E-001 | 7.03E-001 | 1.35E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-021
Sample Title: B5 IW/SS Trench Spoils Pile #5
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.705E+002 g
Sample Taken On: 3/14/2005 11:15:00 AM
Acquisition Started: 3/16/2005 2:19:24 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 1.99E+001 | 1.25E+001 | 3.27E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -7.94E-002 | 1.06E-001 | 1.72E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.91E-002 | 8.01E-002 | 1.33E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.07E-002 | 7.74E-002 | 1.82E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.09E-001 | 3.10E-001 | 5.79E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.20E-002 | 9.11E-002 | 1.60E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.42E-002 | 2.45E-001 | 4.68E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.41E-002 | 7.79E-002 | 1.44E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.29E-002 | 1.03E-001 | 2.15E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.63E-001 | 1.47E-001 | 3.46E-001 |
| PB-212 | 8.38E-001 | 2.24E-001 | 3.70E-001 | FOUND | | |
| BI-214 | 5.62E-001 | 2.62E-001 | 4.20E-001 | FOUND | | |
| PB-214 | 1.09E+000 | 2.87E-001 | 4.31E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.28E+000 | 2.24E+000 | 4.42E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.00E-001 | 5.68E-001 | 1.24E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.44E+001 | 3.55E+001 | 6.06E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.25E+000 | 3.35E+000 | 6.14E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.64E-001 | 3.66E-001 | 5.96E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.30E+001 | 2.00E+001 | 4.43E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -2.39E-002 | 1.69E+000 | 2.91E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 6.08E+000 | 2.76E+002 | 5.32E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.57E-001 | 1.36E-001 | 2.71E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -2.39E-002 | 1.69E+000 | 2.91E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.84E-001 | 6.31E-001 | 1.21E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-022
Sample Title: B5 IW/SS Trench Spoils Pile #6
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.189E+002 g
Sample Taken On: 3/14/2005 11:15:00 AM
Acquisition Started: 3/16/2005 2:33:12 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.80E+001 | 1.66E+001 | 2.99E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -6.52E-002 | 8.80E-002 | 1.40E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.67E-002 | 9.01E-002 | 1.59E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 3.63E-002 | 9.21E-002 | 2.18E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -5.58E-002 | 2.90E-001 | 5.06E-001 |
| AG-110m | NOT FOUND/DATA for 1384.30 keV | | | 0.00E+000 | 0.00E+000 | 2.08E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.92E-001 | 2.70E-001 | 4.09E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -8.86E-002 | 1.02E-001 | 1.35E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.24E-001 | 1.19E-001 | 2.71E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.62E-001 | 1.83E-001 | 3.99E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 1.02E+000 | 2.90E-001 | 6.16E-001 |
| BI-214 | 9.74E-001 | 8.72E-001 | 4.65E-001 | FOUND | | |
| PB-214 | 1.07E+000 | 3.97E-001 | 4.09E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 4.22E+000 | 2.06E+000 | 4.50E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 8.00E-001 | 6.45E-001 | 1.40E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.71E+001 | 3.51E+001 | 6.23E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.27E+000 | 3.92E+000 | 7.18E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.54E-001 | 3.64E-001 | 6.61E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 2.84E+000 | 1.99E+001 | 4.00E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.05E+000 | 1.71E+000 | 3.15E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 9.07E+001 | 3.34E+002 | 6.52E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.30E-001 | 1.28E-001 | 2.58E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.05E+000 | 1.71E+000 | 3.15E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.64E-001 | 7.67E-001 | 1.42E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-24
Sample Title: IW trench East trench bottom
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.743E+002 g
Sample Taken On: 3/15/2005 11:15:00 AM
Acquisition Started: 3/16/2005 9:29:52 AM
Live Time: 1200.0 seconds
Real Time: 1202.1 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.10E+001 | 3.79E+000 | 1.59E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.70E-002 | 6.93E-002 | 1.42E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.22E-002 | 5.87E-002 | 9.45E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.01E-003 | 6.62E-002 | 1.33E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.99E-002 | 1.24E-001 | 2.08E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.78E-003 | 5.80E-002 | 1.10E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -6.87E-005 | 1.79E-001 | 3.32E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -9.45E-002 | 7.32E-002 | 8.99E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.89E-002 | 7.49E-002 | 1.50E-001 |
| TL-208 | 2.75E-001 | 1.91E-001 | 1.45E-001 | FOUND | | |
| PB-212 | 9.32E-001 | 1.52E-001 | 4.73E-001 | FOUND | | |
| BI-214 | 1.02E+000 | 5.65E-001 | 2.59E-001 | FOUND | | |
| PB-214 | 9.42E-001 | 5.20E-001 | 2.95E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.21E+000 | 1.55E+000 | 3.00E+000 |
| AC-228 | 1.03E+000 | 2.81E-001 | 4.79E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -9.23E+000 | 2.46E+001 | 4.34E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -3.19E-001 | 2.18E+000 | 3.71E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.74E-001 | 2.89E-001 | 4.33E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -6.58E+000 | 1.10E+001 | 1.65E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.40E-001 | 1.25E+000 | 2.20E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.73E+002 | 2.29E+002 | 3.51E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.49E-001 | 9.21E-002 | 1.81E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.40E-001 | 1.25E+000 | 2.20E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.46E-001 | 4.50E-001 | 8.28E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-025
Sample Title: B.5 IW E. trench bottom Sample #8
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.293E+002 g
Sample Taken On: 3/15/2005 11:15:00 AM
Acquisition Started: 3/16/2005 11:05:50 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.51E+001 | 1.29E+001 | 2.95E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.40E-003 | 7.91E-002 | 1.68E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.34E-002 | 9.40E-002 | 1.58E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -2.14E-002 | 1.27E-001 | 2.46E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.70E-001 | 2.33E-001 | 3.76E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.14E-002 | 9.14E-002 | 1.35E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -2.02E-002 | 2.58E-001 | 4.94E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.63E-001 | 1.15E-001 | 1.33E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.82E-002 | 9.91E-002 | 2.27E-001 |
| TL-208 | 1.98E-001 | 1.25E-001 | 2.40E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 7.72E-001 | 2.60E-001 | 5.52E-001 |
| BI-214 | 8.80E-001 | 1.12E+000 | 3.88E-001 | FOUND | | |
| PB-214 | 7.90E-001 | 2.38E-001 | 4.97E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.85E+000 | 2.36E+000 | 4.86E+000 |
| AC-228 | NOT FOUND/DATA for | 338.32 keV | | 7.01E-001 | 7.48E-001 | 1.55E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -9.84E+000 | 3.71E+001 | 6.78E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.88E+000 | 3.55E+000 | 6.59E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.98E-002 | 4.08E-001 | 6.76E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.81E+001 | 2.02E+001 | 4.68E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.34E-001 | 1.74E+000 | 3.05E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 5.64E+001 | 3.96E+002 | 7.35E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.08E-002 | 1.45E-001 | 2.77E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.34E-001 | 1.74E+000 | 3.05E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -7.54E-001 | 6.53E-001 | 9.99E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-026
Sample Title: B.5 IW E. trench bottom Sample #9
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.563E+002 g
Sample Taken On: 3/15/2005 11:15:00 AM
Acquisition Started: 3/16/2005 11:17:01 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.18E+001 | 3.68E+000 | 2.31E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.24E-002 | 9.58E-002 | 2.06E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -5.92E-003 | 9.08E-002 | 1.51E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -2.30E-002 | 8.28E-002 | 1.60E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.13E-002 | 2.13E-001 | 4.26E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.30E-002 | 9.14E-002 | 1.63E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.00E-001 | 2.35E-001 | 4.08E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.44E-002 | 1.04E-001 | 1.84E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.00E-002 | 8.52E-002 | 2.10E-001 |
| TL-208 | 1.96E-001 | 1.14E-001 | 1.99E-001 | FOUND | | |
| PB-212 | 1.30E+000 | 5.92E-001 | 4.99E-001 | FOUND | | |
| BI-214 | 9.25E-001 | 8.76E-001 | 3.73E-001 | FOUND | | |
| PB-214 | 8.36E-001 | 2.73E-001 | 4.23E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | -4.93E-001 | 2.01E+000 | 3.60E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 6.20E-002 | 2.35E-001 | 1.29E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -4.69E+001 | 4.15E+001 | 6.42E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.20E-001 | 3.16E+000 | 5.61E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 2.72E-001 | 3.50E-001 | 6.49E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.20E+000 | 1.83E+001 | 3.60E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 6.69E-001 | 1.65E+000 | 2.97E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -5.37E+002 | 3.79E+002 | 5.28E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.58E-001 | 1.18E-001 | 2.46E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 6.69E-001 | 1.65E+000 | 2.97E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.63E-001 | 6.09E-001 | 1.17E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-027
Sample Title: B.5 E.side spoils pile IW line
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.227E+002 g
Sample Taken On: 3/15/2005 11:15:00 AM
Acquisition Started: 3/16/2005 4:32:08 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.25E+001 | 2.00E+001 | 2.77E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -8.10E-002 | 9.63E-002 | 1.56E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.19E-002 | 8.93E-002 | 1.53E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -7.21E-002 | 1.01E-001 | 1.67E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.82E-001 | 2.82E-001 | 3.40E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -8.10E-002 | 8.72E-002 | 1.36E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -4.92E-002 | 2.91E-001 | 5.31E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.79E-002 | 1.09E-001 | 1.62E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.53E-002 | 1.25E-001 | 2.54E-001 |
| TL-208 | 3.67E-001 | 6.34E-001 | 2.16E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 8.99E-001 | 2.78E-001 | 5.88E-001 |
| BI-214 | 9.67E-001 | 1.01E+000 | 3.83E-001 | FOUND | | |
| PB-214 | 4.21E-001 | 2.11E-001 | 3.87E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.40E+000 | 2.40E+000 | 4.56E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.53E+000 | 6.61E-001 | 1.57E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.16E+001 | 3.72E+001 | 7.43E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 7.50E-001 | 3.86E+000 | 6.75E+000 |
| PA-234 | NOT FOUND/DATA for 926.00 keV | | | -7.31E-001 | 1.31E+000 | 9.36E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -4.28E+000 | 1.40E+001 | 2.70E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -1.41E-001 | 1.80E+000 | 3.08E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -3.89E+001 | 2.91E+002 | 5.53E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.59E-001 | 1.41E-001 | 2.82E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -1.41E-001 | 1.80E+000 | 3.08E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 5.86E-002 | 6.44E-001 | 1.23E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0503-028
Sample Title: B.5 E.side spoils pile IW line #10
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.022E+002 g
Sample Taken On: 3/15/2005 11:15:00 AM
Acquisition Started: 3/16/2005 5:34:54 PM
Live Time: 600.0 seconds
Real Time: 601.1 seconds
Dead Time: 0.19 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.32E+001 | 1.35E+001 | 2.62E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | | 834.83 keV | -2.55E-002 | 9.34E-002 | 1.75E-001 |
| CO-57 | NOT FOUND/DATA for | | 122.06 keV | 4.47E-002 | 8.64E-002 | 1.57E-001 |
| CO-60 | NOT FOUND/DATA for | | 1332.50 keV | 9.77E-002 | 9.26E-002 | 2.44E-001 |
| ZN-65 | NOT FOUND/DATA for | | 1115.55 keV | -2.85E-002 | 1.32E-001 | 2.65E-001 |
| AG-110m | NOT FOUND/DATA for | | 884.68 keV | -9.67E-002 | 1.47E-001 | 1.24E-001 |
| SB-125 | NOT FOUND/DATA for | | 427.89 keV | -2.78E-001 | 2.32E-001 | 3.46E-001 |
| CS-134 | NOT FOUND/DATA for | | 604.70 keV | -8.30E-002 | 9.33E-002 | 1.30E-001 |
| CS-137 | NOT FOUND/DATA for | | 661.66 keV | 7.19E-002 | 1.02E-001 | 2.22E-001 |
| TL-208 | NOT FOUND/DATA for | | 583.19 keV | 2.95E-001 | 1.57E-001 | 3.43E-001 |
| PB-212 | 8.24E-001 | 2.01E-001 | 4.81E-001 | FOUND | | |
| BI-214 | 6.59E-001 | 2.42E-001 | 3.45E-001 | FOUND | | |
| PB-214 | 6.44E-001 | 2.40E-001 | 4.76E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | | 186.10 keV | 3.34E-001 | 2.13E+000 | 3.89E+000 |
| AC-228 | NOT FOUND/DATA for | | 911.21 keV | 8.06E-001 | 5.37E-001 | 1.22E+000 |
| TH-230 | NOT FOUND/DATA for | | 67.67 keV | -3.06E+001 | 3.74E+001 | 6.27E+001 |
| PA-231 | NOT FOUND/DATA for | | 300.02 keV | 1.75E+000 | 3.24E+000 | 5.80E+000 |
| PA-234 | NOT FOUND/DATA for | | 98.44 keV | -7.33E-002 | 3.73E-001 | 6.25E-001 |
| PA-234M | NOT FOUND/DATA for | | 1001.03 keV | -5.18E+000 | 1.69E+001 | 3.19E+001 |
| TH-234 | NOT FOUND/DATA for | | 92.60 keV | 1.20E-001 | 1.56E+000 | 2.72E+000 |
| U-234 | NOT FOUND/DATA for | | 53.20 keV | 1.23E+002 | 3.27E+002 | 6.38E+002 |
| U-235 | NOT FOUND/DATA for | | 185.71 keV | 8.52E-002 | 1.26E-001 | 2.43E-001 |
| U-238 | NOT FOUND/DATA for | | 92.60 keV | 1.20E-001 | 1.56E+000 | 2.72E+000 |
| AM-241 | NOT FOUND/DATA for | | 59.54 keV | 3.04E-001 | 6.31E-001 | 1.24E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-30
Sample Title: Spoil pile 15"strom drain dig #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.595E+002 g
Sample Taken On: 3/15/2005 11:15:00 AM
Acquisition Started: 3/17/2005 6:42:35 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.10E+001 | 3.04E+000 | 2.41E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 7.00E-002 | 6.91E-002 | 1.60E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -6.27E-003 | 7.26E-002 | 1.23E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -1.81E-002 | 1.13E-001 | 1.82E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.35E-001 | 2.57E-001 | 3.65E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.02E-002 | 8.13E-002 | 1.40E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -3.00E-001 | 2.14E-001 | 2.95E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -3.53E-002 | 8.66E-002 | 1.49E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 3.98E-002 | 9.80E-002 | 1.88E-001 |
| TL-208 | 4.70E-001 | 5.15E-001 | 1.76E-001 | FOUND | | |
| PB-212 | 1.20E+000 | 3.31E-001 | 3.53E-001 | FOUND | | |
| BI-214 | 9.48E-001 | 2.47E-001 | 3.90E-001 | FOUND | | |
| PB-214 | 6.27E-001 | 3.78E-001 | 4.11E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.10E+000 | 1.79E+000 | 3.48E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.04E+000 | 4.57E-001 | 1.06E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 9.19E+000 | 3.13E+001 | 5.73E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 8.08E-002 | 2.82E+000 | 4.94E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -4.19E-001 | 4.21E-001 | 5.03E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.32E+000 | 1.25E+001 | 2.52E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.39E+000 | 1.37E+000 | 2.53E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.43E+002 | 2.64E+002 | 4.27E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.89E-002 | 1.09E-001 | 2.00E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.39E+000 | 1.37E+000 | 2.53E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.44E-001 | 5.00E-001 | 8.95E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-31
Sample Title: Spoil pile 15"strom drain dig #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.298E+002 g
Sample Taken On: 3/15/2005 11:15:00 AM
Acquisition Started: 3/17/2005 7:10:59 AM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 1.89E+001 | 8.95E+000 | 2.37E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -4.89E-002 | 9.05E-002 | 1.55E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.61E-002 | 7.26E-002 | 1.28E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 4.92E-002 | 9.55E-002 | 2.06E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.29E-001 | 1.75E-001 | 2.95E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -4.31E-002 | 7.46E-002 | 1.31E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.27E-002 | 2.01E-001 | 3.70E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -9.37E-002 | 8.74E-002 | 1.32E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -6.19E-003 | 7.57E-002 | 1.45E-001 |
| TL-208 | 4.20E-001 | 3.69E-001 | 1.96E-001 | FOUND | | |
| PB-212 | 8.90E-001 | 1.93E-001 | 3.86E-001 | FOUND | | |
| BI-214 | 7.40E-001 | 8.55E-001 | 3.23E-001 | FOUND | | |
| PB-214 | 6.21E-001 | 7.07E-001 | 4.06E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.84E-001 | 1.79E+000 | 3.26E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.01E+000 | 4.37E-001 | 1.04E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -8.53E+000 | 3.27E+001 | 5.84E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.95E+000 | 3.03E+000 | 5.42E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.31E-001 | 3.21E-001 | 5.26E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.09E+001 | 1.66E+001 | 3.53E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.32E+000 | 1.52E+000 | 2.72E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 6.70E+001 | 2.65E+002 | 4.90E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.01E-003 | 1.05E-001 | 1.92E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.32E+000 | 1.52E+000 | 2.72E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -5.40E-002 | 5.20E-001 | 9.56E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-32
Sample Title: Spoil pile 15"strom drain dig #4
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.982E+002 g
Sample Taken On: 3/15/2005 11:15:00 AM
Acquisition Started: 3/17/2005 7:48:32 AM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.59E+001 | 8.63E+000 | 1.42E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 7.71E-002 | 7.45E-002 | 1.74E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.41E-002 | 8.16E-002 | 1.34E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.49E-002 | 8.35E-002 | 1.87E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.23E-001 | 2.74E-001 | 3.64E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.03E-002 | 7.82E-002 | 1.42E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.88E-001 | 2.15E-001 | 3.56E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -8.22E-002 | 8.25E-002 | 1.28E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.34E-002 | 1.00E-001 | 2.05E-001 |
| TL-208 | 4.70E-001 | 2.81E-001 | 2.02E-001 | FOUND | | |
| PB-212 | 9.30E-001 | 7.44E-002 | 4.31E-001 | FOUND | | |
| BI-214 | 9.48E-001 | 8.73E-001 | 2.81E-001 | FOUND | | |
| PB-214 | 6.84E-001 | 2.86E-001 | 4.52E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.01E+000 | 1.97E+000 | 3.77E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | -3.14E-002 | 2.46E-001 | 1.15E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.89E+001 | 3.04E+001 | 5.97E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.97E+000 | 3.05E+000 | 5.49E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -5.35E-002 | 3.38E-001 | 5.60E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 4.26E+000 | 1.55E+001 | 3.01E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.29E+000 | 1.53E+000 | 2.90E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.52E+002 | 3.17E+002 | 6.07E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.16E-001 | 1.15E-001 | 2.35E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.29E+000 | 1.53E+000 | 2.90E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.95E-002 | 5.99E-001 | 1.10E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-33
Sample Title: Spoil pile 15"strom drain dig #5
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.602E+002 g
Sample Taken On: 3/15/2005 11:15:00 AM
Acquisition Started: 3/17/2005 8:29:16 AM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.53E+001 | 3.65E+000 | 2.10E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -1.04E-002 | 8.15E-002 | 1.58E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.60E-002 | 8.57E-002 | 1.35E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 6.58E-002 | 8.67E-002 | 2.09E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 4.77E-002 | 2.32E-001 | 4.35E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.74E-002 | 9.06E-002 | 1.32E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.21E-001 | 2.15E-001 | 4.40E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.39E-001 | 1.25E-001 | 1.25E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.97E-002 | 1.03E-001 | 2.02E-001 |
| TL-208 | 3.91E-001 | 1.20E-001 | 1.65E-001 | FOUND | | |
| PB-212 | 1.08E+000 | 5.61E-001 | 3.99E-001 | FOUND | | |
| BI-214 | 9.60E-001 | 2.49E-001 | 3.08E-001 | FOUND | | |
| PB-214 | 7.47E-001 | 2.29E-001 | 4.32E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.70E+000 | 1.73E+000 | 3.68E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 5.69E-002 | 4.73E-001 | 1.25E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 9.75E-001 | 3.16E+001 | 5.89E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.42E+000 | 3.26E+000 | 5.87E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.58E-001 | 3.67E-001 | 5.70E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 9.15E+000 | 1.64E+001 | 3.44E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.67E+000 | 1.55E+000 | 2.88E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 7.85E+001 | 2.76E+002 | 5.34E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.01E-001 | 1.04E-001 | 2.06E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.67E+000 | 1.55E+000 | 2.88E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -4.70E-001 | 6.17E-001 | 1.00E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0503-062 |
| Sample Title: | MAC-0503-062 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.691E+002 g |
| Sample Taken On: | 3/17/2005 11:15:00 AM |
| Acquisition Started: | 3/21/2005 9:58:50 AM |
| Live Time: | 600.0 seconds |
| Real Time: | 600.9 seconds |
| Dead Time: | 0.15 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.60E+001 | 2.57E+001 | 2.50E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.90E-002 | 1.11E-001 | 1.99E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.31E-002 | 1.01E-001 | 1.66E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.33E-002 | 1.26E-001 | 2.75E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -8.12E-002 | 2.91E-001 | 5.46E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 3.73E-002 | 8.33E-002 | 1.85E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.62E-003 | 2.70E-001 | 5.22E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.66E-002 | 1.19E-001 | 2.01E-001 |
| CS-137 | 1.83E-001 | 1.17E-001 | 2.02E-001 | FOUND | | |
| TL-208 | 4.42E-001 | 6.06E-001 | 2.23E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.53E-001 | 3.08E-001 | 6.46E-001 |
| BI-214 | 8.83E-001 | 3.25E-001 | 4.66E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 9.82E-001 | 3.50E-001 | 7.84E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.32E+000 | 2.22E+000 | 4.33E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.53E-001 | 6.88E-001 | 1.53E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 7.29E+000 | 4.43E+001 | 8.38E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -6.48E-001 | 3.62E+000 | 6.22E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 2.43E-001 | 4.10E-001 | 7.13E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -7.58E+000 | 1.96E+001 | 3.55E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.93E-001 | 2.01E+000 | 3.48E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -9.10E+001 | 3.81E+002 | 7.01E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.04E-002 | 1.38E-001 | 2.66E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.93E-001 | 2.01E+000 | 3.48E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.40E-001 | 7.20E-001 | 1.33E+000 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0503-065 |
| Sample Title: | MAC-0503-065 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.471E+002 g |
| Sample Taken On: | 3/17/2005 11:15:00 AM |
| Acquisition Started: | 3/21/2005 12:19:17 PM |
| Live Time: | 600.0 seconds |
| Real Time: | 600.9 seconds |
| Dead Time: | 0.15 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.25E+001 | 9.57E+000 | 2.17E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.72E-002 | 8.51E-002 | 2.00E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.92E-002 | 8.91E-002 | 1.59E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.92E-002 | 1.10E-001 | 2.29E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.23E-001 | 2.93E-001 | 4.35E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -6.44E-002 | 1.11E-001 | 1.96E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.17E-002 | 2.57E-001 | 4.84E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.27E-002 | 9.85E-002 | 1.40E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.07E-001 | 1.12E-001 | 2.53E-001 |
| TL-208 | 3.79E-001 | 3.17E-001 | 2.19E-001 | FOUND | | |
| PB-212 | 7.88E-001 | 2.28E-001 | 5.21E-001 | FOUND | | |
| BI-214 | 7.55E-001 | 2.86E-001 | 4.47E-001 | FOUND | | |
| PB-214 | 6.22E-001 | 5.84E-001 | 4.20E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.12E+000 | 2.09E+000 | 4.17E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.27E+000 | 5.83E-001 | 1.39E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.51E+001 | 4.00E+001 | 7.18E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 6.24E-001 | 3.47E+000 | 6.33E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -3.80E-001 | 4.44E-001 | 5.63E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.01E+001 | 1.92E+001 | 3.42E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.49E+000 | 1.69E+000 | 3.17E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -8.23E+001 | 3.00E+002 | 5.49E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 3.67E-002 | 1.26E-001 | 2.38E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.49E+000 | 1.69E+000 | 3.17E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.28E-001 | 5.99E-001 | 1.19E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-066
Sample Title: MAC-0503-066
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.534E+002 g
Sample Taken On: 3/17/2005 11:15:00 AM
Acquisition Started: 3/21/2005 12:33:21 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.17E+001 | 1.06E+001 | 2.48E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 7.71E-002 | 1.17E-001 | 2.52E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.94E-002 | 9.45E-002 | 1.56E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 5.34E-002 | 7.73E-002 | 2.08E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.97E-001 | 3.70E-001 | 3.29E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 2.51E-002 | 1.07E-001 | 2.06E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.52E-001 | 2.34E-001 | 3.70E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.09E-001 | 1.24E-001 | 1.56E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.66E-001 | 1.28E-001 | 2.91E-001 |
| TL-208 | 3.65E-001 | 5.27E-002 | 1.49E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 6.90E-001 | 2.58E-001 | 5.37E-001 |
| BI-214 | 1.09E+000 | 3.27E-001 | 4.65E-001 | FOUND | | |
| PB-214 | 6.49E-001 | 2.53E-001 | 5.32E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.00E+000 | 2.22E+000 | 4.22E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.05E+000 | 5.69E-001 | 1.34E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 5.35E+000 | 4.47E+001 | 8.30E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.44E+000 | 3.20E+000 | 6.07E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 5.65E-002 | 3.81E-001 | 6.65E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 4.13E-001 | 1.96E+001 | 3.82E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 4.73E-001 | 1.74E+000 | 3.06E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.50E+002 | 2.91E+002 | 5.16E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.78E-002 | 1.35E-001 | 2.56E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 4.73E-001 | 1.74E+000 | 3.06E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -7.18E-002 | 5.45E-001 | 1.02E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-067
Sample Title: MAC-0503-067
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.338E+002 g
Sample Taken On: 3/16/2005 11:15:00 AM
Acquisition Started: 3/21/2005 11:04:31 AM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.39E+001 | 1.13E+001 | 2.85E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 5.21E-002 | 1.12E-001 | 2.33E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.30E-002 | 9.14E-002 | 1.52E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | -8.97E-002 | 1.10E-001 | 1.76E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 8.62E-002 | 2.47E-001 | 5.25E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -1.63E-002 | 1.05E-001 | 2.23E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.69E-002 | 2.65E-001 | 5.09E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -8.86E-002 | 9.65E-002 | 1.52E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 7.29E-002 | 1.32E-001 | 2.72E-001 |
| TL-208 | 4.44E-001 | 5.23E-001 | 1.95E-001 | FOUND | | |
| PB-212 | 8.54E-001 | 4.47E-001 | 4.68E-001 | FOUND | | |
| BI-214 | 6.39E-001 | 1.09E+000 | 4.45E-001 | FOUND | | |
| PB-214 | 7.03E-001 | 2.09E-001 | 3.77E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 8.51E-001 | 2.29E+000 | 4.33E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.35E+000 | 6.74E-001 | 1.55E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -7.50E-001 | 4.04E+001 | 7.53E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -1.42E+000 | 3.75E+000 | 6.23E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 5.01E-002 | 4.04E-001 | 7.03E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.25E+001 | 1.63E+001 | 2.29E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 3.14E-001 | 1.81E+000 | 3.17E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.75E+001 | 3.44E+002 | 6.39E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.37E-002 | 1.39E-001 | 2.56E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 3.14E-001 | 1.81E+000 | 3.17E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -6.76E-001 | 6.22E-001 | 9.65E-001 |

Uncertainty reported at 2.0 sigma

# CERTIFICATE OF ANALYSIS

Site Location: CE Windsor
Sample ID: MAC-0503-068
Sample Title: MAC-0503-068
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\2004lib_4_5.NLB
Sample Size: 7.357E+002 g
Sample Taken On: 3/16/2005 11:15:00 AM
Acquisition Started: 3/21/2005 11:15:58 AM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.28E+001 | 3.89E+000 | 3.00E+000 | FOUND | | |
| CO-60 | NOT FOUND/DATA for 1173.22 keV | | | -1.71E-001 | 1.70E-001 | 1.96E-001 |
| CD-109 | NOT FOUND/DATA for 88.03 keV | | | 7.18E-001 | 2.79E+000 | 5.19E+000 |
| CS-137 | NOT FOUND/DATA for 661.65 keV | | | 8.39E-002 | 1.18E-001 | 2.57E-001 |
| Tl-208 | 2.56E-001 | 1.28E-001 | 1.96E-001 | FOUND | | |
| PB-212 | 6.91E-001 | 6.45E-001 | 4.71E-001 | FOUND | | |
| BI-214 | 7.40E-001 | 1.23E+000 | 3.90E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 6.70E-001 | 3.09E-001 | 6.66E-001 |
| RA-226 | NOT FOUND/DATA for 186.21 keV | | | 1.77E+000 | 2.24E+000 | 4.39E+000 |
| AC-228 | NOT FOUND/DATA for 911.60 keV | | | 9.93E-001 | 6.08E-001 | 1.36E+000 |
| PA-231 | NOT FOUND/DATA for 301.50 keV | | | 3.15E-001 | 3.98E+000 | 6.95E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -5.34E-002 | 4.25E-001 | 7.16E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.06E+001 | 1.53E+001 | 3.70E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.75E+000 | 4.08E+000 | 7.38E+000 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.14E-002 | 1.34E-001 | 2.61E-001 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.63E-002 | 6.28E-001 | 1.16E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-069
Sample Title: MAC-0503-069
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.357E+002 g
Sample Taken On: 3/16/2005 11:15:00 AM
Acquisition Started: 3/21/2005 11:27:33 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.22E+001 | 3.76E+000 | 2.21E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -7.00E-002 | 1.02E-001 | 1.68E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.20E-002 | 8.58E-002 | 1.44E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -1.10E-001 | 1.28E-001 | 1.51E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.38E-001 | 4.09E-001 | 4.12E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 5.15E-002 | 9.94E-002 | 2.12E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.18E-001 | 2.66E-001 | 4.75E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.95E-002 | 1.22E-001 | 1.68E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -9.98E-002 | 1.25E-001 | 1.86E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.90E-001 | 1.50E-001 | 3.41E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 8.78E-001 | 2.60E-001 | 5.60E-001 |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 6.40E-001 | 3.22E-001 | 7.08E-001 |
| PB-214 | 8.59E-001 | 2.77E-001 | 5.55E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.22E+000 | 2.23E+000 | 4.28E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.46E-001 | 5.65E-001 | 1.25E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -5.41E+001 | 4.08E+001 | 5.95E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -3.53E-002 | 3.35E+000 | 6.00E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -6.72E-002 | 3.57E-001 | 6.09E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 4.00E+000 | 2.04E+001 | 3.47E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 6.15E-001 | 1.88E+000 | 3.30E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.76E+002 | 3.42E+002 | 6.96E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.12E-001 | 1.36E-001 | 2.68E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 6.15E-001 | 1.88E+000 | 3.30E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.93E-001 | 6.50E-001 | 1.29E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-76
Sample Title: B-5 EAST TRENCH SPOILS PILE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.089E+002 g
Sample Taken On: 3/22/2005 11:15:00 AM
Acquisition Started: 3/22/2005 5:17:34 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.49E+001 | 1.03E+001 | 2.04E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | | 834.83 keV | 2.97E-002 | 9.54E-002 | 2.01E-001 |
| CO-57 | NOT FOUND/DATA for | | 122.06 keV | -5.69E-002 | 8.87E-002 | 1.39E-001 |
| CO-60 | NOT FOUND/DATA for | | 1332.50 keV | -2.51E-002 | 9.32E-002 | 1.73E-001 |
| ZN-65 | NOT FOUND/DATA for | | 1115.55 keV | -1.73E-001 | 2.12E-001 | 2.62E-001 |
| AG-110m | NOT FOUND/DATA for | | 657.76 keV | -1.16E-002 | 1.03E-001 | 1.76E-001 |
| SB-125 | NOT FOUND/DATA for | | 427.89 keV | -2.42E-002 | 2.87E-001 | 5.38E-001 |
| CS-134 | NOT FOUND/DATA for | | 604.70 keV | -8.15E-002 | 9.08E-002 | 1.37E-001 |
| CS-137 | NOT FOUND/DATA for | | 661.66 keV | -1.65E-002 | 1.33E-001 | 2.40E-001 |
| TL-208 | NOT FOUND/DATA for | | 583.19 keV | 3.59E-001 | 1.55E-001 | 3.51E-001 |
| PB-212 | NOT FOUND/DATA for | | 238.63 keV | 8.71E-001 | 2.60E-001 | 5.47E-001 |
| BI-214 | NOT FOUND/DATA for | | 609.31 keV | 5.37E-001 | 3.09E-001 | 6.66E-001 |
| PB-214 | 9.25E-001 | 2.18E-001 | 3.71E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | | 186.10 keV | 1.62E+000 | 2.00E+000 | 3.93E+000 |
| AC-228 | NOT FOUND/DATA for | | 911.21 keV | 1.38E+000 | 6.57E-001 | 1.49E+000 |
| TH-230 | NOT FOUND/DATA for | | 67.67 keV | 5.93E+000 | 3.23E+001 | 6.22E+001 |
| PA-231 | NOT FOUND/DATA for | | 300.02 keV | 2.04E+000 | 3.17E+000 | 5.94E+000 |
| PA-234 | NOT FOUND/DATA for | | 98.44 keV | -1.13E-002 | 3.00E-001 | 5.25E-001 |
| PA-234M | NOT FOUND/DATA for | | 1001.03 keV | 5.32E+000 | 1.65E+001 | 3.55E+001 |
| TH-234 | NOT FOUND/DATA for | | 92.60 keV | 2.85E-001 | 1.68E+000 | 2.91E+000 |
| U-234 | NOT FOUND/DATA for | | 53.20 keV | -1.69E+002 | 3.56E+002 | 6.12E+002 |
| U-235 | NOT FOUND/DATA for | | 185.71 keV | 6.84E-002 | 1.20E-001 | 2.32E-001 |
| U-238 | NOT FOUND/DATA for | | 92.60 keV | 2.85E-001 | 1.68E+000 | 2.91E+000 |
| AM-241 | NOT FOUND/DATA for | | 59.54 keV | -1.48E-001 | 5.52E-001 | 1.02E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-77
Sample Title: B-5 EAST TRENCH SPOILS PILE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.918E+002 g
Sample Taken On: 3/22/2005 11:15:00 AM
Acquisition Started: 3/22/2005 5:35:26 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.12E+001 | 1.07E+001 | 2.64E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.64E-002 | 6.01E-002 | 1.42E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.22E-002 | 9.67E-002 | 1.56E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 6.13E-003 | 1.20E-001 | 2.39E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.56E-002 | 1.68E-001 | 3.10E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -4.15E-002 | 9.75E-002 | 1.72E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.80E-001 | 2.49E-001 | 4.07E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.21E-002 | 8.97E-002 | 1.63E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.34E-002 | 1.15E-001 | 2.24E-001 |
| TL-208 | 3.77E-001 | 4.04E-001 | 1.69E-001 | FOUND | | |
| PB-212 | 7.49E-001 | 2.15E-001 | 4.55E-001 | FOUND | | |
| BI-214 | 9.83E-001 | 2.95E-001 | 3.40E-001 | FOUND | | |
| PB-214 | 1.16E+000 | 9.25E-001 | 4.31E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.46E+000 | 2.21E+000 | 4.37E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 4.87E-001 | 4.55E-001 | 1.04E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.05E+001 | 3.54E+001 | 6.24E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -3.54E+000 | 3.72E+000 | 4.40E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 1.66E-001 | 3.62E-001 | 6.36E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -9.44E+000 | 1.80E+001 | 3.00E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -3.68E-002 | 1.78E+000 | 2.99E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.71E+002 | 3.65E+002 | 5.31E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.65E-001 | 1.34E-001 | 2.68E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -3.68E-002 | 1.78E+000 | 2.99E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.63E-001 | 6.21E-001 | 1.20E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-078
Sample Title: B-5 NORTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.678E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 8:38:45 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.88E+001 | 2.14E+001 | 3.19E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.85E-002 | 9.13E-002 | 1.93E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.20E-002 | 8.59E-002 | 1.51E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 6.22E-002 | 9.63E-002 | 2.39E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.43E-001 | 2.50E-001 | 4.18E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.84E-003 | 1.01E-001 | 1.93E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -8.87E-002 | 2.29E-001 | 4.20E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.35E-002 | 9.41E-002 | 1.75E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.87E-002 | 1.35E-001 | 2.73E-001 |
| TL-208 | 2.56E-001 | 4.07E-001 | 2.12E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 6.40E-001 | 2.48E-001 | 5.17E-001 |
| BI-214 | 6.67E-001 | 2.57E-001 | 3.84E-001 | FOUND | | |
| PB-214 | 6.29E-001 | 1.97E-001 | 3.75E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | -8.24E-002 | 2.23E+000 | 4.06E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.05E+000 | 5.63E-001 | 1.31E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 4.96E+000 | 3.62E+001 | 6.78E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 4.78E+000 | 3.54E+000 | 6.45E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -7.58E-002 | 3.60E-001 | 6.00E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 6.69E+000 | 1.61E+001 | 3.33E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 3.67E-001 | 1.85E+000 | 3.22E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -4.91E+001 | 3.18E+002 | 5.61E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | -5.65E-002 | 1.37E-001 | 2.40E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 3.67E-001 | 1.85E+000 | 3.22E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 5.56E-003 | 6.40E-001 | 1.13E+000 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0503-079
Sample Title: B-5 NORTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.221E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 8:53:04 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.17E+001 | 1.22E+001 | 3.00E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 9.17E-002 | 1.01E-001 | 2.34E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 5.32E-002 | 1.01E-001 | 1.83E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 8.75E-002 | 1.06E-001 | 2.48E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.74E-001 | 2.50E-001 | 4.13E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.72E-002 | 1.25E-001 | 2.05E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -6.40E-002 | 2.99E-001 | 5.15E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.33E-002 | 9.98E-002 | 1.71E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 8.71E-002 | 1.25E-001 | 2.62E-001 |
| TL-208 | 4.31E-001 | 1.52E-001 | 2.12E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.88E-001 | 2.97E-001 | 6.23E-001 |
| BI-214 | 1.04E+000 | 6.15E+000 | 3.24E-001 | FOUND | | |
| PB-214 | 8.09E-001 | 4.84E-001 | 5.01E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.74E+000 | 2.50E+000 | 5.05E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 6.11E-001 | 5.85E-001 | 1.28E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.91E+000 | 3.82E+001 | 7.09E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.38E+000 | 3.44E+000 | 6.11E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -2.32E-001 | 3.99E-001 | 5.99E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 6.22E+000 | 2.28E+001 | 4.55E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.09E+000 | 1.92E+000 | 3.47E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 6.08E+001 | 3.45E+002 | 6.62E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 3.84E-001 | 1.50E-001 | 3.24E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.09E+000 | 1.92E+000 | 3.47E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.17E-001 | 6.10E-001 | 1.21E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-080
Sample Title: B-5 NORTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.223E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 9:04:52 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.43E+001 | 4.02E+000 | 3.02E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.17E-002 | 1.06E-001 | 2.15E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.04E-002 | 9.40E-002 | 1.59E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.81E-002 | 1.05E-001 | 2.17E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.02E-001 | 2.70E-001 | 4.45E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.02E-002 | 1.22E-001 | 2.13E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.27E-003 | 2.78E-001 | 5.31E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.75E-002 | 1.06E-001 | 1.78E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.13E-002 | 1.44E-001 | 2.77E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 1.94E-001 | 1.51E-001 | 3.24E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.05E-001 | 2.71E-001 | 5.81E-001 |
| BI-214 | 6.46E-001 | 7.35E-001 | 3.92E-001 | FOUND | | |
| PB-214 | 8.84E-001 | 1.00E+000 | 4.07E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.36E+000 | 2.27E+000 | 4.32E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.38E-001 | 5.29E-001 | 1.27E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.16E+001 | 3.56E+001 | 6.06E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 8.23E-001 | 3.97E+000 | 7.15E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.60E-001 | 3.69E-001 | 6.58E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.39E+000 | 2.17E+001 | 4.18E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -4.33E-001 | 1.87E+000 | 3.14E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.14E+002 | 3.55E+002 | 6.37E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.35E-001 | 1.33E-001 | 2.80E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -4.33E-001 | 1.87E+000 | 3.14E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -7.28E-001 | 6.72E-001 | 1.09E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-081
Sample Title: B-5 NORTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.484E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 9:15:46 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.26E+001 | 3.63E+000 | 2.19E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.67E-002 | 8.10E-002 | 1.75E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.49E-002 | 8.37E-002 | 1.37E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 5.99E-002 | 9.69E-002 | 2.23E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -6.38E-002 | 2.07E-001 | 3.79E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.03E-003 | 9.31E-002 | 1.81E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.36E-001 | 2.33E-001 | 5.13E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.97E-002 | 1.03E-001 | 1.86E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.98E-002 | 1.11E-001 | 2.29E-001 |
| TL-208 | 3.27E-001 | 1.57E-001 | 2.59E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.34E-001 | 2.49E-001 | 5.16E-001 |
| BI-214 | 7.55E-001 | 2.64E-001 | 3.87E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 5.52E-001 | 2.76E-001 | 5.86E-001 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 6.66E-001 | 2.09E+000 | 3.82E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.39E-001 | 5.00E-001 | 1.17E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.33E+001 | 3.45E+001 | 6.03E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 5.85E-001 | 3.12E+000 | 5.66E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.42E-002 | 3.33E-001 | 5.75E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 9.21E+000 | 1.47E+001 | 3.39E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.05E+000 | 1.57E+000 | 3.02E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.34E+001 | 2.93E+002 | 5.53E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.13E-001 | 1.21E-001 | 2.36E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.05E+000 | 1.57E+000 | 3.02E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -5.44E-001 | 6.20E-001 | 1.05E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-082
Sample Title: B-5 NORTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.737E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 9:26:36 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.99E+001 | 1.44E+001 | 2.69E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.09E-001 | 1.08E-001 | 2.51E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.08E-001 | 1.15E-001 | 1.63E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.93E-002 | 1.44E-001 | 2.90E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -4.65E-002 | 2.74E-001 | 4.77E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -7.11E-002 | 1.63E-001 | 1.85E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.22E-001 | 3.00E-001 | 5.69E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | 2.86E-002 | 9.66E-002 | 2.05E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.56E-002 | 1.30E-001 | 2.64E-001 |
| TL-208 | 3.25E-001 | 4.89E-001 | 2.27E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 7.85E-001 | 2.57E-001 | 5.59E-001 |
| BI-214 | 6.58E-001 | 2.97E-001 | 4.79E-001 | FOUND | | |
| PB-214 | 9.36E-001 | 8.75E-001 | 5.44E-001 | FOUND | | |
| RA-226 | 3.57E+000 | 2.09E+000 | 4.48E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 7.12E-001 | 5.69E-001 | 1.31E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.17E+001 | 4.30E+001 | 8.65E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.92E+000 | 3.44E+000 | 6.55E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -8.86E-003 | 4.12E-001 | 7.01E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.54E+000 | 1.73E+001 | 3.23E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.00E+000 | 2.00E+000 | 3.58E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.47E+002 | 3.70E+002 | 6.54E+002 |
| U-235 | 2.17E-001 | 1.28E-001 | 2.73E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.00E+000 | 2.00E+000 | 3.58E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.30E-001 | 7.21E-001 | 1.39E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0503-083
Sample Title: B-5 NORTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.794E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 9:39:53 AM
Live Time: 600.0 seconds
Real Time: 601.1 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.40E+001 | 1.25E+001 | 2.92E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 5.30E-002 | 8.47E-002 | 1.94E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 2.30E-002 | 9.84E-002 | 1.74E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.92E-002 | 1.22E-001 | 2.70E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.51E-001 | 2.51E-001 | 3.61E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.73E-002 | 9.77E-002 | 1.81E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 8.52E-002 | 2.79E-001 | 5.47E-001 |
| CS-134 | NOT FOUND/DATA for 795.84 keV | | | -9.76E-002 | 1.26E-001 | 2.04E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 7.77E-002 | 1.15E-001 | 2.53E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.92E-001 | 1.83E-001 | 4.10E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 1.08E+000 | 3.00E-001 | 6.41E-001 |
| BI-214 | 1.08E+000 | 1.06E+000 | 4.08E-001 | FOUND | | |
| PB-214 | 8.97E-001 | 1.25E+000 | 4.98E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.90E+000 | 2.46E+000 | 4.93E+000 |
| AC-228 | NOT FOUND/DATA for 338.32 keV | | | 6.38E-001 | 8.60E-001 | 1.71E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.32E+001 | 4.36E+001 | 8.47E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.68E+000 | 3.68E+000 | 6.96E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.83E-001 | 3.97E-001 | 6.42E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.58E+001 | 2.59E+001 | 3.20E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.13E-001 | 1.83E+000 | 3.21E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.21E+002 | 4.16E+002 | 8.01E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.43E-002 | 1.48E-001 | 2.84E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.13E-001 | 1.83E+000 | 3.21E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.82E-001 | 7.01E-001 | 1.26E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0503-084
Sample Title: B-5 NORTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.120E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 10:54:41 AM
Live Time: 600.0 seconds
Real Time: 601.1 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.21E+001 | 3.98E+000 | 3.63E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.32E-002 | 1.05E-001 | 2.08E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.02E-002 | 1.02E-001 | 1.60E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.78E-004 | 1.14E-001 | 1.97E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.60E-001 | 2.23E-001 | 3.44E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -5.95E-002 | 1.32E-001 | 2.48E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 8.22E-002 | 2.78E-001 | 5.54E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.22E-002 | 9.55E-002 | 1.56E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.66E-002 | 1.27E-001 | 2.58E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.31E-001 | 1.61E-001 | 3.66E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 7.35E-001 | 2.66E-001 | 5.60E-001 |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 8.48E-001 | 3.32E-001 | 7.72E-001 |
| PB-214 | 8.09E-001 | 2.78E-001 | 4.33E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.27E+000 | 2.39E+000 | 4.63E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.23E-001 | 5.36E-001 | 1.27E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.36E+001 | 4.46E+001 | 8.19E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 6.84E-001 | 3.59E+000 | 6.54E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 6.26E-002 | 3.59E-001 | 6.37E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.61E+001 | 2.25E+001 | 4.96E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 4.49E-001 | 2.05E+000 | 3.55E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.46E+002 | 3.83E+002 | 6.59E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.42E-001 | 1.45E-001 | 2.86E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 4.49E-001 | 2.05E+000 | 3.55E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 7.75E-002 | 6.51E-001 | 1.22E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-085
Sample Title: B-5 NORTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.422E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 11:10:30 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.75E+001 | 1.10E+001 | 2.50E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -3.41E-002 | 5.87E-002 | 9.26E-002 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.99E-002 | 8.84E-002 | 1.46E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 3.74E-002 | 1.08E-001 | 2.30E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -7.29E-002 | 2.05E-001 | 3.30E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 1.80E-002 | 8.11E-002 | 1.65E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -8.31E-002 | 2.41E-001 | 4.34E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.44E-002 | 1.07E-001 | 1.81E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -7.77E-002 | 1.39E-001 | 2.05E-001 |
| TL-208 | 3.90E-001 | 1.37E-001 | 1.89E-001 | FOUND | | |
| PB-212 | 8.36E-001 | 5.35E-001 | 4.93E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 7.83E-001 | 3.39E-001 | 7.56E-001 |
| PB-214 | 6.27E-001 | 2.61E-001 | 5.34E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 8.74E-001 | 2.19E+000 | 4.12E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | -6.95E-002 | 2.92E-001 | 1.38E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.93E+000 | 3.84E+001 | 7.23E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.83E+000 | 3.34E+000 | 6.27E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.49E-001 | 3.46E-001 | 6.18E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 7.63E+000 | 1.46E+001 | 3.44E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -1.21E+000 | 1.74E+000 | 2.78E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.83E+002 | 3.34E+002 | 6.67E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 3.73E-002 | 1.35E-001 | 2.50E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -1.21E+000 | 1.74E+000 | 2.78E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.49E-001 | 6.21E-001 | 1.20E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-086
Sample Title: B-5 NORTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.025E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 11:21:39 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.71E+001 | 4.26E+000 | 5.03E-001 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 9.90E-002 | 1.17E-001 | 2.59E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -6.73E-002 | 1.03E-001 | 1.64E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -1.81E-002 | 1.11E-001 | 2.04E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.59E-001 | 2.85E-001 | 4.57E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.09E-002 | 1.01E-001 | 1.75E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 5.01E-002 | 2.73E-001 | 5.30E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.00E-003 | 1.26E-001 | 2.36E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.24E-002 | 1.15E-001 | 2.53E-001 |
| TL-208 | 2.58E-001 | 3.18E-001 | 2.08E-001 | FOUND | | |
| PB-212 | 1.13E+000 | 5.44E-001 | 5.10E-001 | FOUND | | |
| BI-214 | 9.46E-001 | 3.18E-001 | 5.39E-001 | FOUND | | |
| PB-214 | 5.74E-001 | 2.55E-001 | 4.05E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.60E-001 | 2.61E+000 | 4.77E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.18E+000 | 6.37E-001 | 1.48E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.69E+000 | 3.38E+001 | 6.37E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 5.18E+000 | 3.87E+000 | 7.05E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 3.99E-002 | 4.02E-001 | 7.02E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 8.38E-001 | 1.88E+001 | 3.38E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.84E-001 | 1.90E+000 | 3.32E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.15E+002 | 3.42E+002 | 6.68E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.00E-001 | 1.55E-001 | 2.97E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.84E-001 | 1.90E+000 | 3.32E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.99E-001 | 5.48E-001 | 9.78E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-087
Sample Title: B-5 NORTH TRENCH #10
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.102E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 11:43:08 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.27E+001 | 3.97E+000 | 2.16E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.11E-003 | 1.05E-001 | 2.09E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.52E-002 | 9.93E-002 | 1.64E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.28E-002 | 8.52E-002 | 2.20E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -8.42E-002 | 2.47E-001 | 4.52E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.18E-002 | 1.27E-001 | 2.09E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.82E-001 | 2.77E-001 | 4.72E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.24E-002 | 9.81E-002 | 1.81E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.44E-002 | 1.31E-001 | 2.50E-001 |
| TL-208 | 3.36E-001 | 1.44E-001 | 2.37E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 8.86E-001 | 2.84E-001 | 5.96E-001 |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 5.99E-001 | 3.34E-001 | 7.33E-001 |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 8.62E-001 | 3.16E-001 | 7.12E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.52E+000 | 2.41E+000 | 4.91E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.39E+000 | 6.48E-001 | 1.53E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.38E+001 | 3.67E+001 | 7.44E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -7.14E-001 | 3.86E+000 | 6.66E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 2.97E-001 | 4.30E-001 | 7.79E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -3.51E+000 | 2.64E+001 | 4.25E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.55E+000 | 1.79E+000 | 3.66E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.28E+002 | 3.91E+002 | 7.66E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.56E-001 | 1.45E-001 | 2.89E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.55E+000 | 1.79E+000 | 3.66E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.24E-001 | 6.69E-001 | 1.23E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-089
Sample Title: B-5 NORTH WEST TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.984E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 9:51:22 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.50E+001 | 1.19E+001 | 2.48E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.82E-003 | 1.18E-001 | 2.23E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.39E-002 | 1.00E-001 | 1.66E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.22E-002 | 1.18E-001 | 2.80E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -5.30E-002 | 2.21E-001 | 4.28E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.69E-002 | 9.89E-002 | 1.86E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -2.03E-002 | 2.91E-001 | 5.49E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -8.73E-002 | 1.14E-001 | 1.76E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.91E-002 | 1.16E-001 | 2.18E-001 |
| TL-208 | 3.90E-001 | 1.48E-001 | 2.44E-001 | FOUND | | |
| PB-212 | 7.79E-001 | 2.41E-001 | 5.08E-001 | FOUND | | |
| BI-214 | 6.83E-001 | 8.30E-002 | 4.56E-001 | FOUND | | |
| PB-214 | 6.63E-001 | 5.97E-001 | 4.54E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.24E+000 | 2.55E+000 | 5.07E+000 |
| AC-228 | 9.36E-001 | 4.25E-001 | 7.41E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.66E+001 | 3.97E+001 | 7.91E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.46E+000 | 3.48E+000 | 6.44E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.29E-001 | 4.15E-001 | 6.83E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.58E+000 | 2.10E+001 | 4.32E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.30E-001 | 1.80E+000 | 3.15E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.58E+002 | 3.93E+002 | 6.31E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.52E-001 | 1.59E-001 | 3.09E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.30E-001 | 1.80E+000 | 3.15E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -7.89E-002 | 7.52E-001 | 1.36E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-090
Sample Title: B-5 NORTH WEST TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.497E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 10:15:17 AM
Live Time: 600.0 seconds
Real Time: 601.1 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.39E+001 | 1.16E+001 | 2.38E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.12E-002 | 9.62E-002 | 1.91E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.46E-002 | 7.07E-002 | 1.18E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 3.16E-002 | 8.73E-002 | 1.98E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.07E-001 | 2.17E-001 | 3.78E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -3.95E-003 | 8.31E-002 | 1.70E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.18E-002 | 1.97E-001 | 3.63E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.01E-002 | 8.22E-002 | 1.14E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.59E-002 | 1.09E-001 | 2.16E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 1.59E-001 | 1.13E-001 | 2.53E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 3.99E-001 | 1.90E-001 | 4.00E-001 |
| BI-214 | 5.29E-001 | 2.22E-001 | 3.19E-001 | FOUND | | |
| PB-214 | 3.40E-001 | 5.26E-001 | 3.77E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.26E+000 | 1.66E+000 | 3.33E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.43E-001 | 4.86E-001 | 1.13E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.75E+001 | 3.13E+001 | 6.41E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 8.29E-001 | 2.85E+000 | 5.29E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.82E-002 | 3.05E-001 | 5.27E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 4.96E+000 | 1.17E+001 | 2.80E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.42E+000 | 1.23E+000 | 2.46E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -8.09E+001 | 2.26E+002 | 4.15E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.05E-002 | 9.65E-002 | 1.95E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.42E+000 | 1.23E+000 | 2.46E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -6.51E-002 | 5.39E-001 | 1.01E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-091
Sample Title: B-5 NORTH WEST TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.497E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 10:17:35 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.62E+001 | 1.01E+001 | 1.24E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.40E-002 | 7.55E-002 | 1.65E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -5.04E-002 | 8.44E-002 | 1.35E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -1.41E-002 | 1.02E-001 | 1.69E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 2.39E-002 | 1.95E-001 | 4.03E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.10E-002 | 8.58E-002 | 1.60E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.42E-001 | 2.47E-001 | 4.24E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.47E-002 | 7.44E-002 | 1.23E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.24E-001 | 1.11E-001 | 2.47E-001 |
| TL-208 | 2.65E-001 | 1.16E-001 | 1.86E-001 | FOUND | | |
| PB-212 | 9.04E-001 | 3.46E-001 | 4.51E-001 | FOUND | | |
| BI-214 | 6.59E-001 | 2.50E-001 | 3.99E-001 | FOUND | | |
| PB-214 | 5.47E-001 | 5.50E-001 | 4.00E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.69E+000 | 2.04E+000 | 3.98E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.55E-001 | 4.70E-001 | 1.15E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -4.38E+001 | 3.36E+001 | 4.90E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.73E+000 | 2.77E+000 | 5.29E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -3.65E-002 | 2.98E-001 | 5.07E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.58E+001 | 1.68E+001 | 3.87E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.52E-001 | 1.53E+000 | 2.69E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.88E+001 | 2.88E+002 | 5.52E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.15E-001 | 1.24E-001 | 2.42E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.52E-001 | 1.53E+000 | 2.69E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -9.89E-002 | 5.56E-001 | 1.03E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0503-092
Sample Title: B-5 NORTH WEST TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.216E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 10:28:40 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 1.69E+001 | 3.18E+000 | 2.47E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 7.74E-002 | 7.86E-002 | 1.89E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -6.63E-003 | 9.32E-002 | 1.55E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -4.40E-004 | 8.73E-002 | 1.90E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.39E-002 | 2.11E-001 | 4.16E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.41E-001 | 1.20E-001 | 1.19E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.17E-001 | 2.38E-001 | 4.93E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.44E-002 | 9.94E-002 | 1.81E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.28E-001 | 1.31E-001 | 2.72E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.78E-001 | 1.47E-001 | 3.42E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 8.08E-001 | 2.50E-001 | 5.28E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 5.89E-001 | 3.06E-001 | 6.69E-001 |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 8.35E-001 | 3.02E-001 | 6.65E-001 |
| RA-226 | 9.79E+000 | 9.25E+000 | 4.56E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.14E-001 | 4.81E-001 | 1.17E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.28E+001 | 3.28E+001 | 5.91E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.24E+000 | 3.35E+000 | 6.20E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -4.21E-002 | 3.66E-001 | 6.16E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.60E+001 | 1.30E+001 | 3.50E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.78E+000 | 2.03E+000 | 3.78E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 4.30E+002 | 3.71E+002 | 7.41E+002 |
| U-235 | 5.96E-001 | 5.63E-001 | 2.77E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.78E+000 | 2.03E+000 | 3.78E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.74E-001 | 6.18E-001 | 1.12E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-093
Sample Title: B-5 NORTH WEST TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.986E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 10:39:46 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.26E+001 | 1.02E+001 | 2.86E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 9.03E-002 | 1.05E-001 | 2.35E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 4.05E-002 | 8.33E-002 | 1.51E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.32E-002 | 1.11E-001 | 2.59E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.25E-001 | 2.29E-001 | 4.02E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -4.72E-003 | 1.07E-001 | 1.99E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.20E-002 | 1.95E-001 | 3.67E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 3.45E-002 | 1.04E-001 | 1.97E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.58E-001 | 1.40E-001 | 3.02E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.94E-001 | 1.66E-001 | 3.86E-001 |
| PB-212 | 3.82E-001 | 1.80E-001 | 4.64E-001 | FOUND | | |
| BI-214 | 7.92E-001 | 2.72E-001 | 3.83E-001 | FOUND | | |
| PB-214 | 8.70E-001 | 2.24E-001 | 5.02E-001 | FOUND | | |
| RA-226 | 4.66E+000 | 2.00E+000 | 4.22E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.18E+000 | 5.74E-001 | 1.34E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 7.48E+000 | 3.88E+001 | 7.30E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.58E+000 | 3.60E+000 | 6.55E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -5.90E-001 | 5.07E-001 | 4.94E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.26E+001 | 1.35E+001 | 3.41E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.20E+000 | 1.95E+000 | 3.61E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -7.37E+001 | 3.37E+002 | 6.09E+002 |
| U-235 | 2.84E-001 | 1.22E-001 | 2.57E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.20E+000 | 1.95E+000 | 3.61E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.60E-001 | 6.48E-001 | 1.28E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-094
Sample Title: B-5 H/W LINE BOTTOM TRENCH #7
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.058E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 12:44:07 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.22E+001 | 1.15E+001 | 2.88E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.74E-002 | 8.90E-002 | 1.87E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.30E-002 | 1.09E-001 | 1.71E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 7.04E-002 | 1.06E-001 | 2.54E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.53E-001 | 2.80E-001 | 3.88E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | 1.67E-002 | 1.11E-001 | 2.50E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.28E-001 | 2.41E-001 | 5.74E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.49E-001 | 1.58E-001 | 1.37E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.24E-002 | 1.66E-001 | 3.11E-001 |
| TL-208 | 4.09E-001 | 1.55E-001 | 2.72E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 1.15E+000 | 3.01E-001 | 6.44E-001 |
| BI-214 | 6.13E-001 | 9.77E-001 | 5.11E-001 | FOUND | | |
| PB-214 | 7.49E-001 | 3.64E-001 | 3.20E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | -2.55E-001 | 2.33E+000 | 4.24E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.57E+000 | 7.09E-001 | 1.65E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.10E+000 | 3.84E+001 | 6.88E+001 |
| PA-231 | NOT FOUND/DATA for | 283.67 keV | | -4.18E+000 | 6.28E+000 | 8.14E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 6.47E-002 | 4.07E-001 | 7.06E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.42E+000 | 1.86E+001 | 3.85E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.49E+000 | 1.80E+000 | 3.53E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.52E+002 | 3.82E+002 | 6.38E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 3.84E-002 | 1.45E-001 | 2.69E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.49E+000 | 1.80E+000 | 3.53E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.11E-001 | 6.80E-001 | 1.30E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-095
Sample Title: B-5 H/W LINE BOTTOM TRENCH #8
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.053E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 12:58:09 PM
Live Time: 600.0 seconds
Real Time: 601.1 seconds
Dead Time: 0.19 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.53E+001 | 1.16E+001 | 2.50E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.51E-002 | 1.15E-001 | 2.10E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.19E-002 | 9.08E-002 | 1.58E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 2.75E-002 | 1.51E-001 | 3.07E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.39E-001 | 1.92E-001 | 3.00E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -7.78E-002 | 1.14E-001 | 1.93E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -2.45E-002 | 2.36E-001 | 4.57E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.42E-002 | 1.18E-001 | 1.83E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.87E-002 | 1.39E-001 | 2.90E-001 |
| TL-208 | 3.83E-001 | 1.06E-001 | 2.51E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 1.30E+000 | 3.23E-001 | 6.84E-001 |
| BI-214 | 9.24E-001 | 1.02E+000 | 4.46E-001 | FOUND | | |
| PB-214 | 6.65E-001 | 8.93E-001 | 4.26E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.39E+000 | 2.42E+000 | 4.91E+000 |
| AC-228 | 9.89E-001 | 3.99E-001 | 6.43E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.78E+001 | 3.93E+001 | 7.01E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.34E-002 | 3.40E+000 | 6.02E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 1.03E-001 | 4.01E-001 | 7.06E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.21E-001 | 2.10E+001 | 4.08E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.78E+000 | 2.09E+000 | 3.77E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -3.30E+002 | 3.45E+002 | 4.82E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.45E-001 | 1.47E-001 | 2.89E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.78E+000 | 2.09E+000 | 3.77E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.54E-001 | 5.78E-001 | 1.21E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-096
Sample Title: B-5 H/W LINE BOTTOM TRENCH #9
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.526E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 1:12:39 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.27E+001 | 1.52E+001 | 2.90E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 6.13E-002 | 1.12E-001 | 2.38E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -5.29E-002 | 1.18E-001 | 1.82E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -8.65E-002 | 1.33E-001 | 2.40E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.91E-002 | 2.82E-001 | 5.54E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.23E-002 | 1.20E-001 | 2.27E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.20E-002 | 2.31E-001 | 4.72E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.07E-002 | 1.23E-001 | 2.28E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -7.35E-002 | 1.46E-001 | 2.54E-001 |
| TL-208 | 3.50E-001 | 4.65E-001 | 2.02E-001 | FOUND | | |
| PB-212 | 8.46E-001 | 6.18E-001 | 5.60E-001 | FOUND | | |
| BI-214 | 1.10E+000 | 1.03E+000 | 4.76E-001 | FOUND | | |
| PB-214 | 9.58E-001 | 3.14E-001 | 5.45E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.17E+000 | 2.62E+000 | 4.96E+000 |
| AC-228 | NOT FOUND/DATA for | 338.32 keV | | 5.84E-001 | 7.90E-001 | 1.63E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.06E+000 | 4.95E+001 | 9.05E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 6.04E-001 | 3.24E+000 | 5.95E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.22E-001 | 4.31E-001 | 7.12E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.04E+000 | 2.26E+001 | 3.92E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -4.14E-001 | 2.09E+000 | 3.05E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -4.14E+001 | 3.33E+002 | 6.29E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.57E-002 | 1.60E-001 | 3.02E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -4.14E-001 | 2.09E+000 | 3.05E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.30E-002 | 7.09E-001 | 1.26E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-097
Sample Title: B-5 H/W LINE BOTTOM TRENCH #10
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.898E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 1:31:35 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.25E+001 | 1.08E+001 | 2.27E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -4.51E-003 | 9.39E-002 | 1.91E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 8.30E-002 | 9.10E-002 | 1.74E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.68E-002 | 1.20E-001 | 2.48E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.31E-001 | 2.50E-001 | 3.56E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.22E-001 | 1.24E-001 | 1.67E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.00E-002 | 2.89E-001 | 5.39E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.65E-004 | 1.12E-001 | 2.16E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.91E-002 | 1.35E-001 | 2.74E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.67E-001 | 1.86E-001 | 3.86E-001 |
| PB-212 | 1.50E+000 | 6.70E-001 | 4.91E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 8.08E-001 | 3.52E-001 | 7.97E-001 |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 9.90E-001 | 3.47E-001 | 7.77E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 9.28E-001 | 2.46E+000 | 4.65E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.22E+000 | 5.92E-001 | 1.44E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.40E+001 | 4.16E+001 | 8.01E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.95E+000 | 3.94E+000 | 7.28E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.38E-001 | 4.10E-001 | 7.34E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.36E+000 | 2.18E+001 | 4.38E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.33E-001 | 2.00E+000 | 3.52E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.43E+002 | 3.08E+002 | 5.47E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.99E-002 | 1.50E-001 | 2.83E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.33E-001 | 2.00E+000 | 3.52E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.83E-001 | 6.79E-001 | 1.19E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-098
Sample Title: B-5 H/W LINE BOTTOM TRENCH #11
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.345E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 1:42:21 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.39E+001 | 1.25E+001 | 2.89E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 8.45E-002 | 1.12E-001 | 2.48E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -5.18E-003 | 9.29E-002 | 1.60E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.02E-002 | 1.11E-001 | 2.29E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.70E-001 | 2.68E-001 | 3.73E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 4.23E-002 | 5.78E-002 | 1.46E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.93E-001 | 2.88E-001 | 5.92E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.32E-002 | 1.20E-001 | 1.82E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.02E-002 | 9.29E-002 | 1.97E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.34E-001 | 1.61E-001 | 3.46E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 8.76E-001 | 2.90E-001 | 6.03E-001 |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 7.96E-001 | 3.50E-001 | 7.78E-001 |
| PB-214 | 9.48E-001 | 4.42E-001 | 5.11E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.36E+000 | 2.30E+000 | 4.56E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.05E-001 | 5.02E-001 | 1.20E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.07E+001 | 3.99E+001 | 6.97E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.27E+000 | 3.28E+000 | 6.12E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 6.57E-002 | 3.66E-001 | 6.47E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.85E+001 | 1.62E+001 | 4.11E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.49E+000 | 1.88E+000 | 3.47E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -8.29E+001 | 3.47E+002 | 6.38E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.24E-002 | 1.40E-001 | 2.61E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.49E+000 | 1.88E+000 | 3.47E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.39E-001 | 6.14E-001 | 1.23E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-099
Sample Title: B-5 H/W LINE BOTTOM TRENCH #12
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.993E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 1:55:18 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.99E+001 | 1.22E+001 | 1.95E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.37E-002 | 1.17E-001 | 2.01E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 6.74E-002 | 9.26E-002 | 1.73E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 7.69E-002 | 1.49E-001 | 3.22E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.87E-001 | 2.62E-001 | 2.40E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.49E-002 | 1.04E-001 | 1.95E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 7.40E-002 | 3.16E-001 | 6.08E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.14E-002 | 1.04E-001 | 1.92E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.61E-002 | 1.27E-001 | 2.37E-001 |
| TL-208 | 3.80E-001 | 6.68E-001 | 2.10E-001 | FOUND | | |
| PB-212 | 1.08E+000 | 5.78E-001 | 5.29E-001 | FOUND | | |
| BI-214 | 7.01E-001 | 4.48E-001 | 4.52E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 1.03E+000 | 3.42E-001 | 7.71E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 7.13E-001 | 2.41E+000 | 4.46E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.70E-001 | 6.15E-001 | 1.42E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.26E+001 | 4.47E+001 | 8.01E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 8.86E-001 | 3.79E+000 | 6.87E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.00E-001 | 3.81E-001 | 6.80E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.86E+000 | 2.24E+001 | 3.40E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.16E+000 | 1.93E+000 | 3.67E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.57E+001 | 3.24E+002 | 6.02E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.22E-001 | 1.42E-001 | 2.79E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.16E+000 | 1.93E+000 | 3.67E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.35E-001 | 6.40E-001 | 1.27E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-100
Sample Title: B-5 H/W LINE BOTTOM TRENCH #13
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.149E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 2:12:54 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.06E+001 | 1.01E+001 | 1.95E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -4.99E-002 | 1.05E-001 | 1.82E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 4.36E-002 | 9.12E-002 | 1.63E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.47E-003 | 9.41E-002 | 1.92E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.18E-001 | 2.08E-001 | 4.66E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 2.08E-002 | 8.56E-002 | 1.75E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.70E-001 | 2.70E-001 | 4.12E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.74E-002 | 9.62E-002 | 1.71E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.32E-002 | 9.57E-002 | 2.18E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.71E-001 | 1.49E-001 | 3.45E-001 |
| PB-212 | 5.61E-001 | 2.00E-001 | 4.06E-001 | FOUND | | |
| BI-214 | 4.77E-001 | 4.23E-002 | 4.04E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 8.32E-001 | 3.15E-001 | 6.84E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | -7.20E-001 | 2.03E+000 | 3.59E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 4.21E-001 | 4.64E-001 | 1.03E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.50E+000 | 3.74E+001 | 6.97E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.82E+000 | 2.89E+000 | 5.52E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.54E-001 | 3.85E-001 | 6.05E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.56E+000 | 1.93E+001 | 3.70E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.51E+000 | 1.81E+000 | 3.33E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -8.35E+001 | 3.42E+002 | 5.97E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | -8.30E-002 | 1.26E-001 | 2.16E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.51E+000 | 1.81E+000 | 3.33E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -5.39E-001 | 6.55E-001 | 1.09E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-101
Sample Title: B-5 H/W LINE BOTTOM TRENCH #14
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.975E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 2:23:57 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.41E+001 | 1.37E+001 | 2.59E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.98E-002 | 1.09E-001 | 2.28E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.32E-002 | 8.25E-002 | 1.36E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.11E-002 | 7.75E-002 | 2.14E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 4.11E-002 | 2.16E-001 | 4.53E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -1.58E-003 | 9.26E-002 | 2.03E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 7.96E-002 | 2.37E-001 | 4.81E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.98E-002 | 1.01E-001 | 1.81E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.35E-002 | 1.01E-001 | 1.99E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.53E-001 | 1.78E-001 | 3.97E-001 |
| PB-212 | 1.23E+000 | 6.03E-001 | 3.89E-001 | FOUND | | |
| BI-214 | 9.41E-001 | 1.71E+000 | 3.28E-001 | FOUND | | |
| PB-214 | 7.68E-001 | 3.58E-001 | 4.00E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.32E+000 | 2.13E+000 | 4.10E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.11E-001 | 5.48E-001 | 1.27E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.14E+000 | 3.85E+001 | 7.12E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -2.41E-001 | 2.99E+000 | 5.32E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 2.14E-001 | 3.67E-001 | 6.65E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.67E+000 | 2.20E+001 | 3.96E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.46E-001 | 1.69E+000 | 2.92E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.48E+002 | 2.87E+002 | 5.01E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.19E-001 | 1.33E-001 | 2.60E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.46E-001 | 1.69E+000 | 2.92E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.02E-001 | 6.28E-001 | 1.09E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-102
Sample Title: B-5 H/W LINE BOTTOM TRENCH #15
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.303E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 2:52:05 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.33E+001 | 1.35E+001 | 3.38E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.04E-002 | 1.06E-001 | 2.13E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.67E-002 | 9.30E-002 | 1.66E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 2.59E-002 | 1.37E-001 | 2.73E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.34E-001 | 2.56E-001 | 3.75E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 4.80E-003 | 7.67E-002 | 1.58E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.95E-002 | 2.59E-001 | 5.09E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.88E-002 | 1.02E-001 | 1.97E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.28E-002 | 7.78E-002 | 1.88E-001 |
| TL-208 | 3.79E-001 | 1.46E-001 | 2.43E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.99E-001 | 2.90E-001 | 6.11E-001 |
| BI-214 | 7.81E-001 | 4.54E-001 | 3.56E-001 | FOUND | | |
| PB-214 | 7.95E-001 | 2.78E-001 | 5.76E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.34E-001 | 2.32E+000 | 4.27E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.15E+000 | 6.26E-001 | 1.45E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.03E+001 | 4.11E+001 | 7.98E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -7.24E-002 | 3.04E+000 | 5.45E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 2.92E-002 | 3.72E-001 | 6.46E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.49E+000 | 2.17E+001 | 4.32E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -5.59E-001 | 1.93E+000 | 3.16E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.14E+002 | 3.41E+002 | 5.76E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.13E-002 | 1.44E-001 | 2.70E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -5.59E-001 | 1.93E+000 | 3.16E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 7.85E-002 | 5.85E-001 | 1.12E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-103
Sample Title: B-5 H/W LINE BOTTOM TRENCH #16
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.774E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 2:52:05 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.19E+001 | 1.27E+001 | 3.17E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 9.72E-003 | 9.98E-002 | 2.00E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.45E-002 | 8.74E-002 | 1.56E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 2.43E-002 | 1.29E-001 | 2.56E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.26E-001 | 2.40E-001 | 3.52E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 4.51E-003 | 7.21E-002 | 1.48E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.78E-002 | 2.43E-001 | 4.79E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.77E-002 | 9.58E-002 | 1.85E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.96E-002 | 7.31E-002 | 1.76E-001 |
| TL-208 | 3.56E-001 | 1.37E-001 | 2.29E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.39E-001 | 2.72E-001 | 5.74E-001 |
| BI-214 | 7.34E-001 | 4.27E-001 | 3.34E-001 | FOUND | | |
| PB-214 | 7.47E-001 | 2.61E-001 | 5.41E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.20E-001 | 2.18E+000 | 4.01E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.08E+000 | 5.88E-001 | 1.36E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.91E+001 | 3.86E+001 | 7.50E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -6.80E-002 | 2.86E+000 | 5.12E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 2.74E-002 | 3.50E-001 | 6.07E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.40E+000 | 2.04E+001 | 4.06E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -5.25E-001 | 1.81E+000 | 2.97E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.01E+002 | 3.21E+002 | 5.41E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.82E-002 | 1.35E-001 | 2.53E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -5.25E-001 | 1.81E+000 | 2.97E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 7.38E-002 | 5.50E-001 | 1.06E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-104
Sample Title: B-5 H/W LINE BOTTOM TRENCH #17
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.774E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 3:25:40 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.16E+001 | 1.07E+001 | 2.70E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -5.32E-002 | 9.83E-002 | 1.44E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 2.48E-002 | 8.43E-002 | 1.51E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | -8.46E-003 | 1.02E-001 | 2.02E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -6.37E-002 | 2.47E-001 | 4.65E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 2.75E-002 | 8.31E-002 | 1.75E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -8.85E-003 | 2.49E-001 | 4.63E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -4.14E-002 | 8.90E-002 | 1.34E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.93E-003 | 1.17E-001 | 2.29E-001 |
| TL-208 | 2.76E-001 | 1.16E-001 | 1.72E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.86E-001 | 2.34E-001 | 5.10E-001 |
| BI-214 | 6.89E-001 | 8.78E-001 | 4.62E-001 | FOUND | | |
| PB-214 | 4.48E-001 | 1.83E+000 | 3.63E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.15E+000 | 2.01E+000 | 3.89E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 6.57E-001 | 5.23E-001 | 1.18E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.59E+001 | 3.49E+001 | 6.90E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.85E+000 | 3.45E+000 | 6.37E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.12E-001 | 3.32E-001 | 5.90E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.03E+001 | 1.77E+001 | 2.51E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.33E+000 | 1.61E+000 | 3.02E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.94E+002 | 3.22E+002 | 5.41E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 7.54E-002 | 1.21E-001 | 2.37E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.33E+000 | 1.61E+000 | 3.02E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.30E-001 | 6.44E-001 | 1.28E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-105
Sample Title: B-5 H/W LINE BOTTOM TRENCH #18
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.387E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 3:25:40 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.27E+001 | 1.12E+001 | 2.84E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.60E-002 | 1.03E-001 | 1.52E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.61E-002 | 8.87E-002 | 1.59E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -8.90E-003 | 1.07E-001 | 2.12E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -6.70E-002 | 2.60E-001 | 4.90E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 2.90E-002 | 8.75E-002 | 1.84E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -9.31E-003 | 2.62E-001 | 4.88E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.36E-002 | 9.37E-002 | 1.41E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.05E-002 | 1.24E-001 | 2.41E-001 |
| TL-208 | 2.90E-001 | 1.22E-001 | 1.81E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 8.27E-001 | 2.47E-001 | 5.37E-001 |
| BI-214 | 7.25E-001 | 9.25E-001 | 4.86E-001 | FOUND | | |
| PB-214 | 4.72E-001 | 1.92E+000 | 3.82E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.22E+000 | 2.11E+000 | 4.09E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.92E-001 | 5.51E-001 | 1.25E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.67E+001 | 3.68E+001 | 7.27E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.00E+000 | 3.63E+000 | 6.70E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.17E-001 | 3.49E-001 | 6.21E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.08E+001 | 1.86E+001 | 2.64E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.40E+000 | 1.70E+000 | 3.18E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.04E+002 | 3.38E+002 | 5.70E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.93E-002 | 1.28E-001 | 2.49E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.40E+000 | 1.70E+000 | 3.18E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.47E-001 | 6.78E-001 | 1.34E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-106
Sample Title: B-5 H/W LINE BOTTOM TRENCH #19
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.675E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 3:53:02 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.57E+001 | 1.15E+001 | 3.61E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 6.08E-002 | 9.99E-002 | 2.12E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.42E-002 | 9.08E-002 | 1.53E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -2.26E-002 | 1.08E-001 | 1.58E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.18E-001 | 2.11E-001 | 3.57E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 3.22E-002 | 1.07E-001 | 2.14E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -9.98E-002 | 2.71E-001 | 4.85E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.02E-002 | 8.07E-002 | 1.36E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.67E-002 | 1.26E-001 | 2.60E-001 |
| TL-208 | 2.83E-001 | 2.03E+000 | 2.23E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.18E-001 | 2.77E-001 | 5.81E-001 |
| BI-214 | 8.24E-001 | 8.29E-001 | 3.80E-001 | FOUND | | |
| PB-214 | 5.53E-001 | 2.03E-001 | 4.10E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.00E+000 | 2.13E+000 | 4.22E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.00E-001 | 5.91E-001 | 1.29E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.42E+001 | 4.23E+001 | 7.10E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.09E+000 | 3.54E+000 | 6.55E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -2.20E-001 | 3.96E-001 | 6.01E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 8.20E+000 | 1.94E+001 | 4.11E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.74E+000 | 1.75E+000 | 3.29E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 3.31E+001 | 2.92E+002 | 5.61E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.33E-001 | 1.30E-001 | 2.59E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.74E+000 | 1.75E+000 | 3.29E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.00E-001 | 6.01E-001 | 1.14E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-107
Sample Title: B-5 H/W LINE BOTTOM TRENCH #20
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.883E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 4:17:04 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.05E+001 | 1.03E+001 | 2.92E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -9.06E-002 | 9.90E-002 | 1.42E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 2.57E-002 | 8.46E-002 | 1.50E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 4.87E-003 | 1.14E-001 | 2.28E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.67E-001 | 2.83E-001 | 3.79E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -9.39E-002 | 9.08E-002 | 1.26E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.43E-001 | 2.26E-001 | 4.86E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.63E-002 | 8.33E-002 | 1.41E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.24E-001 | 1.04E-001 | 2.40E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 1.63E-001 | 1.46E-001 | 3.01E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 8.76E-001 | 2.74E-001 | 5.70E-001 |
| BI-214 | 8.10E-001 | 8.86E-001 | 3.49E-001 | FOUND | | |
| PB-214 | 6.37E-001 | 2.44E-001 | 4.77E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 8.12E-001 | 2.24E+000 | 4.07E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.34E+000 | 6.18E-001 | 1.44E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.02E+000 | 3.66E+001 | 6.91E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.52E+000 | 3.30E+000 | 6.19E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -3.87E-001 | 3.53E-001 | 4.90E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 7.07E+000 | 1.72E+001 | 3.65E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.86E+000 | 1.67E+000 | 3.18E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.17E+002 | 3.11E+002 | 6.28E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 7.24E-002 | 1.26E-001 | 2.43E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.86E+000 | 1.67E+000 | 3.18E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.65E-001 | 5.79E-001 | 1.15E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-108
Sample Title: B-5 H/W LINE BOTTOM TRENCH #21
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.256E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 4:28:44 PM
Live Time: 528.9 seconds
Real Time: 529.6 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.06E+001 | 1.43E+001 | 3.26E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -4.17E-002 | 1.39E-001 | 2.19E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.39E-003 | 9.56E-002 | 1.66E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.79E-003 | 1.82E-001 | 1.50E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -9.00E-002 | 2.55E-001 | 4.67E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.96E-003 | 8.91E-002 | 1.80E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.48E-001 | 3.08E-001 | 5.04E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -8.11E-002 | 1.07E-001 | 1.74E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.32E-001 | 1.11E-001 | 2.69E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.10E-001 | 1.72E-001 | 3.87E-001 |
| PB-212 | 9.41E-001 | 2.55E-001 | 5.06E-001 | FOUND | | |
| BI-214 | 7.80E-001 | 1.16E+000 | 4.87E-001 | FOUND | | |
| PB-214 | 8.75E-001 | 7.95E-001 | 4.34E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 7.61E-001 | 2.41E+000 | 4.47E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.16E-001 | 6.02E-001 | 1.41E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.55E+001 | 4.47E+001 | 7.59E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 5.41E-001 | 3.98E+000 | 6.64E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.40E-001 | 3.39E-001 | 6.25E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.88E+000 | 1.71E+001 | 3.71E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.05E-001 | 1.83E+000 | 3.23E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.88E+002 | 3.90E+002 | 6.89E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.01E-002 | 1.45E-001 | 2.75E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.05E-001 | 1.83E+000 | 3.23E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.89E-001 | 8.10E-001 | 1.39E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-109
Sample Title: B-5 H/W LINE BOTTOM TRENCH #22
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.183E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 4:38:14 PM
Live Time: 517.0 seconds
Real Time: 517.7 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.14E+001 | 5.48E+000 | 2.30E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 6.90E-002 | 1.07E-001 | 2.39E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.47E-002 | 1.04E-001 | 1.84E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -4.79E-002 | 1.03E-001 | 1.95E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -4.74E-001 | 5.51E-001 | 4.83E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.98E-002 | 9.72E-002 | 1.86E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.77E-001 | 3.03E-001 | 6.37E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.79E-002 | 9.98E-002 | 1.89E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.53E-002 | 1.42E-001 | 2.57E-001 |
| TL-208 | 3.27E-001 | 1.41E-001 | 1.93E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 8.84E-001 | 2.87E-001 | 6.22E-001 |
| BI-214 | 8.31E-001 | 3.20E-001 | 4.61E-001 | FOUND | | |
| PB-214 | 1.13E+000 | 5.16E-001 | 5.92E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.67E+000 | 2.45E+000 | 4.94E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 7.86E-001 | 6.10E-001 | 1.39E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.35E+001 | 4.07E+001 | 7.99E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.40E+000 | 4.14E+000 | 7.64E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 3.18E-002 | 3.88E-001 | 6.86E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.79E+001 | 1.65E+001 | 4.40E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.14E+000 | 1.94E+000 | 3.59E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.51E+002 | 3.87E+002 | 7.86E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.32E-001 | 1.54E-001 | 3.03E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.14E+000 | 1.94E+000 | 3.59E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.66E-001 | 6.66E-001 | 1.24E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-110
Sample Title: B-5 H/W LINE BOTTOM TRENCH #23
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.610E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 4:47:30 PM
Live Time: 552.6 seconds
Real Time: 553.4 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.48E+001 | 4.15E+000 | 2.14E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.11E-002 | 8.62E-002 | 2.00E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.08E-003 | 8.47E-002 | 1.45E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.28E-002 | 1.17E-001 | 2.44E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.63E-002 | 2.98E-001 | 5.67E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.83E-002 | 9.31E-002 | 1.94E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -7.85E-002 | 2.83E-001 | 5.14E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -9.04E-004 | 9.43E-002 | 1.84E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.93E-002 | 1.28E-001 | 2.62E-001 |
| TL-208 | 3.98E-001 | 1.42E-001 | 1.95E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 8.92E-001 | 2.66E-001 | 5.74E-001 |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 5.42E-001 | 3.18E-001 | 6.99E-001 |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 7.22E-001 | 3.09E-001 | 6.87E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.51E+000 | 2.03E+000 | 4.03E+000 |
| AC-228 | NOT FOUND/DATA for | 338.32 keV | | 7.92E-001 | 6.49E-001 | 1.43E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.72E+001 | 3.82E+001 | 6.80E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.59E+000 | 3.65E+000 | 6.86E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.79E-001 | 4.57E-001 | 6.66E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.21E+001 | 1.76E+001 | 4.50E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.12E-001 | 1.72E+000 | 3.14E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.29E+002 | 3.55E+002 | 7.07E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.63E-002 | 1.25E-001 | 2.48E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.12E-001 | 1.72E+000 | 3.14E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.76E-001 | 6.34E-001 | 1.27E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-111
Sample Title: B-5 H/W LINE BOTTOM TRENCH #24
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.018E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 4:57:19 PM
Live Time: 471.0 seconds
Real Time: 471.8 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.45E+001 | 1.32E+001 | 3.37E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.76E-002 | 1.21E-001 | 2.22E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.06E-003 | 1.13E-001 | 1.95E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -1.44E-001 | 1.62E-001 | 2.01E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 5.84E-002 | 3.12E-001 | 6.21E-001 |
| AG-110m | NOT FOUND/DATA for | 937.49 keV | | 0.00E+000 | 0.00E+000 | 1.46E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.11E-001 | 3.26E-001 | 5.85E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -9.20E-002 | 1.52E-001 | 2.01E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -3.49E-002 | 1.09E-001 | 1.99E-001 |
| TL-208 | 3.02E-001 | 1.61E-001 | 2.73E-001 | FOUND | | |
| PB-212 | 1.02E+000 | 2.77E-001 | 4.47E-001 | FOUND | | |
| BI-214 | 9.00E-001 | 3.56E-001 | 5.23E-001 | FOUND | | |
| PB-214 | 1.11E+000 | 1.27E+000 | 5.17E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.00E+000 | 2.27E+000 | 4.68E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.78E+000 | 7.74E-001 | 1.89E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.99E+001 | 5.19E+001 | 8.65E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.01E+000 | 4.24E+000 | 8.01E+000 |
| PA-234 | NOT FOUND/DATA for | 883.24 keV | | -3.68E-001 | 1.10E+000 | 8.67E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.70E+000 | 1.45E+001 | 3.54E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.48E+000 | 2.15E+000 | 4.19E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.07E+002 | 3.86E+002 | 7.82E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 3.68E-002 | 1.40E-001 | 2.72E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.48E+000 | 2.15E+000 | 4.19E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.35E-001 | 7.95E-001 | 1.58E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-112
Sample Title: B-5 H/W LINE BOTTOM TRENCH #25
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.312E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/23/2005 5:05:47 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.00E+001 | 1.30E+001 | 2.92E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 5.89E-002 | 7.91E-002 | 1.92E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.43E-002 | 8.96E-002 | 1.52E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -3.76E-002 | 9.49E-002 | 1.65E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.33E-001 | 2.55E-001 | 3.74E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 5.08E-003 | 1.05E-001 | 2.03E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.59E-002 | 2.51E-001 | 4.93E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.72E-001 | 1.60E-001 | 1.52E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 0.00E+000 | 1.28E-001 | 2.35E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.43E-001 | 1.58E-001 | 3.60E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.91E-001 | 2.63E-001 | 5.58E-001 |
| BI-214 | 1.19E+000 | 1.42E+000 | 3.68E-001 | FOUND | | |
| PB-214 | 8.21E-001 | 7.32E-001 | 3.79E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.30E+000 | 2.12E+000 | 4.39E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.47E+000 | 6.88E-001 | 1.59E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.30E+001 | 4.26E+001 | 7.34E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.04E+000 | 3.92E+000 | 7.16E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | 3.59E-001 | 4.38E-001 | 7.22E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 6.19E-001 | 1.39E+001 | 2.98E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.81E+000 | 1.80E+000 | 3.40E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -3.24E+002 | 3.39E+002 | 5.31E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.12E-001 | 1.34E-001 | 2.76E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.81E+000 | 1.80E+000 | 3.40E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.60E-001 | 6.30E-001 | 1.12E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-113
Sample Title: SPOILS PILE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.284E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/25/2005 7:51:36 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.43E+001 | 1.46E+001 | 3.64E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 8.48E-002 | 1.05E-001 | 2.49E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.05E-003 | 1.02E-001 | 1.76E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 6.42E-002 | 1.44E-001 | 3.17E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.78E-001 | 4.04E-001 | 3.92E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.85E-002 | 1.28E-001 | 2.18E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 5.74E-002 | 3.17E-001 | 5.74E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.98E-002 | 1.31E-001 | 2.22E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.07E-002 | 1.21E-001 | 1.74E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.84E-001 | 2.15E-001 | 4.57E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 1.01E+000 | 3.41E-001 | 7.04E-001 |
| BI-214 | 8.96E-001 | 3.33E-001 | 4.82E-001 | FOUND | | |
| PB-214 | 6.56E-001 | 2.88E-001 | 5.39E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.32E+000 | 2.74E+000 | 5.47E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.64E+000 | 6.65E-001 | 1.66E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.52E+001 | 4.42E+001 | 8.54E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.80E-001 | 3.96E+000 | 7.15E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 3.88E-002 | 4.36E-001 | 7.65E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.56E+001 | 1.87E+001 | 4.57E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.23E+000 | 2.19E+000 | 4.08E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.44E+002 | 3.78E+002 | 6.36E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.02E-002 | 1.62E-001 | 3.05E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.23E+000 | 2.19E+000 | 4.08E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.93E-001 | 7.34E-001 | 1.31E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0503-114 |
| Sample Title: | SPOILS PILE |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.061E+002 g |
| Sample Taken On: | 3/23/2005 11:15:00 AM |
| Acquisition Started: | 3/25/2005 8:05:23 AM |
| Live Time: | 600.0 seconds |
| Real Time: | 601.0 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.15E+001 | 1.15E+001 | 2.75E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.44E-003 | 1.01E-001 | 1.99E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 2.36E-002 | 9.14E-002 | 1.64E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 2.33E-002 | 1.20E-001 | 2.54E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.20E-001 | 2.44E-001 | 5.40E-001 |
| AG-110m | NOT FOUND/DATA for 1384.30 keV | | | 0.00E+000 | 0.00E+000 | 2.12E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.01E-001 | 2.39E-001 | 4.37E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -6.74E-002 | 1.36E-001 | 1.90E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.06E-002 | 1.23E-001 | 2.34E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 1.54E-001 | 1.67E-001 | 3.41E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 6.79E-001 | 2.66E-001 | 5.56E-001 |
| BI-214 | 6.06E-001 | 1.78E+000 | 4.67E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 9.46E-001 | 3.26E-001 | 7.37E-001 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.49E+000 | 2.45E+000 | 4.83E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.64E-001 | 5.59E-001 | 1.33E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.49E+001 | 3.85E+001 | 6.34E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.78E-001 | 3.88E+000 | 6.91E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.40E-001 | 4.03E-001 | 6.26E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 8.93E+000 | 1.51E+001 | 3.62E+001 |
| TH-234 | 1.47E+000 | 5.05E-001 | 2.77E+000 | FOUND | | |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 6.69E+001 | 3.57E+002 | 6.89E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.39E-001 | 1.46E-001 | 2.89E-001 |
| U-238 | 1.47E+000 | 5.04E-001 | 2.77E+000 | FOUND | | |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.55E-001 | 7.22E-001 | 1.30E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-115
Sample Title: SPOILS PILE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.327E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/25/2005 8:17:22 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.86E+001 | 1.21E+001 | 2.87E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 7.02E-002 | 9.65E-002 | 2.23E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 5.69E-002 | 8.58E-002 | 1.59E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 3.46E-002 | 8.96E-002 | 2.14E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -9.14E-002 | 2.36E-001 | 4.10E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -6.41E-003 | 7.20E-002 | 1.47E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.05E-001 | 2.72E-001 | 5.53E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -9.41E-002 | 1.03E-001 | 1.32E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.53E-002 | 1.20E-001 | 2.51E-001 |
| TL-208 | 2.98E-001 | 3.47E-002 | 1.99E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 6.88E-001 | 2.67E-001 | 5.55E-001 |
| BI-214 | 1.10E+000 | 1.04E+000 | 4.61E-001 | FOUND | | |
| PB-214 | 1.12E+000 | 3.07E-001 | 5.12E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.33E+000 | 2.18E+000 | 4.21E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.14E+000 | 6.24E-001 | 1.44E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.96E+001 | 4.02E+001 | 7.86E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 6.78E-001 | 3.24E+000 | 5.91E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -4.33E-001 | 4.59E-001 | 5.65E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -4.02E+000 | 1.37E+001 | 2.66E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 8.43E-001 | 1.78E+000 | 3.21E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.11E+002 | 3.63E+002 | 7.10E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.42E-001 | 1.29E-001 | 2.61E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 8.43E-001 | 1.78E+000 | 3.21E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.96E-001 | 6.26E-001 | 1.14E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-116
Sample Title: SPOILS PILE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.882E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/25/2005 8:38:41 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.40E+001 | 1.42E+001 | 3.59E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | | 834.83 keV | 3.24E-002 | 1.07E-001 | 2.27E-001 |
| CO-57 | NOT FOUND/DATA for | | 122.06 keV | -9.29E-002 | 1.18E-001 | 1.71E-001 |
| CO-60 | NOT FOUND/DATA for | | 1332.50 keV | 1.20E-001 | 1.18E-001 | 3.00E-001 |
| ZN-65 | NOT FOUND/DATA for | | 1115.55 keV | 1.14E-001 | 1.67E-001 | 4.36E-001 |
| AG-110m | NOT FOUND/DATA for | | 884.68 keV | 4.91E-003 | 9.78E-002 | 2.11E-001 |
| SB-125 | NOT FOUND/DATA for | | 427.89 keV | -1.01E-001 | 2.84E-001 | 4.48E-001 |
| CS-134 | NOT FOUND/DATA for | | 604.70 keV | 5.07E-002 | 9.80E-002 | 2.10E-001 |
| CS-137 | NOT FOUND/DATA for | | 661.66 keV | 1.02E-001 | 1.29E-001 | 2.83E-001 |
| TL-208 | NOT FOUND/DATA for | | 583.19 keV | 3.15E-001 | 1.78E-001 | 3.87E-001 |
| PB-212 | NOT FOUND/DATA for | | 238.63 keV | 1.08E+000 | 3.07E-001 | 6.48E-001 |
| BI-214 | 7.27E-001 | 3.04E-001 | 5.87E-001 | FOUND | | |
| PB-214 | 1.02E+000 | 1.15E+000 | 4.28E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | | 186.10 keV | 2.55E+000 | 2.49E+000 | 4.87E+000 |
| AC-228 | NOT FOUND/DATA for | | 911.21 keV | 1.37E+000 | 6.26E-001 | 1.51E+000 |
| TH-230 | NOT FOUND/DATA for | | 67.67 keV | -3.23E+000 | 4.04E+001 | 7.44E+001 |
| PA-231 | NOT FOUND/DATA for | | 300.02 keV | 2.26E+000 | 3.80E+000 | 7.09E+000 |
| PA-234 | NOT FOUND/DATA for | | 131.20 keV | -3.36E-001 | 4.51E-001 | 6.28E-001 |
| PA-234M | NOT FOUND/DATA for | | 1001.03 keV | 9.26E+000 | 1.73E+001 | 3.95E+001 |
| TH-234 | NOT FOUND/DATA for | | 92.60 keV | 1.63E+000 | 1.90E+000 | 3.56E+000 |
| U-234 | NOT FOUND/DATA for | | 53.20 keV | 8.95E+001 | 3.89E+002 | 7.44E+002 |
| U-235 | NOT FOUND/DATA for | | 185.71 keV | 1.73E-001 | 1.46E-001 | 2.94E-001 |
| U-238 | NOT FOUND/DATA for | | 92.60 keV | 1.63E+000 | 1.90E+000 | 3.56E+000 |
| AM-241 | NOT FOUND/DATA for | | 59.54 keV | -2.96E-001 | 7.17E-001 | 1.27E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-127
Sample Title: B-5 NW H/W TRENCH SPOILS #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.548E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/24/2005 1:38:14 PM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.05E+001 | 7.77E+000 | 2.46E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.40E-003 | 6.36E-002 | 1.24E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.17E-002 | 6.91E-002 | 1.22E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -7.67E-004 | 7.21E-002 | 1.51E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -6.01E-002 | 1.99E-001 | 3.66E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 3.49E-002 | 7.17E-002 | 1.50E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -5.30E-002 | 2.15E-001 | 3.67E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.46E-002 | 7.27E-002 | 1.31E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.81E-002 | 8.71E-002 | 1.81E-001 |
| TL-208 | 3.87E-001 | 1.15E-001 | 1.53E-001 | FOUND | | |
| PB-212 | 8.76E-001 | 1.86E-001 | 4.20E-001 | FOUND | | |
| BI-214 | 7.95E-001 | 5.82E-001 | 3.29E-001 | FOUND | | |
| PB-214 | 4.83E-001 | 2.77E-001 | 3.74E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 5.14E-001 | 1.59E+000 | 2.96E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.28E+000 | 4.78E-001 | 1.12E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 3.64E+000 | 3.06E+001 | 5.70E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -2.29E+000 | 3.01E+000 | 4.44E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.15E-002 | 3.19E-001 | 5.33E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.36E-001 | 1.58E+001 | 2.90E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -2.13E-001 | 1.50E+000 | 2.50E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -4.22E+001 | 2.88E+002 | 5.13E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.09E-003 | 1.01E-001 | 1.83E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -2.13E-001 | 1.50E+000 | 2.50E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.28E-002 | 4.86E-001 | 8.88E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-128
Sample Title: B-5 NW H/W TRENCH SPOILS #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.630E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/24/2005 2:01:30 PM
Live Time: 900.0 seconds
Real Time: 901.2 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.29E+001 | 7.18E+000 | 1.39E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -3.41E-003 | 7.45E-002 | 1.26E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 9.00E-003 | 5.95E-002 | 1.03E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.22E-002 | 6.61E-002 | 1.51E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.13E-001 | 2.37E-001 | 3.20E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 1.21E-002 | 7.61E-002 | 1.46E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -8.12E-002 | 1.83E-001 | 3.13E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -3.18E-002 | 7.93E-002 | 1.22E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.74E-002 | 7.44E-002 | 1.54E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 1.26E-001 | 1.05E-001 | 2.15E-001 |
| PB-212 | 7.85E-001 | 2.87E-001 | 3.52E-001 | FOUND | | |
| BI-214 | 5.87E-001 | 1.92E-001 | 2.82E-001 | FOUND | | |
| PB-214 | 6.26E-001 | 2.39E-001 | 3.31E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.11E+000 | 1.67E+000 | 3.24E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.06E-001 | 4.11E-001 | 9.42E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.14E+000 | 2.68E+001 | 4.89E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.51E+000 | 2.69E+000 | 4.76E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -2.23E-002 | 2.89E-001 | 4.85E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 3.50E+000 | 1.17E+001 | 2.44E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 6.69E-001 | 1.27E+000 | 2.24E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -9.82E+000 | 2.64E+002 | 4.38E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.05E-001 | 1.01E-001 | 1.94E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 6.69E-001 | 1.27E+000 | 2.24E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.38E-001 | 4.31E-001 | 7.55E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-129
Sample Title: B-5 NW H/W TRENCH SPOILS #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.590E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/24/2005 2:27:53 PM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.41E+001 | 8.49E+000 | 2.21E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.69E-002 | 7.59E-002 | 1.60E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.15E-003 | 7.53E-002 | 1.26E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 3.82E-003 | 8.12E-002 | 1.72E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.80E-002 | 2.21E-001 | 4.04E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -8.55E-002 | 8.97E-002 | 1.25E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.27E-002 | 1.92E-001 | 3.56E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.55E-002 | 1.01E-001 | 1.08E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 8.26E-002 | 8.45E-002 | 1.84E-001 |
| TL-208 | 2.91E-001 | 3.22E-001 | 1.56E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 8.75E-001 | 2.11E-001 | 4.43E-001 |
| BI-214 | 1.04E+000 | 6.59E-001 | 2.95E-001 | FOUND | | |
| PB-214 | 6.80E-001 | 2.08E-001 | 3.11E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.16E+000 | 1.67E+000 | 3.32E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 5.85E-001 | 4.45E-001 | 9.57E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.22E+001 | 2.98E+001 | 5.67E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 8.17E-001 | 2.65E+000 | 4.71E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -9.72E-002 | 3.05E-001 | 5.02E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 2.21E+000 | 1.24E+001 | 2.52E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.03E+000 | 1.45E+000 | 2.60E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -7.02E+001 | 2.88E+002 | 5.17E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 4.33E-002 | 1.02E-001 | 1.91E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.03E+000 | 1.45E+000 | 2.60E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.77E-001 | 4.80E-001 | 8.59E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-130
Sample Title: B-5 NW H/W TRENCH SPOILS #4
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.178E+002 g
Sample Taken On: 3/24/2005 11:15:00 AM
Acquisition Started: 3/24/2005 3:52:53 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
|---|---|---|---|---|---|---|
| K-40 | 2.41E+001 | 1.11E+001 | 2.14E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.21E-002 | 9.15E-002 | 1.99E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 4.07E-002 | 8.73E-002 | 1.56E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 5.24E-002 | 1.17E-001 | 2.55E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.67E-002 | 2.44E-001 | 4.85E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 8.28E-003 | 8.88E-002 | 1.74E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.36E-001 | 2.74E-001 | 4.82E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.23E-002 | 9.10E-002 | 1.70E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.14E-001 | 9.10E-002 | 2.17E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.47E-001 | 1.60E-001 | 3.54E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 8.50E-001 | 2.67E-001 | 5.54E-001 |
| BI-214 | 8.57E-001 | 4.20E-001 | 3.46E-001 | FOUND | | |
| PB-214 | 7.55E-001 | 2.53E-001 | 4.25E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.57E+000 | 2.23E+000 | 4.40E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 7.90E-001 | 5.66E-001 | 1.25E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 9.74E+000 | 3.83E+001 | 7.22E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -2.73E-001 | 3.40E+000 | 5.88E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 2.26E-002 | 3.40E-001 | 5.94E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.82E+000 | 1.50E+001 | 3.33E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.63E-001 | 1.67E+000 | 2.87E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -3.93E+001 | 2.94E+002 | 5.51E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.32E-002 | 1.36E-001 | 2.49E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.63E-001 | 1.67E+000 | 2.87E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -6.28E-001 | 6.00E-001 | 8.91E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-131
Sample Title: SPOILS PILE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.588E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/25/2005 7:29:53 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.40E+001 | 3.72E+000 | 2.95E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.68E-002 | 8.67E-002 | 1.90E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -5.45E-002 | 8.74E-002 | 1.40E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 3.66E-002 | 1.31E-001 | 2.62E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.97E-001 | 2.75E-001 | 4.00E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 5.47E-002 | 9.32E-002 | 1.98E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.08E-001 | 2.53E-001 | 4.20E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.70E-002 | 8.57E-002 | 1.37E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -8.20E-002 | 1.09E-001 | 1.69E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 4.02E-001 | 1.49E-001 | 3.44E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.00E-001 | 2.54E-001 | 5.35E-001 |
| BI-214 | 8.15E-001 | 9.89E-001 | 3.57E-001 | FOUND | | |
| PB-214 | 8.62E-001 | 7.65E-001 | 4.32E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.45E+000 | 2.05E+000 | 3.94E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.21E-001 | 4.85E-001 | 1.16E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -6.67E+000 | 3.23E+001 | 5.86E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.45E+000 | 3.01E+000 | 5.60E+000 |
| PA-234 | NOT FOUND/DATA for 926.00 keV | | | -3.75E-001 | 7.08E-001 | 7.87E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 7.68E+000 | 1.53E+001 | 3.35E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.01E+000 | 1.71E+000 | 2.99E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.44E+002 | 2.94E+002 | 5.96E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.68E-002 | 1.23E-001 | 2.33E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.01E+000 | 1.71E+000 | 2.99E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 6.25E-001 | 6.46E-001 | 1.29E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0503-132
Sample Title: SPOILS PILE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.558E+002 g
Sample Taken On: 3/23/2005 11:15:00 AM
Acquisition Started: 3/25/2005 7:40:59 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.43E+001 | 1.23E+001 | 2.64E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.01E-002 | 9.24E-002 | 1.97E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.42E-002 | 8.51E-002 | 1.41E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -1.80E-002 | 1.12E-001 | 2.26E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -4.36E-002 | 2.23E-001 | 4.27E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -6.52E-002 | 9.31E-002 | 1.53E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -7.58E-003 | 2.58E-001 | 4.93E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 4.58E-002 | 1.04E-001 | 2.09E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -2.65E-004 | 1.37E-001 | 2.35E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.01E-001 | 1.62E-001 | 3.57E-001 |
| PB-212 | 8.21E-001 | 2.03E-001 | 3.42E-001 | FOUND | | |
| BI-214 | 8.06E-001 | 2.98E-001 | 4.78E-001 | FOUND | | |
| PB-214 | 7.52E-001 | 6.04E-001 | 4.54E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 8.87E-001 | 2.11E+000 | 3.87E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.01E+000 | 5.72E-001 | 1.34E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -8.69E+000 | 3.72E+001 | 6.54E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.38E+000 | 3.33E+000 | 6.26E+000 |
| PA-234 | NOT FOUND/DATA for 883.24 keV | | | -3.00E-001 | 5.97E-001 | 7.97E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.29E+001 | 1.82E+001 | 4.18E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.74E-001 | 1.63E+000 | 2.85E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.30E+002 | 3.85E+002 | 6.44E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.85E-002 | 1.25E-001 | 2.30E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.74E-001 | 1.63E+000 | 2.85E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -4.55E-001 | 6.09E-001 | 1.04E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0503-147 |
| Sample Title: | b-5 nw trench spoils pile |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 9.473E+002 G |
| Sample Taken On: | 3/24/2005 11:15:00 AM |
| Acquisition Started: | 3/28/2005 7:23:39 AM |
| Live Time: | 600.0 seconds |
| Real Time: | 601.0 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.62E+001 | 8.40E+000 | 2.08E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.33E-002 | 7.41E-002 | 1.30E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.41E-002 | 7.40E-002 | 1.23E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -5.81E-003 | 9.14E-002 | 1.81E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -9.55E-003 | 1.93E-001 | 3.65E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -4.02E-002 | 8.18E-002 | 1.38E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 4.95E-002 | 2.23E-001 | 4.17E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.13E-002 | 7.96E-002 | 1.24E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.27E-001 | 9.27E-002 | 2.16E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.29E-001 | 1.20E-001 | 2.68E-001 |
| PB-212 | 5.42E-001 | 1.63E-001 | 3.14E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 7.23E-001 | 2.87E-001 | 6.42E-001 |
| PB-214 | 4.44E-001 | 1.93E-001 | 3.39E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.77E+000 | 1.98E+000 | 3.82E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.18E+000 | 4.67E-001 | 1.15E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 9.55E+000 | 2.96E+001 | 5.75E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.10E-001 | 2.51E+000 | 4.57E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.14E-001 | 2.89E-001 | 4.73E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.66E+000 | 1.49E+001 | 2.70E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -3.61E-001 | 1.39E+000 | 2.32E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -3.96E+001 | 2.44E+002 | 4.55E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.32E-003 | 1.20E-001 | 2.17E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -3.61E-001 | 1.39E+000 | 2.32E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -5.41E-002 | 5.38E-001 | 9.86E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-148
Sample Title: b-5 nw trench spoils pile
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.823E+002 G
Sample Taken On: 3/24/2005 11:15:00 AM
Acquisition Started: 3/28/2005 7:36:17 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.59E+001 | 1.39E+001 | 2.50E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.92E-002 | 1.24E-001 | 2.18E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.45E-003 | 9.25E-002 | 1.59E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -3.24E-002 | 1.02E-001 | 2.00E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.28E-001 | 4.78E-001 | 2.73E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -7.59E-002 | 7.55E-002 | 1.14E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.24E-001 | 2.25E-001 | 4.77E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 3.68E-002 | 1.07E-001 | 1.96E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.06E-002 | 9.27E-002 | 2.12E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.03E-001 | 1.62E-001 | 3.70E-001 |
| PB-212 | 1.24E+000 | 5.98E-001 | 6.35E-001 | FOUND | | |
| BI-214 | 8.50E-001 | 2.80E-001 | 4.29E-001 | FOUND | | |
| PB-214 | 9.25E-001 | 1.97E-001 | 4.73E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 6.63E-001 | 2.28E+000 | 4.25E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.01E+000 | 5.76E-001 | 1.33E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -3.24E+001 | 3.92E+001 | 6.54E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.55E+000 | 3.69E+000 | 6.78E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 4.49E-001 | 3.98E-001 | 7.30E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 9.55E+000 | 1.31E+001 | 3.27E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.60E+000 | 1.90E+000 | 3.62E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.52E+002 | 3.22E+002 | 5.38E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.47E-002 | 1.37E-001 | 2.56E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.60E+000 | 1.90E+000 | 3.62E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.51E-001 | 6.69E-001 | 1.21E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-149
Sample Title: NW TRENCH SPOIL PILE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 9.289E+002 G
Sample Taken On: 3/24/2005 11:15:00 AM
Acquisition Started: 3/28/2005 10:38:49 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.13E+001 | 3.35E+000 | 2.73E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.59E-002 | 8.30E-002 | 1.77E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -5.64E-003 | 8.05E-002 | 1.36E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.02E-001 | 1.03E-001 | 2.45E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.94E-001 | 2.11E-001 | 2.98E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.04E-001 | 8.50E-002 | 1.25E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -9.11E-002 | 2.18E-001 | 3.89E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -6.67E-003 | 9.04E-002 | 1.56E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.15E-002 | 1.17E-001 | 2.26E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 2.47E-001 | 1.31E-001 | 2.90E-001 |
| PB-212 | 1.35E+000 | 4.56E-001 | 3.30E-001 | FOUND | | |
| BI-214 | 1.02E+000 | 9.42E-001 | 3.59E-001 | FOUND | | |
| PB-214 | 5.09E-001 | 1.75E-001 | 3.60E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 8.54E-001 | 1.81E+000 | 3.42E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 6.04E-001 | 4.46E-001 | 1.01E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 5.04E+000 | 3.08E+001 | 5.78E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.98E+000 | 3.33E+000 | 6.06E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | 1.09E-001 | 3.21E-001 | 5.58E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 4.82E+000 | 1.52E+001 | 3.25E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 5.25E-001 | 1.57E+000 | 2.76E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.77E+001 | 3.23E+002 | 5.94E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 9.28E-002 | 1.08E-001 | 2.12E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 5.25E-001 | 1.57E+000 | 2.76E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.15E-001 | 5.58E-001 | 1.10E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-150
Sample Title: NW TRENCH SPOIL PILE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.368E+002 G
Sample Taken On: 3/24/2005 11:15:00 AM
Acquisition Started: 3/28/2005 10:52:25 AM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.93E+001 | 9.79E+000 | 2.72E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.83E-002 | 8.13E-002 | 1.48E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.85E-002 | 8.84E-002 | 1.51E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 3.81E-002 | 8.71E-002 | 2.02E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.96E-002 | 2.17E-001 | 3.88E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.57E-003 | 8.85E-002 | 1.65E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -9.15E-002 | 2.55E-001 | 4.46E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.89E-002 | 8.78E-002 | 1.41E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.57E-002 | 1.19E-001 | 2.51E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.54E-001 | 1.52E-001 | 3.43E-001 |
| PB-212 | 7.53E-001 | 5.66E-001 | 3.62E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 4.96E-001 | 2.93E-001 | 6.22E-001 |
| PB-214 | 7.46E-001 | 5.96E+000 | 3.85E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 4.21E-001 | 1.94E+000 | 3.61E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.93E-001 | 5.14E-001 | 1.12E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 9.85E+000 | 3.30E+001 | 6.32E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.84E+000 | 2.71E+000 | 5.18E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -2.76E-001 | 3.47E-001 | 5.28E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.11E+001 | 1.43E+001 | 3.44E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 4.36E-001 | 1.72E+000 | 3.00E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.76E+002 | 2.96E+002 | 5.92E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.27E-002 | 1.21E-001 | 2.27E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 4.36E-001 | 1.72E+000 | 3.00E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 8.96E-002 | 5.79E-001 | 1.10E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-151
Sample Title: NW TRENCH SPOIL PILE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 9.110E+002 G
Sample Taken On: 3/24/2005 11:15:00 AM
Acquisition Started: 3/28/2005 11:06:30 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.61E+001 | 2.93E+000 | 2.00E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.79E-002 | 8.60E-002 | 1.72E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -9.67E-003 | 8.23E-002 | 1.39E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.38E-002 | 7.39E-002 | 1.88E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -4.24E-002 | 1.72E-001 | 3.32E-001 |
| AG-110m | NOT FOUND/DATA for | 1384.30 keV | | 0.00E+000 | 0.00E+000 | 1.65E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 6.11E-002 | 2.00E-001 | 4.09E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.60E-002 | 7.93E-002 | 1.29E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.33E-002 | 1.05E-001 | 2.19E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 9.82E-002 | 1.11E-001 | 2.32E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 4.22E-001 | 1.93E-001 | 4.00E-001 |
| BI-214 | 4.45E-001 | 5.79E-001 | 3.32E-001 | FOUND | | |
| PB-214 | 5.18E-001 | 2.03E-001 | 3.40E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.27E+000 | 1.74E+000 | 3.55E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 3.94E-001 | 3.67E-001 | 8.54E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.02E+001 | 3.08E+001 | 5.98E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -1.14E-001 | 2.79E+000 | 4.93E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 9.26E-003 | 2.92E-001 | 5.10E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.18E+000 | 1.05E+001 | 2.39E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.82E+000 | 1.46E+000 | 2.82E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -5.57E+001 | 2.88E+002 | 5.25E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.71E-002 | 1.06E-001 | 2.00E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.82E+000 | 1.46E+000 | 2.82E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -7.37E-002 | 5.83E-001 | 1.04E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0503-166
Sample Title: B-5 H/W TRENCK N. WING
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.641E+002 G
Sample Taken On: 3/29/2005 11:15:00 AM
Acquisition Started: 3/29/2005 5:28:22 PM
Live Time: 600.0 seconds
Real Time: 600.5 seconds
Dead Time: 0.08 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G ) | Activity Uncert. (pCi/G ) | Nuclide MDA (pCi/G ) | Line Activity (pCi/G ) | Line Act Uncert. (pCi/G ) | Line MDA (pCi/G ) |
| K-40 | 2.18E+001 | 1.11E+001 | 2.59E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -6.11E-003 | 8.93E-002 | 1.72E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.76E-002 | 9.31E-002 | 1.49E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.96E-002 | 8.80E-002 | 1.84E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -6.50E-002 | 2.58E-001 | 4.48E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 6.80E-003 | 8.79E-002 | 1.78E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.23E-002 | 2.38E-001 | 4.72E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -9.30E-002 | 9.27E-002 | 1.45E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.16E-002 | 1.02E-001 | 2.25E-001 |
| TL-208 | 2.38E-001 | 1.23E-001 | 2.24E-001 | FOUND | | |
| PB-212 | 8.24E-001 | 2.20E-001 | 3.79E-001 | FOUND | | |
| BI-214 | 7.89E-001 | 2.76E-001 | 3.04E-001 | FOUND | | |
| PB-214 | 7.13E-001 | 2.18E-001 | 4.68E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.53E+000 | 2.01E+000 | 3.96E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.01E+000 | 5.96E-001 | 1.36E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.63E+001 | 4.10E+001 | 7.23E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.11E+000 | 3.17E+000 | 5.88E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 2.80E-002 | 3.78E-001 | 6.49E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.32E+001 | 1.62E+001 | 2.55E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.01E-001 | 1.57E+000 | 2.82E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -4.10E+001 | 2.78E+002 | 5.23E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.08E-001 | 1.19E-001 | 2.38E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.01E-001 | 1.57E+000 | 2.82E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -6.30E-001 | 7.00E-001 | 1.00E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-167
Sample Title: B-5 H/W TRENCH N. WING
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.488E+002 G
Sample Taken On: 3/29/2005 11:15:00 AM
Acquisition Started: 3/29/2005 5:47:46 PM
Live Time: 600.0 seconds
Real Time: 600.6 seconds
Dead Time: 0.09 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.72E+001 | 1.36E+001 | 2.95E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.31E-002 | 1.04E-001 | 1.64E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.24E-002 | 9.38E-002 | 1.68E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.26E-002 | 1.09E-001 | 2.25E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.14E-002 | 2.06E-001 | 4.29E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.20E-002 | 1.12E-001 | 1.90E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.38E-001 | 2.54E-001 | 5.27E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.85E-002 | 1.04E-001 | 1.64E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.17E-001 | 1.20E-001 | 2.67E-001 |
| TL-208 | 3.43E-001 | 1.42E-001 | 2.55E-001 | FOUND | | |
| PB-212 | 9.81E-001 | 2.46E-001 | 4.18E-001 | FOUND | | |
| BI-214 | 7.66E-001 | 2.90E-001 | 4.56E-001 | FOUND | | |
| PB-214 | 9.91E-001 | 1.03E+000 | 4.36E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.33E+000 | 2.11E+000 | 4.20E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.57E-002 | 2.20E-001 | 1.30E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.33E+001 | 3.85E+001 | 6.95E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 6.51E-001 | 3.47E+000 | 6.21E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -7.60E-002 | 3.84E-001 | 6.35E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.34E+000 | 1.51E+001 | 2.91E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.19E+000 | 1.93E+000 | 3.32E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.14E+002 | 3.07E+002 | 6.14E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.84E-002 | 1.30E-001 | 2.53E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.19E+000 | 1.93E+000 | 3.32E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 0.00E+000 | 6.51E-001 | 1.23E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0503-168
Sample Title: B-5 H/W TRENCH N. WING
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.058E+002 G
Sample Taken On: 3/29/2005 11:15:00 AM
Acquisition Started: 3/29/2005 5:55:48 PM
Live Time: 600.0 seconds
Real Time: 600.6 seconds
Dead Time: 0.09 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.36E+001 | 3.87E+000 | 3.10E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 7.12E-002 | 7.31E-002 | 1.84E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.23E-001 | 9.09E-002 | 1.32E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.05E-001 | 1.08E-001 | 2.69E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.77E-002 | 1.82E-001 | 3.71E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.41E-002 | 8.45E-002 | 1.61E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -6.43E-002 | 2.62E-001 | 4.76E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.29E-002 | 1.01E-001 | 1.73E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.40E-001 | 1.19E-001 | 2.66E-001 |
| TL-208 | 3.91E-001 | 3.93E-001 | 1.68E-001 | FOUND | | |
| PB-212 | 1.40E+000 | 6.05E-001 | 3.96E-001 | FOUND | | |
| BI-214 | 9.01E-001 | 8.81E-001 | 3.57E-001 | FOUND | | |
| PB-214 | 4.48E-001 | 2.33E-001 | 4.32E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.39E+000 | 2.11E+000 | 4.05E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.48E-001 | 5.90E-001 | 1.31E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.45E+001 | 3.45E+001 | 6.14E+001 |
| PA-231 | NOT FOUND/DATA for | 302.65 keV | | -4.35E+000 | 5.38E+000 | 6.91E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.15E-001 | 3.39E-001 | 6.03E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.06E+000 | 1.39E+001 | 3.17E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.97E-001 | 1.78E+000 | 3.18E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -4.65E+001 | 2.85E+002 | 5.35E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.21E-001 | 1.26E-001 | 2.49E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.97E-001 | 1.78E+000 | 3.18E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.25E-001 | 5.86E-001 | 1.02E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-169
Sample Title: B-5 H/W TRENCH N. WING
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.676E+002 G
Sample Taken On: 3/29/2005 11:15:00 AM
Acquisition Started: 3/29/2005 6:08:44 PM
Live Time: 600.0 seconds
Real Time: 600.4 seconds
Dead Time: 0.07 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.57E+001 | 1.25E+001 | 2.27E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.85E-003 | 1.15E-001 | 2.21E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.84E-003 | 8.10E-002 | 1.40E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.19E-001 | 1.33E-001 | 3.03E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.61E-001 | 2.62E-001 | 4.19E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.65E-002 | 1.15E-001 | 1.78E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.47E-002 | 2.57E-001 | 4.85E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.71E-002 | 9.25E-002 | 1.75E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.76E-001 | 1.28E-001 | 2.92E-001 |
| TL-208 | 3.03E-001 | 4.74E-001 | 1.82E-001 | FOUND | | |
| PB-212 | 8.58E-001 | 2.29E-001 | 3.85E-001 | FOUND | | |
| BI-214 | 7.09E-001 | 2.79E-001 | 4.08E-001 | FOUND | | |
| PB-214 | 8.17E-001 | 2.78E-001 | 4.98E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.56E+000 | 2.29E+000 | 4.40E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.12E+000 | 5.76E-001 | 1.36E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.05E+001 | 4.00E+001 | 7.20E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.11E-001 | 2.95E+000 | 5.42E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.27E-001 | 4.01E-001 | 6.56E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.49E-001 | 2.20E+001 | 4.28E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.55E-001 | 1.83E+000 | 3.11E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 5.09E+000 | 3.75E+002 | 6.88E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.06E-002 | 1.38E-001 | 2.54E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.55E-001 | 1.83E+000 | 3.11E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.76E-001 | 6.27E-001 | 1.22E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-170
Sample Title: B-5 H/W TRENCH N. WING FSS SOIL SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.890E+002 G
Sample Taken On: 3/29/2005 11:15:00 AM
Acquisition Started: 3/30/2005 6:43:14 AM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.39E+001 | 3.79E+000 | 2.25E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.05E-002 | 9.19E-002 | 1.98E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.46E-003 | 8.56E-002 | 1.46E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 3.28E-001 | 1.92E-001 | 4.33E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.29E-001 | 2.66E-001 | 4.59E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -5.98E-002 | 1.05E-001 | 1.84E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.35E-002 | 2.31E-001 | 4.09E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 8.03E-003 | 9.69E-002 | 1.89E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.22E-002 | 1.16E-001 | 2.33E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 1.82E-001 | 1.50E-001 | 3.14E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.42E-001 | 2.59E-001 | 5.54E-001 |
| BI-214 | 1.31E+000 | 6.88E-001 | 3.86E-001 | FOUND | | |
| PB-214 | 9.29E-001 | 1.90E-001 | 4.16E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.09E+000 | 2.30E+000 | 4.21E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 8.85E-001 | 6.18E-001 | 1.34E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.40E+001 | 3.79E+001 | 6.80E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.88E+000 | 3.52E+000 | 6.55E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 7.92E-002 | 3.20E-001 | 5.75E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 2.25E+001 | 2.00E+001 | 4.62E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.11E+000 | 1.76E+000 | 3.20E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -9.76E+001 | 3.63E+002 | 6.49E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 7.06E-002 | 1.38E-001 | 2.61E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.11E+000 | 1.76E+000 | 3.20E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -3.05E-002 | 5.64E-001 | 1.06E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-171
Sample Title: B-5 H/W TRENCH N. WING FSS SOIL SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.879E+002 G
Sample Taken On: 3/29/2005 11:15:00 AM
Acquisition Started: 3/30/2005 6:56:46 AM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.91E+001 | 8.90E+000 | 3.14E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.39E-003 | 8.83E-002 | 1.78E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.93E-003 | 8.53E-002 | 1.45E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.51E-002 | 1.31E-001 | 2.88E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.22E-001 | 2.30E-001 | 4.09E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -5.66E-002 | 9.11E-002 | 1.59E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.64E-001 | 2.50E-001 | 5.27E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.14E-002 | 9.35E-002 | 1.56E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.38E-002 | 9.73E-002 | 2.02E-001 |
| TL-208 | 4.62E-001 | 1.50E-001 | 2.26E-001 | FOUND | | |
| PB-212 | 8.99E-001 | 6.82E-001 | 4.77E-001 | FOUND | | |
| BI-214 | 6.36E-001 | 2.41E-001 | 3.41E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 8.25E-001 | 2.87E-001 | 6.51E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.51E-002 | 2.07E+000 | 3.72E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.67E-001 | 5.29E-001 | 1.19E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.49E+001 | 3.78E+001 | 6.71E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -2.86E+000 | 3.58E+000 | 5.17E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.39E-001 | 4.19E-001 | 6.06E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 9.37E+000 | 1.85E+001 | 4.01E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.92E-001 | 1.85E+000 | 3.30E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.84E+002 | 3.56E+002 | 6.90E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.81E-002 | 1.21E-001 | 2.38E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.92E-001 | 1.85E+000 | 3.30E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 7.59E-002 | 6.59E-001 | 1.24E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-172
Sample Title: B-5 H/W TRENCH N. WING FSS SOIL SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.419E+002 G
Sample Taken On: 3/29/2005 11:15:00 AM
Acquisition Started: 3/30/2005 7:10:46 AM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.12 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.97E+001 | 3.55E+000 | 2.51E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -1.44E-002 | 9.19E-002 | 1.78E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.10E-001 | 9.35E-002 | 1.39E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 7.67E-002 | 1.08E-001 | 2.64E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -6.16E-002 | 1.76E-001 | 3.31E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -6.78E-002 | 1.22E-001 | 2.00E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -6.88E-002 | 2.43E-001 | 4.52E-001 |
| CS-134 | NOT FOUND/DATA for 795.84 keV | | | -1.03E-001 | 1.18E-001 | 1.87E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 8.29E-002 | 1.02E-001 | 2.32E-001 |
| TL-208 | 3.16E-001 | 1.31E-001 | 1.66E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.34E-001 | 2.89E-001 | 6.04E-001 |
| BI-214 | 9.00E-001 | 3.02E-001 | 4.14E-001 | FOUND | | |
| PB-214 | 8.43E-001 | 7.48E-001 | 5.18E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.14E+000 | 2.16E+000 | 4.16E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.68E-001 | 5.41E-001 | 1.29E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.81E+001 | 3.74E+001 | 6.17E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 9.27E-001 | 3.24E+000 | 5.95E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -3.08E-002 | 3.67E-001 | 6.29E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.14E+001 | 1.91E+001 | 4.25E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 3.11E-001 | 1.65E+000 | 2.88E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.89E+001 | 3.58E+002 | 6.79E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.66E-002 | 1.33E-001 | 2.48E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 3.11E-001 | 1.65E+000 | 2.88E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.17E-001 | 6.19E-001 | 1.20E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-173
Sample Title: B-5 H/W TRENCH N. WING FSS SOIL SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.180E+002 G
Sample Taken On: 3/29/2005 11:15:00 AM
Acquisition Started: 3/30/2005 6:19:21 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.35E+001 | 3.95E+000 | 2.76E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -5.02E-002 | 1.30E-001 | 2.36E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -4.65E-002 | 1.12E-001 | 1.69E-001 |
| CO-60 | 1.49E+000 | 2.97E-001 | 3.00E-001 | FOUND | | |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.62E-001 | 2.74E-001 | 4.77E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 8.75E-002 | 1.30E-001 | 2.68E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.82E-002 | 2.74E-001 | 5.02E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.23E-002 | 1.10E-001 | 1.72E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.88E-001 | 1.50E-001 | 3.30E-001 |
| TL-208 | 2.46E-001 | 1.75E-001 | 2.08E-001 | FOUND | | |
| PB-212 | 9.83E-001 | 2.59E-001 | 5.09E-001 | FOUND | | |
| BI-214 | 8.46E-001 | 1.20E+000 | 5.41E-001 | FOUND | | |
| PB-214 | 1.10E+000 | 2.93E-001 | 5.32E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 4.38E+000 | 2.61E+000 | 5.29E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.52E+000 | 7.80E-001 | 1.74E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.02E+001 | 4.29E+001 | 7.47E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 6.76E+000 | 4.85E+000 | 8.26E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.90E-001 | 4.27E-001 | 7.39E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 3.47E+000 | 2.24E+001 | 4.40E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.18E+000 | 1.95E+000 | 3.52E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.07E+001 | 3.39E+002 | 6.40E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.98E-001 | 1.56E-001 | 3.09E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.18E+000 | 1.95E+000 | 3.52E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -7.90E-002 | 6.74E-001 | 1.24E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-174
Sample Title: B-5 H/W TRENCH N. WING FSS SOIL SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.399E+002 G
Sample Taken On: 3/29/2005 11:15:00 AM
Acquisition Started: 3/30/2005 7:36:07 AM
Live Time: 600.0 seconds
Real Time: 600.7 seconds
Dead Time: 0.12 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 3.03E+001 | 1.42E+001 | 3.32E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.55E-002 | 1.13E-001 | 2.32E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -5.56E-002 | 9.30E-002 | 1.50E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 2.57E-002 | 1.31E-001 | 2.81E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 3.48E-002 | 2.26E-001 | 4.68E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.76E-002 | 8.51E-002 | 1.68E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.21E-001 | 3.00E-001 | 6.16E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.54E-004 | 1.17E-001 | 2.25E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.35E-002 | 1.23E-001 | 2.59E-001 |
| TL-208 | 3.28E-001 | 4.28E-001 | 2.40E-001 | FOUND | | |
| PB-212 | 1.33E+000 | 6.20E-001 | 4.71E-001 | FOUND | | |
| BI-214 | 7.00E-001 | 3.12E-001 | 5.53E-001 | FOUND | | |
| PB-214 | 1.31E+000 | 3.51E-001 | 5.55E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.60E+000 | 2.39E+000 | 4.68E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.01E+000 | 6.85E-001 | 1.55E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -4.46E+000 | 3.98E+001 | 7.44E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.46E+000 | 3.70E+000 | 6.90E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -5.13E-001 | 5.76E-001 | 7.12E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.90E+000 | 1.86E+001 | 3.71E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.22E+000 | 2.04E+000 | 3.89E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.77E+002 | 4.02E+002 | 6.57E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | -6.00E-002 | 1.50E-001 | 2.65E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.22E+000 | 2.04E+000 | 3.89E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -5.41E-002 | 6.78E-001 | 1.26E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-175
Sample Title: B-5 H/W TRENCH N. WING FSS SOIL SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.744E+002 G
Sample Taken On: 3/29/2005 11:15:00 AM
Acquisition Started: 3/30/2005 7:47:21 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.95E+001 | 3.49E+000 | 2.72E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.30E-002 | 9.67E-002 | 2.01E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 5.48E-002 | 9.20E-002 | 1.64E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.60E-002 | 8.86E-002 | 2.21E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -6.50E-002 | 2.48E-001 | 4.68E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -4.50E-002 | 1.05E-001 | 1.87E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -5.13E-002 | 2.35E-001 | 3.98E-001 |
| CS-134 | NOT FOUND/DATA for 795.84 keV | | | 5.45E-003 | 8.94E-002 | 1.79E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.05E-003 | 1.13E-001 | 2.14E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 2.86E-001 | 1.63E-001 | 3.52E-001 |
| PB-212 | 1.13E+000 | 5.85E-001 | 4.26E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 9.47E-001 | 3.46E-001 | 7.85E-001 |
| PB-214 | 4.53E-001 | 2.32E-001 | 4.49E-001 | FOUND | | |
| RA-226 | 1.87E+000 | 1.43E+000 | 3.32E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.12E+000 | 5.38E-001 | 1.30E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.05E+001 | 3.52E+001 | 6.03E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 6.35E-001 | 3.56E+000 | 6.30E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 5.56E-002 | 3.65E-001 | 6.21E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 9.65E+000 | 1.31E+001 | 3.30E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 4.55E-001 | 1.87E+000 | 3.26E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.44E+002 | 3.06E+002 | 6.06E+002 |
| U-235 | 1.14E-001 | 8.69E-002 | 2.02E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 4.55E-001 | 1.87E+000 | 3.26E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.65E-001 | 5.89E-001 | 1.15E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-203
Sample Title: NORTH TRENCH SECTION POST REMOVAL
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.228E+002 G
Sample Taken On: 3/31/2005 11:15:00 AM
Acquisition Started: 3/31/2005 2:29:15 PM
Live Time: 323.7 seconds
Real Time: 324.2 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.18E+001 | 2.43E+001 | 5.01E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 7.35E-002 | 1.08E-001 | 2.88E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.67E-001 | 1.40E-001 | 1.94E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -7.42E-002 | 1.74E-001 | 2.46E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.02E-001 | 3.04E-001 | 5.43E-001 |
| AG-110m | NOT FOUND/DATA for | 1384.30 keV | | 0.00E+000 | 0.00E+000 | 3.82E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.98E-001 | 3.75E-001 | 6.69E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 5.41E-003 | 1.09E-001 | 2.28E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.08E-001 | 1.93E-001 | 4.24E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.69E-001 | 2.13E-001 | 4.89E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.14E-001 | 3.52E-001 | 7.90E-001 |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 6.86E-001 | 4.35E-001 | 1.02E+000 |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 5.94E-001 | 4.37E-001 | 9.43E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.03E+000 | 2.88E+000 | 5.89E+000 |
| AC-228 | NOT FOUND/DATA for | 338.32 keV | | 9.05E-001 | 1.08E+000 | 2.31E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.33E+001 | 4.20E+001 | 7.33E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -1.07E+000 | 4.89E+000 | 8.65E+000 |
| PA-234 | NOT FOUND/DATA for | 883.24 keV | | 0.00E+000 | 0.00E+000 | 4.50E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 8.32E+000 | 2.07E+001 | 5.00E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -2.40E-001 | 2.52E+000 | 4.12E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -6.34E+001 | 4.52E+002 | 8.72E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.23E-002 | 1.88E-001 | 3.71E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -2.40E-001 | 2.52E+000 | 4.12E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.44E-001 | 8.64E-001 | 1.76E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-204
Sample Title: NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.194E+002 G
Sample Taken On: 3/31/2005 11:15:00 AM
Acquisition Started: 3/31/2005 2:35:41 PM
Live Time: 412.0 seconds
Real Time: 412.6 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.10E+001 | 2.18E+001 | 3.60E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.10E-002 | 1.14E-001 | 2.48E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 5.22E-002 | 1.21E-001 | 2.23E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 8.79E-003 | 9.71E-002 | 2.45E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.82E-001 | 4.77E-001 | 4.28E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -4.49E-002 | 1.10E-001 | 1.99E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.48E-001 | 2.58E-001 | 4.03E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 2.97E-002 | 1.21E-001 | 2.49E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.69E-002 | 1.30E-001 | 2.93E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.07E-001 | 1.95E-001 | 4.44E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 8.86E-001 | 3.27E-001 | 7.11E-001 |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 8.16E-001 | 3.89E-001 | 9.25E-001 |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 5.00E-001 | 3.67E-001 | 7.88E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.69E-001 | 2.88E+000 | 5.37E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.33E+000 | 7.76E-001 | 1.86E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.14E+001 | 4.49E+001 | 9.64E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.31E+000 | 3.66E+000 | 7.05E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 2.16E-002 | 4.12E-001 | 7.41E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.25E+001 | 1.97E+001 | 4.81E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -1.03E+000 | 2.36E+000 | 3.72E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.85E+002 | 4.22E+002 | 6.88E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.16E-002 | 1.72E-001 | 3.31E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -1.03E+000 | 2.35E+000 | 3.72E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.45E-001 | 7.76E-001 | 1.59E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0503-205
Sample Title: NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.436E+002 G
Sample Taken On: 3/31/2005 11:15:00 AM
Acquisition Started: 3/31/2005 2:48:47 PM
Live Time: 322.3 seconds
Real Time: 322.8 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.82E+001 | 5.06E+000 | 5.40E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 7.18E-002 | 1.50E-001 | 3.30E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -4.69E-002 | 1.14E-001 | 1.90E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 6.52E-002 | 9.23E-002 | 3.03E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 9.51E-002 | 2.65E-001 | 6.14E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -5.50E-002 | 1.64E-001 | 2.68E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 4.19E-002 | 3.53E-001 | 6.95E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -3.90E-002 | 1.22E-001 | 2.22E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -5.13E-003 | 2.20E-001 | 3.43E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 2.99E-001 | 2.18E-001 | 4.99E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 1.01E+000 | 3.73E-001 | 8.21E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 1.15E+000 | 4.88E-001 | 1.18E+000 |
| PB-214 | 1.12E+000 | 5.22E-001 | 4.35E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.22E-001 | 3.15E+000 | 5.96E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.47E-001 | 7.83E-001 | 1.89E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.09E+001 | 5.80E+001 | 9.88E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.53E+000 | 5.29E+000 | 1.02E+001 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 2.52E-002 | 5.25E-001 | 9.34E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.13E+001 | 2.38E+001 | 4.21E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.89E+000 | 2.39E+000 | 4.67E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.77E+002 | 5.11E+002 | 9.14E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | -1.32E-001 | 2.09E-001 | 3.36E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.89E+000 | 2.39E+000 | 4.67E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -3.38E-001 | 9.01E-001 | 1.55E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-206
Sample Title: B-5 NE H/W trench sample
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.492E+002 grams
Sample Taken On: 3/31/2005 12:00:00 AM
Acquisition Started: 3/31/2005 2:51:05 PM
Live Time: 478.2 seconds
Real Time: 478.3 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
| K-40 | 1.80E+001 | 6.73E+000 | 5.28E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -5.13E-002 | 1.37E-001 | 2.64E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 7.47E-002 | 9.13E-002 | 1.97E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | -2.04E-003 | 2.43E-001 | 5.28E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -4.63E-002 | 4.35E-001 | 6.81E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.59E-002 | 1.99E-001 | 3.24E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.60E-001 | 3.46E-001 | 8.80E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 1.15E-002 | 1.54E-001 | 2.89E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -7.68E-002 | 1.71E-001 | 3.12E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 4.32E-001 | 2.88E-001 | 6.86E-001 |
| PB-212 | 8.81E-001 | 1.11E+000 | 5.76E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 6.47E-001 | 3.91E-001 | 1.07E+000 |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 7.05E-001 | 4.61E-001 | 1.05E+000 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.04E+000 | 3.25E+000 | 6.09E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 5.93E-001 | 9.78E-001 | 2.20E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 4.43E+001 | 8.83E+001 | 1.74E+002 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.43E+000 | 4.63E+000 | 9.61E+000 |
| PA-234 | NOT FOUND/DATA for 926.00 keV | | | 0.00E+000 | 0.00E+000 | 9.72E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.89E+001 | 3.92E+001 | 5.30E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -4.11E-001 | 2.21E+000 | 3.75E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.26E+003 | 1.12E+003 | 2.35E+003 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.83E-002 | 1.95E-001 | 3.56E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -4.11E-001 | 2.21E+000 | 3.75E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -4.57E-002 | 1.47E+000 | 2.84E+000 |

Uncertainty reported at 2.0 sigma

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

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0503-207 |
| Sample Title: | NE H/W TRENCH |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.766E+002 G |
| Sample Taken On: | 3/31/2005 11:15:00 AM |
| Acquisition Started: | 3/31/2005 2:49:48 PM |
| Live Time: | 434.8 seconds |
| Real Time: | 435.4 seconds |
| Dead Time: | 0.14 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.51E+001 | 8.51E+001 | 4.05E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -9.40E-002 | 1.29E-001 | 1.79E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -8.70E-003 | 9.82E-002 | 1.71E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.31E-002 | 8.03E-002 | 2.15E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -3.44E-001 | 3.20E-001 | 3.76E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 2.14E-002 | 9.31E-002 | 2.05E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.13E-001 | 2.66E-001 | 5.72E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -6.00E-002 | 9.44E-002 | 1.58E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -1.26E-002 | 1.28E-001 | 2.43E-001 |
| TL-208 | 3.47E-001 | 1.68E-001 | 2.92E-001 | FOUND | | |
| PB-212 | 1.32E+000 | 7.38E-001 | 4.87E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 7.28E-001 | 3.21E-001 | 7.87E-001 |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 7.30E-001 | 3.42E-001 | 7.70E-001 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.16E+000 | 2.37E+000 | 4.84E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 4.95E-001 | 5.33E-001 | 1.26E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -2.07E+001 | 4.42E+001 | 7.78E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.37E+000 | 4.31E+000 | 7.99E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -2.35E-001 | 4.28E-001 | 6.27E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -5.50E+000 | 1.79E+001 | 3.47E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 5.31E-001 | 2.31E+000 | 4.06E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.00E+002 | 3.74E+002 | 7.47E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.02E-001 | 1.37E-001 | 2.78E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 5.31E-001 | 2.31E+000 | 4.06E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 4.81E-001 | 6.54E-001 | 1.40E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0503-208
Sample Title: B-5 NE H/W trench sample
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.076E+002 grams
Sample Taken On: 3/31/2005 12:00:00 AM
Acquisition Started: 3/31/2005 3:00:00 PM
Live Time: 512.6 seconds
Real Time: 512.7 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
|---|---|---|---|---|---|---|
| K-40 | 1.84E+001 | 6.63E+000 | 3.71E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.05E-002 | 1.55E-001 | 3.82E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.87E-002 | 9.02E-002 | 1.63E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | -1.33E-001 | 2.33E-001 | 3.57E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.71E-001 | 3.90E-001 | 6.73E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 6.38E-002 | 1.44E-001 | 3.57E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.06E-002 | 3.70E-001 | 6.64E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 2.57E-002 | 1.68E-001 | 3.47E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -1.52E-001 | 2.24E-001 | 2.44E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 4.57E-001 | 2.91E-001 | 6.93E-001 |
| PB-212 | 6.84E-001 | 3.08E-001 | 5.48E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 6.03E-001 | 4.31E-001 | 1.09E+000 |
| PB-214 | 6.28E-001 | 1.04E-001 | 7.16E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.71E+000 | 2.95E+000 | 6.02E+000 |
| AC-228 | NOT FOUND/DATA for 338.32 keV | | | 6.29E-002 | 8.37E-001 | 1.77E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.76E+001 | 7.84E+001 | 1.39E+002 |
| PA-231 | NOT FOUND/DATA for 283.67 keV | | | -2.10E+000 | 5.98E+000 | 7.99E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -4.79E-001 | 5.04E-001 | 5.82E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.67E+001 | 3.94E+001 | 9.32E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -4.86E-001 | 2.05E+000 | 3.80E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 7.53E+002 | 9.15E+002 | 1.94E+003 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.86E-001 | 1.73E-001 | 3.66E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -4.86E-001 | 2.05E+000 | 3.80E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -7.74E-001 | 1.66E+000 | 2.89E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0503-209
Sample Title: NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.124E+002 G
Sample Taken On: 3/31/2005 11:15:00 AM
Acquisition Started: 3/31/2005 2:57:46 PM
Live Time: 300.8 seconds
Real Time: 301.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.25E+001 | 5.37E+000 | 3.52E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.90E-002 | 1.31E-001 | 2.47E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 4.25E-003 | 1.17E-001 | 2.00E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.40E-002 | 9.05E-002 | 2.97E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 8.63E-002 | 2.70E-001 | 6.02E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 0.00E+000 | 0.00E+000 | 5.43E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.54E-002 | 4.58E-001 | 7.91E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | -6.66E-002 | 1.48E-001 | 2.79E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.88E-002 | 1.64E-001 | 3.16E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.78E-001 | 1.93E-001 | 4.57E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 7.54E-001 | 3.58E-001 | 7.69E-001 |
| BI-214 | 6.54E-001 | 3.71E-001 | 5.75E-001 | FOUND | | |
| PB-214 | 6.41E-001 | 3.41E-001 | 5.43E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 4.18E+000 | 3.19E+000 | 6.77E+000 |
| AC-228 | NOT FOUND/DATA for | 338.32 keV | | 2.13E-001 | 1.02E+000 | 2.04E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -5.26E+000 | 5.53E+001 | 9.40E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -4.40E+000 | 5.47E+000 | 7.71E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.25E-001 | 4.99E-001 | 8.48E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.45E+000 | 2.75E+001 | 4.13E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.89E-002 | 2.46E+000 | 4.24E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.10E+002 | 4.03E+002 | 8.02E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.70E-001 | 1.90E-001 | 3.90E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.89E-002 | 2.46E+000 | 4.24E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.22E-001 | 6.62E-001 | 1.26E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-210
Sample Title: NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.830E+002 G
Sample Taken On: 3/31/2005 11:15:00 AM
Acquisition Started: 3/31/2005 3:03:53 PM
Live Time: 548.7 seconds
Real Time: 549.6 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.45E+001 | 1.31E+001 | 3.94E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -7.12E-003 | 1.07E-001 | 2.11E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 7.02E-002 | 1.10E-001 | 1.99E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -4.87E-002 | 8.43E-002 | 1.53E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.14E-001 | 4.28E-001 | 2.69E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.67E-003 | 9.87E-002 | 1.97E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.89E-001 | 3.39E-001 | 6.96E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -8.83E-003 | 1.16E-001 | 1.97E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.96E-003 | 9.99E-002 | 2.06E-001 |
| TL-208 | 4.37E-001 | 1.58E-001 | 2.11E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.50E-001 | 2.97E-001 | 6.38E-001 |
| BI-214 | 7.40E-001 | 3.09E-001 | 4.43E-001 | FOUND | | |
| PB-214 | 7.80E-001 | 2.91E-001 | 4.20E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.73E+000 | 2.85E+000 | 5.59E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.38E+000 | 7.35E-001 | 1.69E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.78E+000 | 3.59E+001 | 6.84E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -4.01E+000 | 4.73E+000 | 6.80E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 2.77E-001 | 4.04E-001 | 7.44E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.38E+000 | 2.54E+001 | 4.36E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.33E+000 | 1.95E+000 | 3.80E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -3.44E+002 | 3.78E+002 | 6.04E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.53E-002 | 1.76E-001 | 3.26E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.33E+000 | 1.95E+000 | 3.80E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.79E-002 | 7.46E-001 | 1.40E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-211
Sample Title: NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.136E+002 G
Sample Taken On: 3/31/2005 11:15:00 AM
Acquisition Started: 3/31/2005 3:13:59 PM
Live Time: 317.2 seconds
Real Time: 317.7 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.71E+001 | 4.32E+001 | 5.53E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.30E-002 | 1.39E-001 | 3.25E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 4.59E-002 | 1.45E-001 | 2.66E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.15E-002 | 1.36E-001 | 3.21E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.37E-001 | 4.74E-001 | 7.92E-001 |
| AG-110m | NOT FOUND/DATA for | 937.49 keV | | 0.00E+000 | 0.00E+000 | 2.13E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 6.54E-002 | 3.53E-001 | 7.36E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.62E-002 | 1.22E-001 | 2.57E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 9.25E-002 | 1.83E-001 | 4.03E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.66E-001 | 2.74E-001 | 6.20E-001 |
| PB-212 | 1.07E+000 | 3.53E-001 | 5.64E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 1.11E+000 | 5.46E-001 | 1.26E+000 |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 2.73E-001 | 3.90E-001 | 8.13E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.95E+000 | 2.90E+000 | 5.97E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.20E-001 | 7.59E-001 | 1.87E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.63E+001 | 5.61E+001 | 1.10E+002 |
| PA-231 | NOT FOUND/DATA for | 283.67 keV | | -5.83E+000 | 8.75E+000 | 9.95E+000 |
| PA-234 | NOT FOUND/DATA for | 883.24 keV | | -2.15E-001 | 1.03E+000 | 1.27E+000 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.80E+000 | 2.07E+001 | 4.46E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -5.49E-001 | 2.21E+000 | 3.82E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -4.47E+001 | 4.90E+002 | 8.65E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.27E-002 | 1.79E-001 | 3.49E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -5.49E-001 | 2.21E+000 | 3.82E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.13E-001 | 8.61E-001 | 1.71E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-212
Sample Title: NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.130E+002 G
Sample Taken On: 3/31/2005 11:15:00 AM
Acquisition Started: 3/31/2005 3:19:56 PM
Live Time: 521.4 seconds
Real Time: 522.3 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.43E+001 | 4.35E+000 | 3.33E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.84E-002 | 1.08E-001 | 2.39E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.53E-002 | 1.06E-001 | 1.84E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.20E-002 | 1.41E-001 | 3.16E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.56E-001 | 2.84E-001 | 3.96E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -5.70E-002 | 1.35E-001 | 2.34E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.54E-001 | 3.29E-001 | 6.70E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.01E-001 | 1.16E-001 | 1.68E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.21E-002 | 1.32E-001 | 2.34E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.03E-001 | 1.81E-001 | 4.20E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.54E-001 | 2.82E-001 | 6.21E-001 |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 1.02E+000 | 4.10E-001 | 9.31E-001 |
| PB-214 | 8.82E-001 | 3.18E-001 | 5.45E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.22E+000 | 2.93E+000 | 5.72E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.03E-001 | 7.07E-001 | 1.54E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.38E+001 | 4.48E+001 | 8.66E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -5.60E-001 | 4.67E+000 | 8.11E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -4.13E-002 | 3.99E-001 | 6.85E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.38E+001 | 2.31E+001 | 3.51E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.98E-001 | 2.10E+000 | 3.69E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.65E+002 | 4.21E+002 | 8.27E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.03E-001 | 1.71E-001 | 3.26E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.98E-001 | 2.10E+000 | 3.69E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.65E-001 | 7.34E-001 | 1.35E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0503-213
Sample Title: NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.957E+002 G
Sample Taken On: 3/31/2005 11:15:00 AM
Acquisition Started: 3/31/2005 3:29:26 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.08E+001 | 5.66E+000 | 2.62E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 5.89E-002 | 8.25E-002 | 2.02E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.01E-001 | 9.90E-002 | 1.50E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.02E-002 | 1.15E-001 | 2.64E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 8.19E-003 | 2.44E-001 | 4.92E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.48E-001 | 1.36E-001 | 1.54E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.06E-001 | 3.05E-001 | 5.00E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 2.88E-002 | 9.74E-002 | 2.00E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.12E-002 | 1.29E-001 | 2.72E-001 |
| TL-208 | 3.07E-001 | 3.99E-001 | 1.89E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.95E-001 | 3.03E-001 | 6.21E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 8.10E-001 | 3.34E-001 | 7.74E-001 |
| PB-214 | 1.11E+000 | 3.07E-001 | 4.56E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.69E+000 | 2.65E+000 | 5.17E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.33E+000 | 6.23E-001 | 1.50E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.29E+001 | 4.65E+001 | 8.69E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.95E+000 | 3.97E+000 | 7.32E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.36E-001 | 3.96E-001 | 6.27E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 2.52E+000 | 2.04E+001 | 4.13E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.09E+000 | 1.96E+000 | 3.55E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.23E+002 | 4.29E+002 | 7.36E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.19E-001 | 1.60E-001 | 3.07E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.09E+000 | 1.96E+000 | 3.55E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.22E-001 | 7.68E-001 | 1.32E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-004
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.173E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 10:31:57 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.08E+001 | 3.71E+000 | 2.93E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 7.44E-003 | 9.40E-002 | 1.95E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.03E-001 | 9.91E-002 | 1.51E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -1.87E-002 | 1.11E-001 | 2.00E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.26E-001 | 2.03E-001 | 3.42E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -2.58E-002 | 1.14E-001 | 2.25E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -8.12E-002 | 3.16E-001 | 5.79E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.42E-002 | 1.00E-001 | 1.72E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.54E-002 | 1.38E-001 | 2.64E-001 |
| TL-208 | 3.22E-001 | 1.37E-001 | 2.48E-001 | FOUND | | |
| PB-212 | 1.19E+000 | 2.44E-001 | 5.67E-001 | FOUND | | |
| BI-214 | 9.13E-001 | 3.04E-001 | 4.21E-001 | FOUND | | |
| PB-214 | 7.02E-001 | 2.77E-001 | 5.59E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | -8.65E-001 | 2.23E+000 | 3.94E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.02E+000 | 5.94E-001 | 1.38E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.85E+001 | 3.88E+001 | 7.59E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.58E+000 | 3.14E+000 | 5.92E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -4.50E-002 | 3.76E-001 | 6.32E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.95E+000 | 1.82E+001 | 3.56E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.33E-001 | 1.74E+000 | 3.10E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 8.58E+001 | 3.29E+002 | 6.41E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | -1.07E-003 | 1.38E-001 | 2.54E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.33E-001 | 1.74E+000 | 3.10E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.42E-001 | 6.09E-001 | 1.12E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-005
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.203E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 10:42:48 AM
Live Time: 600.0 seconds
Real Time: 601.3 seconds
Dead Time: 0.21 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.24E+001 | 1.02E+001 | 3.18E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.30E-002 | 7.96E-002 | 1.56E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.47E-002 | 9.49E-002 | 1.69E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.22E-002 | 8.40E-002 | 2.17E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -5.34E-002 | 3.28E-001 | 5.95E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -3.97E-002 | 1.20E-001 | 2.01E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.41E-001 | 2.12E-001 | 4.66E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.34E-002 | 1.02E-001 | 1.79E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.03E-002 | 1.23E-001 | 2.11E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.28E-001 | 1.56E-001 | 3.57E-001 |
| PB-212 | 9.61E-001 | 2.21E-001 | 4.33E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 8.92E-001 | 3.46E-001 | 7.94E-001 |
| PB-214 | 5.20E-001 | 1.80E-001 | 4.16E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.33E+000 | 2.36E+000 | 4.53E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.98E-001 | 5.53E-001 | 1.30E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.38E+000 | 4.30E+001 | 7.99E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 4.76E+000 | 4.26E+000 | 7.63E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.10E-001 | 3.62E-001 | 6.06E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 8.17E+000 | 1.64E+001 | 3.78E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.01E+000 | 1.83E+000 | 3.32E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.41E+002 | 3.45E+002 | 7.11E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.10E-001 | 1.40E-001 | 2.73E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.01E+000 | 1.83E+000 | 3.32E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 7.36E-003 | 6.99E-001 | 1.32E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-006
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.120E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 10:54:44 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.27E+001 | 3.94E+000 | 3.18E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.69E-002 | 1.07E-001 | 2.08E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.99E-002 | 9.64E-002 | 1.73E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.59E-002 | 1.13E-001 | 2.58E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 7.60E-002 | 2.37E-001 | 5.08E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -4.59E-002 | 8.97E-002 | 1.50E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.69E-001 | 2.54E-001 | 4.33E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.46E-003 | 1.03E-001 | 1.95E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.22E-002 | 1.22E-001 | 2.14E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.29E-001 | 1.85E-001 | 3.95E-001 |
| PB-212 | 7.60E-001 | 2.99E-001 | 4.58E-001 | FOUND | | |
| BI-214 | 7.14E-001 | 8.59E-001 | 4.02E-001 | FOUND | | |
| PB-214 | 6.50E-001 | 2.56E-001 | 4.26E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.60E+000 | 2.33E+000 | 4.67E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 4.76E-001 | 4.55E-001 | 1.06E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 7.78E+000 | 4.17E+001 | 7.87E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.15E+000 | 3.73E+000 | 6.85E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 1.80E-001 | 3.85E-001 | 6.63E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.56E+001 | 1.75E+001 | 4.24E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.13E-001 | 1.67E+000 | 3.03E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 5.98E+001 | 3.37E+002 | 6.46E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.41E-001 | 1.44E-001 | 2.81E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.13E-001 | 1.67E+000 | 3.03E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.76E-001 | 7.58E-001 | 1.43E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-007
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.015E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 11:05:57 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.94E+001 | 1.25E+001 | 3.02E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -6.65E-003 | 7.67E-002 | 1.60E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.94E-002 | 8.46E-002 | 1.35E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.88E-003 | 8.84E-002 | 2.00E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.93E-001 | 2.62E-001 | 5.89E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.26E-002 | 8.80E-002 | 1.53E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 8.45E-002 | 2.51E-001 | 5.14E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.00E-002 | 8.79E-002 | 1.58E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.64E-002 | 1.07E-001 | 2.27E-001 |
| TL-208 | 2.56E-001 | 3.04E-002 | 1.97E-001 | FOUND | | |
| PB-212 | 1.09E+000 | 4.51E-001 | 4.21E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 1.17E+000 | 3.72E-001 | 8.74E-001 |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 9.05E-001 | 3.31E-001 | 7.37E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.82E+000 | 2.42E+000 | 4.66E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.03E+000 | 6.03E-001 | 1.39E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.03E-001 | 4.32E+001 | 7.99E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.70E+000 | 3.39E+000 | 6.05E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.21E-001 | 4.04E-001 | 6.33E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -3.55E+000 | 2.13E+001 | 4.10E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.46E-001 | 2.00E+000 | 3.49E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.78E+002 | 3.53E+002 | 5.85E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.45E-001 | 1.46E-001 | 3.03E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.46E-001 | 2.00E+000 | 3.49E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 6.22E-001 | 7.41E-001 | 1.49E+000 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-008
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.185E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 11:17:42 AM
Live Time: 600.0 seconds
Real Time: 600.7 seconds
Dead Time: 0.11 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.20E+001 | 1.27E+001 | 2.41E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.15E-001 | 1.35E-001 | 3.04E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 6.53E-003 | 9.95E-002 | 1.71E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.51E-002 | 1.19E-001 | 2.76E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.69E-001 | 3.29E-001 | 6.93E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -7.55E-003 | 8.54E-002 | 1.73E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -5.20E-002 | 3.52E-001 | 6.37E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 3.04E-002 | 9.94E-002 | 2.08E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.11E-002 | 1.06E-001 | 2.08E-001 |
| TL-208 | 4.98E-001 | 2.53E-001 | 1.92E-001 | FOUND | | |
| PB-212 | 1.41E+000 | 4.26E-001 | 4.83E-001 | FOUND | | |
| BI-214 | 1.12E+000 | 3.62E-001 | 5.21E-001 | FOUND | | |
| PB-214 | 8.40E-001 | 2.80E-001 | 4.47E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.27E+000 | 2.51E+000 | 4.84E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.43E+000 | 6.75E-001 | 1.63E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.51E+000 | 4.37E+001 | 7.70E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 5.48E+000 | 4.66E+000 | 8.46E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.66E-001 | 4.59E-001 | 7.45E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.08E+000 | 1.79E+001 | 3.84E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.00E-001 | 2.02E+000 | 3.56E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -7.40E+001 | 3.60E+002 | 6.63E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | -7.54E-002 | 1.49E-001 | 2.61E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.00E-001 | 2.02E+000 | 3.56E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.43E-001 | 7.69E-001 | 1.46E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-009
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.189E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 11:28:55 AM
Live Time: 600.0 seconds
Real Time: 600.7 seconds
Dead Time: 0.11 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.51E+001 | 1.22E+001 | 2.74E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.76E-002 | 9.83E-002 | 2.16E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.26E-002 | 8.02E-002 | 1.44E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 8.31E-003 | 1.32E-001 | 2.64E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.04E-001 | 2.57E-001 | 4.47E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.38E-002 | 1.07E-001 | 1.89E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.49E-001 | 2.59E-001 | 5.17E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.94E-003 | 9.63E-002 | 1.86E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.35E-002 | 1.15E-001 | 2.39E-001 |
| TL-208 | 2.19E-001 | 9.05E-002 | 2.28E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 1.01E+000 | 2.78E-001 | 5.99E-001 |
| BI-214 | 7.63E-001 | 2.85E-001 | 3.84E-001 | FOUND | | |
| PB-214 | 7.05E-001 | 3.54E-001 | 5.05E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 8.45E-001 | 2.13E+000 | 4.03E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.40E+000 | 6.80E-001 | 1.58E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.26E+001 | 3.88E+001 | 7.00E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 5.78E-001 | 3.85E+000 | 6.89E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -4.09E-002 | 3.46E-001 | 5.93E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 9.06E-001 | 2.20E+001 | 4.00E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -6.94E-002 | 1.80E+000 | 3.09E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.61E+002 | 3.28E+002 | 6.52E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.07E-002 | 1.25E-001 | 2.45E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -6.94E-002 | 1.80E+000 | 3.09E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 6.22E-003 | 5.97E-001 | 1.14E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-010
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.522E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 11:45:03 AM
Live Time: 300.0 seconds
Real Time: 300.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.21E+001 | 5.14E+000 | 2.74E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -1.24E-002 | 1.05E-001 | 2.31E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 5.17E-002 | 1.01E-001 | 2.01E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 9.11E-002 | 1.24E-001 | 3.73E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 2.27E-002 | 2.92E-001 | 6.52E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -1.70E-001 | 2.04E-001 | 2.63E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.53E-001 | 3.88E-001 | 8.19E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.30E-002 | 1.21E-001 | 1.82E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.08E-002 | 1.56E-001 | 3.42E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 1.72E-001 | 1.95E-001 | 4.30E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.37E-001 | 3.94E-001 | 8.33E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 1.08E+000 | 4.65E-001 | 1.16E+000 |
| PB-214 | 1.01E+000 | 1.99E+000 | 4.32E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 4.38E+000 | 3.31E+000 | 7.05E+000 |
| AC-228 | NOT FOUND/DATA for 968.97 keV | | | 1.43E-001 | 8.74E-001 | 1.84E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -2.53E+001 | 4.56E+001 | 8.03E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.31E+000 | 5.10E+000 | 1.01E+001 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.67E-001 | 4.94E-001 | 9.34E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 4.21E+000 | 2.83E+001 | 5.19E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 6.02E-002 | 2.37E+000 | 4.19E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.02E+001 | 4.58E+002 | 9.04E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 4.25E-002 | 2.03E-001 | 3.78E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 6.02E-002 | 2.37E+000 | 4.19E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.99E-001 | 7.96E-001 | 1.51E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-011
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.170E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 11:53:04 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.94E+001 | 3.60E+000 | 2.44E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 7.86E-002 | 1.11E-001 | 2.45E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 2.34E-002 | 8.60E-002 | 1.53E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 1.05E-001 | 1.24E-001 | 2.90E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -8.61E-002 | 2.32E-001 | 3.42E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.75E-002 | 8.99E-002 | 1.61E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.54E-002 | 2.75E-001 | 5.19E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 2.94E-004 | 1.01E-001 | 1.80E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.05E-001 | 1.30E-001 | 2.79E-001 |
| TL-208 | 2.93E-001 | 2.93E-001 | 1.70E-001 | FOUND | | |
| PB-212 | 7.94E-001 | 2.21E-001 | 4.68E-001 | FOUND | | |
| BI-214 | 5.40E-001 | 2.51E-001 | 3.84E-001 | FOUND | | |
| PB-214 | 8.51E-001 | 2.64E-001 | 3.89E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.76E+000 | 2.19E+000 | 4.60E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.24E-001 | 5.85E-001 | 1.31E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.54E+001 | 3.99E+001 | 6.64E+001 |
| PA-231 | NOT FOUND/DATA for 302.65 keV | | | -2.82E+000 | 4.50E+000 | 6.61E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.11E-001 | 3.87E-001 | 6.40E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 5.75E+000 | 1.40E+001 | 3.31E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 3.14E-001 | 1.70E+000 | 3.01E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.81E+001 | 3.18E+002 | 6.15E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.58E-001 | 1.33E-001 | 2.70E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 3.14E-001 | 1.70E+000 | 3.01E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -8.74E-002 | 6.55E-001 | 1.07E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-012
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.950E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 12:03:10 PM
Live Time: 537.9 seconds
Real Time: 538.6 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.67E+001 | 1.79E+001 | 3.64E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.46E-002 | 8.58E-002 | 1.57E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.77E-002 | 9.72E-002 | 1.60E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.83E-002 | 9.90E-002 | 2.20E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.02E-001 | 2.29E-001 | 5.07E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.92E-002 | 9.26E-002 | 1.72E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.49E-001 | 2.68E-001 | 4.52E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.85E-002 | 9.79E-002 | 1.65E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.96E-002 | 1.15E-001 | 2.32E-001 |
| TL-208 | 2.36E-001 | 4.79E-001 | 2.05E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.32E-001 | 2.72E-001 | 5.86E-001 |
| BI-214 | 6.31E-001 | 2.67E-001 | 4.04E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 9.05E-001 | 3.38E-001 | 7.46E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.19E+000 | 1.99E+000 | 4.24E+000 |
| AC-228 | 9.29E-001 | 4.60E-001 | 5.88E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.86E+001 | 3.55E+001 | 6.00E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.31E+000 | 3.30E+000 | 6.19E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.53E-001 | 3.73E-001 | 6.12E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -5.72E+000 | 1.72E+001 | 3.05E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.88E-001 | 1.57E+000 | 2.76E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 6.81E+001 | 3.54E+002 | 6.83E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | -2.10E-002 | 1.29E-001 | 2.26E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.88E-001 | 1.57E+000 | 2.76E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.48E-001 | 6.81E-001 | 1.31E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-013
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.540E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 12:12:50 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.81E+001 | 1.15E+001 | 3.27E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.79E-003 | 9.18E-002 | 1.86E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.52E-002 | 8.25E-002 | 1.39E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | -8.52E-002 | 8.76E-002 | 1.17E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.06E-001 | 2.09E-001 | 3.63E-001 |
| AG-110m | NOT FOUND/DATA for 1384.30 keV | | | 0.00E+000 | 0.00E+000 | 1.98E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -8.67E-002 | 2.35E-001 | 4.27E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.76E-002 | 9.15E-002 | 1.55E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 3.39E-002 | 1.16E-001 | 2.36E-001 |
| TL-208 | 3.63E-001 | 1.42E-001 | 2.40E-001 | FOUND | | |
| PB-212 | 9.68E-001 | 2.35E-001 | 4.63E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 8.41E-001 | 3.26E-001 | 7.51E-001 |
| PB-214 | 5.97E-001 | 3.98E-001 | 3.64E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.44E+000 | 2.33E+000 | 4.59E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.04E+000 | 6.14E-001 | 1.40E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.06E+000 | 3.65E+001 | 6.79E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.85E+000 | 3.56E+000 | 6.57E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 2.62E-001 | 3.56E-001 | 6.51E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -6.19E+000 | 1.72E+001 | 3.15E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -4.35E-001 | 1.68E+000 | 2.80E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -9.99E+001 | 3.85E+002 | 6.57E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.05E-001 | 1.39E-001 | 2.70E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -4.35E-001 | 1.68E+000 | 2.80E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.95E-001 | 6.71E-001 | 1.30E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-014
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.123E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 12:23:29 PM
Live Time: 600.0 seconds
Real Time: 600.7 seconds
Dead Time: 0.12 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.97E+001 | 1.00E+001 | 3.29E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.89E-002 | 8.09E-002 | 1.97E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -7.20E-002 | 1.03E-001 | 1.65E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.64E-002 | 1.24E-001 | 2.75E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.04E-001 | 2.31E-001 | 4.19E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.07E-002 | 1.09E-001 | 2.00E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.68E-002 | 3.08E-001 | 5.22E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.87E-002 | 1.05E-001 | 2.09E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.77E-002 | 1.14E-001 | 2.41E-001 |
| TL-208 | 2.86E-001 | 1.32E-001 | 2.01E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 7.98E-001 | 2.73E-001 | 5.73E-001 |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 7.72E-001 | 3.53E-001 | 7.80E-001 |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 7.89E-001 | 3.53E-001 | 7.52E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.21E+000 | 2.48E+000 | 4.63E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.36E+000 | 6.64E-001 | 1.55E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -4.89E+001 | 4.02E+001 | 6.28E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -6.89E-001 | 3.61E+000 | 6.20E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 3.80E-001 | 3.51E-001 | 6.67E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 0.00E+000 | 1.85E+001 | 3.59E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.26E-001 | 1.82E+000 | 3.27E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.81E+001 | 3.39E+002 | 6.45E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.19E-001 | 1.54E-001 | 3.09E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.26E-001 | 1.82E+000 | 3.27E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -5.89E-002 | 6.31E-001 | 1.18E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-015
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.219E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 12:37:10 PM
Live Time: 600.0 seconds
Real Time: 600.7 seconds
Dead Time: 0.12 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.96E+001 | 1.45E+001 | 3.23E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -6.28E-002 | 9.57E-002 | 1.39E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.01E-002 | 9.38E-002 | 1.64E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.48E-002 | 1.11E-001 | 2.54E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.73E-001 | 3.62E-001 | 3.79E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.75E-002 | 9.07E-002 | 1.48E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.89E-002 | 2.77E-001 | 5.15E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.42E-002 | 1.24E-001 | 1.93E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.33E-002 | 1.28E-001 | 2.54E-001 |
| TL-208 | 2.96E-001 | 1.29E-001 | 1.91E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.10E-001 | 2.85E-001 | 6.01E-001 |
| BI-214 | 7.20E-001 | 1.31E+000 | 4.21E-001 | FOUND | | |
| PB-214 | 6.73E-001 | 2.54E-001 | 4.87E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 9.83E-001 | 2.24E+000 | 4.23E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.11E+000 | 6.07E-001 | 1.42E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -3.47E+001 | 3.72E+001 | 6.06E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -1.13E+000 | 3.59E+000 | 6.00E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.41E-001 | 3.80E-001 | 6.80E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -8.02E+000 | 2.05E+001 | 3.77E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 9.71E-001 | 1.88E+000 | 3.39E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.38E+002 | 3.34E+002 | 5.83E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.87E-002 | 1.42E-001 | 2.60E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 9.71E-001 | 1.88E+000 | 3.39E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 5.38E-001 | 5.93E-001 | 1.25E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-016
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.363E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 12:47:53 PM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.05E+001 | 1.18E+001 | 2.53E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.14E-002 | 8.22E-002 | 1.79E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -5.56E-002 | 9.31E-002 | 1.48E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 3.21E-002 | 7.49E-002 | 1.90E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -5.03E-002 | 1.91E-001 | 3.72E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.25E-001 | 1.02E-001 | 1.03E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -3.07E-002 | 2.30E-001 | 4.19E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -9.89E-002 | 8.98E-002 | 1.32E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.11E-002 | 1.01E-001 | 2.16E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 4.88E-001 | 1.86E-001 | 4.19E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 1.00E+000 | 2.82E-001 | 6.01E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 4.91E-001 | 3.03E-001 | 6.65E-001 |
| PB-214 | 1.05E+000 | 2.98E-001 | 4.31E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.36E+000 | 2.25E+000 | 4.59E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.07E+000 | 6.14E-001 | 1.42E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.45E+001 | 3.56E+001 | 6.34E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.84E-001 | 2.75E+000 | 5.15E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.65E-002 | 3.72E-001 | 6.38E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -6.00E+000 | 1.85E+001 | 3.47E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 4.07E-002 | 1.69E+000 | 2.93E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 5.32E+001 | 3.27E+002 | 6.24E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.40E-001 | 1.40E-001 | 2.77E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 4.07E-002 | 1.69E+000 | 2.93E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.25E-001 | 6.52E-001 | 1.16E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-017
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.899E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 12:59:14 PM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.31E+001 | 1.48E+001 | 2.81E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 6.17E-002 | 1.05E-001 | 2.26E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.26E-002 | 1.05E-001 | 1.83E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.26E-002 | 1.14E-001 | 2.48E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.41E-002 | 2.37E-001 | 4.66E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.16E-001 | 1.38E-001 | 1.88E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -7.60E-002 | 2.51E-001 | 4.67E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -4.36E-002 | 8.45E-002 | 1.51E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 8.11E-002 | 1.36E-001 | 2.58E-001 |
| TL-208 | 4.10E-001 | 4.38E-001 | 1.80E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.89E-001 | 2.88E-001 | 6.16E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 2.32E-001 | 3.11E-001 | 6.32E-001 |
| PB-214 | 8.23E-001 | 2.76E-001 | 3.98E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.25E+000 | 2.23E+000 | 4.56E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 5.75E-001 | 5.58E-001 | 1.25E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.72E+001 | 4.20E+001 | 8.56E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.51E+000 | 3.75E+000 | 6.86E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -4.56E-003 | 4.09E-001 | 7.00E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 8.86E+000 | 1.99E+001 | 4.38E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.73E+000 | 1.86E+000 | 3.49E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.64E+002 | 3.12E+002 | 5.11E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.47E-001 | 1.38E-001 | 2.90E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.73E+000 | 1.86E+000 | 3.49E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.99E-001 | 6.41E-001 | 1.26E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-018
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.305E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 1:11:26 PM
Live Time: 600.0 seconds
Real Time: 600.7 seconds
Dead Time: 0.12 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.05E+001 | 1.39E+001 | 3.04E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 8.03E-002 | 9.39E-002 | 2.23E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -5.25E-002 | 8.96E-002 | 1.45E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.16E-002 | 8.32E-002 | 2.14E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -3.90E-001 | 5.52E-001 | 2.30E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.55E-003 | 9.80E-002 | 1.86E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.80E-001 | 2.51E-001 | 5.68E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.17E-002 | 9.13E-002 | 1.69E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.61E-002 | 1.11E-001 | 2.35E-001 |
| TL-208 | 3.10E-001 | 1.35E-001 | 2.06E-001 | FOUND | | |
| PB-212 | 1.10E+000 | 4.09E-001 | 4.42E-001 | FOUND | | |
| BI-214 | 7.35E-001 | 7.65E-001 | 4.12E-001 | FOUND | | |
| PB-214 | 8.25E-001 | 2.20E-001 | 4.43E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.13E+000 | 2.30E+000 | 4.67E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.55E-001 | 5.37E-001 | 1.29E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.76E+001 | 3.59E+001 | 6.26E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -1.85E+000 | 3.66E+000 | 5.93E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | 1.01E-003 | 3.48E-001 | 6.08E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -6.67E+000 | 1.60E+001 | 2.30E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 3.07E+000 | 1.93E+000 | 3.71E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.33E+002 | 2.98E+002 | 6.03E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.70E-001 | 1.40E-001 | 2.81E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 3.07E+000 | 1.93E+000 | 3.71E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.03E-001 | 5.79E-001 | 9.70E-001 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-019
Sample Title: B-5 NE H/W TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.812E+002 G
Sample Taken On: 4/1/2005 11:15:00 AM
Acquisition Started: 4/1/2005 1:22:25 PM
Live Time: 600.0 seconds
Real Time: 600.6 seconds
Dead Time: 0.10 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.55E+001 | 1.08E+001 | 2.08E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 7.60E-002 | 1.16E-001 | 2.58E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.76E-002 | 1.03E-001 | 1.74E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | -3.80E-002 | 1.02E-001 | 1.89E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.16E-001 | 2.63E-001 | 4.72E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 8.73E-002 | 9.40E-002 | 2.18E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 5.19E-002 | 3.08E-001 | 5.94E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -8.62E-002 | 9.63E-002 | 1.42E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.82E-002 | 1.17E-001 | 2.52E-001 |
| TL-208 | 2.63E-001 | 9.22E-001 | 2.53E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.73E-001 | 2.98E-001 | 6.13E-001 |
| BI-214 | 8.66E-001 | 1.41E+000 | 3.86E-001 | FOUND | | |
| PB-214 | 5.99E-001 | 2.21E-001 | 4.55E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.03E+000 | 2.32E+000 | 4.44E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.22E+000 | 6.20E-001 | 1.48E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.01E+001 | 3.97E+001 | 7.51E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.28E-001 | 3.70E+000 | 6.60E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -3.04E-002 | 4.26E-001 | 7.24E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 9.97E-001 | 1.80E+001 | 3.75E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.16E+000 | 1.89E+000 | 3.45E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.54E+002 | 4.01E+002 | 6.88E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | -2.80E-002 | 1.39E-001 | 2.49E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.16E+000 | 1.89E+000 | 3.45E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.66E-001 | 6.40E-001 | 1.23E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0504-022 |
| Sample Title: | NE TRENCH MARSIM SAMPLE #1 |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 9.659E+002 G |
| Sample Taken On: | 4/4/2005 11:15:00 AM |
| Acquisition Started: | 4/5/2005 9:18:36 AM |
| Live Time: | 1800.0 seconds |
| Real Time: | 1803.6 seconds |
| Dead Time: | 0.20 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.99E+001 | 4.18E+000 | 9.12E-001 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.62E-002 | 4.27E-002 | 8.82E-002 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.02E-002 | 4.26E-002 | 7.01E-002 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.66E-002 | 4.47E-002 | 9.59E-002 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.17E-001 | 1.08E-001 | 1.63E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.09E-003 | 4.51E-002 | 7.85E-002 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -6.32E-002 | 1.07E-001 | 1.83E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -3.96E-002 | 3.77E-002 | 5.87E-002 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 3.10E-002 | 5.35E-002 | 1.03E-001 |
| TL-208 | 3.35E-001 | 1.90E-001 | 1.02E-001 | FOUND | | |
| PB-212 | 7.46E-001 | 1.03E-001 | 1.71E-001 | FOUND | | |
| BI-214 | 7.79E-001 | 3.37E-001 | 2.03E-001 | FOUND | | |
| PB-214 | 6.03E-001 | 1.58E-001 | 2.53E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.08E+000 | 1.03E+000 | 1.99E+000 |
| AC-228 | 8.87E-001 | 2.80E-001 | 3.82E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -5.70E+000 | 1.81E+001 | 3.13E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.94E+000 | 1.70E+000 | 2.80E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 6.15E-002 | 1.75E-001 | 2.97E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -3.01E+000 | 7.58E+000 | 1.33E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 8.27E-001 | 7.94E-001 | 1.40E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 7.91E+001 | 1.57E+002 | 2.87E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 9.85E-002 | 6.28E-002 | 1.19E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 8.27E-001 | 7.94E-001 | 1.40E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 6.40E-002 | 2.74E-001 | 5.01E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-023
Sample Title: NE TRENCH MARSIM SAMPLE #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.942E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/5/2005 2:35:27 PM
Live Time: 900.0 seconds
Real Time: 901.2 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.10E+001 | 1.02E+001 | 2.47E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.72E-002 | 6.33E-002 | 1.37E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -4.24E-004 | 7.02E-002 | 1.19E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.88E-002 | 7.19E-002 | 1.54E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 6.31E-002 | 1.98E-001 | 3.74E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -2.36E-002 | 7.41E-002 | 1.34E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -4.66E-003 | 1.94E-001 | 3.65E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.24E-003 | 6.87E-002 | 1.29E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.07E-002 | 8.66E-002 | 1.68E-001 |
| TL-208 | 3.24E-001 | 2.53E-001 | 1.62E-001 | FOUND | | |
| PB-212 | 9.40E-001 | 2.16E-001 | 3.70E-001 | FOUND | | |
| BI-214 | 5.13E-001 | 3.63E-001 | 3.70E-001 | FOUND | | |
| PB-214 | 7.94E-001 | 3.36E-001 | 2.95E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.23E-001 | 1.60E+000 | 2.93E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.07E+000 | 4.11E-001 | 9.89E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.20E+001 | 3.10E+001 | 5.42E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.46E+000 | 2.92E+000 | 5.22E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -2.24E-002 | 2.65E-001 | 4.51E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 5.44E+000 | 1.07E+001 | 2.41E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 9.49E-001 | 1.38E+000 | 2.47E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.67E+002 | 2.64E+002 | 5.11E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | -3.35E-002 | 9.46E-002 | 1.65E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 9.49E-001 | 1.38E+000 | 2.47E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.60E-001 | 5.34E-001 | 8.89E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-24
Sample Title: NE TRENCH MARSIM SAMPLE #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 9.112E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/5/2005 3:35:06 PM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.80E+001 | 6.62E+000 | 1.81E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -7.83E-003 | 6.32E-002 | 1.19E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.96E-003 | 6.83E-002 | 1.15E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.87E-002 | 9.64E-002 | 1.86E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -4.18E-003 | 1.56E-001 | 3.03E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 6.86E-003 | 6.56E-002 | 1.28E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.20E-001 | 1.88E-001 | 3.76E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.84E-002 | 7.58E-002 | 1.18E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.29E-002 | 6.92E-002 | 1.53E-001 |
| TL-208 | 3.16E-001 | 3.04E-001 | 1.55E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.31E-001 | 2.05E-001 | 4.21E-001 |
| BI-214 | 1.02E+000 | 6.62E-001 | 2.96E-001 | FOUND | | |
| PB-214 | 9.54E-001 | 6.14E-001 | 3.38E-001 | FOUND | | |
| RA-226 | 2.41E+000 | 3.97E+000 | 2.89E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.87E-001 | 4.30E-001 | 9.69E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -3.14E+001 | 2.79E+001 | 4.48E+001 |
| PA-231 | NOT FOUND/DATA for | 283.67 keV | | -4.33E+000 | 3.84E+000 | 4.10E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.00E-001 | 2.48E-001 | 3.98E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.19E+000 | 1.24E+001 | 2.31E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.14E-001 | 1.24E+000 | 2.20E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.80E+000 | 2.17E+002 | 4.04E+002 |
| U-235 | 1.47E-001 | 2.42E-001 | 1.76E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.14E-001 | 1.24E+000 | 2.20E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.76E-001 | 4.29E-001 | 8.39E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-25
Sample Title: NE TRENCH MARSIM SAMPLE #4
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.870E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/5/2005 3:50:58 PM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.70E+001 | 2.66E+001 | 1.67E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 5.47E-002 | 7.68E-002 | 1.54E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.83E-002 | 6.18E-002 | 1.08E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.11E-002 | 8.32E-002 | 1.71E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 4.51E-002 | 1.58E-001 | 3.23E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.96E-002 | 7.08E-002 | 1.20E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 8.31E-002 | 1.86E-001 | 3.68E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -9.69E-002 | 7.05E-002 | 9.27E-002 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -1.71E-002 | 7.36E-002 | 1.29E-001 |
| TL-208 | 3.23E-001 | 1.92E-001 | 1.28E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.57E-001 | 1.97E-001 | 4.03E-001 |
| BI-214 | 1.23E+000 | 2.34E-001 | 2.43E-001 | FOUND | | |
| PB-214 | 9.31E-001 | 2.13E-001 | 3.55E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.92E+000 | 1.68E+000 | 3.33E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.56E+000 | 4.82E-001 | 1.12E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 8.60E+000 | 2.77E+001 | 4.95E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.41E+000 | 2.67E+000 | 4.76E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 2.58E-002 | 2.73E-001 | 4.64E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -4.04E+000 | 1.18E+001 | 2.16E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 5.68E-001 | 1.18E+000 | 2.09E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.63E+002 | 2.38E+002 | 4.73E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.69E-002 | 1.03E-001 | 1.93E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 5.68E-001 | 1.18E+000 | 2.09E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.44E-002 | 4.70E-001 | 8.62E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-26
Sample Title: NE TRENCH MARSIM SAMPLE #5
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.038E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/5/2005 4:14:10 PM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.79E+001 | 3.67E+000 | 2.23E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -6.66E-002 | 7.55E-002 | 1.16E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.38E-001 | 8.51E-002 | 1.23E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.20E-001 | 1.04E-001 | 2.48E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.10E-001 | 1.86E-001 | 3.25E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.88E-002 | 8.28E-002 | 1.41E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.05E-001 | 2.19E-001 | 3.63E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.85E-002 | 1.02E-001 | 1.57E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.77E-002 | 8.83E-002 | 1.74E-001 |
| TL-208 | 4.32E-001 | 1.71E-001 | 1.93E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 1.10E+000 | 2.61E-001 | 5.34E-001 |
| BI-214 | 1.11E+000 | 1.14E+000 | 4.24E-001 | FOUND | | |
| PB-214 | 7.91E-001 | 6.19E-001 | 2.90E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 5.73E-001 | 1.97E+000 | 3.62E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.19E+000 | 5.41E-001 | 1.22E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 3.03E+001 | 3.70E+001 | 7.15E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.77E-001 | 3.13E+000 | 5.50E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -3.52E-002 | 3.48E-001 | 5.83E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.72E+000 | 1.51E+001 | 2.86E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 9.94E-001 | 1.54E+000 | 2.76E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.33E+002 | 2.88E+002 | 5.08E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.37E-002 | 1.19E-001 | 2.17E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 9.94E-001 | 1.54E+000 | 2.76E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 5.31E-002 | 5.40E-001 | 1.00E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-27
Sample Title: NE TRENCH MARSIM SAMPLE #6
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.341E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/5/2005 4:37:01 PM
Live Time: 900.0 seconds
Real Time: 901.2 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.40E+001 | 7.45E+000 | 1.99E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 9.52E-002 | 7.77E-002 | 1.76E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 3.49E-002 | 6.98E-002 | 1.21E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -3.12E-002 | 8.28E-002 | 1.56E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 5.97E-002 | 1.76E-001 | 3.56E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.89E-002 | 7.22E-002 | 1.19E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 5.25E-002 | 1.99E-001 | 3.84E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.40E-002 | 8.84E-002 | 1.29E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -1.70E-002 | 8.87E-002 | 1.60E-001 |
| TL-208 | 3.30E-001 | 9.76E-002 | 1.52E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.30E-001 | 2.03E-001 | 4.15E-001 |
| BI-214 | 8.38E-001 | 6.78E-001 | 3.39E-001 | FOUND | | |
| PB-214 | 9.61E-001 | 2.32E-001 | 3.97E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.21E+000 | 1.68E+000 | 3.17E+000 |
| AC-228 | 1.22E+000 | 1.13E+000 | 5.70E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.64E+001 | 2.93E+001 | 4.95E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 9.27E-001 | 2.70E+000 | 4.79E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | 1.33E-001 | 3.09E-001 | 5.26E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.87E+000 | 1.45E+001 | 2.73E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 6.87E-001 | 1.31E+000 | 2.32E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.36E+002 | 2.59E+002 | 4.22E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.46E-002 | 1.00E-001 | 1.89E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 6.87E-001 | 1.31E+000 | 2.32E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 6.90E-002 | 4.57E-001 | 8.47E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-28
Sample Title: NE TRENCH MARSIM SAMPLE #7
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.250E+002 grams
Sample Taken On: 4/4/2005 12:00:00 AM
Acquisition Started: 4/6/2005 7:55:28 AM
Live Time: 1027.0 seconds
Real Time: 1027.3 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
| K-40 | 2.28E+001 | 4.67E+000 | 1.86E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 7.12E-002 | 9.64E-002 | 2.29E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.43E-002 | 6.67E-002 | 1.27E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -4.80E-002 | 1.34E-001 | 2.49E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.34E-001 | 4.57E-001 | 3.65E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.88E-002 | 1.12E-001 | 1.92E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.48E-002 | 2.42E-001 | 4.79E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 9.74E-003 | 1.08E-001 | 2.14E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.89E-002 | 9.97E-002 | 2.37E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.49E-001 | 1.76E-001 | 4.15E-001 |
| PB-212 | 8.73E-001 | 4.06E-001 | 3.46E-001 | FOUND | | |
| BI-214 | 3.92E-001 | 2.15E-001 | 3.18E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 7.00E-001 | 2.67E-001 | 6.18E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.04E+000 | 2.09E+000 | 3.94E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 7.67E-001 | 5.68E-001 | 1.36E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -3.46E+001 | 4.89E+001 | 8.21E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.63E+000 | 3.11E+000 | 6.02E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 1.35E-001 | 2.84E-001 | 5.21E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.71E+000 | 1.78E+001 | 3.66E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.15E-001 | 1.49E+000 | 2.74E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 6.35E+000 | 6.12E+002 | 1.12E+003 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.14E-001 | 1.29E-001 | 2.40E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.15E-001 | 1.49E+000 | 2.74E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.47E+000 | 1.01E+000 | 1.56E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-29
Sample Title: NE TRENCH MARSIM SAMPLE #8
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 9.183E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/6/2005 6:58:51 AM
Live Time: 900.0 seconds
Real Time: 901.2 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.00E+001 | 6.86E+000 | 1.43E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.18E-002 | 5.23E-002 | 8.92E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.41E-002 | 5.98E-002 | 9.78E-002 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -2.34E-002 | 9.96E-002 | 1.75E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.31E-001 | 1.93E-001 | 3.02E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 5.79E-003 | 5.16E-002 | 1.04E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.42E-002 | 1.78E-001 | 3.30E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.19E-002 | 6.86E-002 | 1.26E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.85E-002 | 7.25E-002 | 1.49E-001 |
| TL-208 | 4.10E-001 | 9.70E-002 | 1.13E-001 | FOUND | | |
| PB-212 | 9.22E-001 | 3.96E-001 | 3.26E-001 | FOUND | | |
| BI-214 | 7.73E-001 | 2.06E-001 | 3.30E-001 | FOUND | | |
| PB-214 | 7.81E-001 | 1.56E-001 | 3.33E-001 | FOUND | | |
| RA-226 | 2.25E+000 | 1.21E+000 | 2.59E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.78E-001 | 4.08E-001 | 8.76E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.15E+001 | 2.47E+001 | 4.18E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 7.46E-001 | 2.13E+000 | 3.85E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -2.64E-001 | 2.77E-001 | 4.15E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -6.34E+000 | 1.36E+001 | 2.19E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 9.05E-001 | 1.26E+000 | 2.25E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.34E+002 | 2.24E+002 | 3.84E+002 |
| U-235 | 1.37E-001 | 7.37E-002 | 1.58E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 9.05E-001 | 1.26E+000 | 2.25E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -9.30E-002 | 4.79E-001 | 8.58E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-30
Sample Title: NE TRENCH MARSIM SAMPLE #9
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.910E+002 grams
Sample Taken On: 4/4/2005 12:00:00 AM
Acquisition Started: 4/6/2005 8:13:37 AM
Live Time: 1200.0 seconds
Real Time: 1200.3 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
|---|---|---|---|---|---|---|
| K-40 | 1.65E+001 | 1.28E+001 | 2.05E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.31E-002 | 7.41E-002 | 1.58E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.57E-002 | 5.57E-002 | 9.93E-002 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -1.44E-002 | 1.22E-001 | 2.32E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 4.60E-002 | 1.84E-001 | 4.08E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -4.81E-002 | 8.23E-002 | 1.33E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -5.05E-002 | 2.05E-001 | 3.80E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.04E-002 | 8.58E-002 | 1.35E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.42E-002 | 1.09E-001 | 2.12E-001 |
| TL-208 | 2.66E-001 | 1.07E-001 | 2.01E-001 | FOUND | | |
| PB-212 | 6.83E-001 | 1.87E-001 | 3.57E-001 | FOUND | | |
| BI-214 | 5.72E-001 | 1.09E+000 | 3.74E-001 | FOUND | | |
| PB-214 | 6.10E-001 | 6.37E-001 | 3.21E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.17E+000 | 1.61E+000 | 3.15E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.93E-001 | 4.73E-001 | 1.13E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.30E+001 | 4.34E+001 | 8.09E+001 |
| PA-231 | NOT FOUND/DATA for | 283.67 keV | | -2.32E+000 | 3.26E+000 | 4.74E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -2.26E-001 | 2.46E-001 | 3.95E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 7.44E+000 | 1.65E+001 | 3.40E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.98E-001 | 1.28E+000 | 2.35E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 5.79E+002 | 6.20E+002 | 1.18E+003 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.45E-002 | 9.98E-002 | 1.87E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.98E-001 | 1.28E+000 | 2.35E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.76E-001 | 8.60E-001 | 1.49E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-31
Sample Title: NE TRENCH MARSIM SAMPLE #10
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.907E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/6/2005 8:13:15 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.32E+001 | 7.33E+000 | 1.44E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.26E-002 | 8.24E-002 | 1.32E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 5.84E-002 | 7.09E-002 | 1.29E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.20E-002 | 7.40E-002 | 1.65E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.30E-001 | 1.97E-001 | 2.90E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 2.67E-002 | 7.04E-002 | 1.44E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.47E-001 | 2.06E-001 | 3.50E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.36E-002 | 8.18E-002 | 1.40E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.72E-002 | 7.45E-002 | 1.55E-001 |
| TL-208 | 3.16E-001 | 2.50E-001 | 1.68E-001 | FOUND | | |
| PB-212 | 8.19E-001 | 1.82E-001 | 3.55E-001 | FOUND | | |
| BI-214 | 5.99E-001 | 2.13E-001 | 3.80E-001 | FOUND | | |
| PB-214 | 6.68E-001 | 1.91E-001 | 3.20E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.58E-001 | 1.59E+000 | 2.92E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.45E+000 | 5.09E-001 | 1.18E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -9.36E+000 | 3.03E+001 | 5.39E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 5.29E-001 | 2.63E+000 | 4.69E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -8.26E-002 | 3.01E-001 | 4.85E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 8.59E+000 | 1.50E+001 | 3.17E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.40E+000 | 1.39E+000 | 2.54E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.04E+002 | 2.75E+002 | 5.19E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.04E-001 | 9.89E-002 | 1.92E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.40E+000 | 1.38E+000 | 2.54E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.53E-001 | 4.36E-001 | 7.87E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-32
Sample Title: NE TRENCH MARSIM SAMPLE #11
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.960E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/6/2005 8:31:42 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.53E+001 | 3.22E+000 | 1.95E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.06E-002 | 8.25E-002 | 1.48E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.01E-002 | 7.38E-002 | 1.20E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.33E-002 | 7.21E-002 | 1.64E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -9.16E-002 | 1.98E-001 | 3.34E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 3.04E-002 | 7.22E-002 | 1.47E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.11E-002 | 2.03E-001 | 3.73E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.31E-002 | 6.60E-002 | 1.17E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -3.38E-002 | 9.07E-002 | 1.63E-001 |
| TL-208 | 3.32E-001 | 1.08E-001 | 1.79E-001 | FOUND | | |
| PB-212 | 1.04E+000 | 4.39E-001 | 3.62E-001 | FOUND | | |
| BI-214 | 8.26E-001 | 7.64E-001 | 3.15E-001 | FOUND | | |
| PB-214 | 5.79E-001 | 2.67E-001 | 3.65E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 7.04E-001 | 1.67E+000 | 3.10E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.63E-001 | 4.55E-001 | 1.03E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.27E+001 | 2.69E+001 | 5.35E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.95E+000 | 2.85E+000 | 5.02E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.13E-001 | 3.54E-001 | 5.26E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.51E+000 | 1.18E+001 | 2.41E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.21E+000 | 1.36E+000 | 2.47E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.23E+002 | 2.50E+002 | 4.08E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.47E-002 | 1.05E-001 | 1.94E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.21E+000 | 1.36E+000 | 2.47E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.11E-001 | 5.33E-001 | 9.61E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-33
Sample Title: NE TRENCH MARSIM SAMPLE #12
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.710E+002 grams
Sample Taken On: 4/4/2005 12:00:00 AM
Acquisition Started: 4/6/2005 8:44:21 AM
Live Time: 1200.0 seconds
Real Time: 1200.3 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
|---|---|---|---|---|---|---|
| K-40 | 2.06E+001 | 1.19E+001 | 1.64E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 8.54E-002 | 1.05E-001 | 2.43E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 7.10E-003 | 6.55E-002 | 1.21E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -4.39E-002 | 1.44E-001 | 2.56E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.77E-001 | 3.56E-001 | 3.88E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.14E-003 | 8.20E-002 | 1.65E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 7.45E-002 | 2.11E-001 | 4.39E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -8.92E-002 | 1.35E-001 | 1.81E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.19E-002 | 1.01E-001 | 2.17E-001 |
| TL-208 | 2.87E-001 | 3.76E-001 | 2.67E-001 | FOUND | | |
| PB-212 | 1.08E+000 | 6.72E-001 | 4.45E-001 | FOUND | | |
| BI-214 | 5.57E-001 | 2.85E-001 | 5.12E-001 | FOUND | | |
| PB-214 | 7.01E-001 | 3.35E-001 | 4.43E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.32E+000 | 1.95E+000 | 3.58E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.19E+000 | 6.47E-001 | 1.52E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.81E+000 | 5.01E+001 | 9.10E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -2.61E-001 | 2.61E+000 | 4.72E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.47E-001 | 3.16E-001 | 4.62E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.48E+000 | 1.63E+001 | 3.65E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.39E+000 | 1.45E+000 | 2.80E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.96E+002 | 7.20E+002 | 1.33E+003 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.49E-002 | 1.18E-001 | 2.18E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.39E+000 | 1.45E+000 | 2.80E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.30E-001 | 1.06E+000 | 1.98E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-034
Sample Title: NE TRENCH MARSIM SAMPLE #13
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.792E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/5/2005 10:17:27 AM
Live Time: 1800.0 seconds
Real Time: 1803.5 seconds
Dead Time: 0.19 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.05E+001 | 2.15E+000 | 1.42E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.85E-002 | 4.47E-002 | 7.96E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.28E-003 | 4.47E-002 | 7.44E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.46E-002 | 5.23E-002 | 1.05E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.05E-001 | 1.41E-001 | 2.04E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.41E-003 | 4.91E-002 | 8.89E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 6.05E-002 | 1.37E-001 | 2.54E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.66E-004 | 4.11E-002 | 7.90E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 9.75E-003 | 5.78E-002 | 1.07E-001 |
| TL-208 | 3.18E-001 | 1.79E-001 | 1.19E-001 | FOUND | | |
| PB-212 | 1.10E+000 | 2.23E-001 | 2.15E-001 | FOUND | | |
| BI-214 | 8.51E-001 | 4.18E-001 | 2.39E-001 | FOUND | | |
| PB-214 | 8.04E-001 | 1.16E-001 | 2.48E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.74E+000 | 1.15E+000 | 2.17E+000 |
| AC-228 | 6.62E-001 | 2.61E-001 | 4.28E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.08E+001 | 2.04E+001 | 3.52E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.63E+000 | 1.87E+000 | 3.18E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.00E-001 | 2.41E-001 | 3.23E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.45E+000 | 1.01E+001 | 1.85E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.12E-001 | 8.97E-001 | 1.52E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.14E+002 | 1.66E+002 | 3.07E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.74E-002 | 6.93E-002 | 1.27E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.12E-001 | 8.97E-001 | 1.52E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.68E-001 | 3.12E-001 | 5.32E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-35
Sample Title: NE TRENCH MARSIM SAMPLE #14
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.711E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/6/2005 9:31:18 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.73E+001 | 8.44E+000 | 2.43E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.82E-002 | 6.89E-002 | 1.44E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.98E-002 | 6.91E-002 | 1.21E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -1.29E-002 | 7.61E-002 | 1.45E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -6.57E-002 | 1.74E-001 | 2.63E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 6.18E-003 | 7.13E-002 | 1.34E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.98E-001 | 2.16E-001 | 2.94E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.82E-002 | 6.21E-002 | 1.07E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.89E-002 | 8.62E-002 | 1.78E-001 |
| TL-208 | 3.69E-001 | 1.05E-001 | 1.38E-001 | FOUND | | |
| PB-212 | 7.31E-001 | 1.63E-001 | 2.70E-001 | FOUND | | |
| BI-214 | 6.87E-001 | 1.95E-001 | 2.54E-001 | FOUND | | |
| PB-214 | 7.63E-001 | 5.85E-001 | 3.33E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | -6.20E-001 | 1.46E+000 | 2.54E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.09E+000 | 4.59E-001 | 1.03E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.23E+000 | 2.74E+001 | 4.89E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.60E+000 | 2.70E+000 | 4.80E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -4.59E-002 | 2.75E-001 | 4.57E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.23E+000 | 1.24E+001 | 2.51E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.09E+000 | 1.16E+000 | 2.14E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -5.38E+001 | 2.20E+002 | 3.98E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.43E-003 | 9.02E-002 | 1.64E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.09E+000 | 1.16E+000 | 2.14E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.08E-001 | 4.26E-001 | 7.59E-001 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-36
Sample Title: N WING TRENCH MARSIM SAMPLE #1
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.060E+002 grams
Sample Taken On: 4/4/2005 12:00:00 AM
Acquisition Started: 4/6/2005 9:38:10 AM
Live Time: 1200.0 seconds
Real Time: 1200.3 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
|---|---|---|---|---|---|---|
| K-40 | 1.79E+001 | 7.69E+000 | 2.55E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 8.43E-002 | 1.05E-001 | 2.42E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.63E-003 | 6.31E-002 | 1.12E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.04E-002 | 8.68E-002 | 1.50E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.07E-002 | 2.28E-001 | 4.52E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.08E-002 | 8.67E-002 | 1.58E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.67E-002 | 2.57E-001 | 4.36E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | -1.42E-002 | 9.09E-002 | 1.61E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.24E-002 | 9.65E-002 | 2.07E-001 |
| TL-208 | 2.87E-001 | 1.34E-001 | 1.89E-001 | FOUND | | |
| PB-212 | 5.94E-001 | 1.83E-001 | 3.09E-001 | FOUND | | |
| BI-214 | 6.12E-001 | 9.14E-001 | 2.00E-001 | FOUND | | |
| PB-214 | 5.28E-001 | 5.44E-001 | 3.19E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.08E+000 | 1.87E+000 | 3.37E+000 |
| AC-228 | NOT FOUND/DATA for | 338.32 keV | | 5.73E-001 | 5.59E-001 | 1.20E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -3.06E+001 | 4.82E+001 | 8.20E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.98E+000 | 3.11E+000 | 5.86E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -4.07E-001 | 3.64E-001 | 4.21E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.07E+001 | 1.99E+001 | 3.20E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.08E-001 | 1.32E+000 | 2.44E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -7.78E+000 | 6.05E+002 | 1.10E+003 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.81E-002 | 1.11E-001 | 2.02E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.08E-001 | 1.32E+000 | 2.44E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.35E-002 | 1.01E+000 | 1.83E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-37
Sample Title: N WING TRENCH MARSIM SAMPLE #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.345E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/6/2005 9:50:37 AM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.38E+001 | 7.79E+000 | 1.87E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -2.80E-002 | 9.04E-002 | 1.60E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 2.49E-003 | 7.57E-002 | 1.29E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 5.79E-002 | 1.10E-001 | 2.30E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.43E-001 | 2.07E-001 | 3.46E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -6.47E-002 | 9.24E-002 | 1.12E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -9.06E-002 | 2.07E-001 | 3.48E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.43E-002 | 8.71E-002 | 1.39E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -9.67E-003 | 9.96E-002 | 1.81E-001 |
| TL-208 | 3.21E-001 | 6.75E-001 | 1.74E-001 | FOUND | | |
| PB-212 | 6.40E-001 | 1.74E-001 | 4.37E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 6.68E-001 | 2.55E-001 | 5.70E-001 |
| PB-214 | 6.55E-001 | 2.06E-001 | 4.05E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.23E+000 | 1.76E+000 | 3.36E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.71E-001 | 5.11E-001 | 1.13E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.49E+000 | 3.18E+001 | 5.68E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 6.58E-001 | 2.97E+000 | 5.27E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.40E-001 | 3.27E-001 | 5.64E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 8.65E+000 | 1.26E+001 | 2.86E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -1.94E-001 | 1.45E+000 | 2.41E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -9.88E+000 | 2.62E+002 | 4.87E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 5.00E-002 | 1.09E-001 | 2.03E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -1.94E-001 | 1.45E+000 | 2.41E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.84E-001 | 4.96E-001 | 8.87E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-38
Sample Title: N WING TRENCH MARSIM SAMPLE #3
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.420E+002 grams
Sample Taken On: 4/4/2005 12:00:00 AM
Acquisition Started: 4/6/2005 9:59:30 AM
Live Time: 1200.0 seconds
Real Time: 1200.3 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
|---|---|---|---|---|---|---|
| K-40 | 1.57E+001 | 3.62E+000 | 2.38E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.10E-002 | 9.28E-002 | 2.03E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.76E-003 | 5.56E-002 | 1.01E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.31E-002 | 1.30E-001 | 2.93E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -9.94E-002 | 3.20E-001 | 5.50E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 4.40E-002 | 6.21E-002 | 1.51E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.79E-001 | 2.33E-001 | 4.98E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | -4.57E-002 | 1.03E-001 | 1.87E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.02E-002 | 9.48E-002 | 1.79E-001 |
| TL-208 | 3.00E-001 | 1.29E-001 | 1.79E-001 | FOUND | | |
| PB-212 | 6.54E-001 | 1.81E-001 | 3.10E-001 | FOUND | | |
| BI-214 | 4.94E-001 | 2.47E-001 | 4.56E-001 | FOUND | | |
| PB-214 | 5.75E-001 | 2.72E-001 | 3.65E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 6.19E-001 | 1.62E+000 | 2.93E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.65E-001 | 5.54E-001 | 1.30E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -8.97E+000 | 4.39E+001 | 7.77E+001 |
| PA-231 | NOT FOUND/DATA for | 302.65 keV | | -2.11E+000 | 3.42E+000 | 5.35E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 4.89E-002 | 2.41E-001 | 4.47E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.73E-001 | 2.08E+001 | 3.83E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.74E-001 | 1.08E+000 | 2.05E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.72E+002 | 6.02E+002 | 1.15E+003 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.58E-002 | 9.89E-002 | 1.76E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.74E-001 | 1.08E+000 | 2.05E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -5.83E-001 | 9.61E-001 | 1.65E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-039
Sample Title: WEST TRENCH MARSIM #4
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.945E+002 Grams
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/6/2005 4:32:45 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/Gram) | Activity Uncert. (pCi/Gram) | Nuclide MDA (pCi/Gram) | Line Activity (pCi/Gram) | Line Act Uncert. (pCi/Gram) | Line MDA (pCi/Gram) |
| K-40 | 2.25E+001 | 7.82E+000 | 1.62E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.45E-002 | 7.05E-002 | 1.52E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 6.20E-002 | 5.46E-002 | 1.04E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.27E-002 | 6.46E-002 | 1.46E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 6.37E-003 | 1.63E-001 | 3.08E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 4.11E-002 | 6.99E-002 | 1.40E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.45E-001 | 1.64E-001 | 2.59E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.36E-003 | 7.12E-002 | 1.30E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -5.09E-003 | 7.91E-002 | 1.49E-001 |
| TL-208 | 3.52E-001 | 9.59E-002 | 1.15E-001 | FOUND | | |
| PB-212 | 7.76E-001 | 1.61E-001 | 3.55E-001 | FOUND | | |
| BI-214 | 6.33E-001 | 1.72E-001 | 3.30E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 4.58E-001 | 1.91E-001 | 4.10E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.73E-001 | 1.48E+000 | 2.72E+000 |
| AC-228 | 1.02E+000 | 2.45E-001 | 4.28E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.24E+000 | 2.85E+001 | 5.14E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.16E-001 | 2.12E+000 | 3.80E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.24E-001 | 2.56E-001 | 4.06E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.24E+000 | 1.08E+001 | 2.03E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 6.47E-001 | 1.27E+000 | 2.23E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -6.29E+001 | 2.19E+002 | 3.94E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.36E-002 | 9.14E-002 | 1.73E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 6.47E-001 | 1.27E+000 | 2.23E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.98E-001 | 4.56E-001 | 7.80E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-040
Sample Title: N WING TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.920E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/7/2005 7:22:09 AM
Live Time: 900.0 seconds
Real Time: 900.9 seconds
Dead Time: 0.10 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.00E+001 | 8.39E+000 | 2.18E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.61E-002 | 8.37E-002 | 1.69E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.13E-002 | 7.68E-002 | 1.33E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.39E-002 | 7.97E-002 | 1.83E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.51E-001 | 2.22E-001 | 2.90E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.11E-002 | 7.20E-002 | 1.35E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.12E-001 | 1.83E-001 | 3.67E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.98E-002 | 6.56E-002 | 1.13E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.41E-002 | 8.15E-002 | 1.64E-001 |
| TL-208 | 2.76E-001 | 9.59E-002 | 1.46E-001 | FOUND | | |
| PB-212 | 9.00E-001 | 2.87E-001 | 3.44E-001 | FOUND | | |
| BI-214 | 9.78E-001 | 7.82E-001 | 2.94E-001 | FOUND | | |
| PB-214 | 8.05E-001 | 6.79E-001 | 3.92E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.41E+000 | 1.63E+000 | 3.26E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.93E-001 | 4.19E-001 | 9.30E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.02E+001 | 2.94E+001 | 5.21E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 9.91E-001 | 2.65E+000 | 4.79E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.37E-001 | 2.71E-001 | 4.34E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -9.91E+000 | 1.40E+001 | 2.00E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.50E+000 | 1.38E+000 | 2.55E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.33E+002 | 2.55E+002 | 4.89E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.04E-001 | 1.01E-001 | 1.96E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.50E+000 | 1.38E+000 | 2.55E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.12E-001 | 4.93E-001 | 8.70E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-041
Sample Title: N WING TRENCH MARSIM #6
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.394E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/7/2005 7:41:43 AM
Live Time: 900.0 seconds
Real Time: 900.9 seconds
Dead Time: 0.10 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.29E+001 | 6.36E+000 | 2.17E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.74E-002 | 9.54E-002 | 1.85E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.18E-002 | 7.59E-002 | 1.25E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 5.56E-002 | 9.39E-002 | 2.05E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 7.03E-003 | 2.61E-001 | 4.17E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -3.82E-002 | 8.33E-002 | 1.60E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.19E-001 | 2.07E-001 | 3.56E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -8.68E-002 | 8.58E-002 | 1.34E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.32E-002 | 1.03E-001 | 2.14E-001 |
| TL-208 | 3.92E-001 | 3.73E-001 | 1.96E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.05E-001 | 2.31E-001 | 4.76E-001 |
| BI-214 | 7.01E-001 | 2.10E-001 | 3.75E-001 | FOUND | | |
| PB-214 | 5.62E-001 | 4.73E-001 | 5.20E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.52E+000 | 1.74E+000 | 3.36E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.06E+000 | 4.42E-001 | 1.05E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 4.48E+000 | 3.31E+001 | 6.06E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.25E+000 | 2.87E+000 | 5.18E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.67E-001 | 2.99E-001 | 4.74E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 2.82E+000 | 1.46E+001 | 2.96E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 9.46E-001 | 1.39E+000 | 2.51E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.17E+002 | 2.83E+002 | 4.76E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | -4.56E-004 | 1.10E-001 | 1.99E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 9.46E-001 | 1.39E+000 | 2.51E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.20E-001 | 5.32E-001 | 9.67E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-042
Sample Title: N WING TRENCH MARSIM SAMPLE #7
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.018E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/5/2005 1:28:11 PM
Live Time: 3600.0 seconds
Real Time: 3606.1 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G ) | Activity Uncert. (pCi/G ) | Nuclide MDA (pCi/G ) | Line Activity (pCi/G ) | Line Act Uncert. (pCi/G ) | Line MDA (pCi/G ) |
| K-40 | 2.30E+001 | 3.43E+000 | 7.15E-001 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.31E-002 | 3.85E-002 | 6.67E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -5.25E-003 | 3.48E-002 | 5.71E-002 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 2.73E-002 | 4.13E-002 | 8.08E-002 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 2.68E-002 | 9.54E-002 | 1.69E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 8.72E-003 | 3.32E-002 | 6.12E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.89E-002 | 8.76E-002 | 1.60E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.20E-003 | 3.11E-002 | 6.00E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.22E-002 | 4.08E-002 | 8.05E-002 |
| TL-208 | 3.01E-001 | 5.12E-002 | 8.59E-002 | FOUND | | |
| PB-212 | 9.36E-001 | 2.17E-001 | 1.78E-001 | FOUND | | |
| BI-214 | 8.45E-001 | 2.14E-001 | 1.88E-001 | FOUND | | |
| PB-214 | 7.74E-001 | 2.81E-001 | 1.96E-001 | FOUND | | |
| RA-226 | 2.09E+000 | 2.20E+000 | 2.06E+000 | FOUND | | |
| AC-228 | 9.75E-001 | 2.35E-001 | 3.18E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.48E+000 | 1.49E+001 | 2.63E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.15E+000 | 1.37E+000 | 2.26E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.02E-001 | 1.33E-001 | 2.24E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.28E+000 | 6.32E+000 | 1.26E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.69E-001 | 6.44E-001 | 1.12E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.34E+001 | 1.25E+002 | 2.23E+002 |
| U-235 | 1.27E-001 | 1.34E-001 | 1.25E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.69E-001 | 6.43E-001 | 1.12E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.96E-002 | 2.33E-001 | 4.09E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-43
Sample Title: N Wing Trench Marsim #8
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.540E+002 grams
Sample Taken On: 4/4/2005 12:00:00 AM
Acquisition Started: 4/7/2005 8:24:47 AM
Live Time: 924.4 seconds
Real Time: 924.6 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
| K-40 | 1.72E+001 | 1.40E+001 | 2.38E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.15E-003 | 1.07E-001 | 2.15E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.39E-002 | 5.92E-002 | 1.02E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -2.03E-002 | 1.13E-001 | 2.32E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 3.35E-002 | 2.82E-001 | 5.97E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -1.02E-002 | 1.08E-001 | 2.22E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.45E-001 | 2.16E-001 | 3.72E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.06E-002 | 8.42E-002 | 1.47E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.54E-002 | 1.05E-001 | 2.29E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.29E-001 | 1.66E-001 | 3.88E-001 |
| PB-212 | 6.72E-001 | 2.06E-001 | 3.61E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 6.33E-001 | 3.22E-001 | 7.52E-001 |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 6.84E-001 | 2.84E-001 | 6.51E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.68E+000 | 1.92E+000 | 3.86E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 3.35E-001 | 5.77E-001 | 1.25E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.68E+001 | 4.62E+001 | 8.05E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.54E+000 | 2.54E+000 | 5.26E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -5.70E-002 | 2.65E-001 | 4.76E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 4.08E-001 | 2.08E+001 | 4.28E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.96E-001 | 1.42E+000 | 2.65E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -8.38E+002 | 7.05E+002 | 1.07E+003 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.37E-001 | 1.18E-001 | 2.32E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.96E-001 | 1.42E+000 | 2.65E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.19E-001 | 1.11E+000 | 1.98E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-044
Sample Title: N WING TRENCH MARSIM #9
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.182E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/7/2005 8:02:11 AM
Live Time: 900.0 seconds
Real Time: 900.7 seconds
Dead Time: 0.08 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G ) | Activity Uncert. (pCi/G ) | Nuclide MDA (pCi/G ) | Line Activity (pCi/G ) | Line Act Uncert. (pCi/G ) | Line MDA (pCi/G ) |
| K-40 | 2.19E+001 | 6.90E+000 | 2.41E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.61E-002 | 8.05E-002 | 1.44E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.92E-002 | 7.38E-002 | 1.24E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.62E-002 | 7.88E-002 | 1.69E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.19E-001 | 1.63E-001 | 2.64E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 5.79E-002 | 7.25E-002 | 1.54E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -5.54E-002 | 2.05E-001 | 3.70E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.46E-002 | 7.03E-002 | 1.18E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 9.65E-002 | 8.73E-002 | 1.90E-001 |
| TL-208 | 3.52E-001 | 1.08E-001 | 1.63E-001 | FOUND | | |
| PB-212 | 9.91E-001 | 1.95E-001 | 3.86E-001 | FOUND | | |
| BI-214 | 1.36E+000 | 6.89E-001 | 3.70E-001 | FOUND | | |
| PB-214 | 1.08E+000 | 1.64E-001 | 4.30E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.05E+000 | 1.92E+000 | 3.76E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.09E+000 | 5.14E-001 | 1.13E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -3.54E+001 | 3.04E+001 | 4.93E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -2.99E-001 | 2.75E+000 | 4.58E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.95E-001 | 2.98E-001 | 5.25E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -9.00E-001 | 1.20E+001 | 2.34E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.11E-001 | 1.39E+000 | 2.41E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -8.31E+001 | 2.47E+002 | 4.37E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.04E-002 | 1.18E-001 | 2.20E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.11E-001 | 1.39E+000 | 2.41E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.11E-001 | 5.28E-001 | 9.44E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-045
Sample Title: N WING TRENCH MARSIM SAMPLE #10
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.272E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/5/2005 12:58:58 PM
Live Time: 1663.8 seconds
Real Time: 1666.8 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.09E+001 | 4.96E+000 | 1.37E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -7.98E-004 | 5.04E-002 | 9.38E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.21E-002 | 5.03E-002 | 8.12E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.84E-002 | 5.36E-002 | 1.21E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.81E-003 | 1.21E-001 | 2.18E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.14E-002 | 5.33E-002 | 8.76E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.42E-002 | 1.30E-001 | 2.44E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -8.77E-003 | 5.14E-002 | 9.23E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.67E-002 | 6.00E-002 | 1.23E-001 |
| TL-208 | 4.17E-001 | 7.86E-002 | 1.11E-001 | FOUND | | |
| PB-212 | 8.40E-001 | 1.41E-001 | 2.55E-001 | FOUND | | |
| BI-214 | 7.93E-001 | 4.18E-001 | 2.15E-001 | FOUND | | |
| PB-214 | 7.60E-001 | 3.06E-001 | 2.69E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.22E+000 | 1.29E+000 | 2.38E+000 |
| AC-228 | 9.93E-001 | 3.32E-001 | 4.22E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -4.07E+000 | 2.08E+001 | 3.64E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 9.57E-001 | 1.87E+000 | 3.26E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -7.10E-002 | 2.11E-001 | 3.35E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -3.03E+000 | 1.06E+001 | 1.73E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.77E-001 | 9.65E-001 | 1.67E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.56E+002 | 1.86E+002 | 3.49E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.63E-002 | 7.82E-002 | 1.42E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.77E-001 | 9.65E-001 | 1.67E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.68E-001 | 3.48E-001 | 6.45E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-046
Sample Title: N WING TRENCH MARSIM #11
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.931E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/7/2005 8:34:58 AM
Live Time: 900.0 seconds
Real Time: 901.0 seconds
Dead Time: 0.11 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.72E+001 | 9.88E+000 | 3.33E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.09E-002 | 1.07E-001 | 2.03E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.45E-002 | 8.24E-002 | 1.43E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -4.89E-002 | 9.64E-002 | 1.73E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.66E-002 | 2.10E-001 | 4.16E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -1.14E-001 | 1.37E-001 | 1.96E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.53E-001 | 2.46E-001 | 3.90E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.19E-004 | 8.36E-002 | 1.56E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.93E-002 | 1.11E-001 | 2.20E-001 |
| TL-208 | 4.30E-001 | 4.98E-001 | 2.02E-001 | FOUND | | |
| PB-212 | 1.28E+000 | 2.13E-001 | 4.02E-001 | FOUND | | |
| BI-214 | 1.18E+000 | 3.25E-001 | 3.95E-001 | FOUND | | |
| PB-214 | 8.54E-001 | 2.30E-001 | 4.36E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.00E+000 | 1.80E+000 | 3.53E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.25E+000 | 5.53E-001 | 1.25E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.85E+001 | 3.30E+001 | 6.52E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -7.84E-001 | 2.91E+000 | 4.83E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -6.65E-002 | 3.37E-001 | 5.45E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.94E+000 | 1.48E+001 | 2.76E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.35E+000 | 1.52E+000 | 2.77E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.67E+001 | 2.96E+002 | 5.45E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.37E-001 | 1.11E-001 | 2.19E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.35E+000 | 1.52E+000 | 2.77E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 5.66E-001 | 5.82E-001 | 1.16E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-47
Sample Title: N Wing Trench Marsim #12
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.473E+002 grams
Sample Taken On: 4/4/2005 12:00:00 AM
Acquisition Started: 4/7/2005 8:33:01 AM
Live Time: 1200.0 seconds
Real Time: 1200.3 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
| K-40 | 1.88E+001 | 3.96E+000 | 2.02E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -3.18E-002 | 9.63E-002 | 1.80E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.50E-002 | 5.66E-002 | 1.01E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.14E-001 | 1.14E-001 | 2.91E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -3.83E-002 | 2.50E-001 | 4.63E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -6.88E-002 | 9.19E-002 | 1.40E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -8.42E-002 | 2.24E-001 | 4.00E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 2.84E-002 | 9.02E-002 | 1.85E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.40E-002 | 1.04E-001 | 2.23E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 2.32E-001 | 1.45E-001 | 3.10E-001 |
| PB-212 | 5.85E-001 | 1.82E-001 | 3.19E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 6.90E-001 | 3.17E-001 | 7.10E-001 |
| PB-214 | 4.92E-001 | 2.14E-001 | 3.94E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.81E+000 | 1.72E+000 | 3.26E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 8.48E-001 | 5.35E-001 | 1.27E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.55E+001 | 4.68E+001 | 8.28E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -7.68E-001 | 3.03E+000 | 4.76E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.36E-001 | 2.59E-001 | 4.25E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.36E-001 | 1.89E+001 | 3.81E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.33E+000 | 1.27E+000 | 2.49E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -3.52E+002 | 5.91E+002 | 9.91E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.19E-001 | 1.06E-001 | 2.03E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.33E+000 | 1.27E+000 | 2.49E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.98E-001 | 9.43E-001 | 1.67E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-048
Sample Title: N WING TRENCH MARSIM #13
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.177E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/7/2005 8:54:37 AM
Live Time: 900.0 seconds
Real Time: 900.8 seconds
Dead Time: 0.09 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.33E+001 | 8.72E+000 | 1.84E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.42E-002 | 7.40E-002 | 1.49E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.84E-002 | 6.95E-002 | 1.21E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 0.00E+000 | 7.74E-002 | 1.60E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -6.29E-002 | 1.81E-001 | 3.12E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.17E-003 | 7.99E-002 | 1.51E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.62E-002 | 2.18E-001 | 3.78E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.76E-002 | 6.78E-002 | 1.22E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.17E-002 | 9.02E-002 | 1.67E-001 |
| TL-208 | 2.67E-001 | 3.28E-001 | 1.59E-001 | FOUND | | |
| PB-212 | 1.03E+000 | 1.97E-001 | 3.24E-001 | FOUND | | |
| BI-214 | 9.60E-001 | 7.58E-001 | 2.36E-001 | FOUND | | |
| PB-214 | 7.76E-001 | 2.59E-001 | 3.81E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.18E+000 | 1.65E+000 | 3.14E+000 |
| AC-228 | 7.81E-001 | 2.80E-001 | 5.30E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.37E+001 | 2.90E+001 | 4.93E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.86E+000 | 2.70E+000 | 4.79E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -2.51E-001 | 2.99E-001 | 4.58E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.02E+000 | 1.28E+001 | 2.34E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -3.60E-001 | 1.42E+000 | 2.35E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -4.62E+001 | 2.48E+002 | 4.44E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.11E-002 | 1.02E-001 | 1.96E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -3.60E-001 | 1.42E+000 | 2.35E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.32E-001 | 4.99E-001 | 9.45E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-049
Sample Title: N WING TRENCH MARSIM SAMPLE #14
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.476E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/5/2005 12:00:09 PM
Live Time: 3600.0 seconds
Real Time: 3607.7 seconds
Dead Time: 0.21 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G ) | Activity Uncert. (pCi/G ) | Nuclide MDA (pCi/G ) | Line Activity (pCi/G ) | Line Act Uncert. (pCi/G ) | Line MDA (pCi/G ) |
| K-40 | 2.90E+001 | 4.14E+000 | 9.14E-001 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | | 834.83 keV | 2.20E-003 | 4.01E-002 | 7.29E-002 |
| CO-57 | NOT FOUND/DATA for | | 122.06 keV | -1.35E-002 | 3.78E-002 | 6.11E-002 |
| CO-60 | 1.40E-001 | 4.90E-002 | 8.39E-002 | FOUND | | |
| ZN-65 | NOT FOUND/DATA for | | 1115.55 keV | -7.12E-002 | 1.02E-001 | 1.67E-001 |
| AG-110m | NOT FOUND/DATA for | | 657.76 keV | 7.93E-003 | 3.98E-002 | 7.24E-002 |
| SB-125 | NOT FOUND/DATA for | | 427.89 keV | -4.11E-002 | 1.03E-001 | 1.79E-001 |
| CS-134 | NOT FOUND/DATA for | | 604.70 keV | -1.49E-002 | 3.42E-002 | 6.73E-002 |
| CS-137 | 6.36E-002 | 1.04E-001 | 8.12E-002 | FOUND | | |
| TL-208 | 3.78E-001 | 5.89E-002 | 9.62E-002 | FOUND | | |
| PB-212 | 1.44E+000 | 2.05E-001 | 2.02E-001 | FOUND | | |
| BI-214 | 9.45E-001 | 2.30E-001 | 2.33E-001 | FOUND | | |
| PB-214 | 9.14E-001 | 1.19E-001 | 2.24E-001 | FOUND | | |
| RA-226 | 3.45E+000 | 7.76E-001 | 2.27E+000 | FOUND | | |
| AC-228 | 1.20E+000 | 5.07E-001 | 3.34E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | | 67.67 keV | -8.72E+000 | 1.59E+001 | 2.72E+001 |
| PA-231 | NOT FOUND/DATA for | | 300.02 keV | 1.43E+000 | 1.53E+000 | 2.50E+000 |
| PA-234 | NOT FOUND/DATA for | | 131.20 keV | -7.73E-002 | 1.67E-001 | 2.59E-001 |
| PA-234M | NOT FOUND/DATA for | | 1001.03 keV | -7.47E-001 | 7.29E+000 | 1.31E+001 |
| TH-234 | NOT FOUND/DATA for | | 92.60 keV | 8.43E-001 | 7.56E-001 | 1.30E+000 |
| U-234 | NOT FOUND/DATA for | | 53.20 keV | 6.85E+001 | 1.48E+002 | 2.65E+002 |
| U-235 | 2.10E-001 | 4.75E-002 | 1.38E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | | 92.60 keV | 8.43E-001 | 7.56E-001 | 1.30E+000 |
| AM-241 | NOT FOUND/DATA for | | 59.54 keV | -1.02E-001 | 2.54E-001 | 4.40E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-060
Sample Title: WEST TRENCH MARSIM #1
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.217E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/7/2005 9:12:11 AM
Live Time: 900.0 seconds
Real Time: 900.7 seconds
Dead Time: 0.08 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.11E+001 | 7.82E+000 | 1.90E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 6.20E-003 | 9.54E-002 | 1.63E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.11E-002 | 7.16E-002 | 1.15E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.43E-002 | 8.47E-002 | 1.81E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.66E-001 | 2.75E-001 | 2.99E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 5.17E-002 | 7.90E-002 | 1.67E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 4.07E-002 | 1.83E-001 | 3.65E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.45E-002 | 8.40E-002 | 1.46E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.41E-002 | 9.32E-002 | 1.94E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.16E-001 | 1.24E-001 | 2.65E-001 |
| PB-212 | 1.27E+000 | 4.86E-001 | 3.58E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 5.77E-001 | 2.60E-001 | 5.66E-001 |
| PB-214 | 4.85E-001 | 1.90E-001 | 3.31E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.01E+000 | 1.76E+000 | 3.27E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 7.81E-001 | 4.34E-001 | 9.92E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.08E+001 | 3.19E+001 | 6.03E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 8.63E-001 | 2.62E+000 | 4.77E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -5.30E-002 | 3.06E-001 | 5.05E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.81E+000 | 1.29E+001 | 2.01E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -3.80E-002 | 1.49E+000 | 2.49E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.07E+001 | 2.68E+002 | 4.88E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.11E-001 | 1.08E-001 | 2.09E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -3.80E-002 | 1.49E+000 | 2.49E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.37E-001 | 4.71E-001 | 9.29E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-061
Sample Title: WEST TRENCH MARSIM #2
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.255E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/6/2005 1:20:16 PM
Live Time: 1800.0 seconds
Real Time: 1802.6 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G ) | Activity Uncert. (pCi/G ) | Nuclide MDA (pCi/G ) | Line Activity (pCi/G ) | Line Act Uncert. (pCi/G ) | Line MDA (pCi/G ) |
| K-40 | 2.40E+001 | 5.83E+000 | 1.56E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.88E-002 | 4.35E-002 | 9.15E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 5.15E-002 | 4.95E-002 | 8.87E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.07E-001 | 5.84E-002 | 1.44E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.59E-002 | 1.41E-001 | 2.35E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.85E-003 | 5.41E-002 | 9.93E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 6.18E-002 | 1.41E-001 | 2.67E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.54E-002 | 5.06E-002 | 7.62E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.43E-002 | 6.47E-002 | 1.27E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.19E-001 | 8.78E-002 | 1.83E-001 |
| PB-212 | 9.14E-001 | 1.32E-001 | 2.56E-001 | FOUND | | |
| BI-214 | 7.40E-001 | 2.61E-001 | 2.79E-001 | FOUND | | |
| PB-214 | 5.78E-001 | 3.64E-001 | 2.65E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.39E+000 | 1.31E+000 | 2.41E+000 |
| AC-228 | 7.71E-001 | 2.19E-001 | 4.39E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.68E+000 | 2.11E+001 | 3.88E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 9.62E-001 | 1.94E+000 | 3.40E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.82E-001 | 2.15E-001 | 3.26E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.30E+000 | 9.53E+000 | 1.82E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 9.87E-001 | 9.77E-001 | 1.74E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -6.70E+001 | 1.72E+002 | 3.04E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.71E-002 | 7.79E-002 | 1.40E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 9.87E-001 | 9.77E-001 | 1.74E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -7.92E-002 | 3.45E-001 | 6.08E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-062
Sample Title: WEST TRENCH MARSIM #3
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.612E+002 G
Sample Taken On: 4/4/2005 11:15:00 AM
Acquisition Started: 4/7/2005 9:40:28 AM
Live Time: 900.0 seconds
Real Time: 900.8 seconds
Dead Time: 0.08 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.75E+001 | 7.01E+000 | 2.31E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.49E-002 | 7.67E-002 | 1.55E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -5.11E-002 | 6.21E-002 | 9.79E-002 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 3.47E-002 | 9.37E-002 | 1.92E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -5.78E-002 | 1.64E-001 | 2.82E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.26E-002 | 6.02E-002 | 9.58E-002 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.25E-001 | 1.82E-001 | 3.66E-001 |
| CS-134 | NOT FOUND/DATA for 795.84 keV | | | -5.85E-002 | 6.92E-002 | 9.83E-002 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.22E-002 | 7.97E-002 | 1.59E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.59E-001 | 1.18E-001 | 2.67E-001 |
| PB-212 | 5.80E-001 | 1.56E-001 | 2.91E-001 | FOUND | | |
| BI-214 | 9.00E-001 | 7.34E-001 | 3.20E-001 | FOUND | | |
| PB-214 | 5.68E-001 | 4.96E-001 | 3.50E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 7.67E-002 | 1.65E+000 | 2.90E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.98E-001 | 3.69E-001 | 8.67E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 4.04E+000 | 2.59E+001 | 4.79E+001 |
| PA-231 | NOT FOUND/DATA for 302.65 keV | | | -4.88E+000 | 4.08E+000 | 4.43E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.55E-001 | 2.70E-001 | 4.32E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 7.20E+000 | 1.16E+001 | 2.54E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.04E-001 | 1.22E+000 | 2.07E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 8.89E+001 | 2.28E+002 | 4.39E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.12E-001 | 9.54E-002 | 1.86E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.04E-001 | 1.22E+000 | 2.07E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 7.48E-003 | 4.47E-001 | 8.30E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-63
Sample Title: West Trench Marsim #4
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.899E+002 grams
Sample Taken On: 4/4/2005 12:00:00 AM
Acquisition Started: 4/7/2005 9:36:42 AM
Live Time: 1200.0 seconds
Real Time: 1200.3 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
| K-40 | 1.61E+001 | 3.82E+000 | 2.84E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.36E-002 | 1.07E-001 | 2.28E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.26E-002 | 6.82E-002 | 1.20E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.34E-002 | 9.10E-002 | 2.24E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.58E-001 | 2.46E-001 | 4.23E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.43E-002 | 8.46E-002 | 1.38E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 8.67E-002 | 1.99E-001 | 4.29E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.11E-001 | 1.21E-001 | 1.33E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.25E-002 | 9.67E-002 | 2.30E-001 |
| TL-208 | 3.55E-001 | 1.49E-001 | 2.11E-001 | FOUND | | |
| PB-212 | 7.71E-001 | 2.04E-001 | 3.47E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 5.65E-001 | 3.11E-001 | 6.89E-001 |
| PB-214 | 7.50E-001 | 2.52E-001 | 4.14E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.34E+000 | 1.81E+000 | 3.53E+000 |
| AC-228 | NOT FOUND/DATA for 338.32 keV | | | 9.70E-001 | 6.48E-001 | 1.42E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.01E+001 | 4.44E+001 | 8.28E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -1.01E+000 | 2.42E+000 | 4.27E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 7.46E-003 | 2.91E-001 | 5.10E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -3.81E+001 | 7.74E+001 | 2.00E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 5.90E-001 | 1.28E+000 | 2.41E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.32E+002 | 6.77E+002 | 1.25E+003 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.19E-001 | 1.10E-001 | 2.11E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 5.90E-001 | 1.28E+000 | 2.41E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.66E-001 | 9.98E-001 | 1.85E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-064
Sample Title: WEST TRENCH MARSIM #5
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.612E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/7/2005 9:57:04 AM
Live Time: 900.0 seconds
Real Time: 900.9 seconds
Dead Time: 0.10 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.68E+001 | 6.30E+000 | 1.32E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 8.10E-003 | 6.86E-002 | 1.36E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.09E-002 | 6.58E-002 | 1.09E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 6.72E-003 | 5.45E-002 | 1.21E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 6.63E-003 | 1.19E-001 | 2.49E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.60E-002 | 5.88E-002 | 1.01E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -7.88E-002 | 1.95E-001 | 3.37E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.83E-002 | 6.44E-002 | 1.15E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.91E-002 | 7.40E-002 | 1.51E-001 |
| TL-208 | 2.31E-001 | 8.49E-002 | 1.25E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 6.73E-001 | 1.83E-001 | 3.81E-001 |
| BI-214 | 6.91E-001 | 9.22E-002 | 3.23E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 5.33E-001 | 2.18E-001 | 4.60E-001 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | -1.95E-001 | 1.53E+000 | 2.70E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 6.99E-001 | 3.38E-001 | 8.07E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.23E+000 | 2.79E+001 | 5.15E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.18E+000 | 2.49E+000 | 4.50E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 2.26E-002 | 2.47E-001 | 4.28E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -7.36E+000 | 1.14E+001 | 1.98E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 4.03E-001 | 1.12E+000 | 1.99E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 5.33E+001 | 2.45E+002 | 4.61E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 5.31E-003 | 9.37E-002 | 1.69E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 4.03E-001 | 1.12E+000 | 1.99E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -3.03E-001 | 3.99E-001 | 6.75E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-065
Sample Title: WEST TRENCH MARSIM #6
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 9.999E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/7/2005 10:19:41 AM
Live Time: 900.0 seconds
Real Time: 900.8 seconds
Dead Time: 0.09 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.90E+001 | 6.17E+000 | 1.67E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.03E-002 | 7.28E-002 | 8.80E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.44E-002 | 5.41E-002 | 9.43E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -9.46E-003 | 6.22E-002 | 1.14E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 4.38E-002 | 1.68E-001 | 3.33E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.69E-003 | 6.42E-002 | 1.23E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -2.95E-002 | 1.51E-001 | 2.77E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.97E-002 | 5.38E-002 | 9.61E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.00E-003 | 7.25E-002 | 1.40E-001 |
| TL-208 | 1.35E-001 | 6.95E-002 | 1.34E-001 | FOUND | | |
| PB-212 | 5.12E-001 | 1.36E-001 | 3.01E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 4.77E-001 | 1.79E-001 | 4.05E-001 |
| PB-214 | 4.27E-001 | 1.98E-001 | 3.00E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 8.80E-001 | 1.35E+000 | 2.53E+000 |
| AC-228 | 5.49E-001 | 2.78E-001 | 4.77E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -9.08E+000 | 2.44E+001 | 4.31E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -2.39E-001 | 1.96E+000 | 3.35E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.28E-001 | 2.34E-001 | 3.72E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.98E+000 | 9.45E+000 | 2.10E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -5.09E-002 | 1.13E+000 | 1.91E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 5.44E+001 | 2.02E+002 | 3.78E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.20E-001 | 8.13E-002 | 1.62E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -5.09E-002 | 1.13E+000 | 1.91E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.04E-001 | 4.13E-001 | 6.89E-001 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-066
Sample Title: WEST TRENCH MARSIM #7
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.100E+002 Grams
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/6/2005 3:07:35 PM
Live Time: 1800.0 seconds
Real Time: 1802.6 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/Gram) | Activity Uncert. (pCi/Gram) | Nuclide MDA (pCi/Gram) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/Gram) | Line Act Uncert. (pCi/Gram) | Line MDA (pCi/Gram) |
|---|---|---|---|---|---|---|
| K-40 | 2.50E+001 | 2.61E+000 | 1.39E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.01E-001 | 5.98E-002 | 1.33E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 9.02E-003 | 5.52E-002 | 9.29E-002 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 7.35E-003 | 6.72E-002 | 1.29E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -9.67E-002 | 1.49E-001 | 2.15E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 2.83E-003 | 5.31E-002 | 9.97E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.58E-002 | 1.51E-001 | 2.79E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 8.09E-003 | 5.53E-002 | 1.01E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.93E-003 | 6.49E-002 | 1.17E-001 |
| TL-208 | 3.85E-001 | 8.43E-002 | 1.49E-001 | FOUND | | |
| PB-212 | 1.17E+000 | 3.29E-001 | 3.53E-001 | FOUND | | |
| BI-214 | 8.85E-001 | 4.37E-001 | 2.38E-001 | FOUND | | |
| PB-214 | 7.82E-001 | 4.37E-001 | 2.65E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 6.77E-001 | 1.34E+000 | 2.43E+000 |
| AC-228 | 9.51E-001 | 2.35E-001 | 4.08E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 3.23E+000 | 2.39E+001 | 4.32E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.39E+000 | 2.25E+000 | 3.83E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.53E-001 | 2.57E-001 | 3.83E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 4.96E+000 | 9.24E+000 | 1.91E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.43E+000 | 1.10E+000 | 1.96E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -9.43E+001 | 2.13E+002 | 3.69E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.70E-002 | 8.12E-002 | 1.48E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.43E+000 | 1.10E+000 | 1.96E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.04E-001 | 4.13E-001 | 7.28E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-67
Sample Title: West Trench Marsim #8
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 9.269E+002 grams
Sample Taken On: 4/6/2005 12:00:00 AM
Acquisition Started: 4/7/2005 10:26:56 AM
Live Time: 1200.0 seconds
Real Time: 1200.3 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
|---|---|---|---|---|---|---|
| K-40 | 1.35E+001 | 3.27E+000 | 2.21E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 7.04E-002 | 1.05E-001 | 2.26E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.51E-002 | 4.84E-002 | 7.88E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -6.64E-003 | 7.53E-002 | 1.65E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -9.93E-002 | 2.25E-001 | 3.92E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 3.61E-003 | 5.98E-002 | 1.27E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.94E-002 | 2.08E-001 | 3.79E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 2.26E-002 | 8.77E-002 | 1.74E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.19E-002 | 7.72E-002 | 1.62E-001 |
| TL-208 | 2.29E-001 | 1.04E-001 | 1.27E-001 | FOUND | | |
| PB-212 | 6.48E-001 | 1.66E-001 | 3.00E-001 | FOUND | | |
| BI-214 | 5.03E-001 | 2.20E-001 | 2.40E-001 | FOUND | | |
| PB-214 | 5.62E-001 | 1.64E-001 | 3.29E-001 | FOUND | | |
| RA-226 | 1.98E+000 | 1.15E+000 | 2.65E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.14E+000 | 5.49E-001 | 1.31E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.50E+001 | 4.20E+001 | 7.21E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.50E+000 | 2.68E+000 | 5.09E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.93E-002 | 2.08E-001 | 3.75E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -8.84E+000 | 1.71E+001 | 2.15E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 4.57E-001 | 1.18E+000 | 2.20E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 5.73E+002 | 5.46E+002 | 1.05E+003 |
| U-235 | 1.20E-001 | 6.99E-002 | 1.61E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 4.57E-001 | 1.18E+000 | 2.20E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.31E-001 | 7.87E-001 | 1.42E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-68
Sample Title: West Trench Marsim #9
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.646E+002 grams
Sample Taken On: 4/6/2005 12:00:00 AM
Acquisition Started: 4/7/2005 10:56:47 AM
Live Time: 1200.0 seconds
Real Time: 1200.2 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
| K-40 | 1.54E+001 | 1.49E+001 | 2.76E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.81E-002 | 9.19E-002 | 1.49E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.56E-002 | 5.12E-002 | 9.07E-002 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.42E-002 | 8.42E-002 | 1.76E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -8.81E-002 | 1.81E-001 | 2.36E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.06E-003 | 8.17E-002 | 1.57E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.82E-002 | 2.37E-001 | 4.20E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.26E-002 | 8.72E-002 | 1.47E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.29E-003 | 1.06E-001 | 2.10E-001 |
| TL-208 | 2.96E-001 | 1.25E-001 | 2.19E-001 | FOUND | | |
| PB-212 | 6.98E-001 | 4.42E-001 | 2.93E-001 | FOUND | | |
| BI-214 | 6.12E-001 | 9.81E-001 | 3.34E-001 | FOUND | | |
| PB-214 | 4.97E-001 | 2.06E-001 | 3.87E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.50E+000 | 1.77E+000 | 3.43E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 3.96E-001 | 3.76E-001 | 9.17E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -3.33E+000 | 3.96E+001 | 7.24E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -5.07E-001 | 2.69E+000 | 4.58E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.45E-002 | 2.29E-001 | 4.18E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 7.77E-001 | 2.17E+001 | 3.94E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -7.39E-001 | 1.40E+000 | 2.39E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -4.45E+002 | 5.98E+002 | 1.00E+003 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.64E-001 | 1.06E-001 | 2.09E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -7.39E-001 | 1.40E+000 | 2.39E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.89E-002 | 9.66E-001 | 1.69E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-069
Sample Title: WEST TRENCH MARSIM #10
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.369E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/7/2005 10:51:00 AM
Live Time: 900.0 seconds
Real Time: 900.4 seconds
Dead Time: 0.05 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.04E+001 | 3.04E+000 | 2.77E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.58E-002 | 8.67E-002 | 1.75E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.77E-002 | 7.93E-002 | 1.29E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -1.90E-002 | 7.12E-002 | 1.42E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.01E-001 | 2.14E-001 | 2.91E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.33E-001 | 9.62E-002 | 1.40E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -6.32E-002 | 2.27E-001 | 4.11E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 7.97E-004 | 7.97E-002 | 1.50E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.93E-002 | 1.09E-001 | 2.07E-001 |
| TL-208 | 2.95E-001 | 1.11E-001 | 1.82E-001 | FOUND | | |
| PB-212 | 1.65E+000 | 3.78E-001 | 3.09E-001 | FOUND | | |
| BI-214 | 1.05E+000 | 2.65E-001 | 3.88E-001 | FOUND | | |
| PB-214 | 7.93E-001 | 2.90E-001 | 4.05E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.64E+000 | 1.79E+000 | 3.46E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.73E-001 | 4.45E-001 | 1.04E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.25E+001 | 3.11E+001 | 6.24E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.00E+000 | 3.01E+000 | 5.42E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.04E-001 | 3.22E-001 | 5.24E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.19E+001 | 1.25E+001 | 2.97E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 6.85E-001 | 1.34E+000 | 2.39E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.26E+002 | 2.75E+002 | 4.78E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 7.70E-002 | 1.12E-001 | 2.12E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 6.85E-001 | 1.34E+000 | 2.39E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -7.39E-002 | 5.25E-001 | 9.47E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-070
Sample Title: WEST TRENCH MARSIM #11
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.254E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/7/2005 12:10:09 PM
Live Time: 900.0 seconds
Real Time: 900.7 seconds
Dead Time: 0.07 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.14E+001 | 4.74E+000 | 2.44E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 9.72E-003 | 6.02E-002 | 1.20E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.81E-002 | 6.31E-002 | 1.03E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.31E-002 | 8.36E-002 | 1.91E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.36E-001 | 1.98E-001 | 4.14E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.04E-003 | 6.96E-002 | 1.29E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.41E-001 | 1.98E-001 | 4.02E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.55E-002 | 6.59E-002 | 1.16E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.69E-002 | 7.63E-002 | 1.53E-001 |
| TL-208 | 4.35E-001 | 5.24E-001 | 1.23E-001 | FOUND | | |
| PB-212 | 7.72E-001 | 1.59E-001 | 4.02E-001 | FOUND | | |
| BI-214 | 6.47E-001 | 2.02E-001 | 3.14E-001 | FOUND | | |
| PB-214 | 6.66E-001 | 1.63E-001 | 4.05E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.01E+000 | 1.67E+000 | 3.26E+000 |
| AC-228 | 9.33E-001 | 3.47E-001 | 4.62E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.04E+001 | 2.98E+001 | 5.62E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.65E+000 | 2.82E+000 | 4.98E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.04E-001 | 3.17E-001 | 4.56E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.05E+001 | 1.45E+001 | 1.92E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 4.20E-001 | 1.34E+000 | 2.33E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.39E+002 | 2.53E+002 | 3.93E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.79E-002 | 1.00E-001 | 1.93E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 4.20E-001 | 1.34E+000 | 2.33E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 5.04E-001 | 4.78E-001 | 9.64E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-071
Sample Title: WEST TRENCH MARSIM #12
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.715E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/7/2005 1:24:58 PM
Live Time: 900.0 seconds
Real Time: 901.2 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.20E+001 | 2.94E+000 | 1.76E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 7.34E-003 | 6.52E-002 | 1.30E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.32E-002 | 7.09E-002 | 1.24E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -4.16E-002 | 9.51E-002 | 1.59E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -5.76E-002 | 1.94E-001 | 2.77E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 4.01E-002 | 7.61E-002 | 1.54E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.11E-002 | 1.73E-001 | 3.33E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 5.85E-002 | 7.23E-002 | 1.50E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.60E-002 | 8.22E-002 | 1.60E-001 |
| TL-208 | 2.46E-001 | 8.82E-002 | 1.54E-001 | FOUND | | |
| PB-212 | 9.69E-001 | 1.66E-001 | 2.79E-001 | FOUND | | |
| BI-214 | 8.24E-001 | 2.07E-001 | 2.85E-001 | FOUND | | |
| PB-214 | 7.10E-001 | 1.97E-001 | 3.42E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.90E+000 | 1.66E+000 | 3.21E+000 |
| AC-228 | NOT FOUND/DATA for | 338.32 keV | | 5.25E-001 | 5.45E-001 | 1.08E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.35E+001 | 3.15E+001 | 5.90E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.56E+000 | 2.66E+000 | 4.67E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 1.04E-001 | 2.71E-001 | 4.65E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -3.41E+000 | 1.07E+001 | 1.95E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.34E-001 | 1.27E+000 | 2.23E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -6.48E+001 | 2.46E+002 | 4.39E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.13E-001 | 1.01E-001 | 1.95E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.34E-001 | 1.27E+000 | 2.23E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.25E-002 | 4.64E-001 | 8.30E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-72
Sample Title: West Trench Marsim #13
Detector Name: 11%
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.686E+002 grams
Sample Taken On: 4/6/2005 12:00:00 AM
Acquisition Started: 4/7/2005 1:32:44 PM
Live Time: 1200.0 seconds
Real Time: 1200.3 seconds
Dead Time: 0.02 %
Efficiency ID: pint

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/gram) | Activity Uncert. (pCi/gram) | Nuclide MDA (pCi/gram) | Line Activity (pCi/gram) | Line Act Uncert. (pCi/gram) | Line MDA (pCi/gram) |
| K-40 | 1.60E+001 | 1.03E+001 | 1.62E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -2.59E-002 | 7.75E-002 | 1.33E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.19E-003 | 5.79E-002 | 1.05E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 9.69E-002 | 1.12E-001 | 2.84E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 3.76E-002 | 2.33E-001 | 4.79E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.61E-002 | 1.07E-001 | 1.95E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.24E-001 | 1.64E-001 | 3.74E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 1.32E-003 | 8.60E-002 | 1.61E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.20E-002 | 1.03E-001 | 2.09E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 4.11E-001 | 1.55E-001 | 3.58E-001 |
| PB-212 | 5.05E-001 | 1.64E-001 | 2.87E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 4.97E-001 | 2.73E-001 | 6.11E-001 |
| PB-214 | 8.16E-001 | 1.62E+001 | 3.30E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.71E+000 | 1.68E+000 | 3.18E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.27E-001 | 5.94E-001 | 1.35E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.12E+001 | 4.54E+001 | 8.29E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.25E+000 | 2.56E+000 | 4.98E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -2.79E-001 | 3.07E-001 | 4.24E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -8.04E+000 | 2.53E+001 | 3.49E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.30E-001 | 1.35E+000 | 2.47E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.82E+002 | 6.23E+002 | 1.15E+003 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.59E-002 | 1.03E-001 | 1.92E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.30E-001 | 1.35E+000 | 2.47E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 8.05E-001 | 9.10E-001 | 1.77E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-073
Sample Title: WEST TRENCH MARSIM #14
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.100E+002 Grams
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/6/2005 2:11:44 PM
Live Time: 1800.0 seconds
Real Time: 1802.8 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/Gram) | Activity Uncert. (pCi/Gram) | Nuclide MDA (pCi/Gram) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/Gram) | Line Act Uncert. (pCi/Gram) | Line MDA (pCi/Gram) |
|---|---|---|---|---|---|---|
| K-40 | 2.10E+001 | 4.83E+000 | 1.44E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.41E-002 | 6.46E-002 | 8.82E-002 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.66E-002 | 5.35E-002 | 8.30E-002 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 5.26E-003 | 5.59E-002 | 1.06E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.05E-002 | 1.28E-001 | 1.94E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.39E-002 | 5.27E-002 | 9.22E-002 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.46E-002 | 1.55E-001 | 2.69E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.83E-002 | 5.09E-002 | 8.68E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.62E-003 | 6.95E-002 | 1.28E-001 |
| TL-208 | 2.93E-001 | 7.47E-002 | 1.26E-001 | FOUND | | |
| PB-212 | 8.75E-001 | 3.45E-001 | 2.70E-001 | FOUND | | |
| BI-214 | 6.32E-001 | 1.47E-001 | 1.33E-001 | FOUND | | |
| PB-214 | 5.18E-001 | 1.14E-001 | 3.05E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.82E+000 | 1.26E+000 | 2.40E+000 |
| AC-228 | 8.27E-001 | 2.12E-001 | 4.40E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.43E+001 | 2.32E+001 | 4.27E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.58E-001 | 1.90E+000 | 3.29E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 9.68E-002 | 2.11E-001 | 3.63E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.06E+001 | 8.89E+000 | 2.00E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.22E+000 | 9.47E-001 | 1.72E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.05E+002 | 1.79E+002 | 3.38E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.13E-001 | 7.74E-002 | 1.48E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.22E+000 | 9.46E-001 | 1.72E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.01E-001 | 3.43E-001 | 6.36E-001 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-083
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.475E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 8:33:45 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.82E+001 | 1.25E+001 | 3.10E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -6.03E-002 | 1.11E-001 | 1.77E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -7.75E-002 | 9.20E-002 | 1.41E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 9.30E-002 | 1.01E-001 | 2.62E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.11E-002 | 2.59E-001 | 5.11E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -2.45E-002 | 1.03E-001 | 1.91E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.78E-001 | 2.73E-001 | 5.95E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 1.07E-002 | 8.38E-002 | 1.65E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 9.42E-002 | 1.24E-001 | 2.67E-001 |
| TL-208 | 3.26E-001 | 6.60E-001 | 1.72E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.95E-001 | 2.58E-001 | 5.49E-001 |
| BI-214 | 5.49E-001 | 2.53E-001 | 4.16E-001 | FOUND | | |
| PB-214 | 6.75E-001 | 1.24E+000 | 3.87E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.56E+000 | 2.30E+000 | 4.71E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.90E-001 | 5.80E-001 | 1.35E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -8.83E+000 | 3.57E+001 | 6.49E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 8.19E-001 | 3.31E+000 | 6.01E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.04E-001 | 3.78E-001 | 6.24E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.45E+001 | 1.95E+001 | 4.40E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.26E+000 | 1.75E+000 | 3.38E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.82E+002 | 2.84E+002 | 4.88E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.40E-001 | 1.42E-001 | 2.80E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.26E+000 | 1.75E+000 | 3.38E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.05E-001 | 5.93E-001 | 1.14E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-084
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.948E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 8:55:28 AM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.91E+001 | 8.25E+000 | 2.17E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.43E-002 | 6.66E-002 | 1.43E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.86E-002 | 6.83E-002 | 1.09E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.62E-002 | 6.40E-002 | 1.54E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.02E-001 | 1.67E-001 | 2.52E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -4.92E-003 | 6.78E-002 | 1.30E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -8.80E-002 | 1.97E-001 | 3.31E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.48E-003 | 7.16E-002 | 1.29E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 9.20E-002 | 8.59E-002 | 1.84E-001 |
| TL-208 | 2.64E-001 | 4.01E-001 | 1.57E-001 | FOUND | | |
| PB-212 | 6.69E-001 | 1.56E-001 | 3.36E-001 | FOUND | | |
| BI-214 | 5.63E-001 | 6.51E-001 | 3.62E-001 | FOUND | | |
| PB-214 | 6.64E-001 | 1.67E-001 | 3.63E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.61E+000 | 1.52E+000 | 2.99E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.64E-001 | 4.55E-001 | 1.03E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 3.92E+000 | 2.85E+001 | 5.30E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 6.10E-001 | 2.43E+000 | 4.39E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.03E-001 | 2.66E-001 | 4.72E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.39E+001 | 1.09E+001 | 2.76E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.30E+000 | 1.35E+000 | 2.47E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.22E+002 | 2.44E+002 | 3.86E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.80E-002 | 9.58E-002 | 1.87E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.30E+000 | 1.35E+000 | 2.47E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.27E-002 | 4.48E-001 | 8.32E-001 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-085
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.216E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 9:23:42 AM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.94E+001 | 7.81E+000 | 2.07E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.47E-003 | 6.27E-002 | 1.27E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -4.84E-002 | 6.75E-002 | 1.08E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 3.53E-003 | 7.68E-002 | 1.59E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 3.02E-002 | 1.66E-001 | 3.37E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.04E-002 | 6.53E-002 | 1.21E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.77E-001 | 2.09E-001 | 4.48E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -8.58E-004 | 6.65E-002 | 1.24E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.56E-002 | 8.69E-002 | 1.78E-001 |
| TL-208 | 1.86E-001 | 2.35E-001 | 1.61E-001 | FOUND | | |
| PB-212 | 7.49E-001 | 1.60E-001 | 2.58E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 6.67E-001 | 2.21E-001 | 5.10E-001 |
| PB-214 | 5.49E-001 | 1.52E-001 | 3.74E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.28E+000 | 1.70E+000 | 3.22E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.81E-001 | 4.18E-001 | 9.44E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.93E+000 | 2.59E+001 | 4.79E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.82E+000 | 2.68E+000 | 4.81E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.04E-003 | 2.90E-001 | 4.93E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -3.26E+000 | 1.23E+001 | 2.21E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 7.81E-001 | 1.29E+000 | 2.30E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.43E+001 | 2.33E+002 | 4.29E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.23E-002 | 1.02E-001 | 1.95E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 7.81E-001 | 1.29E+000 | 2.30E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.62E-002 | 5.13E-001 | 9.40E-001 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-086
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.413E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 9:43:41 AM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.21E+001 | 3.18E+000 | 2.07E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.09E-002 | 8.35E-002 | 1.75E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.58E-002 | 7.36E-002 | 1.17E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.34E-002 | 8.05E-002 | 1.76E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.06E-001 | 1.87E-001 | 3.27E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.28E-004 | 7.76E-002 | 1.49E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -5.97E-002 | 2.40E-001 | 4.32E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.62E-002 | 8.55E-002 | 1.53E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.70E-002 | 9.26E-002 | 1.97E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.17E-001 | 1.32E-001 | 2.89E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 5.00E-001 | 2.04E-001 | 4.10E-001 |
| BI-214 | 7.31E-001 | 7.27E-001 | 4.45E-001 | FOUND | | |
| PB-214 | 4.52E-001 | 1.85E-001 | 3.76E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.10E+000 | 1.68E+000 | 3.21E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.15E-001 | 4.68E-001 | 1.05E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -4.83E+000 | 2.90E+001 | 5.24E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 4.58E+000 | 3.52E+000 | 5.94E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.27E-001 | 2.86E-001 | 5.06E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.52E+001 | 1.61E+001 | 3.83E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.13E-001 | 1.39E+000 | 2.47E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.81E+002 | 2.72E+002 | 5.03E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | -5.53E-002 | 1.01E-001 | 1.75E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.13E-001 | 1.39E+000 | 2.47E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.70E-001 | 4.56E-001 | 7.98E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-087
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.263E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 9:57:49 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.45E+001 | 7.89E+000 | 1.64E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 9.84E-002 | 8.14E-002 | 1.88E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.99E-002 | 7.72E-002 | 1.28E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -9.45E-003 | 1.09E-001 | 1.83E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 5.94E-002 | 1.74E-001 | 3.66E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -7.36E-003 | 7.44E-002 | 1.42E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.42E-002 | 2.15E-001 | 4.08E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 4.71E-002 | 7.48E-002 | 1.56E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -7.66E-003 | 9.25E-002 | 1.74E-001 |
| TL-208 | 5.04E-001 | 1.22E-001 | 1.63E-001 | FOUND | | |
| PB-212 | 8.32E-001 | 1.88E-001 | 3.44E-001 | FOUND | | |
| BI-214 | 6.13E-001 | 2.16E-001 | 3.25E-001 | FOUND | | |
| PB-214 | 7.87E-001 | 6.04E-001 | 4.08E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.83E+000 | 1.74E+000 | 3.53E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.87E-001 | 4.45E-001 | 1.03E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.27E+001 | 2.94E+001 | 5.14E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 8.32E-001 | 3.13E+000 | 5.55E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -9.85E-002 | 3.11E-001 | 5.12E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -5.45E+000 | 1.20E+001 | 2.18E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -2.11E-001 | 1.40E+000 | 2.35E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.45E+002 | 2.84E+002 | 4.78E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.59E-002 | 1.05E-001 | 2.04E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -2.11E-001 | 1.40E+000 | 2.35E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.89E-001 | 5.14E-001 | 9.73E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-088
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.400E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 10:24:11 AM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.09E+001 | 7.80E+000 | 1.05E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.70E-002 | 8.02E-002 | 1.65E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 5.22E-004 | 7.25E-002 | 1.24E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -2.83E-002 | 9.16E-002 | 1.62E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.04E-001 | 1.69E-001 | 2.91E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 2.27E-002 | 7.98E-002 | 1.58E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -8.34E-003 | 1.87E-001 | 3.56E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.68E-003 | 7.33E-002 | 1.38E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.06E-002 | 1.06E-001 | 1.93E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.86E-001 | 1.26E-001 | 2.92E-001 |
| PB-212 | 9.25E-001 | 1.87E-001 | 3.94E-001 | FOUND | | |
| BI-214 | 7.46E-001 | 6.55E-001 | 3.77E-001 | FOUND | | |
| PB-214 | 6.57E-001 | 2.03E-001 | 3.70E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 9.37E-001 | 1.74E+000 | 3.29E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.49E-001 | 4.06E-001 | 9.82E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 3.11E+001 | 3.14E+001 | 6.22E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 4.68E-001 | 2.66E+000 | 4.78E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.81E-002 | 2.96E-001 | 4.98E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 8.77E+000 | 1.41E+001 | 2.96E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.07E+000 | 1.37E+000 | 2.49E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.10E+002 | 2.50E+002 | 4.39E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.45E-002 | 1.06E-001 | 2.00E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.07E+000 | 1.37E+000 | 2.49E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.66E-001 | 5.04E-001 | 9.55E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-089
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.476E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 10:41:56 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.28E+001 | 7.23E+000 | 1.52E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.25E-002 | 6.79E-002 | 1.39E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 6.87E-003 | 7.22E-002 | 1.23E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.77E-002 | 8.03E-002 | 1.75E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.39E-001 | 1.97E-001 | 4.23E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -9.33E-002 | 8.55E-002 | 1.16E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -9.69E-002 | 2.03E-001 | 3.42E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 0.00E+000 | 8.78E-002 | 1.59E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.02E-002 | 9.88E-002 | 2.00E-001 |
| TL-208 | 3.40E-001 | 1.17E-001 | 1.97E-001 | FOUND | | |
| PB-212 | 8.63E-001 | 1.85E-001 | 3.66E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 6.44E-001 | 2.62E-001 | 5.73E-001 |
| PB-214 | 9.12E-001 | 2.23E-001 | 3.61E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.29E+000 | 1.66E+000 | 3.45E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 8.26E-001 | 4.16E-001 | 9.72E-001 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 5.02E+000 | 3.09E+001 | 5.64E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.89E+000 | 2.83E+000 | 5.07E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 7.23E-002 | 2.92E-001 | 5.09E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 3.06E+000 | 1.51E+001 | 3.04E+001 |
| TH-234 | 1.79E+000 | 5.14E+000 | 3.12E+000 | FOUND | | |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.34E+002 | 2.82E+002 | 5.43E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.22E-001 | 1.03E-001 | 2.03E-001 |
| U-238 | 1.79E+000 | 5.14E+000 | 3.12E+000 | FOUND | | |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.48E-002 | 5.39E-001 | 1.00E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-090
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.861E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 10:57:48 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.14E+001 | 8.81E+000 | 1.61E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 9.26E-003 | 8.21E-002 | 1.55E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.32E-002 | 7.57E-002 | 1.30E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -2.87E-003 | 7.64E-002 | 1.56E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.45E-002 | 1.61E-001 | 2.74E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.88E-002 | 6.97E-002 | 1.40E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.36E-001 | 1.88E-001 | 3.85E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 1.54E-002 | 7.62E-002 | 1.44E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.74E-002 | 9.20E-002 | 1.86E-001 |
| TL-208 | 2.50E-001 | 9.50E-002 | 1.46E-001 | FOUND | | |
| PB-212 | 1.05E+000 | 3.26E-001 | 3.94E-001 | FOUND | | |
| BI-214 | 8.21E-001 | 2.30E-001 | 3.31E-001 | FOUND | | |
| PB-214 | 7.50E-001 | 2.09E-001 | 3.88E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.38E+000 | 1.77E+000 | 3.60E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.78E-001 | 4.37E-001 | 1.01E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.86E+001 | 2.79E+001 | 4.82E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.55E+000 | 2.59E+000 | 4.72E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.18E-001 | 2.83E-001 | 4.99E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 7.03E+000 | 1.41E+001 | 2.99E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.64E-001 | 1.40E+000 | 2.42E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.40E+002 | 2.74E+002 | 5.28E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.19E-001 | 1.07E-001 | 2.07E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.64E-001 | 1.40E+000 | 2.42E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.01E-001 | 4.76E-001 | 8.41E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-091
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.039E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 11:14:36 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.29E+001 | 7.97E+000 | 2.77E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.65E-002 | 7.77E-002 | 1.67E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -7.82E-002 | 7.50E-002 | 1.13E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 6.58E-002 | 7.16E-002 | 1.85E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -7.23E-002 | 1.70E-001 | 3.06E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -1.60E-003 | 6.52E-002 | 1.38E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 7.65E-002 | 2.00E-001 | 4.03E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.60E-002 | 7.49E-002 | 1.37E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.43E-002 | 8.59E-002 | 1.74E-001 |
| TL-208 | 3.49E-001 | 2.49E-001 | 1.66E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.13E-001 | 2.16E-001 | 4.46E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 9.34E-001 | 2.83E-001 | 6.48E-001 |
| PB-214 | 7.96E-001 | 2.25E-001 | 5.02E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.69E+000 | 1.78E+000 | 3.58E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.55E-001 | 4.47E-001 | 1.02E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -2.46E+001 | 3.11E+001 | 5.16E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.03E+000 | 2.93E+000 | 5.33E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.31E-002 | 2.92E-001 | 4.98E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.97E+000 | 1.51E+001 | 2.99E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.38E+000 | 1.43E+000 | 2.63E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.35E+001 | 2.62E+002 | 4.69E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.04E-001 | 1.09E-001 | 2.10E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.38E+000 | 1.43E+000 | 2.63E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.45E-001 | 5.62E-001 | 1.06E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-092
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.845E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 11:30:15 AM
Live Time: 823.5 seconds
Real Time: 824.7 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.10E+001 | 8.62E+000 | 1.92E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.92E-002 | 7.66E-002 | 1.64E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.21E-003 | 7.50E-002 | 1.27E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 7.27E-002 | 1.01E-001 | 2.16E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.40E-002 | 1.92E-001 | 3.55E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 3.82E-002 | 7.59E-002 | 1.58E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.81E-001 | 2.19E-001 | 4.55E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.01E-002 | 8.12E-002 | 1.47E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.02E-004 | 8.17E-002 | 1.60E-001 |
| TL-208 | 4.05E-001 | 1.13E-001 | 1.45E-001 | FOUND | | |
| PB-212 | 1.39E+000 | 5.08E-001 | 4.00E-001 | FOUND | | |
| BI-214 | 6.80E-001 | 2.14E-001 | 3.21E-001 | FOUND | | |
| PB-214 | 7.20E-001 | 1.84E-001 | 3.93E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 4.69E-001 | 1.88E+000 | 3.41E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | -6.97E-002 | 2.28E-001 | 1.13E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.18E+001 | 3.29E+001 | 5.28E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.90E+000 | 2.96E+000 | 5.34E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -1.16E-001 | 3.37E-001 | 5.37E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.34E+000 | 1.28E+001 | 2.67E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.13E-001 | 1.36E+000 | 2.43E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -3.81E+001 | 2.81E+002 | 5.05E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 3.04E-003 | 1.09E-001 | 1.99E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.13E-001 | 1.36E+000 | 2.43E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.51E-001 | 5.79E-001 | 1.08E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-093
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.601E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 11:44:30 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.04E+001 | 7.35E+000 | 1.83E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.24E-002 | 5.92E-002 | 1.09E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -7.41E-003 | 5.96E-002 | 1.00E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -9.48E-002 | 1.01E-001 | 1.22E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.94E-001 | 1.79E-001 | 3.99E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 2.50E-002 | 6.80E-002 | 1.36E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.68E-002 | 1.67E-001 | 3.06E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 8.20E-004 | 6.38E-002 | 1.22E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.04E-003 | 7.91E-002 | 1.51E-001 |
| TL-208 | 2.91E-001 | 9.65E-002 | 1.58E-001 | FOUND | | |
| PB-212 | 8.52E-001 | 1.73E-001 | 3.32E-001 | FOUND | | |
| BI-214 | 6.83E-001 | 1.94E-001 | 3.03E-001 | FOUND | | |
| PB-214 | 7.96E-001 | 4.91E-001 | 3.38E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.93E+000 | 1.71E+000 | 3.25E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.06E+000 | 4.40E-001 | 1.01E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 6.35E-001 | 2.67E+001 | 4.90E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 9.49E-001 | 2.35E+000 | 4.26E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.07E-001 | 2.62E-001 | 4.62E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.63E+000 | 1.31E+001 | 2.55E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -9.97E-002 | 1.39E+000 | 2.32E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 6.65E+001 | 2.29E+002 | 4.28E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.12E-001 | 1.03E-001 | 1.96E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -9.97E-002 | 1.39E+000 | 2.32E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.23E-001 | 4.38E-001 | 7.90E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-094
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 9.214E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 12:19:19 PM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.92E+001 | 6.05E+000 | 1.48E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.36E-002 | 6.57E-002 | 1.32E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.59E-002 | 6.41E-002 | 1.12E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.69E-003 | 6.82E-002 | 1.42E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.69E-002 | 1.23E-001 | 2.34E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 6.08E-003 | 6.55E-002 | 1.16E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.24E-002 | 1.72E-001 | 3.01E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 2.32E-002 | 6.16E-002 | 1.23E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.29E-002 | 8.14E-002 | 1.55E-001 |
| TL-208 | 3.33E-001 | 3.21E-001 | 1.60E-001 | FOUND | | |
| PB-212 | 8.64E-001 | 2.58E-001 | 3.65E-001 | FOUND | | |
| BI-214 | 7.44E-001 | 1.94E-001 | 2.69E-001 | FOUND | | |
| PB-214 | 8.27E-001 | 1.88E-001 | 2.76E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.55E+000 | 1.61E+000 | 3.18E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.06E+000 | 4.30E-001 | 9.76E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.31E+001 | 2.97E+001 | 5.21E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.69E+000 | 2.12E+000 | 3.88E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.30E-001 | 2.43E-001 | 3.90E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.76E+000 | 1.31E+001 | 2.38E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.29E-001 | 1.19E+000 | 2.12E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.36E+002 | 2.38E+002 | 4.50E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.80E-002 | 9.72E-002 | 1.85E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.29E-001 | 1.19E+000 | 2.12E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.70E-001 | 3.90E-001 | 7.57E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-095
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.727E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 12:35:04 PM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.97E+001 | 6.72E+000 | 2.14E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.54E-002 | 5.63E-002 | 1.30E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 3.34E-003 | 6.46E-002 | 1.11E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 5.40E-002 | 7.43E-002 | 1.73E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -9.01E-002 | 1.84E-001 | 3.05E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -2.52E-002 | 5.51E-002 | 9.96E-002 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.48E-002 | 1.87E-001 | 3.47E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -6.39E-002 | 6.60E-002 | 1.06E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.07E-002 | 7.21E-002 | 1.56E-001 |
| TL-208 | 2.20E-001 | 9.02E-002 | 1.72E-001 | FOUND | | |
| PB-212 | 8.25E-001 | 1.60E-001 | 3.23E-001 | FOUND | | |
| BI-214 | 8.54E-001 | 6.53E-001 | 3.16E-001 | FOUND | | |
| PB-214 | 6.47E-001 | 2.67E-001 | 3.62E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.98E+000 | 1.52E+000 | 3.00E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.17E+000 | 4.61E-001 | 1.04E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 9.85E+000 | 2.83E+001 | 5.23E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.28E+000 | 2.54E+000 | 4.58E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.22E-001 | 2.77E-001 | 4.38E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -6.10E+000 | 2.14E+001 | 1.66E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.02E+000 | 1.29E+000 | 2.44E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 3.73E+001 | 2.06E+002 | 3.91E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 9.12E-002 | 9.23E-002 | 1.79E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.02E+000 | 1.29E+000 | 2.44E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.93E-001 | 4.21E-001 | 7.47E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-096
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.046E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 12:51:12 PM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.17E+001 | 5.65E+000 | 1.98E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.67E-002 | 6.92E-002 | 1.29E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -6.40E-003 | 7.17E-002 | 1.21E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.68E-002 | 6.66E-002 | 1.62E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.46E-002 | 1.80E-001 | 3.16E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.90E-002 | 6.89E-002 | 1.13E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 4.26E-004 | 2.10E-001 | 3.91E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.40E-002 | 6.72E-002 | 1.11E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.38E-001 | 9.15E-002 | 2.03E-001 |
| TL-208 | 3.40E-001 | 1.10E-001 | 1.56E-001 | FOUND | | |
| PB-212 | 8.91E-001 | 3.68E-001 | 3.26E-001 | FOUND | | |
| BI-214 | 6.87E-001 | 2.02E-001 | 3.05E-001 | FOUND | | |
| PB-214 | 7.65E-001 | 2.03E-001 | 3.56E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.77E+000 | 1.69E+000 | 3.27E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.01E+000 | 4.59E-001 | 1.04E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.74E+001 | 2.77E+001 | 5.40E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -5.90E-001 | 2.60E+000 | 4.39E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -5.88E-002 | 2.60E-001 | 4.31E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -3.38E+000 | 1.16E+001 | 1.97E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 9.26E-001 | 1.37E+000 | 2.45E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.50E+002 | 2.77E+002 | 4.69E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.75E-002 | 1.00E-001 | 1.91E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 9.26E-001 | 1.37E+000 | 2.45E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.15E-001 | 4.93E-001 | 9.30E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-097
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\2004lib_4_5.NLB
Sample Size: 8.749E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 1:06:44 PM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.98E+001 | 2.75E+000 | 1.50E+000 | FOUND | | |
| CO-60 | NOT FOUND/DATA for | 1173.22 keV | | -4.20E-002 | 8.45E-002 | 1.37E-001 |
| CD-109 | NOT FOUND/DATA for | 88.03 keV | | 1.62E+000 | 1.76E+000 | 3.36E+000 |
| CS-137 | NOT FOUND/DATA for | 661.65 keV | | 5.92E-002 | 7.29E-002 | 1.56E-001 |
| Tl-208 | 2.71E-001 | 8.78E-002 | 1.18E-001 | FOUND | | |
| PB-212 | 7.85E-001 | 1.67E-001 | 3.70E-001 | FOUND | | |
| BI-214 | 5.24E-001 | 1.82E-001 | 3.40E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 6.08E-001 | 2.10E-001 | 4.53E-001 |
| RA-226 | NOT FOUND/DATA for | 186.21 keV | | 1.96E+000 | 1.56E+000 | 3.07E+000 |
| AC-228 | NOT FOUND/DATA for | 911.60 keV | | 1.12E+000 | 4.35E-001 | 9.95E-001 |
| PA-231 | NOT FOUND/DATA for | 301.50 keV | | 3.40E-001 | 2.79E+000 | 4.87E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | 1.91E-001 | 2.71E-001 | 4.83E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 8.63E-001 | 1.20E+001 | 2.40E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.37E+000 | 2.71E+000 | 4.92E+000 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.24E-002 | 9.53E-002 | 1.85E-001 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.02E-001 | 4.85E-001 | 9.18E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-098
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.184E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 1:27:04 PM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.20E+001 | 1.11E+001 | 1.69E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.22E-002 | 9.40E-002 | 1.62E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -2.66E-002 | 8.45E-002 | 1.41E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 7.10E-002 | 9.69E-002 | 2.39E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -9.54E-002 | 2.21E-001 | 3.36E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -7.60E-002 | 9.34E-002 | 1.08E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.44E-003 | 2.68E-001 | 4.95E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.84E-002 | 7.19E-002 | 9.74E-002 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -2.55E-002 | 8.83E-002 | 1.67E-001 |
| TL-208 | 3.06E-001 | 1.24E-001 | 2.00E-001 | FOUND | | |
| PB-212 | 7.35E-001 | 1.99E-001 | 3.82E-001 | FOUND | | |
| BI-214 | 4.75E-001 | 5.43E-001 | 3.30E-001 | FOUND | | |
| PB-214 | 9.17E-001 | 8.66E-001 | 4.27E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.34E+000 | 2.10E+000 | 4.16E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.96E-001 | 5.48E-001 | 1.27E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 9.31E+000 | 3.45E+001 | 6.56E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 5.73E-001 | 3.34E+000 | 5.87E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.17E-001 | 3.34E-001 | 5.94E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.38E+001 | 1.64E+001 | 3.86E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -7.50E-002 | 1.65E+000 | 2.82E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.55E+002 | 3.32E+002 | 6.74E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.11E-001 | 1.27E-001 | 2.63E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -7.50E-002 | 1.65E+000 | 2.82E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.15E-001 | 5.91E-001 | 1.18E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-099
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 1.008E+003 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 1:33:29 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.52E+001 | 2.73E+000 | 2.18E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -4.87E-002 | 8.99E-002 | 1.55E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.73E-004 | 6.45E-002 | 1.11E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 5.26E-002 | 6.36E-002 | 1.69E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 5.84E-002 | 1.53E-001 | 3.41E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 7.57E-002 | 6.74E-002 | 1.59E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -7.96E-002 | 2.06E-001 | 3.70E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.74E-002 | 7.95E-002 | 1.33E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 8.55E-002 | 8.32E-002 | 1.88E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 2.12E-001 | 1.16E-001 | 2.55E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.76E-001 | 2.09E-001 | 4.46E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 6.17E-001 | 2.53E-001 | 5.72E-001 |
| PB-214 | 8.12E-001 | 5.59E-001 | 3.45E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 5.89E-001 | 1.65E+000 | 3.12E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.63E-001 | 4.49E-001 | 1.07E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 8.86E+000 | 3.06E+001 | 5.78E+001 |
| PA-231 | NOT FOUND/DATA for 283.67 keV | | | -3.77E+000 | 4.40E+000 | 5.28E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.00E-001 | 2.92E-001 | 5.12E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 8.49E-001 | 1.65E+001 | 2.99E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.69E+000 | 1.45E+000 | 2.72E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 5.72E+001 | 2.79E+002 | 5.16E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.47E-002 | 9.93E-002 | 1.92E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.69E+000 | 1.45E+000 | 2.72E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.02E-001 | 4.90E-001 | 8.80E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-100
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.005E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 1:44:17 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.12E+001 | 3.81E+000 | 3.02E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 6.35E-002 | 1.09E-001 | 2.33E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -4.15E-003 | 9.36E-002 | 1.56E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 1.24E-001 | 1.30E-001 | 3.10E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.04E-002 | 2.10E-001 | 4.29E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 1.83E-002 | 9.48E-002 | 1.96E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 6.61E-003 | 2.73E-001 | 5.32E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 1.66E-002 | 8.94E-002 | 1.76E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.10E-001 | 1.26E-001 | 2.78E-001 |
| TL-208 | 3.86E-001 | 1.50E-001 | 2.46E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.76E-001 | 2.78E-001 | 5.83E-001 |
| BI-214 | 7.87E-001 | 2.83E-001 | 3.88E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 7.54E-001 | 3.48E-001 | 7.43E-001 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.92E+000 | 2.33E+000 | 4.58E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.16E-001 | 5.03E-001 | 1.20E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.25E+001 | 4.50E+001 | 8.73E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 8.07E-001 | 3.21E+000 | 5.94E+000 |
| PA-234 | NOT FOUND/DATA for 883.24 keV | | | -1.16E-001 | 4.20E-001 | 8.60E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 6.32E+000 | 2.02E+001 | 4.31E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.90E+000 | 1.83E+000 | 3.44E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.00E+002 | 3.78E+002 | 6.56E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | -5.65E-002 | 1.45E-001 | 2.54E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.90E+000 | 1.83E+000 | 3.44E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.59E-001 | 6.84E-001 | 1.24E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-101
Sample Title: B-5 SOUTH TRENCH FS SAMPLE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.544E+002 G
Sample Taken On: 4/6/2005 11:15:00 AM
Acquisition Started: 4/8/2005 1:54:47 PM
Live Time: 574.9 seconds
Real Time: 575.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.66E+001 | 1.39E+001 | 3.04E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.82E-002 | 9.02E-002 | 1.70E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.83E-002 | 9.05E-002 | 1.34E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -3.76E-002 | 1.17E-001 | 2.17E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 4.46E-002 | 2.40E-001 | 5.03E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -7.37E-002 | 1.03E-001 | 1.74E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.88E-002 | 2.44E-001 | 4.65E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 3.67E-002 | 9.55E-002 | 1.93E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.39E-001 | 1.35E-001 | 2.97E-001 |
| TL-208 | 2.18E-001 | 1.23E-001 | 2.04E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 6.23E-001 | 2.53E-001 | 5.30E-001 |
| BI-214 | 7.40E-001 | 2.88E-001 | 4.89E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 6.05E-001 | 2.89E-001 | 6.36E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 7.39E-001 | 2.02E+000 | 3.86E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 3.96E-001 | 5.53E-001 | 1.19E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.33E+001 | 3.92E+001 | 7.54E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -1.22E+000 | 3.20E+000 | 5.37E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -4.24E-001 | 4.81E-001 | 6.22E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.13E+000 | 1.46E+001 | 3.29E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 6.66E-001 | 1.71E+000 | 3.08E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 4.45E+001 | 3.39E+002 | 6.49E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.16E-001 | 1.29E-001 | 2.54E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 6.66E-001 | 1.71E+000 | 3.08E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.28E-001 | 6.89E-001 | 1.18E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: mac-0504-102
Sample Title: bld-5 south trench fs samples
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.974E+002 g
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 8:51:36 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 1.92E+001 | 1.17E+001 | 2.47E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.99E-002 | 1.16E-001 | 2.35E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 7.89E-002 | 9.89E-002 | 1.85E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 8.31E-003 | 1.02E-001 | 2.01E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.90E-002 | 2.38E-001 | 4.33E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.95E-002 | 1.11E-001 | 2.23E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -9.44E-002 | 2.55E-001 | 4.63E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 8.70E-003 | 9.63E-002 | 1.93E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -7.51E-002 | 1.12E-001 | 1.85E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.28E-001 | 1.75E-001 | 4.03E-001 |
| PB-212 | 9.37E-001 | 5.81E-001 | 4.92E-001 | FOUND | | |
| BI-214 | 8.91E-001 | 2.98E-001 | 4.07E-001 | FOUND | | |
| PB-214 | 6.60E-001 | 4.30E-001 | 4.14E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.23E+000 | 2.10E+000 | 4.10E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.27E+000 | 6.46E-001 | 1.52E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.99E+001 | 4.11E+001 | 8.04E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.49E+000 | 3.81E+000 | 7.10E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.50E-001 | 3.58E-001 | 6.50E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 9.74E-001 | 1.75E+001 | 3.66E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.98E-001 | 1.76E+000 | 3.22E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -3.24E+001 | 3.64E+002 | 6.59E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 3.83E-002 | 1.32E-001 | 2.49E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.98E-001 | 1.76E+000 | 3.22E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.01E-001 | 6.27E-001 | 1.27E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | mac-0504-103 |
| Sample Title: | bld-5 south trench fs samples |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 7.564E+002 g |
| Sample Taken On: | 4/7/2005 11:15:00 AM |
| Acquisition Started: | 4/11/2005 9:02:42 AM |
| Live Time: | 600.0 seconds |
| Real Time: | 600.9 seconds |
| Dead Time: | 0.15 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/g) | Activity Uncert. (pCi/g) | Nuclide MDA (pCi/g) | Line Activity (pCi/g) | Line Act Uncert. (pCi/g) | Line MDA (pCi/g) |
| K-40 | 2.17E+001 | 1.54E+001 | 2.88E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.70E-002 | 1.00E-001 | 1.87E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.88E-002 | 8.07E-002 | 1.48E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.53E-002 | 1.28E-001 | 2.59E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.71E-001 | 2.51E-001 | 5.52E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.56E-003 | 8.93E-002 | 1.73E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -2.04E-002 | 2.39E-001 | 4.61E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.93E-002 | 9.62E-002 | 1.71E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.22E-003 | 9.20E-002 | 1.81E-001 |
| TL-208 | 2.63E-001 | 6.25E-001 | 2.14E-001 | FOUND | | |
| PB-212 | 1.13E+000 | 5.68E-001 | 4.10E-001 | FOUND | | |
| BI-214 | 7.41E-001 | 1.13E+000 | 3.11E-001 | FOUND | | |
| PB-214 | 9.17E-001 | 7.58E-001 | 4.55E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | -1.43E-001 | 2.16E+000 | 3.83E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.37E-001 | 5.49E-001 | 1.29E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.03E+001 | 3.70E+001 | 6.88E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.25E+000 | 3.07E+000 | 5.84E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.02E-001 | 3.39E-001 | 5.69E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -5.91E+000 | 1.65E+001 | 2.88E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -3.58E-002 | 1.74E+000 | 2.97E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.47E+002 | 3.34E+002 | 5.95E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.37E-002 | 1.25E-001 | 2.35E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -3.58E-002 | 1.74E+000 | 2.97E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.15E-001 | 6.31E-001 | 1.23E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-104
Sample Title: B-5 south trench fs
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.490E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 9:24:39 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.13E+001 | 3.80E+000 | 2.65E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -1.62E-002 | 9.12E-002 | 1.77E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -5.89E-002 | 9.05E-002 | 1.43E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 4.21E-002 | 1.39E-001 | 2.90E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 5.13E-003 | 2.76E-001 | 4.34E-001 |
| AG-110m | NOT FOUND/DATA for 1384.30 keV | | | 0.00E+000 | 0.00E+000 | 2.01E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -7.26E-002 | 2.34E-001 | 4.31E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 6.09E-002 | 9.63E-002 | 2.05E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.01E-001 | 1.14E-001 | 2.53E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 1.89E-001 | 1.42E-001 | 3.07E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.14E-001 | 2.71E-001 | 5.77E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 6.54E-001 | 3.28E-001 | 7.26E-001 |
| PB-214 | 6.23E-001 | 2.03E-001 | 5.11E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.38E+000 | 2.17E+000 | 4.20E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.66E-001 | 5.50E-001 | 1.30E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -2.12E+001 | 3.53E+001 | 6.11E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.03E+000 | 3.67E+000 | 6.80E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 3.91E-002 | 3.69E-001 | 6.42E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.08E+000 | 1.84E+001 | 3.63E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.15E+000 | 1.89E+000 | 3.43E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -7.38E+001 | 3.20E+002 | 5.88E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.75E-003 | 1.38E-001 | 2.53E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.15E+000 | 1.89E+000 | 3.43E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 6.03E-001 | 5.87E-001 | 1.25E+000 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-105
Sample Title: B-5 south trench fs
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.145E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 9:35:22 AM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G ) | Activity Uncert. (pCi/G ) | Nuclide MDA (pCi/G ) | Line Activity (pCi/G ) | Line Act Uncert. (pCi/G ) | Line MDA (pCi/G ) |
| K-40 | 2.36E+001 | 3.89E+000 | 2.10E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 7.02E-002 | 7.91E-002 | 1.98E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.90E-002 | 9.83E-002 | 1.61E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 6.87E-002 | 1.23E-001 | 2.74E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -3.22E-002 | 2.47E-001 | 4.55E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -1.66E-001 | 1.45E-001 | 1.77E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.35E-001 | 2.84E-001 | 5.83E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 2.97E-004 | 1.02E-001 | 1.81E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.84E-002 | 1.29E-001 | 2.49E-001 |
| TL-208 | 2.68E-001 | 1.17E-001 | 2.25E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 6.87E-001 | 2.56E-001 | 5.41E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 7.67E-001 | 3.22E-001 | 7.45E-001 |
| PB-214 | 8.11E-001 | 1.19E+000 | 4.65E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.43E+000 | 2.34E+000 | 4.65E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.89E-001 | 6.61E-001 | 1.48E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -2.44E+001 | 3.90E+001 | 6.67E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 4.57E+000 | 3.95E+000 | 7.23E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.16E-001 | 3.83E-001 | 6.02E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.40E+000 | 1.84E+001 | 3.81E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 6.17E-001 | 1.85E+000 | 3.29E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -4.00E+002 | 3.46E+002 | 4.57E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.31E-001 | 1.44E-001 | 2.83E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 6.17E-001 | 1.85E+000 | 3.29E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.99E-001 | 7.10E-001 | 1.39E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-106
Sample Title: B-5 south trench fs
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.105E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 9:47:13 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.21E+001 | 9.56E+000 | 2.27E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -3.35E-002 | 1.14E-001 | 2.02E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -7.68E-002 | 9.10E-002 | 1.42E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 4.11E-002 | 6.19E-002 | 1.73E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 7.97E-002 | 2.00E-001 | 4.27E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 3.49E-002 | 9.71E-002 | 1.99E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 5.72E-002 | 2.73E-001 | 5.14E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -3.50E-002 | 7.32E-002 | 1.20E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -4.34E-002 | 8.53E-002 | 1.48E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.09E-001 | 1.55E-001 | 3.43E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.90E-001 | 2.64E-001 | 5.48E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 5.54E-001 | 2.73E-001 | 6.20E-001 |
| PB-214 | 9.61E-001 | 2.76E-001 | 4.23E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.82E+000 | 2.14E+000 | 4.17E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.19E+000 | 5.56E-001 | 1.33E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 8.31E+000 | 3.81E+001 | 7.01E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 6.56E-001 | 3.28E+000 | 5.84E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.29E-001 | 3.69E-001 | 6.06E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.04E+000 | 1.79E+001 | 3.36E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.64E+000 | 1.63E+000 | 3.23E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 7.01E+001 | 3.09E+002 | 6.01E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 5.89E-002 | 1.37E-001 | 2.58E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.64E+000 | 1.63E+000 | 3.23E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.19E-001 | 5.39E-001 | 1.03E+000 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-107
Sample Title: B-5 south trench fs
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.339E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 9:58:00 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.66E+001 | 3.12E+000 | 2.94E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.90E-003 | 1.05E-001 | 1.97E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.12E-002 | 8.21E-002 | 1.48E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -2.26E-002 | 8.35E-002 | 1.68E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -8.29E-002 | 1.84E-001 | 2.97E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -4.25E-002 | 7.44E-002 | 1.30E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 7.46E-002 | 2.40E-001 | 4.74E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.36E-002 | 8.66E-002 | 1.48E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -4.22E-003 | 9.96E-002 | 1.91E-001 |
| TL-208 | 4.25E-001 | 3.02E-001 | 1.71E-001 | FOUND | | |
| PB-212 | 1.18E+000 | 5.78E-001 | 4.47E-001 | FOUND | | |
| BI-214 | 1.02E+000 | 8.78E-001 | 3.81E-001 | FOUND | | |
| PB-214 | 9.85E-001 | 1.86E-001 | 4.41E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.48E+000 | 1.99E+000 | 3.88E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 7.92E-001 | 5.78E-001 | 1.27E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.19E+001 | 3.99E+001 | 6.90E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 5.60E-001 | 2.96E+000 | 5.39E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.53E-001 | 3.21E-001 | 5.23E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -8.69E-001 | 1.41E+001 | 2.85E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.06E+000 | 1.60E+000 | 3.08E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.92E+001 | 2.73E+002 | 5.28E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.50E-002 | 1.25E-001 | 2.36E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.06E+000 | 1.60E+000 | 3.08E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -7.51E-002 | 6.08E-001 | 1.10E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-108
Sample Title: B-5 south trench fs
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.960E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 10:09:38 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.06E+001 | 1.09E+001 | 1.87E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -7.21E-002 | 1.17E-001 | 2.06E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -4.13E-003 | 7.53E-002 | 1.31E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 8.35E-002 | 8.66E-002 | 2.31E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 8.79E-003 | 2.14E-001 | 4.35E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -1.11E-001 | 1.29E-001 | 1.26E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -9.06E-003 | 2.02E-001 | 3.88E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.18E-002 | 8.97E-002 | 1.62E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 8.98E-002 | 1.12E-001 | 2.44E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 2.87E-001 | 1.46E-001 | 3.27E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.54E-001 | 2.55E-001 | 5.34E-001 |
| BI-214 | 5.82E-001 | 6.91E-001 | 4.67E-001 | FOUND | | |
| PB-214 | 7.52E-001 | 2.13E-001 | 4.30E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.32E+000 | 2.08E+000 | 4.14E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.67E-001 | 5.38E-001 | 1.22E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 6.64E+000 | 3.48E+001 | 6.64E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.94E-001 | 3.68E+000 | 6.31E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.01E-001 | 2.99E-001 | 5.41E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.22E+001 | 1.73E+001 | 3.96E+001 |
| TH-234 | 2.08E+000 | 4.57E+000 | 3.40E+000 | FOUND | | |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.00E+002 | 3.23E+002 | 6.33E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 4.50E-003 | 1.27E-001 | 2.33E-001 |
| U-238 | 2.08E+000 | 4.57E+000 | 3.40E+000 | FOUND | | |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 4.69E-001 | 7.09E-001 | 1.33E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-109
Sample Title: B-5 south trench fs
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.375E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 10:20:24 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.53E+001 | 1.14E+001 | 2.08E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 8.54E-002 | 9.23E-002 | 2.22E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -6.87E-002 | 9.44E-002 | 1.41E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.77E-002 | 1.23E-001 | 2.49E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 0.00E+000 | 0.00E+000 | 8.45E-002 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.52E-001 | 1.17E-001 | 8.24E-002 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -5.03E-002 | 2.20E-001 | 4.19E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.13E-001 | 9.97E-002 | 1.51E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.19E-002 | 1.31E-001 | 2.71E-001 |
| TL-208 | 3.34E-001 | 1.32E-001 | 1.68E-001 | FOUND | | |
| PB-212 | 1.02E+000 | 2.45E-001 | 4.61E-001 | FOUND | | |
| BI-214 | 1.23E+000 | 1.34E+000 | 4.52E-001 | FOUND | | |
| PB-214 | 6.27E-001 | 9.57E-001 | 4.54E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | -7.74E-002 | 2.35E+000 | 4.27E+000 |
| AC-228 | 1.10E+000 | 5.28E-001 | 9.03E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.26E+001 | 3.95E+001 | 7.80E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.77E+000 | 3.84E+000 | 6.91E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.83E-001 | 4.13E-001 | 5.92E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 9.27E+000 | 2.17E+001 | 4.46E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.09E+000 | 1.75E+000 | 3.21E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 5.72E+001 | 2.90E+002 | 5.70E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.49E-002 | 1.42E-001 | 2.72E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.09E+000 | 1.75E+000 | 3.21E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.89E-001 | 6.11E-001 | 1.11E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-110
Sample Title: B-5 south trench fs
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.666E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 10:31:09 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.18E+001 | 1.17E+001 | 3.22E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 6.63E-003 | 1.02E-001 | 2.05E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.91E-002 | 8.97E-002 | 1.47E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 2.91E-002 | 1.30E-001 | 2.60E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -4.88E-002 | 1.84E-001 | 3.61E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.61E-002 | 8.42E-002 | 1.62E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -5.76E-002 | 2.62E-001 | 4.87E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -4.58E-002 | 9.39E-002 | 1.61E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.51E-002 | 1.09E-001 | 2.32E-001 |
| TL-208 | 4.36E-001 | 1.41E-001 | 2.21E-001 | FOUND | | |
| PB-212 | 1.14E+000 | 4.97E-001 | 4.28E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 5.69E-001 | 3.25E-001 | 7.02E-001 |
| PB-214 | 8.23E-001 | 2.24E-001 | 4.57E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.67E+000 | 2.37E+000 | 4.55E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.03E+000 | 6.03E-001 | 1.38E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.58E+001 | 3.71E+001 | 6.45E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.64E+000 | 3.16E+000 | 5.97E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -8.98E-002 | 3.52E-001 | 5.92E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 4.22E+000 | 1.67E+001 | 3.55E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.50E+000 | 1.66E+000 | 3.12E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.41E+002 | 3.51E+002 | 6.68E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 5.74E-002 | 1.40E-001 | 2.64E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.50E+000 | 1.66E+000 | 3.12E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.29E-001 | 6.53E-001 | 1.18E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-111
Sample Title: B-5 south trench fs
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.435E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 10:43:15 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.13E+001 | 1.29E+001 | 3.38E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.41E-003 | 8.83E-002 | 1.79E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -7.86E-002 | 9.46E-002 | 1.48E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -1.21E-002 | 8.69E-002 | 1.73E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.28E-001 | 2.17E-001 | 3.72E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | 6.44E-002 | 1.05E-001 | 2.58E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 9.15E-002 | 2.80E-001 | 5.32E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | 3.46E-002 | 7.85E-002 | 1.87E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.32E-003 | 1.29E-001 | 2.39E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 1.88E-001 | 1.40E-001 | 3.05E-001 |
| PB-212 | 9.61E-001 | 3.82E-001 | 5.34E-001 | FOUND | | |
| BI-214 | 7.75E-001 | 7.40E-001 | 3.78E-001 | FOUND | | |
| PB-214 | 1.02E+000 | 2.81E-001 | 3.74E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | -3.51E-001 | 2.24E+000 | 3.98E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.33E+000 | 6.17E-001 | 1.47E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.43E+000 | 3.79E+001 | 6.88E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.07E+000 | 3.58E+000 | 6.66E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 7.58E-002 | 4.03E-001 | 7.07E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.09E-001 | 1.35E+001 | 2.93E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 4.54E-001 | 1.86E+000 | 3.27E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 9.54E+001 | 3.20E+002 | 6.06E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.03E-001 | 1.40E-001 | 2.70E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 4.54E-001 | 1.86E+000 | 3.27E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.94E-001 | 6.48E-001 | 1.26E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-112
Sample Title: B-5 south trench fs
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.244E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 10:53:23 AM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.13 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.18E+001 | 1.10E+001 | 2.21E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.55E-002 | 9.49E-002 | 1.81E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.52E-002 | 8.43E-002 | 1.36E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.99E-002 | 9.99E-002 | 2.07E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -8.27E-002 | 2.15E-001 | 3.94E-001 |
| AG-110m | NOT FOUND/DATA for | 1384.30 keV | | 0.00E+000 | 0.00E+000 | 1.83E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.45E-001 | 2.20E-001 | 3.75E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.41E-002 | 9.15E-002 | 1.69E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.14E-001 | 1.08E-001 | 2.42E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.64E-001 | 1.66E-001 | 3.65E-001 |
| PB-212 | 6.60E-001 | 1.98E-001 | 4.28E-001 | FOUND | | |
| BI-214 | 7.76E-001 | 2.73E-001 | 4.68E-001 | FOUND | | |
| PB-214 | 6.47E-001 | 3.17E-001 | 4.12E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.11E+000 | 1.77E+000 | 3.47E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.15E+000 | 5.49E-001 | 1.30E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.43E+001 | 3.55E+001 | 7.07E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.89E-001 | 3.42E+000 | 6.09E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -4.52E-001 | 3.71E-001 | 5.15E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.30E+000 | 1.48E+001 | 3.30E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.00E+000 | 1.46E+000 | 2.70E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.88E+002 | 2.96E+002 | 4.98E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.56E-002 | 1.07E-001 | 2.14E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.00E+000 | 1.46E+000 | 2.70E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -5.18E-002 | 5.82E-001 | 1.08E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-113
Sample Title: B-5 south trench fs
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.468E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 11:03:53 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.16E+001 | 1.01E+001 | 2.69E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.73E-002 | 8.22E-002 | 1.85E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 5.11E-002 | 7.79E-002 | 1.44E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 8.73E-002 | 1.06E-001 | 2.57E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.48E-001 | 3.26E-001 | 2.93E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 4.65E-004 | 8.62E-002 | 1.63E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.68E-001 | 2.59E-001 | 5.48E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -4.49E-002 | 7.53E-002 | 1.32E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 8.19E-002 | 9.65E-002 | 2.17E-001 |
| TL-208 | 4.42E-001 | 5.39E-001 | 2.01E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 8.03E-001 | 2.45E-001 | 5.14E-001 |
| BI-214 | 8.61E-001 | 2.70E-001 | 4.08E-001 | FOUND | | |
| PB-214 | 6.53E-001 | 9.97E-001 | 3.72E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 5.25E-001 | 1.88E+000 | 3.53E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.05E-001 | 4.93E-001 | 1.13E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -9.67E+000 | 3.63E+001 | 6.34E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 4.22E+000 | 3.79E+000 | 6.72E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.33E-001 | 3.16E-001 | 4.56E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 7.68E+000 | 1.72E+001 | 3.73E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 4.49E-001 | 1.70E+000 | 2.99E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.65E+002 | 3.27E+002 | 5.43E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 9.44E-002 | 1.13E-001 | 2.24E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 4.49E-001 | 1.70E+000 | 2.99E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.53E-001 | 5.94E-001 | 1.17E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-114
Sample Title: BLD-5 SOUTH TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.786E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 1:00:14 PM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.41E+001 | 1.15E+001 | 2.55E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -2.07E-002 | 6.76E-002 | 1.30E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -7.26E-002 | 9.46E-002 | 1.48E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -5.03E-002 | 8.76E-002 | 1.56E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 3.75E-002 | 2.26E-001 | 4.44E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 4.09E-002 | 8.61E-002 | 1.85E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.22E-001 | 2.70E-001 | 4.64E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.09E-002 | 9.18E-002 | 1.51E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -5.40E-002 | 8.50E-002 | 1.41E-001 |
| TL-208 | 3.04E-001 | 3.52E-001 | 1.62E-001 | FOUND | | |
| PB-212 | 9.52E-001 | 2.28E-001 | 4.73E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 7.05E-001 | 3.05E-001 | 6.91E-001 |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 8.92E-001 | 3.10E-001 | 6.93E-001 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.21E+000 | 2.29E+000 | 4.48E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.04E+000 | 6.33E-001 | 1.42E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.06E-001 | 3.85E+001 | 7.10E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.33E+000 | 3.33E+000 | 6.17E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.74E-002 | 3.78E-001 | 6.40E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.11E+001 | 1.49E+001 | 3.49E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 5.98E-001 | 1.92E+000 | 3.37E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 4.86E+001 | 3.51E+002 | 6.68E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.03E-001 | 1.38E-001 | 2.81E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 5.98E-001 | 1.92E+000 | 3.37E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -4.80E-001 | 6.94E-001 | 1.16E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-115
Sample Title: BLD-5 SOUTH TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.513E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 1:11:17 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.71E+001 | 8.02E+000 | 3.06E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.48E-002 | 7.17E-002 | 1.56E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.23E-002 | 8.23E-002 | 1.44E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.58E-002 | 1.09E-001 | 2.11E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 3.47E-002 | 1.40E-001 | 3.25E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -3.99E-003 | 7.64E-002 | 1.72E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.90E-003 | 1.92E-001 | 3.79E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.55E-002 | 8.75E-002 | 1.52E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 8.76E-002 | 1.15E-001 | 2.41E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.30E-001 | 1.41E-001 | 3.24E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 6.21E-001 | 2.35E-001 | 4.86E-001 |
| BI-214 | 5.58E-001 | 7.29E-001 | 3.59E-001 | FOUND | | |
| PB-214 | 8.05E-001 | 2.10E-001 | 3.84E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 4.10E+000 | 2.24E+000 | 4.58E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.89E-001 | 5.34E-001 | 1.22E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -5.51E+000 | 3.38E+001 | 6.11E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 6.02E-001 | 3.21E+000 | 5.73E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.57E-001 | 3.27E-001 | 5.33E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.27E+000 | 1.51E+001 | 3.20E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.11E-001 | 1.72E+000 | 3.08E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 5.00E+001 | 2.99E+002 | 5.61E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.09E-001 | 1.35E-001 | 2.73E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.11E-001 | 1.72E+000 | 3.08E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 9.88E-002 | 5.49E-001 | 1.06E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-116
Sample Title: BLD-5 SOUTH TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.470E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 1:22:33 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.13E+001 | 1.01E+001 | 4.16E-001 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.47E-003 | 9.27E-002 | 1.85E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 8.15E-002 | 8.17E-002 | 1.55E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -4.06E-002 | 1.14E-001 | 1.31E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.70E-002 | 2.36E-001 | 4.74E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -2.37E-002 | 1.05E-001 | 2.10E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 6.70E-002 | 2.58E-001 | 5.03E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.28E-002 | 9.10E-002 | 1.46E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.78E-001 | 1.17E-001 | 2.70E-001 |
| TL-208 | 3.03E-001 | 1.22E-001 | 1.70E-001 | FOUND | | |
| PB-212 | 1.31E+000 | 6.03E-001 | 5.11E-001 | FOUND | | |
| BI-214 | 8.86E-001 | 2.75E-001 | 3.89E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 6.33E-001 | 2.93E-001 | 6.24E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.28E+000 | 1.93E+000 | 3.82E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.06E+000 | 5.56E-001 | 1.29E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.50E+000 | 3.38E+001 | 6.34E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.47E+000 | 3.45E+000 | 6.34E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.90E-001 | 4.17E-001 | 5.70E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.10E+000 | 1.79E+001 | 3.02E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.70E+000 | 1.75E+000 | 3.24E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 4.65E+001 | 3.29E+002 | 6.24E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.23E-001 | 1.19E-001 | 2.37E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.70E+000 | 1.75E+000 | 3.24E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -8.71E-002 | 6.07E-001 | 1.05E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-117
Sample Title: BLD-5 SOUTH TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.459E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 1:33:16 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.71E+001 | 3.13E+000 | 2.82E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.43E-002 | 6.50E-002 | 1.46E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -9.30E-003 | 7.35E-002 | 1.27E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.71E-002 | 8.75E-002 | 2.17E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.18E-001 | 2.50E-001 | 3.27E-001 |
| AG-110m | NOT FOUND/DATA for | 1384.30 keV | | 0.00E+000 | 0.00E+000 | 1.78E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.52E-001 | 2.25E-001 | 4.80E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.05E-002 | 1.02E-001 | 1.87E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.98E-002 | 1.05E-001 | 2.24E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.03E-001 | 1.23E-001 | 2.76E-001 |
| PB-212 | 6.88E-001 | 1.99E-001 | 4.22E-001 | FOUND | | |
| BI-214 | 5.76E-001 | 7.84E-001 | 4.28E-001 | FOUND | | |
| PB-214 | 6.61E-001 | 6.65E-001 | 4.30E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.38E+000 | 1.95E+000 | 4.06E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 7.72E-001 | 4.86E-001 | 1.13E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.14E+001 | 3.14E+001 | 6.15E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -1.56E+000 | 3.12E+000 | 4.92E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.86E-001 | 2.99E-001 | 5.56E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.74E+000 | 1.82E+001 | 3.40E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.70E+000 | 1.62E+000 | 3.05E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -8.80E+001 | 2.82E+002 | 4.97E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.05E-001 | 1.22E-001 | 2.39E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.70E+000 | 1.62E+000 | 3.05E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 5.44E-001 | 6.40E-001 | 1.28E+000 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-118
Sample Title: BLD-5 SOUTH TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.271E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 1:44:01 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.09E+001 | 3.59E+000 | 2.59E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.40E-002 | 7.67E-002 | 1.49E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.71E-002 | 8.13E-002 | 1.43E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -5.26E-003 | 7.60E-002 | 1.70E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.97E-001 | 2.23E-001 | 2.59E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.37E-002 | 7.20E-002 | 1.31E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.08E-001 | 2.06E-001 | 4.37E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.82E-002 | 9.21E-002 | 1.56E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.60E-002 | 1.18E-001 | 2.42E-001 |
| TL-208 | 2.44E-001 | 1.15E-001 | 1.86E-001 | FOUND | | |
| PB-212 | 1.18E+000 | 5.46E-001 | 4.14E-001 | FOUND | | |
| BI-214 | 5.60E-001 | 9.47E-001 | 4.12E-001 | FOUND | | |
| PB-214 | 6.17E-001 | 1.92E-001 | 3.86E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.41E+000 | 2.19E+000 | 4.15E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.02E+000 | 5.51E-001 | 1.28E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.28E+001 | 3.60E+001 | 7.14E+001 |
| PA-231 | NOT FOUND/DATA for | 302.65 keV | | -2.93E+000 | 4.37E+000 | 6.15E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -3.03E-002 | 3.31E-001 | 5.68E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 8.03E+000 | 1.30E+001 | 3.09E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.80E-001 | 1.66E+000 | 2.84E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 7.22E+001 | 3.18E+002 | 6.09E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 3.14E-002 | 1.37E-001 | 2.46E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.80E-001 | 1.66E+000 | 2.84E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.76E-001 | 5.55E-001 | 1.01E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-119
Sample Title: BLD-5 SOUTH TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.255E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 1:54:51 PM
Live Time: 600.0 seconds
Real Time: 600.8 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.86E+001 | 1.12E+001 | 2.96E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.88E-002 | 8.87E-002 | 1.90E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 2.42E-002 | 8.66E-002 | 1.54E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -5.27E-003 | 7.64E-002 | 1.70E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.63E-001 | 2.46E-001 | 4.19E-001 |
| AG-110m | NOT FOUND/DATA for 1384.30 keV | | | 0.00E+000 | 0.00E+000 | 1.83E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.68E-002 | 2.55E-001 | 4.79E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.08E-001 | 9.79E-002 | 1.43E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -8.57E-003 | 8.75E-002 | 1.66E-001 |
| TL-208 | 2.81E-001 | 1.25E-001 | 2.47E-001 | FOUND | | |
| PB-212 | 7.97E-001 | 2.13E-001 | 5.06E-001 | FOUND | | |
| BI-214 | 5.46E-001 | 8.90E-001 | 4.08E-001 | FOUND | | |
| PB-214 | 5.40E-001 | 9.69E-002 | 4.25E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.81E+000 | 2.06E+000 | 4.03E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.27E+000 | 5.47E-001 | 1.32E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -6.01E+000 | 3.65E+001 | 6.60E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.45E+000 | 3.26E+000 | 5.73E+000 |
| PA-234 | NOT FOUND/DATA for 569.50 keV | | | -4.28E-001 | 6.24E-001 | 7.73E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.65E+000 | 1.12E+001 | 2.36E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 6.27E-001 | 1.60E+000 | 2.87E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -7.55E+001 | 3.15E+002 | 5.68E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.44E-002 | 1.26E-001 | 2.30E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 6.27E-001 | 1.60E+000 | 2.87E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.10E-001 | 5.52E-001 | 1.09E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-120
Sample Title: BLD-5 SOUTH TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.854E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 2:40:46 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.00E+001 | 1.16E+001 | 2.98E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.45E-002 | 9.92E-002 | 2.00E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.57E-002 | 8.05E-002 | 1.41E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.40E-002 | 8.39E-002 | 2.00E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -5.01E-002 | 1.82E-001 | 3.16E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.46E-002 | 9.74E-002 | 1.75E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.47E-002 | 2.40E-001 | 4.28E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -3.71E-002 | 9.85E-002 | 1.65E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -4.69E-002 | 1.02E-001 | 1.84E-001 |
| TL-208 | 5.19E-001 | 2.07E-001 | 1.63E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.00E-001 | 2.70E-001 | 5.68E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 5.23E-001 | 2.78E-001 | 6.24E-001 |
| PB-214 | 6.79E-001 | 2.60E-001 | 5.44E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.55E+000 | 2.10E+000 | 3.97E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 8.50E-001 | 5.24E-001 | 1.22E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -6.90E+000 | 3.83E+001 | 6.94E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 7.86E-001 | 3.20E+000 | 5.72E+000 |
| PA-234 | NOT FOUND/DATA for 926.00 keV | | | -7.46E-001 | 1.15E+000 | 8.61E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -3.10E+000 | 1.66E+001 | 2.77E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -8.06E-002 | 1.75E+000 | 2.99E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -5.97E+001 | 3.16E+002 | 5.85E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 9.69E-002 | 1.18E-001 | 2.32E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -8.06E-002 | 1.75E+000 | 2.99E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.93E-002 | 6.19E-001 | 1.15E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-121
Sample Title: BLD-5 SOUTH TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 9.107E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 2:52:28 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.70E+001 | 1.01E+001 | 2.95E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -3.55E-002 | 7.15E-002 | 1.24E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.91E-002 | 8.12E-002 | 1.30E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 3.45E-002 | 9.01E-002 | 2.02E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 2.21E-002 | 2.06E-001 | 4.02E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -2.49E-003 | 9.29E-002 | 1.77E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -5.43E-002 | 2.44E-001 | 4.34E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 2.19E-002 | 7.17E-002 | 1.42E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -4.05E-002 | 1.09E-001 | 1.82E-001 |
| TL-208 | 3.40E-001 | 2.77E-001 | 1.77E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.87E-001 | 2.35E-001 | 4.94E-001 |
| BI-214 | 5.96E-001 | 2.34E-001 | 3.63E-001 | FOUND | | |
| PB-214 | 7.46E-001 | 7.10E-001 | 3.42E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.74E+000 | 1.77E+000 | 3.52E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.34E+000 | 5.33E-001 | 1.28E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.69E+001 | 3.14E+001 | 6.15E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.36E+000 | 2.85E+000 | 5.28E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 3.28E-002 | 2.90E-001 | 5.10E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 4.33E+000 | 1.43E+001 | 2.99E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 9.27E-001 | 1.37E+000 | 2.51E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -6.17E+001 | 2.94E+002 | 5.34E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.93E-002 | 1.07E-001 | 2.02E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 9.27E-001 | 1.37E+000 | 2.51E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -4.39E-001 | 5.93E-001 | 1.01E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-122
Sample Title: BLD-5 SOUTH TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.143E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 3:08:32 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.98E+001 | 9.53E+000 | 3.06E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.08E-001 | 1.11E-001 | 2.47E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.07E-003 | 7.78E-002 | 1.35E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.92E-002 | 9.18E-002 | 2.10E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.45E-001 | 2.62E-001 | 3.99E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -7.30E-002 | 8.86E-002 | 1.43E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.91E-001 | 2.40E-001 | 5.36E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -6.51E-004 | 8.79E-002 | 1.71E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.72E-003 | 9.84E-002 | 1.95E-001 |
| TL-208 | 2.84E-001 | 1.14E-001 | 1.48E-001 | FOUND | | |
| PB-212 | 7.92E-001 | 1.99E-001 | 4.89E-001 | FOUND | | |
| BI-214 | 7.11E-001 | 2.54E-001 | 3.95E-001 | FOUND | | |
| PB-214 | 8.66E-001 | 2.16E-001 | 4.14E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.03E+000 | 2.09E+000 | 4.12E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 8.83E-001 | 5.61E-001 | 1.26E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.40E+001 | 3.49E+001 | 6.18E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.13E+000 | 3.31E+000 | 6.17E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 4.12E-001 | 3.41E-001 | 6.39E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -5.28E+000 | 1.73E+001 | 3.14E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.99E+000 | 1.71E+000 | 3.37E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.13E+002 | 3.00E+002 | 6.08E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.23E-001 | 1.29E-001 | 2.52E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.99E+000 | 1.71E+000 | 3.37E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 5.83E-002 | 6.01E-001 | 1.13E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-123
Sample Title: BLD-5 SOUTH TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.683E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 3:20:18 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.04E+001 | 1.33E+001 | 2.99E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.78E-002 | 1.17E-001 | 2.47E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.20E-001 | 9.06E-002 | 1.76E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.41E-003 | 9.31E-002 | 2.04E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.55E-001 | 2.04E-001 | 3.23E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -9.38E-002 | 1.08E-001 | 1.71E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.25E-001 | 2.57E-001 | 5.55E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -7.86E-003 | 9.10E-002 | 1.68E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -6.24E-002 | 1.22E-001 | 2.07E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.47E-001 | 1.65E-001 | 3.66E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.16E-001 | 2.78E-001 | 5.81E-001 |
| BI-214 | 8.30E-001 | 2.74E-001 | 3.47E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 7.84E-001 | 2.90E-001 | 6.53E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 4.73E-001 | 2.32E+000 | 4.29E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.67E-001 | 5.82E-001 | 1.34E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -4.66E+000 | 3.58E+001 | 6.66E+001 |
| PA-231 | NOT FOUND/DATA for | 302.65 keV | | -5.67E+000 | 5.41E+000 | 6.62E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.17E-001 | 3.69E-001 | 5.75E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.13E+001 | 1.68E+001 | 3.74E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.27E+000 | 1.84E+000 | 3.50E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.05E+002 | 3.29E+002 | 6.67E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.96E-002 | 1.43E-001 | 2.68E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.27E+000 | 1.84E+000 | 3.50E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.59E-001 | 6.05E-001 | 1.02E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-124
Sample Title: BLD-5 SOUTH TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.092E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 3:30:49 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.97E+001 | 1.55E+001 | 3.43E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | | 834.83 keV | 1.06E-002 | 9.44E-002 | 2.03E-001 |
| CO-57 | NOT FOUND/DATA for | | 122.06 keV | 1.85E-002 | 9.49E-002 | 1.69E-001 |
| CO-60 | NOT FOUND/DATA for | | 1173.24 keV | 4.17E-002 | 1.47E-001 | 2.95E-001 |
| ZN-65 | NOT FOUND/DATA for | | 1115.55 keV | -6.76E-003 | 2.90E-001 | 5.68E-001 |
| AG-110m | NOT FOUND/DATA for | | 657.76 keV | 7.75E-003 | 1.10E-001 | 2.15E-001 |
| SB-125 | NOT FOUND/DATA for | | 427.89 keV | 9.37E-003 | 3.03E-001 | 5.93E-001 |
| CS-134 | NOT FOUND/DATA for | | 604.70 keV | -1.03E-001 | 1.42E-001 | 1.93E-001 |
| CS-137 | NOT FOUND/DATA for | | 661.66 keV | 7.70E-002 | 1.37E-001 | 2.82E-001 |
| TL-208 | NOT FOUND/DATA for | | 583.19 keV | 1.48E-001 | 1.57E-001 | 3.34E-001 |
| PB-212 | 8.74E-001 | 7.52E-001 | 5.23E-001 | FOUND | | |
| BI-214 | 6.87E-001 | 1.40E+000 | 5.11E-001 | FOUND | | |
| PB-214 | 9.00E-001 | 3.06E-001 | 4.76E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | | 186.10 keV | 1.68E+000 | 2.52E+000 | 4.91E+000 |
| AC-228 | NOT FOUND/DATA for | | 911.21 keV | 1.05E+000 | 6.58E-001 | 1.54E+000 |
| TH-230 | NOT FOUND/DATA for | | 67.67 keV | -3.97E+001 | 4.48E+001 | 7.35E+001 |
| PA-231 | NOT FOUND/DATA for | | 300.02 keV | 3.87E+000 | 4.10E+000 | 7.76E+000 |
| PA-234 | NOT FOUND/DATA for | | 98.44 keV | -2.13E-002 | 4.13E-001 | 7.07E-001 |
| PA-234M | NOT FOUND/DATA for | | 1001.03 keV | -2.23E+000 | 1.52E+001 | 3.20E+001 |
| TH-234 | NOT FOUND/DATA for | | 92.60 keV | 1.88E+000 | 2.06E+000 | 3.89E+000 |
| U-234 | NOT FOUND/DATA for | | 53.20 keV | 1.05E+002 | 3.39E+002 | 6.73E+002 |
| U-235 | NOT FOUND/DATA for | | 185.71 keV | 9.56E-002 | 1.51E-001 | 2.95E-001 |
| U-238 | NOT FOUND/DATA for | | 92.60 keV | 1.88E+000 | 2.06E+000 | 3.89E+000 |
| AM-241 | NOT FOUND/DATA for | | 59.54 keV | -1.18E-001 | 6.30E-001 | 1.16E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-126
Sample Title: BLD-5 SOUTH EAST TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.280E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 3:41:55 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.05E+001 | 1.19E+001 | 2.83E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -4.93E-003 | 1.34E-001 | 2.61E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 7.12E-004 | 1.07E-001 | 1.85E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | -1.38E-001 | 1.71E-001 | 2.29E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 2.06E-001 | 3.15E-001 | 6.91E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 6.28E-002 | 1.20E-001 | 2.56E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.35E-001 | 2.98E-001 | 6.30E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 3.33E-002 | 1.09E-001 | 2.14E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -3.74E-002 | 1.11E-001 | 2.05E-001 |
| TL-208 | 4.30E-001 | 1.65E-001 | 2.49E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.78E-001 | 3.28E-001 | 6.85E-001 |
| BI-214 | 1.24E+000 | 1.08E+000 | 3.45E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 5.11E-001 | 3.29E-001 | 6.97E-001 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.89E+000 | 2.68E+000 | 5.20E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.50E-001 | 6.26E-001 | 1.47E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.08E+000 | 4.83E+001 | 8.67E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -2.23E+000 | 4.25E+000 | 6.76E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.72E-001 | 4.33E-001 | 6.85E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -6.13E+000 | 1.71E+001 | 2.68E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.87E+000 | 2.11E+000 | 3.93E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.61E+002 | 5.29E+002 | 6.86E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.21E-002 | 1.61E-001 | 3.08E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.87E+000 | 2.11E+000 | 3.93E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 7.11E-001 | 7.92E-001 | 1.62E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-127
Sample Title: BLD-5 SOUTH EAST TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.883E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 3:53:32 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.24E+001 | 1.13E+001 | 2.98E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -4.11E-002 | 1.05E-001 | 1.93E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 6.14E-002 | 8.61E-002 | 1.63E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 1.14E-001 | 1.33E-001 | 3.03E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.76E-001 | 2.73E-001 | 4.72E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 2.83E-002 | 8.90E-002 | 1.91E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.60E-002 | 3.15E-001 | 5.58E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 1.25E-002 | 8.35E-002 | 1.71E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.27E-002 | 9.91E-002 | 1.99E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 2.32E-001 | 1.53E-001 | 3.40E-001 |
| PB-212 | 7.76E-001 | 2.20E-001 | 4.89E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 5.94E-001 | 3.22E-001 | 7.21E-001 |
| PB-214 | 7.31E-001 | 2.78E-001 | 5.17E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.78E+000 | 2.34E+000 | 4.57E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.27E+000 | 6.91E-001 | 1.58E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -3.20E+001 | 4.44E+001 | 7.56E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.62E+000 | 3.69E+000 | 6.87E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.11E-001 | 3.93E-001 | 6.34E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -2.30E+000 | 1.01E+001 | 1.94E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.56E+000 | 1.87E+000 | 3.50E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -3.97E+001 | 3.72E+002 | 6.94E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 3.25E-002 | 1.47E-001 | 2.73E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.56E+000 | 1.87E+000 | 3.50E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 6.92E-002 | 6.23E-001 | 1.19E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-128
Sample Title: BLD-5 SOUTH EAST TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.048E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 4:04:18 PM
Live Time: 600.0 seconds
Real Time: 601.1 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.68E+001 | 1.42E+001 | 2.77E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.47E-002 | 1.40E-001 | 2.04E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.57E-002 | 1.12E-001 | 1.94E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.75E-002 | 1.15E-001 | 2.83E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.67E-001 | 3.98E-001 | 5.72E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -7.23E-002 | 9.80E-002 | 1.64E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.69E-001 | 2.82E-001 | 4.87E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | -1.45E-002 | 1.20E-001 | 2.30E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.35E-002 | 1.41E-001 | 2.74E-001 |
| TL-208 | 3.79E-001 | 5.97E-001 | 2.82E-001 | FOUND | | |
| PB-212 | 9.72E-001 | 2.53E-001 | 6.84E-001 | FOUND | | |
| BI-214 | 1.13E+000 | 1.19E+000 | 3.62E-001 | FOUND | | |
| PB-214 | 5.31E-001 | 2.32E-001 | 6.82E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | -1.45E-001 | 2.42E+000 | 4.44E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.70E-001 | 5.58E-001 | 1.39E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.07E+001 | 4.38E+001 | 8.60E+001 |
| PA-231 | NOT FOUND/DATA for | 302.65 keV | | -4.45E+000 | 5.73E+000 | 7.83E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -4.31E-001 | 5.65E-001 | 7.80E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -7.49E+000 | 1.57E+001 | 2.78E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.77E+000 | 2.15E+000 | 4.02E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.87E+000 | 3.91E+002 | 6.96E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 3.90E-002 | 1.48E-001 | 2.81E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.77E+000 | 2.15E+000 | 4.02E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.80E-002 | 6.86E-001 | 1.33E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-129
Sample Title: BLD-5 SOUTH EAST TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.440E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 4:16:45 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.48E+001 | 1.11E+001 | 2.49E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.09E-002 | 1.07E-001 | 2.06E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.74E-002 | 1.03E-001 | 1.68E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 8.28E-002 | 9.93E-002 | 2.66E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 3.13E-002 | 2.50E-001 | 5.05E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -4.49E-002 | 1.93E-001 | 1.96E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.45E-001 | 3.29E-001 | 6.62E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.33E-002 | 1.19E-001 | 2.09E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.59E-002 | 1.28E-001 | 2.47E-001 |
| TL-208 | 4.72E-001 | 1.54E-001 | 1.33E-001 | FOUND | | |
| PB-212 | 1.15E+000 | 6.79E-001 | 5.15E-001 | FOUND | | |
| BI-214 | 6.02E-001 | 2.77E-001 | 4.16E-001 | FOUND | | |
| PB-214 | 8.87E-001 | 3.17E-001 | 5.62E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.95E+000 | 2.69E+000 | 5.21E+000 |
| AC-228 | NOT FOUND/DATA for | 968.97 keV | | 4.47E-001 | 8.30E-001 | 1.81E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.11E+001 | 4.65E+001 | 8.82E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -1.15E+000 | 3.79E+000 | 6.46E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 2.96E-002 | 3.96E-001 | 6.95E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.13E+000 | 1.69E+001 | 3.69E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.24E+000 | 1.90E+000 | 3.68E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.56E+002 | 3.97E+002 | 8.08E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.76E-002 | 1.61E-001 | 3.06E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.24E+000 | 1.90E+000 | 3.68E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.27E-001 | 7.46E-001 | 1.40E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-130
Sample Title: BLD-5 SOUTH EAST TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.731E+002 G
Sample Taken On: 4/7/2005 11:15:00 AM
Acquisition Started: 4/11/2005 4:28:20 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.20E+001 | 1.49E+001 | 2.41E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.24E-002 | 1.27E-001 | 2.54E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.35E-003 | 9.24E-002 | 1.61E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.47E-002 | 1.16E-001 | 2.33E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -4.28E-002 | 3.19E-001 | 5.97E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -8.77E-003 | 7.35E-002 | 1.48E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 5.58E-002 | 2.76E-001 | 5.54E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | -1.44E-001 | 1.11E-001 | 1.46E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.36E-002 | 1.24E-001 | 2.46E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.69E-001 | 1.56E-001 | 3.72E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 8.88E-001 | 3.00E-001 | 6.29E-001 |
| BI-214 | 8.98E-001 | 3.15E-001 | 4.19E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 2.53E-001 | 2.65E-001 | 5.46E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.33E-002 | 2.41E+000 | 4.35E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.06E+000 | 5.80E-001 | 1.40E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -8.49E+000 | 3.99E+001 | 7.35E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.22E+000 | 3.94E+000 | 7.36E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 5.64E-002 | 3.81E-001 | 6.65E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.47E+001 | 1.95E+001 | 4.88E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.16E-001 | 1.73E+000 | 3.07E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.53E+002 | 3.39E+002 | 6.83E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.18E-001 | 1.47E-001 | 2.82E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.16E-001 | 1.73E+000 | 3.07E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.78E-001 | 6.21E-001 | 1.14E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-131
Sample Title: BLD-5 SOUTH EAST TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.049E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/11/2005 4:39:49 PM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.32E+001 | 1.28E+001 | 2.64E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 8.44E-002 | 1.25E-001 | 2.82E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.88E-002 | 1.08E-001 | 1.94E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.03E-001 | 1.29E-001 | 3.14E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.47E-001 | 2.47E-001 | 3.53E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 4.19E-002 | 1.04E-001 | 2.16E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 1.17E-001 | 2.86E-001 | 5.97E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.60E-002 | 1.11E-001 | 1.94E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.00E-002 | 1.16E-001 | 2.51E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 1.97E-001 | 1.65E-001 | 3.56E-001 |
| PB-212 | 1.21E+000 | 6.87E-001 | 3.81E-001 | FOUND | | |
| BI-214 | 9.77E-001 | 3.32E-001 | 3.57E-001 | FOUND | | |
| PB-214 | 5.32E-001 | 2.63E-001 | 4.37E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.04E+000 | 2.46E+000 | 4.89E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.07E+000 | 6.80E-001 | 1.58E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 8.48E+000 | 4.23E+001 | 7.87E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.29E+000 | 3.99E+000 | 7.30E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.12E-001 | 3.93E-001 | 7.12E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.76E+000 | 2.45E+001 | 4.75E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.63E+000 | 1.77E+000 | 3.41E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -9.77E+001 | 4.25E+002 | 7.75E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.03E-001 | 1.47E-001 | 3.07E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.63E+000 | 1.77E+000 | 3.41E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -5.12E-002 | 6.35E-001 | 1.20E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-132
Sample Title: BLD-5 SOUTH EAST TRENCH SAMPLES
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.007E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/11/2005 4:55:45 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.41E+001 | 1.20E+001 | 3.55E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.80E-002 | 9.75E-002 | 2.21E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 4.65E-002 | 1.03E-001 | 1.87E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.04E-001 | 1.31E-001 | 3.26E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 7.02E-002 | 2.58E-001 | 5.40E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.00E-002 | 1.19E-001 | 2.06E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 5.14E-002 | 2.45E-001 | 5.14E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 1.18E-002 | 1.12E-001 | 2.15E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -3.69E-002 | 1.16E-001 | 1.99E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.46E-001 | 1.68E-001 | 3.95E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 5.46E-001 | 2.62E-001 | 5.54E-001 |
| BI-214 | 8.23E-001 | 3.16E-001 | 4.50E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 5.50E-001 | 3.21E-001 | 6.98E-001 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 7.08E-001 | 2.44E+000 | 4.65E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 6.95E-001 | 5.67E-001 | 1.33E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.54E+000 | 4.45E+001 | 8.38E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.01E+000 | 3.65E+000 | 6.78E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 2.32E-001 | 3.99E-001 | 6.97E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 6.22E+000 | 1.91E+001 | 4.25E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -3.49E-001 | 1.95E+000 | 3.32E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.25E+002 | 3.46E+002 | 7.00E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 4.89E-002 | 1.48E-001 | 2.83E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -3.49E-001 | 1.95E+000 | 3.32E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.65E-001 | 6.05E-001 | 1.11E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-133
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.585E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 6:45:40 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.95E+001 | 4.49E+000 | 3.12E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.08E-002 | 8.03E-002 | 1.86E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 3.60E-002 | 9.36E-002 | 1.64E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 5.81E-002 | 1.20E-001 | 2.58E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.43E-001 | 2.23E-001 | 3.65E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 3.76E-002 | 8.77E-002 | 1.90E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.04E-001 | 2.27E-001 | 4.76E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.74E-002 | 8.66E-002 | 1.63E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 3.04E-003 | 1.20E-001 | 2.34E-001 |
| TL-208 | 4.16E-001 | 1.43E-001 | 2.15E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.15E-001 | 2.59E-001 | 5.58E-001 |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 7.98E-001 | 3.13E-001 | 7.25E-001 |
| PB-214 | 5.42E-001 | 2.36E-001 | 4.43E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.56E+000 | 2.10E+000 | 4.11E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.98E-001 | 5.55E-001 | 1.31E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -2.94E+001 | 3.94E+001 | 6.75E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.46E+000 | 3.73E+000 | 6.90E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -8.14E-002 | 3.49E-001 | 5.90E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 5.37E+000 | 1.52E+001 | 3.37E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.02E-001 | 1.78E+000 | 3.07E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.30E+002 | 3.54E+002 | 6.30E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 7.37E-002 | 1.31E-001 | 2.52E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.02E-001 | 1.78E+000 | 3.07E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.31E-002 | 6.93E-001 | 1.29E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-134
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.966E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 7:08:11 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.37E+001 | 4.00E+000 | 2.00E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -4.05E-002 | 9.28E-002 | 1.62E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 4.28E-002 | 9.91E-002 | 1.79E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.24E-002 | 9.55E-002 | 2.45E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 2.38E-001 | 2.70E-001 | 6.22E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -2.19E-002 | 9.23E-002 | 1.81E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -2.49E-002 | 2.93E-001 | 5.19E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.41E-002 | 1.02E-001 | 1.85E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.20E-001 | 1.22E-001 | 2.72E-001 |
| TL-208 | 3.03E-001 | 3.08E-001 | 2.23E-001 | FOUND | | |
| PB-212 | 8.36E-001 | 2.33E-001 | 4.69E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 7.33E-001 | 3.31E-001 | 7.56E-001 |
| PB-214 | 5.90E-001 | 2.09E-001 | 4.84E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.60E+000 | 2.19E+000 | 4.48E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.32E+000 | 6.55E-001 | 1.54E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.97E+001 | 4.15E+001 | 8.26E+001 |
| PA-231 | NOT FOUND/DATA for | 283.67 keV | | -3.70E+000 | 5.58E+000 | 7.65E+000 |
| PA-234 | NOT FOUND/DATA for | 883.24 keV | | -2.10E-001 | 4.10E-001 | 6.85E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.14E+000 | 1.72E+001 | 3.12E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -2.66E-002 | 1.83E+000 | 3.13E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -9.72E+001 | 4.06E+002 | 7.23E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 3.55E-002 | 1.37E-001 | 2.56E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -2.66E-002 | 1.83E+000 | 3.13E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.17E-001 | 6.32E-001 | 1.15E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-135
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.693E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 7:26:40 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.43E+001 | 1.25E+001 | 2.43E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 7.69E-002 | 8.98E-002 | 2.13E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 5.37E-002 | 8.99E-002 | 1.65E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.83E-002 | 9.46E-002 | 2.22E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.84E-001 | 2.22E-001 | 3.60E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -6.82E-003 | 9.65E-002 | 1.79E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.88E-002 | 2.82E-001 | 5.41E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -8.68E-002 | 7.74E-002 | 1.16E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 8.06E-002 | 1.09E-001 | 2.39E-001 |
| TL-208 | 2.45E-001 | 1.20E-001 | 1.87E-001 | FOUND | | |
| PB-212 | 8.67E-001 | 2.23E-001 | 4.10E-001 | FOUND | | |
| BI-214 | 9.67E-001 | 3.57E-001 | 3.66E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 3.80E-001 | 2.79E-001 | 5.75E-001 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 7.65E-001 | 1.91E+000 | 3.63E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.41E-001 | 5.54E-001 | 1.29E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.42E+001 | 3.97E+001 | 7.67E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.03E+000 | 3.39E+000 | 6.34E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -3.26E-001 | 4.40E-001 | 6.06E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 5.81E+000 | 1.74E+001 | 3.74E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.60E+000 | 1.62E+000 | 3.08E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.43E+000 | 2.77E+002 | 5.33E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 5.85E-002 | 1.12E-001 | 2.18E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.60E+000 | 1.62E+000 | 3.08E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.22E-001 | 5.92E-001 | 1.07E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-136
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.439E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 7:39:59 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.12E+001 | 9.25E+000 | 2.34E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.34E-002 | 9.90E-002 | 1.90E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.41E-002 | 8.09E-002 | 1.38E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 8.18E-002 | 1.09E-001 | 2.63E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 3.35E-002 | 2.08E-001 | 4.37E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.01E-002 | 9.26E-002 | 1.57E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -7.14E-002 | 2.45E-001 | 4.52E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -5.31E-002 | 9.78E-002 | 1.50E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 8.61E-002 | 1.22E-001 | 2.62E-001 |
| TL-208 | 2.89E-001 | 1.28E-001 | 2.16E-001 | FOUND | | |
| PB-212 | 1.26E+000 | 5.93E-001 | 3.90E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 7.65E-001 | 3.18E-001 | 7.31E-001 |
| PB-214 | 8.12E-001 | 2.75E-001 | 4.93E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.75E+000 | 2.28E+000 | 4.43E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.46E+000 | 6.15E-001 | 1.49E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -8.72E-001 | 3.35E+001 | 6.28E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.22E+000 | 3.30E+000 | 6.15E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.23E-001 | 3.66E-001 | 6.32E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 5.70E+000 | 1.72E+001 | 3.66E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 5.85E-001 | 1.62E+000 | 2.90E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 6.30E+000 | 3.31E+002 | 6.30E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.66E-001 | 1.36E-001 | 2.74E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 5.85E-001 | 1.62E+000 | 2.90E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 4.38E-001 | 6.40E-001 | 1.30E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-137
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.108E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 7:50:25 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.83E+001 | 1.22E+001 | 2.97E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.52E-002 | 8.07E-002 | 1.52E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.04E-003 | 9.06E-002 | 1.51E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 3.69E-002 | 1.24E-001 | 2.57E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.26E-001 | 2.77E-001 | 3.41E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 7.53E-002 | 8.38E-002 | 1.92E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 9.81E-002 | 2.73E-001 | 5.38E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.48E-002 | 9.77E-002 | 1.72E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -7.02E-003 | 1.09E-001 | 2.04E-001 |
| TL-208 | 2.69E-001 | 3.24E-001 | 1.89E-001 | FOUND | | |
| PB-212 | 9.19E-001 | 2.29E-001 | 4.18E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for | 609.31 keV | | 4.37E-001 | 2.64E-001 | 5.88E-001 |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 5.73E-001 | 3.04E-001 | 6.33E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.31E+000 | 2.17E+000 | 4.40E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.34E+000 | 6.20E-001 | 1.44E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.66E+001 | 3.39E+001 | 5.76E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.28E+000 | 3.13E+000 | 5.83E+000 |
| PA-234 | NOT FOUND/DATA for | 926.00 keV | | -1.36E+000 | 2.16E+000 | 8.34E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.67E+001 | 1.64E+001 | 2.41E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.14E+000 | 1.56E+000 | 2.90E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.27E+002 | 2.88E+002 | 5.78E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.01E-001 | 1.28E-001 | 2.49E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.14E+000 | 1.56E+000 | 2.90E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.98E-002 | 5.64E-001 | 1.07E+000 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-138
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 8.345E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 8:07:54 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.87E+001 | 1.03E+001 | 2.35E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -4.61E-004 | 8.50E-002 | 1.69E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.35E-002 | 7.62E-002 | 1.30E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.04E-002 | 5.54E-002 | 1.15E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.22E-001 | 3.31E-001 | 2.97E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.39E-002 | 6.56E-002 | 1.19E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.34E-001 | 2.40E-001 | 4.18E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | -5.80E-002 | 1.12E-001 | 1.52E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.63E-002 | 1.13E-001 | 2.13E-001 |
| TL-208 | 3.09E-001 | 3.33E-001 | 1.98E-001 | FOUND | | |
| PB-212 | 1.49E+000 | 3.96E-001 | 3.85E-001 | FOUND | | |
| BI-214 | 5.00E-001 | 5.42E-001 | 3.99E-001 | FOUND | | |
| PB-214 | 8.91E-001 | 8.19E-001 | 4.43E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 4.17E-001 | 1.93E+000 | 3.59E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.09E+000 | 4.92E-001 | 1.21E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.09E+001 | 3.51E+001 | 6.90E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.82E+000 | 3.01E+000 | 5.58E+000 |
| PA-234 | NOT FOUND/DATA for | 927.10 keV | | -3.02E-001 | 1.80E+000 | 8.09E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 4.75E+000 | 1.11E+001 | 2.61E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.90E-001 | 1.69E+000 | 2.89E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.05E+001 | 3.18E+002 | 5.94E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | -7.76E-003 | 1.20E-001 | 2.18E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.90E-001 | 1.69E+000 | 2.89E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.87E-001 | 5.53E-001 | 9.84E-001 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-139
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.980E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 8:18:26 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.74E+001 | 3.55E+000 | 2.52E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -4.05E-002 | 1.28E-001 | 2.35E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.09E-002 | 9.13E-002 | 1.59E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 8.31E-003 | 1.06E-001 | 2.24E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 8.25E-003 | 1.90E-001 | 3.96E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -4.38E-002 | 1.11E-001 | 1.81E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -9.34E-002 | 2.56E-001 | 4.63E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -6.75E-002 | 1.21E-001 | 2.00E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.31E-002 | 1.34E-001 | 2.63E-001 |
| TL-208 | 3.11E-001 | 1.42E-001 | 2.24E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 7.27E-001 | 2.55E-001 | 5.46E-001 |
| BI-214 | 1.14E+000 | 1.19E+000 | 5.12E-001 | FOUND | | |
| PB-214 | 8.23E-001 | 7.84E-001 | 4.72E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 4.58E-001 | 2.25E+000 | 4.19E+000 |
| AC-228 | NOT FOUND/DATA for 338.32 keV | | | 3.07E-001 | 8.82E-001 | 1.69E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.41E+000 | 3.65E+001 | 6.96E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 5.85E+000 | 4.56E+000 | 8.06E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -4.53E-001 | 4.90E-001 | 6.02E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 3.24E+000 | 1.52E+001 | 3.40E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.70E+000 | 1.91E+000 | 3.57E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -4.38E+000 | 3.58E+002 | 6.72E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.38E-001 | 1.37E-001 | 2.74E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.70E+000 | 1.91E+000 | 3.57E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 5.08E-001 | 7.02E-001 | 1.42E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-140
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.859E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 8:29:00 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.53E+001 | 4.58E+000 | 3.23E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 6.99E-002 | 1.18E-001 | 2.68E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 3.19E-002 | 1.02E-001 | 1.83E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 5.19E-002 | 1.10E-001 | 2.67E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 4.91E-002 | 2.57E-001 | 5.54E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.19E-002 | 1.05E-001 | 1.99E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 1.93E-002 | 2.61E-001 | 5.27E-001 |
| CS-134 | NOT FOUND/DATA for 795.84 keV | | | -5.37E-002 | 1.50E-001 | 2.37E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.18E-002 | 1.27E-001 | 2.60E-001 |
| TL-208 | 6.14E-001 | 4.49E-002 | 2.88E-001 | FOUND | | |
| PB-212 | 1.08E+000 | 2.76E-001 | 5.01E-001 | FOUND | | |
| BI-214 | 7.31E-001 | 3.11E-001 | 4.14E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 7.89E-001 | 4.01E-001 | 8.42E-001 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.50E+000 | 2.94E+000 | 5.52E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.48E+000 | 7.31E-001 | 1.75E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 6.84E+000 | 4.64E+001 | 8.59E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.47E+000 | 4.05E+000 | 7.67E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.53E-001 | 4.52E-001 | 7.25E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 2.58E+000 | 2.11E+001 | 4.36E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.85E+000 | 2.02E+000 | 4.01E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.69E+002 | 4.18E+002 | 7.52E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.74E-001 | 1.76E-001 | 3.48E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.85E+000 | 2.02E+000 | 4.01E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.04E-001 | 7.34E-001 | 1.43E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-141
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.849E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 8:39:45 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.32E+001 | 1.14E+001 | 1.71E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 7.86E-003 | 8.43E-002 | 1.80E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.59E-002 | 9.74E-002 | 1.62E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -2.96E-002 | 1.07E-001 | 2.05E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.26E-001 | 2.32E-001 | 4.74E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.62E-002 | 1.01E-001 | 1.81E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -7.22E-002 | 2.77E-001 | 5.10E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 2.53E-002 | 9.76E-002 | 1.96E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.95E-002 | 1.24E-001 | 2.60E-001 |
| TL-208 | 2.99E-001 | 5.10E-001 | 1.96E-001 | FOUND | | |
| PB-212 | 1.33E+000 | 6.78E-001 | 5.10E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 6.96E-001 | 3.59E-001 | 7.78E-001 |
| PB-214 | 7.70E-001 | 7.92E-001 | 4.65E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 9.86E-001 | 2.36E+000 | 4.46E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 8.15E-001 | 6.01E-001 | 1.37E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 3.77E+001 | 3.57E+001 | 7.60E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -6.70E-001 | 3.34E+000 | 5.81E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.54E-002 | 3.89E-001 | 6.65E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.53E+001 | 1.87E+001 | 4.41E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -2.31E-001 | 1.98E+000 | 3.37E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 8.93E+001 | 3.44E+002 | 6.58E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.85E-002 | 1.41E-001 | 2.74E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -2.31E-001 | 1.98E+000 | 3.37E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.49E-001 | 6.82E-001 | 1.36E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-142
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.764E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 8:51:33 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.16E+001 | 3.84E+000 | 3.23E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 6.44E-003 | 8.79E-002 | 1.82E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 6.75E-003 | 8.47E-002 | 1.48E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -5.14E-002 | 1.21E-001 | 2.17E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 6.77E-002 | 2.22E-001 | 4.71E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.50E-002 | 8.78E-002 | 1.69E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.99E-001 | 2.48E-001 | 4.16E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.10E-002 | 9.14E-002 | 1.52E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 2.17E-002 | 1.09E-001 | 2.21E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 2.68E-001 | 1.55E-001 | 3.39E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 7.22E-001 | 2.58E-001 | 5.38E-001 |
| BI-214 | 7.05E-001 | 2.46E-001 | 2.81E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 6.17E-001 | 3.32E-001 | 6.85E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.00E+000 | 2.20E+000 | 4.46E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.72E-001 | 5.15E-001 | 1.16E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 5.48E+000 | 3.87E+001 | 7.02E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.62E+000 | 3.66E+000 | 6.65E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -4.05E-003 | 3.63E-001 | 6.22E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.00E+001 | 2.14E+001 | 4.84E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 4.27E-001 | 1.71E+000 | 2.97E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -3.99E+001 | 3.60E+002 | 6.04E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.55E-001 | 1.36E-001 | 2.71E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 4.27E-001 | 1.71E+000 | 2.97E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.52E-001 | 6.33E-001 | 1.28E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-143
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 9.159E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 9:02:54 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 1.94E+001 | 9.48E+000 | 2.15E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.07E-002 | 6.61E-002 | 1.54E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 4.87E-002 | 7.21E-002 | 1.33E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 9.49E-003 | 7.50E-002 | 1.71E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 8.61E-002 | 2.23E-001 | 4.38E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -5.31E-002 | 6.85E-002 | 1.08E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 7.64E-002 | 2.01E-001 | 3.67E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 2.02E-003 | 6.54E-002 | 1.28E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.18E-002 | 9.53E-002 | 2.00E-001 |
| TL-208 | 2.39E-001 | 6.35E-001 | 1.80E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 8.83E-001 | 2.37E-001 | 5.02E-001 |
| BI-214 | 5.34E-001 | 2.09E-001 | 2.81E-001 | FOUND | | |
| PB-214 | 8.81E-001 | 1.32E+001 | 3.48E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 7.94E-001 | 1.83E+000 | 3.47E+000 |
| AC-228 | 1.08E+000 | 4.03E-001 | 7.14E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.41E+001 | 3.33E+001 | 6.52E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -5.10E-001 | 2.89E+000 | 4.91E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -8.70E-002 | 3.39E-001 | 5.58E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 8.65E+000 | 1.56E+001 | 3.45E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -6.64E-001 | 1.53E+000 | 2.52E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 7.74E+001 | 2.73E+002 | 5.31E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.42E-002 | 1.13E-001 | 2.19E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -6.64E-001 | 1.53E+000 | 2.52E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.69E-001 | 5.74E-001 | 9.86E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-144
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 9.043E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 9:13:25 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 1.59E+001 | 2.94E+000 | 2.52E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.55E-002 | 7.37E-002 | 1.56E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -4.84E-002 | 8.08E-002 | 1.28E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | -2.15E-002 | 8.26E-002 | 1.59E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 3.33E-002 | 2.17E-001 | 4.24E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -5.76E-002 | 1.03E-001 | 1.45E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.01E-001 | 2.40E-001 | 4.93E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.19E-002 | 1.22E-001 | 1.84E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 2.74E-002 | 9.22E-002 | 1.90E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.23E-001 | 1.38E-001 | 3.14E-001 |
| PB-212 | 1.10E+000 | 5.11E-001 | 3.94E-001 | FOUND | | |
| BI-214 | 5.22E-001 | 2.34E-001 | 4.19E-001 | FOUND | | |
| PB-214 | 7.53E-001 | 8.52E-001 | 4.09E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.37E+000 | 1.92E+000 | 3.71E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.16E-001 | 4.96E-001 | 1.12E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.62E+001 | 3.28E+001 | 5.75E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.11E+000 | 3.03E+000 | 5.63E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -3.23E-002 | 3.15E-001 | 5.37E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.05E+001 | 1.42E+001 | 3.34E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.26E+000 | 1.38E+000 | 2.60E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 3.03E+001 | 2.94E+002 | 5.57E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.42E-003 | 1.17E-001 | 2.14E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.26E+000 | 1.38E+000 | 2.60E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.62E-001 | 5.58E-001 | 1.10E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-145
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.954E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 9:24:34 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.75E+001 | 1.21E+001 | 1.86E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 5.42E-002 | 1.19E-001 | 2.64E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 5.72E-002 | 1.09E-001 | 1.95E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | -7.24E-002 | 1.51E-001 | 2.64E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.90E-001 | 3.13E-001 | 4.65E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 1.72E-002 | 9.11E-002 | 1.96E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.29E-001 | 3.26E-001 | 4.39E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 2.07E-002 | 1.31E-001 | 2.43E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.80E-002 | 1.50E-001 | 2.89E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 1.59E-001 | 1.92E-001 | 3.93E-001 |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 6.94E-001 | 2.93E-001 | 6.15E-001 |
| BI-214 | 9.71E-001 | 3.36E-001 | 4.61E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for 351.92 keV | | | 1.00E+000 | 3.84E-001 | 8.55E-001 |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.66E+000 | 2.67E+000 | 5.18E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.43E+000 | 7.64E-001 | 1.78E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.08E+001 | 4.19E+001 | 8.30E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -1.63E+000 | 4.09E+000 | 6.68E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -8.72E-002 | 4.40E-001 | 7.43E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.27E+000 | 2.12E+001 | 4.29E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.91E+000 | 2.06E+000 | 3.88E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 3.93E+001 | 4.21E+002 | 7.88E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.89E-002 | 1.68E-001 | 3.09E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.91E+000 | 2.06E+000 | 3.88E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.59E-001 | 6.86E-001 | 1.38E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-146
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.754E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 9:35:06 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.52E+001 | 1.05E+001 | 3.26E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -4.42E-002 | 1.09E-001 | 1.83E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.20E-002 | 9.27E-002 | 1.52E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -1.11E-001 | 1.51E-001 | 2.13E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -5.54E-002 | 2.19E-001 | 4.10E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.24E-003 | 9.15E-002 | 1.84E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 9.84E-002 | 2.61E-001 | 5.17E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.38E-002 | 1.21E-001 | 1.99E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.12E-002 | 1.06E-001 | 2.35E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.05E-001 | 1.58E-001 | 3.81E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.04E-001 | 2.84E-001 | 6.04E-001 |
| BI-214 | 7.24E-001 | 3.00E-001 | 4.83E-001 | FOUND | | |
| PB-214 | 6.94E-001 | 8.47E-001 | 5.65E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.02E+000 | 2.50E+000 | 4.88E+000 |
| AC-228 | NOT FOUND/DATA for | 338.32 keV | | 3.49E-001 | 7.59E-001 | 1.51E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.31E+001 | 3.71E+001 | 7.95E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.77E+000 | 3.68E+000 | 6.77E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -4.63E-001 | 5.10E-001 | 6.31E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.35E-001 | 1.11E+001 | 2.49E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 8.70E-001 | 1.94E+000 | 3.48E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.57E+002 | 3.47E+002 | 6.94E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.86E-002 | 1.50E-001 | 2.86E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 8.70E-001 | 1.94E+000 | 3.48E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.53E-002 | 7.63E-001 | 1.38E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-147
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.962E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 10:03:20 AM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.14 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.01E+001 | 9.41E+000 | 2.05E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -5.02E-002 | 8.95E-002 | 1.35E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 7.08E-002 | 8.04E-002 | 1.47E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 5.35E-002 | 7.98E-002 | 1.88E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 7.58E-003 | 1.75E-001 | 3.50E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 6.69E-003 | 7.81E-002 | 1.49E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 5.45E-002 | 2.28E-001 | 4.36E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -7.20E-002 | 8.71E-002 | 1.24E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.29E-002 | 1.07E-001 | 2.14E-001 |
| TL-208 | 2.47E-001 | 3.86E-001 | 2.08E-001 | FOUND | | |
| PB-212 | 1.17E+000 | 4.80E-001 | 6.32E-001 | FOUND | | |
| BI-214 | 6.92E-001 | 9.37E-001 | 3.81E-001 | FOUND | | |
| PB-214 | 7.88E-001 | 7.01E-001 | 4.06E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.30E+000 | 1.88E+000 | 3.71E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.15E+000 | 5.05E-001 | 1.17E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -4.24E+000 | 3.28E+001 | 5.92E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.15E+000 | 2.84E+000 | 5.01E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.15E-001 | 3.36E-001 | 5.32E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.05E+001 | 1.51E+001 | 3.27E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -9.66E-001 | 1.57E+000 | 2.53E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 3.14E+001 | 2.89E+002 | 5.43E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 4.43E-002 | 1.15E-001 | 2.14E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -9.66E-001 | 1.57E+000 | 2.53E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -3.10E-001 | 5.70E-001 | 9.36E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

| | |
|---|---|
| Site Location: | CE Windsor |
| Sample ID: | MAC-0504-148 |
| Sample Title: | BLD-5 SOUTH EAST H/W LINE |
| Detector Name: | 30%HPGE |
| Nuclide Library Used: | C:\GENIE2K\CAMFILES\FSS.NLB |
| Sample Size: | 6.593E+002 G |
| Sample Taken On: | 4/8/2005 11:15:00 AM |
| Acquisition Started: | 4/12/2005 10:09:53 AM |
| Live Time: | 900.0 seconds |
| Real Time: | 901.4 seconds |
| Dead Time: | 0.16 % |
| Efficiency ID: | srs035 |

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.29E+001 | 9.37E+000 | 2.11E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.22E-002 | 7.74E-002 | 1.59E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.15E-002 | 7.69E-002 | 1.37E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.76E-002 | 8.03E-002 | 1.98E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.78E-001 | 2.36E-001 | 3.29E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -7.12E-002 | 8.55E-002 | 1.39E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.03E-001 | 2.46E-001 | 3.89E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | 2.03E-002 | 7.54E-002 | 1.61E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.62E-002 | 8.59E-002 | 1.80E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.21E-001 | 1.42E-001 | 3.12E-001 |
| PB-212 | 1.02E+000 | 5.20E-001 | 4.43E-001 | FOUND | | |
| BI-214 | 9.57E-001 | 2.64E-001 | 4.11E-001 | FOUND | | |
| PB-214 | 8.14E-001 | 8.75E-001 | 4.34E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 9.11E-001 | 2.09E+000 | 3.87E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 5.97E-001 | 4.10E-001 | 9.50E-001 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.61E+001 | 3.47E+001 | 6.66E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.40E+000 | 3.28E+000 | 5.88E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -2.74E-001 | 3.17E-001 | 4.81E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.98E+000 | 1.30E+001 | 2.91E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 9.62E-001 | 1.59E+000 | 2.85E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -5.69E+001 | 3.06E+002 | 5.50E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.02E-001 | 1.26E-001 | 2.40E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 9.62E-001 | 1.59E+000 | 2.85E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -1.31E-001 | 5.68E-001 | 1.03E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-149
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.528E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 10:28:55 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.25E+001 | 8.69E+000 | 2.44E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.82E-002 | 1.03E-001 | 2.05E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 9.03E-003 | 8.59E-002 | 1.47E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -6.11E-003 | 1.08E-001 | 2.11E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -5.00E-002 | 2.69E-001 | 4.73E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.05E-003 | 8.33E-002 | 1.53E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.21E-003 | 2.35E-001 | 4.45E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.16E-003 | 7.47E-002 | 1.43E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -1.20E-002 | 1.05E-001 | 1.93E-001 |
| TL-208 | 3.24E-001 | 1.14E-001 | 1.92E-001 | FOUND | | |
| PB-212 | 1.04E+000 | 3.50E-001 | 3.59E-001 | FOUND | | |
| BI-214 | 8.52E-001 | 2.55E-001 | 3.62E-001 | FOUND | | |
| PB-214 | 7.93E-001 | 7.59E-001 | 4.79E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.16E+000 | 2.10E+000 | 4.03E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.01E+000 | 5.43E-001 | 1.22E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.65E+000 | 3.30E+001 | 6.18E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -2.31E-001 | 3.20E+000 | 5.55E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | 5.24E-003 | 3.19E-001 | 5.49E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 7.86E+000 | 1.56E+001 | 3.36E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | -8.20E-001 | 1.58E+000 | 2.56E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.18E+001 | 2.92E+002 | 5.23E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 9.68E-002 | 1.31E-001 | 2.48E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | -8.20E-001 | 1.58E+000 | 2.56E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 5.16E-001 | 5.80E-001 | 1.16E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-150
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.511E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 10:44:34 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.27E+001 | 3.44E+000 | 2.49E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 9.18E-003 | 8.03E-002 | 1.61E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.12E-002 | 8.25E-002 | 1.43E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -5.74E-002 | 1.30E-001 | 1.44E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -5.49E-002 | 1.99E-001 | 3.74E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.26E-002 | 8.45E-002 | 1.53E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 2.68E-001 | 2.44E-001 | 5.19E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -6.13E-002 | 7.56E-002 | 1.20E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 3.87E-002 | 1.07E-001 | 2.15E-001 |
| TL-208 | 3.20E-001 | 4.97E-001 | 2.12E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 1.05E+000 | 2.66E-001 | 5.48E-001 |
| BI-214 | 6.30E-001 | 2.34E-001 | 3.19E-001 | FOUND | | |
| PB-214 | 7.07E-001 | 1.90E-001 | 3.66E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.03E+000 | 2.05E+000 | 3.97E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 7.06E-001 | 5.14E-001 | 1.12E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 5.86E+000 | 3.50E+001 | 6.54E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.28E+000 | 3.44E+000 | 6.13E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 8.68E-002 | 3.17E-001 | 5.57E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 4.64E+000 | 1.54E+001 | 3.23E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.34E+000 | 1.61E+000 | 2.93E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.80E+002 | 2.83E+002 | 4.80E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.08E-001 | 1.26E-001 | 2.40E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.34E+000 | 1.61E+000 | 2.93E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.60E-001 | 5.45E-001 | 9.71E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-151
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.080E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 11:00:22 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.16E+001 | 7.87E+000 | 2.09E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.12E-002 | 8.51E-002 | 1.78E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.19E-002 | 7.56E-002 | 1.34E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.37E-002 | 8.07E-002 | 1.84E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.08E-002 | 1.69E-001 | 3.44E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.44E-002 | 7.93E-002 | 1.52E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -9.51E-002 | 2.40E-001 | 4.20E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.39E-002 | 7.91E-002 | 1.31E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 6.07E-002 | 9.58E-002 | 1.98E-001 |
| TL-208 | 3.55E-001 | 1.17E-001 | 1.81E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 5.92E-001 | 2.16E-001 | 4.39E-001 |
| BI-214 | 7.50E-001 | 2.18E-001 | 3.17E-001 | FOUND | | |
| PB-214 | 7.28E-001 | 5.50E-001 | 3.99E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.79E+000 | 1.90E+000 | 3.76E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.57E+000 | 5.60E-001 | 1.29E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.26E+001 | 3.04E+001 | 5.83E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.83E-001 | 3.16E+000 | 5.53E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.23E-001 | 3.05E-001 | 4.99E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.41E+000 | 1.32E+001 | 2.56E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.26E+000 | 1.46E+000 | 2.80E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.02E+002 | 2.53E+002 | 4.90E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.77E-001 | 1.16E-001 | 2.31E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.26E+000 | 1.46E+000 | 2.80E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.11E-001 | 5.77E-001 | 1.12E+000 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-152
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.794E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 11:16:34 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.32E+001 | 8.25E+000 | 2.29E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 5.87E-003 | 7.59E-002 | 1.54E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.84E-002 | 8.31E-002 | 1.38E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 2.11E-002 | 1.05E-001 | 2.05E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 6.43E-002 | 1.66E-001 | 3.59E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 6.32E-002 | 9.44E-002 | 1.95E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -4.64E-002 | 1.98E-001 | 3.66E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.64E-002 | 9.46E-002 | 1.67E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 7.38E-002 | 1.10E-001 | 2.24E-001 |
| TL-208 | 4.34E-001 | 3.97E-001 | 1.65E-001 | FOUND | | |
| PB-212 | 8.88E-001 | 2.07E-001 | 3.25E-001 | FOUND | | |
| BI-214 | 8.36E-001 | 2.46E-001 | 3.65E-001 | FOUND | | |
| PB-214 | 8.66E-001 | 2.37E-001 | 4.71E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | -1.53E-001 | 1.98E+000 | 3.56E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.74E-001 | 4.87E-001 | 1.11E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -8.41E+000 | 3.36E+001 | 6.07E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -5.62E-002 | 2.71E+000 | 4.72E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 2.32E-001 | 3.29E-001 | 5.73E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.36E+001 | 1.35E+001 | 3.22E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.15E-002 | 1.53E+000 | 2.61E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.12E+002 | 3.04E+002 | 5.63E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 5.95E-002 | 1.21E-001 | 2.22E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.15E-002 | 1.53E+000 | 2.61E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -5.87E-002 | 4.95E-001 | 9.16E-001 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-153
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.801E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 11:32:34 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.43E+001 | 1.38E+001 | 2.08E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 9.34E-002 | 6.37E-002 | 1.67E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.76E-002 | 7.89E-002 | 1.30E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 3.94E-002 | 9.50E-002 | 2.04E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.40E-001 | 1.92E-001 | 4.25E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -4.19E-002 | 7.75E-002 | 1.14E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 5.83E-002 | 2.30E-001 | 4.37E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 2.34E-002 | 7.50E-002 | 1.46E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -1.15E-002 | 8.99E-002 | 1.68E-001 |
| TL-208 | 3.11E-001 | 3.66E-001 | 1.76E-001 | FOUND | | |
| PB-212 | 9.31E-001 | 2.08E-001 | 4.09E-001 | FOUND | | |
| BI-214 | 7.01E-001 | 7.42E-001 | 3.65E-001 | FOUND | | |
| PB-214 | 6.66E-001 | 2.15E-001 | 3.61E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.48E+000 | 1.98E+000 | 3.73E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.21E+000 | 5.24E-001 | 1.21E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.30E+001 | 3.40E+001 | 6.00E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 6.87E-001 | 3.05E+000 | 5.45E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.02E-001 | 3.46E-001 | 5.33E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -5.96E+000 | 1.46E+001 | 2.67E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 7.00E-001 | 1.51E+000 | 2.67E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.55E+002 | 2.96E+002 | 5.10E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 6.04E-002 | 1.16E-001 | 2.18E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 7.00E-001 | 1.51E+000 | 2.67E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.04E-002 | 5.64E-001 | 1.04E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-154
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.311E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 11:54:07 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.03E+001 | 3.32E+000 | 3.00E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 2.70E-002 | 9.06E-002 | 1.87E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -4.56E-002 | 8.43E-002 | 1.35E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 5.62E-002 | 1.29E-001 | 2.62E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.12E-001 | 2.24E-001 | 3.19E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 3.31E-002 | 9.39E-002 | 1.86E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.06E-001 | 2.79E-001 | 3.82E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.07E-001 | 1.06E-001 | 1.36E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.13E-003 | 1.03E-001 | 1.81E-001 |
| TL-208 | 2.52E-001 | 1.08E-001 | 1.63E-001 | FOUND | | |
| PB-212 | 7.14E-001 | 1.89E-001 | 4.29E-001 | FOUND | | |
| BI-214 | 8.59E-001 | 1.39E+000 | 3.83E-001 | FOUND | | |
| PB-214 | 9.83E-001 | 2.09E-001 | 3.91E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.78E+000 | 2.23E+000 | 4.34E+000 |
| AC-228 | NOT FOUND/DATA for 338.32 keV | | | 3.83E-001 | 6.57E-001 | 1.26E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.89E+000 | 3.32E+001 | 6.16E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.93E-001 | 3.30E+000 | 5.81E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -6.89E-002 | 3.63E-001 | 5.85E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.53E+000 | 1.67E+001 | 3.33E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 8.37E-001 | 1.73E+000 | 3.06E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.37E+001 | 3.21E+002 | 5.99E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.63E-001 | 1.35E-001 | 2.71E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 8.37E-001 | 1.73E+000 | 3.06E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.14E-001 | 4.86E-001 | 8.85E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-155
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.511E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 12:09:42 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.23E+001 | 6.73E+000 | 2.53E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -4.82E-002 | 8.83E-002 | 1.53E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 5.05E-002 | 8.25E-002 | 1.47E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 4.45E-003 | 9.49E-002 | 2.01E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 5.90E-002 | 1.95E-001 | 4.11E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.20E-002 | 9.23E-002 | 1.65E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -7.28E-002 | 2.46E-001 | 4.46E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 2.47E-002 | 9.34E-002 | 1.82E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.67E-002 | 9.52E-002 | 1.99E-001 |
| TL-208 | 4.09E-001 | 1.11E-001 | 1.83E-001 | FOUND | | |
| PB-212 | 1.05E+000 | 2.04E-001 | 4.21E-001 | FOUND | | |
| BI-214 | 7.42E-001 | 7.70E-001 | 3.59E-001 | FOUND | | |
| PB-214 | 7.01E-001 | 2.25E-001 | 4.42E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.25E+000 | 1.98E+000 | 3.89E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.81E-001 | 4.88E-001 | 1.13E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.00E+000 | 3.78E+001 | 6.75E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.51E+000 | 2.95E+000 | 5.43E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -4.90E-003 | 3.31E-001 | 5.57E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.57E+000 | 1.58E+001 | 3.23E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.31E-001 | 1.65E+000 | 2.86E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -4.50E-001 | 2.99E+002 | 5.57E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.73E-001 | 1.21E-001 | 2.41E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.31E-001 | 1.65E+000 | 2.86E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.45E-001 | 5.44E-001 | 1.04E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-156
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.335E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 12:25:32 PM
Live Time: 900.0 seconds
Real Time: 901.3 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.36E+001 | 9.93E+000 | 2.34E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.83E-003 | 7.87E-002 | 1.57E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.32E-002 | 8.33E-002 | 1.45E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.20E-002 | 6.42E-002 | 1.65E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.02E-002 | 2.32E-001 | 4.04E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.61E-002 | 8.20E-002 | 1.51E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 4.58E-002 | 2.60E-001 | 4.98E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.33E-001 | 1.37E-001 | 1.62E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.83E-002 | 1.02E-001 | 2.10E-001 |
| TL-208 | 2.91E-001 | 1.19E-001 | 2.21E-001 | FOUND | | |
| PB-212 | 1.15E+000 | 3.78E-001 | 3.98E-001 | FOUND | | |
| BI-214 | 7.97E-001 | 6.33E-001 | 4.57E-001 | FOUND | | |
| PB-214 | 5.75E-001 | 2.14E-001 | 4.17E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | -1.71E-001 | 1.94E+000 | 3.50E+000 |
| AC-228 | 9.61E-001 | 3.43E-001 | 5.50E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.73E+001 | 3.34E+001 | 5.73E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -1.92E+000 | 3.42E+000 | 5.06E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -3.45E-001 | 3.50E-001 | 5.11E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -3.06E+000 | 1.71E+001 | 2.86E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 5.41E-001 | 1.87E+000 | 3.22E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.29E+001 | 3.12E+002 | 5.88E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | -3.03E-004 | 1.20E-001 | 2.18E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 5.41E-001 | 1.87E+000 | 3.22E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -6.97E-002 | 5.85E-001 | 1.06E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-157
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.472E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 12:41:09 PM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G ) | Activity Uncert. (pCi/G ) | Nuclide MDA (pCi/G ) | Line Activity (pCi/G ) | Line Act Uncert. (pCi/G ) | Line MDA (pCi/G ) |
| K-40 | 2.07E+001 | 1.04E+001 | 2.54E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.65E-002 | 8.63E-002 | 1.83E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 2.17E-002 | 7.55E-002 | 1.33E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 3.08E-002 | 1.07E-001 | 2.15E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.59E-001 | 2.17E-001 | 4.77E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -3.71E-002 | 9.21E-002 | 1.35E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 5.62E-002 | 2.41E-001 | 4.59E-001 |
| CS-134 | NOT FOUND/DATA for 795.84 keV | | | -2.10E-002 | 1.00E-001 | 1.31E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.22E-002 | 9.84E-002 | 1.83E-001 |
| TL-208 | 2.01E-001 | 1.06E-001 | 2.11E-001 | FOUND | | |
| PB-212 | 1.01E+000 | 5.57E-001 | 3.43E-001 | FOUND | | |
| BI-214 | NOT FOUND/DATA for 609.31 keV | | | 5.55E-001 | 2.93E-001 | 6.21E-001 |
| PB-214 | 6.35E-001 | 2.18E-001 | 4.29E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.37E-001 | 1.94E+000 | 3.54E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.81E-001 | 4.79E-001 | 1.12E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 1.07E+001 | 3.50E+001 | 6.37E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.66E+000 | 2.57E+000 | 4.79E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -2.42E-001 | 3.23E-001 | 4.95E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -8.40E+000 | 1.23E+001 | 2.01E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 6.60E-001 | 1.49E+000 | 2.66E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.52E+002 | 3.08E+002 | 5.28E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 8.68E-002 | 1.16E-001 | 2.22E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 6.60E-001 | 1.49E+000 | 2.66E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -7.70E-002 | 5.96E-001 | 1.08E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-158
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.109E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 12:56:41 PM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.19E+001 | 1.14E+001 | 2.41E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 6.02E-002 | 1.09E-001 | 2.25E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.57E-002 | 8.72E-002 | 1.46E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 7.54E-002 | 7.35E-002 | 2.01E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -2.54E-001 | 2.11E-001 | 3.02E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | 1.70E-002 | 8.75E-002 | 1.76E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -5.19E-002 | 2.35E-001 | 4.31E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -8.96E-002 | 1.01E-001 | 1.28E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 5.74E-002 | 1.23E-001 | 2.44E-001 |
| TL-208 | 3.03E-001 | 1.23E-001 | 2.16E-001 | FOUND | | |
| PB-212 | 6.71E-001 | 1.89E-001 | 3.42E-001 | FOUND | | |
| BI-214 | 7.31E-001 | 8.44E-001 | 3.13E-001 | FOUND | | |
| PB-214 | 4.95E-001 | 3.43E-001 | 4.25E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.02E+000 | 1.98E+000 | 3.75E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.68E+000 | 5.69E-001 | 1.38E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 5.71E+000 | 3.68E+001 | 6.90E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.12E+000 | 3.26E+000 | 5.93E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 5.83E-002 | 3.38E-001 | 5.84E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -4.80E+000 | 1.69E+001 | 2.97E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.39E+000 | 1.54E+000 | 2.86E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.70E+002 | 3.48E+002 | 5.41E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 9.58E-002 | 1.20E-001 | 2.32E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.39E+000 | 1.54E+000 | 2.86E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.04E-001 | 5.59E-001 | 1.02E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-159
Sample Title: BLD-5 SOUTH EAST H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.134E+002 G
Sample Taken On: 4/8/2005 11:15:00 AM
Acquisition Started: 4/12/2005 1:14:10 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.58E+001 | 9.50E+000 | 3.14E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 1.95E-003 | 7.22E-002 | 1.44E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.88E-002 | 8.38E-002 | 1.39E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -6.30E-003 | 9.22E-002 | 1.86E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -4.08E-001 | 2.75E-001 | 3.28E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -5.58E-002 | 1.18E-001 | 1.94E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -6.75E-002 | 2.83E-001 | 5.14E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.64E-002 | 8.95E-002 | 1.52E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.80E-002 | 1.10E-001 | 2.28E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 2.55E-001 | 1.41E-001 | 3.06E-001 |
| PB-212 | 7.74E-001 | 3.81E-001 | 4.30E-001 | FOUND | | |
| BI-214 | 7.79E-001 | 2.59E-001 | 3.42E-001 | FOUND | | |
| PB-214 | 1.16E+000 | 9.08E-001 | 4.85E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.55E+000 | 2.05E+000 | 4.05E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.01E+000 | 4.72E-001 | 1.13E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.35E+001 | 3.64E+001 | 7.09E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 2.42E+000 | 3.12E+000 | 5.76E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.84E-002 | 3.40E-001 | 5.86E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.11E+000 | 1.45E+001 | 2.78E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.41E+000 | 1.51E+000 | 2.75E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.25E+002 | 3.12E+002 | 5.00E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 5.99E-002 | 1.26E-001 | 2.38E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.41E+000 | 1.50E+000 | 2.75E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 5.94E-001 | 5.87E-001 | 1.19E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-179
Sample Title: B-5 SOUTH TRENCH H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.755E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 2:44:42 PM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.56E+001 | 1.15E+001 | 3.09E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.01E-001 | 1.61E-001 | 2.71E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.48E-002 | 1.11E-001 | 1.96E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.07E-001 | 1.66E-001 | 3.77E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 2.73E-002 | 2.16E-001 | 4.77E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -8.14E-004 | 1.26E-001 | 2.48E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.66E-001 | 3.09E-001 | 5.36E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -9.79E-003 | 1.12E-001 | 2.14E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 4.34E-002 | 1.39E-001 | 2.88E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.20E-001 | 2.10E-001 | 4.68E-001 |
| PB-212 | 1.07E+000 | 2.76E-001 | 6.81E-001 | FOUND | | |
| BI-214 | 7.24E-001 | 3.01E-001 | 3.86E-001 | FOUND | | |
| PB-214 | 8.57E-001 | 1.10E+000 | 5.08E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.86E+000 | 2.63E+000 | 5.14E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.18E+000 | 6.84E-001 | 1.63E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -7.32E+000 | 5.09E+001 | 8.74E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 4.57E+000 | 4.95E+000 | 9.09E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -3.97E-001 | 4.90E-001 | 7.48E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.55E+001 | 2.25E+001 | 4.99E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.23E-001 | 2.17E+000 | 3.79E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 8.74E+001 | 4.55E+002 | 8.61E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.07E-001 | 1.57E-001 | 3.26E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.23E-001 | 2.17E+000 | 3.79E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.69E-002 | 8.37E-001 | 1.54E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-180
Sample Title: BLD-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.932E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/12/2005 1:53:20 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.13E+001 | 3.56E+000 | 3.23E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 1.05E-002 | 9.69E-002 | 1.83E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.42E-002 | 8.83E-002 | 1.42E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.24E-002 | 1.07E-001 | 2.44E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -3.04E-001 | 2.87E-001 | 2.76E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.94E-002 | 1.04E-001 | 1.67E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.92E-002 | 2.69E-001 | 4.99E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.03E-002 | 8.11E-002 | 1.45E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.14E-002 | 1.06E-001 | 2.24E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 1.11E-001 | 1.39E-001 | 2.74E-001 |
| PB-212 | 6.88E-001 | 2.02E-001 | 3.80E-001 | FOUND | | |
| BI-214 | 5.16E-001 | 2.23E-001 | 3.58E-001 | FOUND | | |
| PB-214 | 6.46E-001 | 6.89E-001 | 4.74E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.10E+000 | 2.22E+000 | 4.10E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.20E+000 | 5.80E-001 | 1.32E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 4.94E+000 | 3.16E+001 | 5.94E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.42E+000 | 2.83E+000 | 5.32E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.38E-001 | 3.45E-001 | 6.12E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -9.77E+000 | 1.63E+001 | 2.67E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.26E+000 | 1.72E+000 | 3.12E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 3.16E+001 | 2.92E+002 | 5.57E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.94E-001 | 1.34E-001 | 2.65E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.26E+000 | 1.72E+000 | 3.12E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.88E-002 | 6.12E-001 | 1.15E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-181
Sample Title: BLD-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.184E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/12/2005 2:11:29 PM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.60E+001 | 4.03E+000 | 2.91E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.72E-002 | 9.37E-002 | 1.69E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.87E-002 | 9.76E-002 | 1.57E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.68E-002 | 9.71E-002 | 2.01E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 1.41E-001 | 2.34E-001 | 5.10E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.13E-001 | 9.37E-002 | 1.38E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.45E-001 | 3.19E-001 | 6.50E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.33E-002 | 1.03E-001 | 1.85E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.62E-002 | 1.20E-001 | 2.36E-001 |
| TL-208 | 2.20E-001 | 1.18E-001 | 2.11E-001 | FOUND | | |
| PB-212 | 1.05E+000 | 5.45E-001 | 4.52E-001 | FOUND | | |
| BI-214 | 6.64E-001 | 7.03E-001 | 4.18E-001 | FOUND | | |
| PB-214 | 6.37E-001 | 8.38E-001 | 5.32E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.60E+000 | 2.36E+000 | 4.45E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 7.48E-001 | 5.07E-001 | 1.18E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 3.21E+001 | 4.10E+001 | 8.13E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -4.90E+000 | 4.24E+000 | 5.23E+000 |
| PA-234 | NOT FOUND/DATA for | 946.00 keV | | 0.00E+000 | 0.00E+000 | 2.97E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -7.28E+000 | 1.50E+001 | 2.51E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 6.05E-001 | 1.83E+000 | 3.20E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -6.03E+000 | 3.41E+002 | 6.37E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.75E-001 | 1.39E-001 | 2.77E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 6.05E-001 | 1.83E+000 | 3.20E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 7.69E-001 | 6.91E-001 | 1.41E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-182
Sample Title: BLD-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.537E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/12/2005 2:37:05 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.91E+001 | 1.06E+001 | 2.09E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 3.02E-002 | 9.28E-002 | 1.96E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 1.21E-002 | 9.34E-002 | 1.60E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -1.05E-002 | 9.29E-002 | 1.88E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -8.80E-002 | 2.13E-001 | 3.87E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -6.05E-002 | 9.35E-002 | 1.56E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.48E-002 | 2.66E-001 | 4.75E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 6.93E-002 | 1.10E-001 | 2.23E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.10E-002 | 1.08E-001 | 2.07E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.08E-001 | 1.59E-001 | 3.46E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 8.80E-001 | 2.60E-001 | 5.45E-001 |
| BI-214 | 9.93E-001 | 3.01E-001 | 4.99E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 9.36E-001 | 3.34E-001 | 7.20E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.97E+000 | 2.21E+000 | 4.30E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 6.57E-001 | 4.98E-001 | 1.13E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.60E+001 | 3.97E+001 | 6.93E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.66E+000 | 3.87E+000 | 6.77E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 6.05E-002 | 3.44E-001 | 5.91E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.69E+000 | 1.95E+001 | 3.80E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.12E+000 | 1.67E+000 | 3.04E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.15E+002 | 3.55E+002 | 6.82E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.30E-001 | 1.37E-001 | 2.65E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.12E+000 | 1.67E+000 | 3.04E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.39E-001 | 6.90E-001 | 1.32E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-183
Sample Title: BLD-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 5.953E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/12/2005 3:06:22 PM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.37E+001 | 2.96E+000 | 3.01E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 8.96E-002 | 1.01E-001 | 2.23E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -9.69E-004 | 7.87E-002 | 1.34E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 2.94E-002 | 1.02E-001 | 2.06E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.47E-002 | 1.93E-001 | 3.35E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.60E-003 | 7.72E-002 | 1.53E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -2.24E-001 | 2.59E-001 | 4.29E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.68E-002 | 9.43E-002 | 1.50E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 3.99E-002 | 1.07E-001 | 2.18E-001 |
| TL-208 | 3.92E-001 | 3.59E-001 | 1.53E-001 | FOUND | | |
| PB-212 | 6.98E-001 | 2.01E-001 | 3.67E-001 | FOUND | | |
| BI-214 | 8.20E-001 | 2.12E-001 | 3.69E-001 | FOUND | | |
| PB-214 | 5.73E-001 | 2.79E-001 | 4.35E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.54E+000 | 2.08E+000 | 4.00E+000 |
| AC-228 | 1.05E+000 | 4.63E-001 | 6.75E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 2.19E+000 | 3.57E+001 | 6.53E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 3.76E+000 | 3.84E+000 | 6.84E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.33E-001 | 3.61E-001 | 5.89E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -2.54E-001 | 1.17E+001 | 2.18E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.16E+000 | 1.70E+000 | 3.06E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.60E+002 | 3.36E+002 | 6.51E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.85E-002 | 1.27E-001 | 2.40E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.16E+000 | 1.70E+000 | 3.06E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.65E-003 | 6.50E-001 | 1.19E+000 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-184
Sample Title: BLD-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.194E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/12/2005 3:21:55 PM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.78E+001 | 8.55E+000 | 1.58E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 3.73E-002 | 9.38E-002 | 1.96E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.60E-002 | 9.04E-002 | 1.56E-001 |
| CO-60 | NOT FOUND/DATA for 1173.24 keV | | | 6.79E-003 | 1.06E-001 | 2.14E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.21E-001 | 2.08E-001 | 4.45E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.40E-002 | 9.48E-002 | 1.77E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 7.34E-002 | 2.68E-001 | 5.17E-001 |
| CS-134 | NOT FOUND/DATA for 795.84 keV | | | -3.06E-002 | 1.02E-001 | 1.80E-001 |
| CS-137 | 1.09E-001 | 2.46E-001 | 1.87E-001 | FOUND | | |
| TL-208 | 3.43E-001 | 1.20E-001 | 1.96E-001 | FOUND | | |
| PB-212 | 1.10E+000 | 2.05E-001 | 3.75E-001 | FOUND | | |
| BI-214 | 8.22E-001 | 2.58E-001 | 3.41E-001 | FOUND | | |
| PB-214 | 1.18E+000 | 8.72E-001 | 5.06E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.42E+000 | 2.16E+000 | 4.32E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.70E+000 | 6.08E-001 | 1.43E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.56E+001 | 3.43E+001 | 6.81E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.88E+000 | 3.37E+000 | 6.12E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.44E-003 | 3.64E-001 | 6.24E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.16E+000 | 1.52E+001 | 3.09E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.01E+000 | 1.77E+000 | 3.27E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.44E+002 | 3.24E+002 | 5.69E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.60E-001 | 1.35E-001 | 2.63E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.01E+000 | 1.77E+000 | 3.27E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -1.20E-001 | 5.66E-001 | 1.04E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-185
Sample Title: BLD-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.481E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/12/2005 3:38:19 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.53E+001 | 9.12E+000 | 2.43E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.77E-002 | 8.50E-002 | 1.60E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.47E-002 | 8.71E-002 | 1.40E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 1.84E-002 | 9.94E-002 | 2.05E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.88E-002 | 2.12E-001 | 4.08E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -2.86E-002 | 7.77E-002 | 1.40E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 2.69E-002 | 2.28E-001 | 4.37E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 2.48E-003 | 9.77E-002 | 1.83E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.24E-002 | 1.11E-001 | 2.21E-001 |
| TL-208 | 2.43E-001 | 3.62E-001 | 1.99E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 1.08E+000 | 2.65E-001 | 5.47E-001 |
| BI-214 | 6.74E-001 | 2.35E-001 | 3.99E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 6.12E-001 | 2.79E-001 | 5.84E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.47E+000 | 2.23E+000 | 4.15E+000 |
| AC-228 | 1.61E+000 | 1.99E-001 | 5.65E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -9.06E+000 | 3.50E+001 | 6.22E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 8.50E-001 | 3.46E+000 | 6.10E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.94E-001 | 3.18E-001 | 5.05E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 1.01E+001 | 1.79E+001 | 3.75E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.44E+000 | 1.57E+000 | 2.89E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.40E+002 | 3.04E+002 | 5.83E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.21E-001 | 1.30E-001 | 2.50E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.44E+000 | 1.57E+000 | 2.89E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.43E-001 | 6.57E-001 | 1.17E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-186
Sample Title: BLD-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.341E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/12/2005 3:57:28 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.51E+001 | 3.74E+000 | 3.00E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.54E-002 | 8.97E-002 | 1.91E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -4.04E-002 | 9.07E-002 | 1.47E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | -1.47E-002 | 8.29E-002 | 1.47E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.99E-001 | 3.31E-001 | 2.23E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.84E-002 | 7.57E-002 | 1.43E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 9.84E-002 | 2.68E-001 | 5.23E-001 |
| CS-134 | NOT FOUND/DATA for 795.84 keV | | | 1.37E-002 | 1.03E-001 | 2.01E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 6.35E-002 | 1.00E-001 | 2.10E-001 |
| TL-208 | 3.13E-001 | 1.12E-001 | 1.65E-001 | FOUND | | |
| PB-212 | 9.47E-001 | 1.98E-001 | 4.20E-001 | FOUND | | |
| BI-214 | 5.81E-001 | 2.34E-001 | 4.02E-001 | FOUND | | |
| PB-214 | 8.20E-001 | 2.25E-001 | 3.41E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.02E+000 | 2.12E+000 | 4.20E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.35E+000 | 5.77E-001 | 1.32E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -1.39E+001 | 3.50E+001 | 6.21E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 3.87E+000 | 3.35E+000 | 5.98E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.81E-001 | 3.71E-001 | 5.75E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 3.03E+000 | 1.41E+001 | 2.86E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.36E+000 | 1.65E+000 | 2.98E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -2.83E+002 | 3.29E+002 | 5.38E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 2.14E-001 | 1.28E-001 | 2.58E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.36E+000 | 1.65E+000 | 2.98E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -4.08E-001 | 6.02E-001 | 1.03E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-187
Sample Title: BLD-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.279E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/12/2005 4:30:06 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.37E+001 | 1.07E+001 | 1.74E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.41E-002 | 8.30E-002 | 1.73E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.08E-002 | 8.70E-002 | 1.47E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.09E-001 | 1.23E-001 | 2.78E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -7.78E-002 | 1.98E-001 | 3.63E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.83E-003 | 8.22E-002 | 1.57E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.01E-001 | 2.22E-001 | 3.95E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.64E-002 | 8.73E-002 | 1.58E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.59E-002 | 9.50E-002 | 2.07E-001 |
| TL-208 | 4.51E-001 | 4.36E-001 | 2.37E-001 | FOUND | | |
| PB-212 | 1.20E+000 | 5.99E-001 | 4.30E-001 | FOUND | | |
| BI-214 | 7.29E-001 | 2.38E-001 | 3.29E-001 | FOUND | | |
| PB-214 | 5.97E-001 | 1.85E-001 | 4.52E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.90E+000 | 1.97E+000 | 3.85E+000 |
| AC-228 | 8.93E-001 | 3.21E-001 | 5.66E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 3.74E+001 | 3.71E+001 | 7.39E+001 |
| PA-231 | NOT FOUND/DATA for | 302.65 keV | | -4.42E+000 | 5.31E+000 | 6.94E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -2.78E-001 | 3.94E-001 | 5.65E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.94E+000 | 1.65E+001 | 3.35E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.70E+000 | 1.70E+000 | 3.13E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.11E+002 | 2.93E+002 | 5.61E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.71E-002 | 1.19E-001 | 2.25E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.70E+000 | 1.70E+000 | 3.13E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.00E-002 | 5.62E-001 | 1.05E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-188
Sample Title: B-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.085E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 7:23:32 AM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.77E+001 | 2.13E+002 | 2.68E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -2.44E-003 | 9.38E-002 | 1.71E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 3.89E-002 | 8.98E-002 | 1.59E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.99E-002 | 1.04E-001 | 2.14E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 4.07E-002 | 1.18E-001 | 2.69E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -2.33E-002 | 9.79E-002 | 1.94E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -7.87E-002 | 2.54E-001 | 4.55E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -1.58E-002 | 8.11E-002 | 1.53E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -5.43E-002 | 9.66E-002 | 1.67E-001 |
| TL-208 | 4.03E-001 | 4.47E-001 | 1.75E-001 | FOUND | | |
| PB-212 | 1.23E+000 | 5.71E-001 | 5.17E-001 | FOUND | | |
| BI-214 | 9.28E-001 | 2.75E-001 | 3.46E-001 | FOUND | | |
| PB-214 | 1.41E+000 | 8.21E-001 | 3.92E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.76E+000 | 2.12E+000 | 4.05E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.02E+000 | 5.67E-001 | 1.28E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.46E+001 | 3.57E+001 | 6.31E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.93E+000 | 3.44E+000 | 6.23E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -4.76E-001 | 4.76E-001 | 5.73E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 2.67E+000 | 1.61E+001 | 3.15E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 7.28E-001 | 1.73E+000 | 3.05E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.34E+001 | 3.40E+002 | 6.29E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.34E-001 | 1.27E-001 | 2.47E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 7.28E-001 | 1.73E+000 | 3.05E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.37E-001 | 6.16E-001 | 1.10E+000 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-189
Sample Title: B-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.545E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 7:46:59 AM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.38E+001 | 8.66E+000 | 1.75E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -1.85E-002 | 7.75E-002 | 1.44E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -1.01E-002 | 7.24E-002 | 1.21E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.81E-002 | 7.73E-002 | 1.62E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -4.96E-002 | 1.97E-001 | 3.36E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.45E-002 | 6.97E-002 | 1.31E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 7.08E-002 | 2.02E-001 | 3.93E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 1.34E-002 | 7.65E-002 | 1.47E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.19E-001 | 9.23E-002 | 2.06E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.30E-001 | 1.31E-001 | 2.88E-001 |
| PB-212 | 1.86E+000 | 8.45E-001 | 3.82E-001 | FOUND | | |
| BI-214 | 7.46E-001 | 5.01E-001 | 3.83E-001 | FOUND | | |
| PB-214 | 5.16E-001 | 1.87E-001 | 3.79E-001 | FOUND | | |
| RA-226 | 2.20E+000 | 1.69E+000 | 3.21E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.10E+000 | 5.04E-001 | 1.14E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -6.75E+000 | 2.88E+001 | 5.22E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 1.43E+000 | 2.67E+000 | 4.86E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.27E-001 | 2.68E-001 | 4.34E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.09E+001 | 1.54E+001 | 3.32E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.12E+000 | 1.39E+000 | 2.52E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 4.07E+001 | 2.92E+002 | 5.38E+002 |
| U-235 | 1.34E-001 | 1.03E-001 | 1.95E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.12E+000 | 1.39E+000 | 2.52E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 7.90E-002 | 5.11E-001 | 9.59E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-190
Sample Title: B-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.947E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 8:21:15 AM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.01E+001 | 9.20E+000 | 2.74E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.39E-002 | 7.46E-002 | 1.27E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -5.07E-002 | 7.50E-002 | 1.20E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | 4.11E-002 | 1.13E-001 | 2.31E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -9.59E-003 | 1.97E-001 | 3.82E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.00E-001 | 8.49E-002 | 1.25E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 5.21E-002 | 2.00E-001 | 3.89E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -2.24E-002 | 7.31E-002 | 1.29E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.36E-001 | 1.12E-001 | 2.39E-001 |
| TL-208 | 3.05E-001 | 1.08E-001 | 1.71E-001 | FOUND | | |
| PB-212 | 8.69E-001 | 1.77E-001 | 3.62E-001 | FOUND | | |
| BI-214 | 7.38E-001 | 6.93E+000 | 3.72E-001 | FOUND | | |
| PB-214 | 7.06E-001 | 8.40E-001 | 4.22E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | -1.00E+000 | 1.89E+000 | 3.22E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.11E-001 | 4.25E-001 | 1.00E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -7.81E+000 | 3.28E+001 | 5.87E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 5.00E+000 | 3.81E+000 | 6.39E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 1.67E-001 | 3.06E-001 | 5.48E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.82E+000 | 1.65E+001 | 3.03E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.02E+000 | 1.62E+000 | 2.81E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -9.89E+000 | 2.77E+002 | 5.07E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.46E-002 | 1.11E-001 | 2.07E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.02E+000 | 1.62E+000 | 2.81E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.76E-002 | 5.23E-001 | 9.78E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-191
Sample Title: B-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.294E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 8:47:38 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G ) | Activity Uncert. (pCi/G ) | Nuclide MDA (pCi/G ) | Line Activity (pCi/G ) | Line Act Uncert. (pCi/G ) | Line MDA (pCi/G ) |
| K-40 | 2.80E+001 | 1.03E+001 | 2.34E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.52E-003 | 8.60E-002 | 1.65E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -1.47E-002 | 7.80E-002 | 1.30E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.97E-002 | 8.95E-002 | 2.07E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.16E-003 | 2.72E-001 | 4.87E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.24E-003 | 9.51E-002 | 1.80E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -3.24E-002 | 2.65E-001 | 4.81E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.81E-002 | 1.05E-001 | 1.47E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 7.74E-002 | 1.12E-001 | 2.32E-001 |
| TL-208 | 4.20E-001 | 3.58E-001 | 1.72E-001 | FOUND | | |
| PB-212 | 8.11E-001 | 1.91E-001 | 4.13E-001 | FOUND | | |
| BI-214 | 1.05E+000 | 8.62E-001 | 3.97E-001 | FOUND | | |
| PB-214 | 8.01E-001 | 4.69E-001 | 4.47E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.21E+000 | 2.03E+000 | 3.97E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.23E+000 | 5.44E-001 | 1.26E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.26E+001 | 3.37E+001 | 6.02E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -2.19E-001 | 3.12E+000 | 5.40E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 5.09E-002 | 3.23E-001 | 5.62E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 9.50E+000 | 1.92E+001 | 3.98E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.13E+000 | 1.72E+000 | 3.05E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.57E+001 | 3.01E+002 | 5.51E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 7.29E-002 | 1.24E-001 | 2.32E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.13E+000 | 1.72E+000 | 3.05E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.82E-001 | 5.61E-001 | 1.08E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-192
Sample Title: B-5 SOUTH TRENCH
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.597E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 9:12:30 AM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.32E+001 | 8.75E+000 | 2.59E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.71E-003 | 7.55E-002 | 1.50E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.50E-002 | 7.92E-002 | 1.24E-001 |
| CO-60 | NOT FOUND/DATA for | 1173.24 keV | | -2.68E-003 | 1.02E-001 | 2.01E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -4.24E-001 | 2.48E-001 | 3.26E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -5.58E-002 | 8.43E-002 | 1.44E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.03E-002 | 2.31E-001 | 4.20E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 2.37E-002 | 8.69E-002 | 1.72E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.65E-002 | 1.09E-001 | 2.22E-001 |
| TL-208 | 4.64E-001 | 4.17E-001 | 1.99E-001 | FOUND | | |
| PB-212 | 1.00E+000 | 2.01E-001 | 3.63E-001 | FOUND | | |
| BI-214 | 5.37E-001 | 3.26E-001 | 3.66E-001 | FOUND | | |
| PB-214 | 7.64E-001 | 2.30E-001 | 3.87E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.47E+000 | 2.08E+000 | 4.06E+000 |
| AC-228 | NOT FOUND/DATA for | 338.32 keV | | 7.38E-001 | 7.21E-001 | 1.43E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.12E+000 | 3.18E+001 | 5.89E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -1.13E+000 | 3.39E+000 | 5.62E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -3.11E-001 | 3.87E-001 | 5.29E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -4.69E+000 | 1.18E+001 | 2.20E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 2.39E+000 | 1.68E+000 | 3.15E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -1.47E+002 | 3.29E+002 | 5.80E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 8.99E-002 | 1.27E-001 | 2.40E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 2.39E+000 | 1.68E+000 | 3.15E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -4.59E-001 | 5.59E-001 | 9.44E-001 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-203
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.865E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 9:32:10 AM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.63E+001 | 9.64E+000 | 2.35E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.30E-003 | 8.45E-002 | 1.65E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 5.68E-002 | 8.40E-002 | 1.49E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 3.66E-002 | 1.06E-001 | 1.90E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 3.74E-002 | 2.28E-001 | 4.18E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -3.75E-002 | 8.36E-002 | 1.50E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -1.35E-001 | 2.45E-001 | 4.13E-001 |
| CS-134 | NOT FOUND/DATA for | 795.84 keV | | 1.46E-002 | 9.04E-002 | 1.71E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.26E-002 | 1.25E-001 | 2.22E-001 |
| TL-208 | 3.20E-001 | 3.16E-001 | 1.95E-001 | FOUND | | |
| PB-212 | 9.88E-001 | 2.04E-001 | 3.81E-001 | FOUND | | |
| BI-214 | 7.20E-001 | 4.75E-001 | 3.83E-001 | FOUND | | |
| PB-214 | 8.25E-001 | 1.95E-001 | 4.18E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 5.98E-001 | 1.92E+000 | 3.54E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.20E+000 | 5.09E-001 | 1.18E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -5.59E+000 | 3.37E+001 | 6.08E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 4.75E-001 | 2.81E+000 | 5.02E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -7.23E-002 | 3.24E-001 | 5.35E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -5.77E-001 | 1.41E+001 | 2.79E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.37E+000 | 1.55E+000 | 2.81E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -3.84E+002 | 3.21E+002 | 4.81E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 6.22E-002 | 1.15E-001 | 2.17E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.37E+000 | 1.55E+000 | 2.81E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -2.99E-002 | 5.54E-001 | 9.77E-001 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-204
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.260E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 9:47:51 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.29E+001 | 9.37E+000 | 1.99E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 2.38E-002 | 7.06E-002 | 1.50E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -9.34E-002 | 8.76E-002 | 1.32E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 5.18E-002 | 8.18E-002 | 1.90E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 3.93E-002 | 1.77E-001 | 3.50E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -5.66E-002 | 9.81E-002 | 1.62E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -8.66E-002 | 2.19E-001 | 3.72E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -6.14E-002 | 8.16E-002 | 1.37E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 9.07E-002 | 9.26E-002 | 2.01E-001 |
| TL-208 | 2.46E-001 | 1.01E-001 | 1.65E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 7.71E-001 | 2.25E-001 | 4.62E-001 |
| BI-214 | 7.18E-001 | 2.24E-001 | 3.66E-001 | FOUND | | |
| PB-214 | 6.03E-001 | 1.71E-001 | 3.35E-001 | FOUND | | |
| RA-226 | 1.74E+000 | 8.38E-001 | 2.88E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 8.94E-001 | 4.72E-001 | 1.07E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.16E+001 | 2.98E+001 | 5.29E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.02E+000 | 2.63E+000 | 4.81E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -3.04E-001 | 3.47E-001 | 4.38E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 7.78E+000 | 1.66E+001 | 3.45E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 1.47E+000 | 1.49E+000 | 2.73E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.37E+002 | 2.71E+002 | 5.20E+002 |
| U-235 | 1.06E-001 | 5.11E-002 | 1.75E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 1.47E+000 | 1.49E+000 | 2.73E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 5.49E-002 | 5.04E-001 | 9.49E-001 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-205
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.137E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 10:04:07 AM
Live Time: 900.0 seconds
Real Time: 901.6 seconds
Dead Time: 0.18 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.29E+001 | 3.07E+000 | 1.67E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -1.89E-002 | 8.12E-002 | 1.52E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.48E-002 | 7.57E-002 | 1.32E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.47E-002 | 7.24E-002 | 1.83E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 7.73E-002 | 1.24E-001 | 3.01E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -4.60E-002 | 1.18E-001 | 1.65E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -5.97E-002 | 2.19E-001 | 3.97E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -4.72E-002 | 8.34E-002 | 1.25E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.14E-001 | 9.13E-002 | 2.05E-001 |
| TL-208 | 3.94E-001 | 3.24E-001 | 1.75E-001 | FOUND | | |
| PB-212 | 1.15E+000 | 2.00E-001 | 3.90E-001 | FOUND | | |
| BI-214 | 6.31E-001 | 2.17E-001 | 3.29E-001 | FOUND | | |
| PB-214 | 9.09E-001 | 2.34E-001 | 3.83E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.14E+000 | 1.90E+000 | 3.57E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.58E+000 | 5.68E-001 | 1.30E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -1.88E+001 | 3.31E+001 | 5.78E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.08E+000 | 2.48E+000 | 4.56E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.75E-001 | 3.16E-001 | 5.04E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 4.44E+000 | 1.55E+001 | 3.19E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.89E-001 | 1.36E+000 | 2.40E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -5.43E+001 | 2.85E+002 | 5.08E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 9.17E-002 | 1.14E-001 | 2.17E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.89E-001 | 1.36E+000 | 2.40E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 3.56E-001 | 5.28E-001 | 1.04E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-206
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.057E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 10:35:12 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.43E+001 | 1.30E+001 | 3.31E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 8.52E-002 | 1.10E-001 | 2.50E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -8.81E-002 | 1.08E-001 | 1.52E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | -6.15E-003 | 8.90E-002 | 1.99E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | 2.83E-002 | 2.95E-001 | 5.87E-001 |
| AG-110m | NOT FOUND/DATA for | 884.68 keV | | -2.87E-002 | 1.00E-001 | 1.77E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -4.71E-002 | 2.76E-001 | 5.11E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 4.77E-002 | 1.10E-001 | 2.23E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | -1.15E-001 | 1.10E-001 | 1.70E-001 |
| TL-208 | 3.04E-001 | 1.39E-001 | 2.26E-001 | FOUND | | |
| PB-212 | 1.30E+000 | 5.43E-001 | 4.55E-001 | FOUND | | |
| BI-214 | 1.02E+000 | 3.11E-001 | 4.93E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 1.08E+000 | 3.53E-001 | 7.90E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 7.91E-001 | 2.27E+000 | 4.29E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 9.84E-001 | 5.93E-001 | 1.38E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 1.48E+001 | 4.36E+001 | 8.37E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 2.86E+000 | 3.47E+000 | 6.59E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -1.39E-001 | 3.59E-001 | 5.93E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 6.20E+000 | 2.01E+001 | 4.28E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -8.43E-001 | 1.90E+000 | 3.02E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.19E+002 | 3.61E+002 | 7.14E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 2.96E-003 | 1.43E-001 | 2.61E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -8.43E-001 | 1.90E+000 | 3.02E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -3.50E-001 | 5.75E-001 | 9.43E-001 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-207
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.886E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 10:45:13 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.59E+001 | 7.84E+000 | 3.16E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 6.47E-004 | 1.24E-001 | 2.26E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 2.31E-002 | 9.73E-002 | 1.69E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 2.68E-002 | 9.62E-002 | 2.27E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 2.06E-001 | 2.63E-001 | 6.02E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -1.49E-003 | 9.51E-002 | 1.89E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 7.22E-002 | 3.10E-001 | 5.88E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 7.23E-002 | 9.84E-002 | 2.16E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 1.34E-001 | 1.34E-001 | 2.97E-001 |
| TL-208 | NOT FOUND/DATA for 583.19 keV | | | 3.25E-001 | 1.88E-001 | 4.00E-001 |
| PB-212 | 1.10E+000 | 2.62E-001 | 4.15E-001 | FOUND | | |
| BI-214 | 7.06E-001 | 8.74E-001 | 4.28E-001 | FOUND | | |
| PB-214 | 7.30E-001 | 6.42E-001 | 4.69E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.31E+000 | 2.33E+000 | 4.66E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.74E-001 | 5.34E-001 | 1.31E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -8.29E+000 | 3.89E+001 | 7.18E+001 |
| PA-231 | NOT FOUND/DATA for 302.65 keV | | | -7.28E+000 | 6.31E+000 | 6.61E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -6.70E-002 | 3.87E-001 | 6.59E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 9.87E-001 | 2.08E+001 | 4.17E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.33E-001 | 1.94E+000 | 3.38E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.64E+002 | 4.00E+002 | 7.79E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 3.46E-002 | 1.42E-001 | 2.67E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.33E-001 | 1.94E+000 | 3.38E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -2.01E-001 | 6.90E-001 | 1.24E+000 |

Uncertainty reported at 2.0 sigma

**********
***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-208
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.726E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 10:57:31 AM
Live Time: 600.0 seconds
Real Time: 600.9 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.35E+001 | 1.54E+001 | 3.57E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | 4.37E-002 | 8.30E-002 | 1.96E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | 1.66E-002 | 9.84E-002 | 1.73E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 5.98E-002 | 1.07E-001 | 2.54E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -1.23E-001 | 2.59E-001 | 4.45E-001 |
| AG-110m | NOT FOUND/DATA for 1384.30 keV | | | 0.00E+000 | 0.00E+000 | 2.22E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -3.97E-002 | 3.22E-001 | 6.02E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -2.43E-003 | 1.05E-001 | 1.99E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -2.07E-002 | 1.21E-001 | 2.26E-001 |
| TL-208 | 3.55E-001 | 1.50E-001 | 2.53E-001 | FOUND | | |
| PB-212 | NOT FOUND/DATA for 238.63 keV | | | 9.39E-001 | 3.05E-001 | 6.40E-001 |
| BI-214 | 6.17E-001 | 9.09E-001 | 3.60E-001 | FOUND | | |
| PB-214 | 6.87E-001 | 2.22E-001 | 4.85E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 3.54E+000 | 2.44E+000 | 4.98E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.53E+000 | 7.47E-001 | 1.71E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | -2.26E+001 | 4.92E+001 | 8.67E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -3.46E-001 | 3.59E+000 | 6.31E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 8.01E-002 | 4.13E-001 | 7.07E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | 1.35E+001 | 1.80E+001 | 4.27E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 2.49E+000 | 2.04E+000 | 3.90E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.23E+002 | 3.34E+002 | 6.70E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.45E-001 | 1.45E-001 | 2.90E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 2.49E+000 | 2.04E+000 | 3.90E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | -5.33E-001 | 7.11E-001 | 1.22E+000 |

Uncertainty reported at 2.0 sigma

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

Site Location: CE Windsor
Sample ID: MAC-0504-209
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.065E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 11:10:06 AM
Live Time: 600.0 seconds
Real Time: 601.0 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.37E+001 | 1.23E+001 | 3.17E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 4.38E-002 | 9.68E-002 | 2.10E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -3.58E-002 | 9.54E-002 | 1.58E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 6.76E-002 | 1.15E-001 | 2.77E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.66E-001 | 2.81E-001 | 4.24E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.78E-002 | 8.70E-002 | 1.84E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -7.70E-004 | 3.07E-001 | 5.73E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -5.98E-002 | 1.03E-001 | 1.48E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.56E-002 | 1.08E-001 | 2.15E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 4.58E-001 | 1.75E-001 | 4.06E-001 |
| PB-212 | 8.13E-001 | 2.46E-001 | 5.96E-001 | FOUND | | |
| BI-214 | 5.97E-001 | 4.89E-001 | 4.27E-001 | FOUND | | |
| PB-214 | NOT FOUND/DATA for | 351.92 keV | | 5.66E-001 | 3.01E-001 | 6.51E-001 |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 2.11E+000 | 2.23E+000 | 4.46E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.57E+000 | 6.28E-001 | 1.54E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | 3.98E+001 | 4.23E+001 | 8.56E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -5.20E-001 | 3.86E+000 | 6.48E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -9.23E-003 | 3.90E-001 | 6.68E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -1.38E+001 | 2.05E+001 | 3.08E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 6.57E-001 | 1.89E+000 | 3.33E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | -2.30E+002 | 3.66E+002 | 5.95E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 5.12E-003 | 1.35E-001 | 2.49E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 6.57E-001 | 1.89E+000 | 3.33E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 2.53E-001 | 7.46E-001 | 1.44E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
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Site Location: CE Windsor
Sample ID: MAC-0504-210
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.931E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 11:20:46 AM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.35E+001 | 7.89E+000 | 2.24E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -3.21E-004 | 7.41E-002 | 1.43E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 2.92E-002 | 6.93E-002 | 1.24E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 8.08E-002 | 8.42E-002 | 2.09E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.68E-001 | 2.08E-001 | 3.10E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 9.37E-002 | 9.38E-002 | 2.01E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | 3.26E-002 | 2.21E-001 | 4.28E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -9.55E-002 | 8.48E-002 | 1.19E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.55E-002 | 1.02E-001 | 2.06E-001 |
| TL-208 | 4.44E-001 | 1.32E-001 | 2.18E-001 | FOUND | | |
| PB-212 | 1.16E+000 | 3.65E-001 | 4.06E-001 | FOUND | | |
| BI-214 | 8.81E-001 | 4.75E-001 | 3.80E-001 | FOUND | | |
| PB-214 | 9.39E-001 | 6.39E-001 | 4.25E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 3.77E-001 | 1.94E+000 | 3.53E+000 |
| AC-228 | 7.80E-001 | 4.21E-001 | 5.24E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -6.19E-002 | 3.13E+001 | 5.68E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.47E-001 | 2.87E+000 | 5.03E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | -2.58E-001 | 3.34E-001 | 5.10E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 3.44E+000 | 1.77E+001 | 3.51E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 4.49E-001 | 1.53E+000 | 2.67E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 1.04E+002 | 2.79E+002 | 5.38E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 4.05E-002 | 1.20E-001 | 2.22E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 4.49E-001 | 1.53E+000 | 2.67E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 1.52E-001 | 5.03E-001 | 9.67E-001 |

Uncertainty reported at 2.0 sigma

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***** C E R T I F I C A T E O F A N A L Y S I S *****
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Site Location: CE Windsor
Sample ID: MAC-0504-211
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.036E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 12:09:43 PM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.15 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.67E+001 | 1.06E+001 | 2.53E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | 5.70E-002 | 7.35E-002 | 1.67E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | 6.52E-003 | 7.61E-002 | 1.28E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 8.77E-002 | 9.13E-002 | 2.15E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -1.73E-001 | 1.90E-001 | 3.05E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | -1.58E-002 | 7.39E-002 | 1.35E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -6.12E-002 | 2.35E-001 | 3.84E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | -3.08E-002 | 8.11E-002 | 1.45E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 5.15E-002 | 9.63E-002 | 1.94E-001 |
| TL-208 | NOT FOUND/DATA for | 583.19 keV | | 3.26E-001 | 1.36E-001 | 3.00E-001 |
| PB-212 | NOT FOUND/DATA for | 238.63 keV | | 9.86E-001 | 2.36E-001 | 4.92E-001 |
| BI-214 | 1.05E+000 | 3.51E-001 | 3.54E-001 | FOUND | | |
| PB-214 | 8.38E-001 | 2.87E-001 | 4.01E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.79E+000 | 1.87E+000 | 3.60E+000 |
| AC-228 | NOT FOUND/DATA for | 911.21 keV | | 1.26E+000 | 5.07E-001 | 1.18E+000 |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -4.32E+001 | 3.57E+001 | 5.52E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | 1.48E+000 | 2.99E+000 | 5.39E+000 |
| PA-234 | NOT FOUND/DATA for | 98.44 keV | | 2.41E-002 | 2.90E-001 | 5.02E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | 5.94E+000 | 1.63E+001 | 3.34E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | -2.82E-001 | 1.58E+000 | 2.60E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.83E+002 | 2.95E+002 | 5.84E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.12E-001 | 1.11E-001 | 2.16E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | -2.82E-001 | 1.58E+000 | 2.60E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | -6.63E-002 | 5.92E-001 | 1.08E+000 |

Uncertainty reported at 2.0 sigma

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***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-212
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.687E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 12:25:20 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.37E+001 | 8.29E+000 | 2.20E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -2.17E-003 | 7.42E-002 | 1.48E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.42E-002 | 8.11E-002 | 1.34E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 3.46E-002 | 7.85E-002 | 1.83E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | 1.59E-001 | 2.00E-001 | 4.44E-001 |
| AG-110m | NOT FOUND/DATA for 884.68 keV | | | -5.50E-002 | 1.01E-001 | 1.61E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -1.63E-001 | 2.31E-001 | 3.93E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.91E-002 | 8.79E-002 | 1.61E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 4.18E-002 | 9.18E-002 | 1.89E-001 |
| TL-208 | 3.97E-001 | 1.25E-001 | 2.07E-001 | FOUND | | |
| PB-212 | 9.17E-001 | 1.90E-001 | 4.04E-001 | FOUND | | |
| BI-214 | 6.54E-001 | 2.41E-001 | 3.92E-001 | FOUND | | |
| PB-214 | 5.67E-001 | 1.75E-001 | 4.51E-001 | FOUND | | |
| RA-226 | 3.10E+000 | 1.54E+000 | 3.47E+000 | FOUND | | |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 1.49E+000 | 5.54E-001 | 1.30E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.48E+000 | 3.33E+001 | 6.17E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | 4.30E+000 | 3.78E+000 | 6.53E+000 |
| PA-234 | NOT FOUND/DATA for 131.20 keV | | | -1.58E-001 | 3.29E-001 | 5.12E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -2.30E+000 | 1.98E+001 | 3.28E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 1.17E+000 | 1.45E+000 | 2.67E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | -1.18E+001 | 3.04E+002 | 5.58E+002 |
| U-235 | 1.89E-001 | 9.37E-002 | 2.11E-001 | FOUND | | |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 1.17E+000 | 1.45E+000 | 2.67E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 2.62E-001 | 5.50E-001 | 1.07E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-213
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.594E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 12:41:49 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.54E+001 | 3.66E+000 | 2.66E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -4.54E-002 | 1.07E-001 | 1.58E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -3.59E-002 | 8.69E-002 | 1.37E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 8.78E-003 | 6.90E-002 | 1.58E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -3.14E-002 | 2.01E-001 | 3.85E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -2.66E-002 | 9.93E-002 | 1.72E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | -2.34E-003 | 2.70E-001 | 4.77E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | 1.82E-002 | 9.25E-002 | 1.80E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | -5.72E-002 | 1.05E-001 | 1.80E-001 |
| TL-208 | 2.60E-001 | 9.81E-002 | 1.82E-001 | FOUND | | |
| PB-212 | 1.11E+000 | 2.02E-001 | 4.73E-001 | FOUND | | |
| BI-214 | 7.75E-001 | 2.35E-001 | 4.70E-001 | FOUND | | |
| PB-214 | 7.93E-001 | 2.42E-001 | 4.47E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 2.91E+000 | 2.11E+000 | 4.15E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 9.43E-001 | 5.37E-001 | 1.19E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 7.80E+000 | 2.76E+001 | 5.34E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -2.71E+000 | 3.29E+000 | 4.78E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | 1.38E-001 | 3.25E-001 | 5.68E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -9.04E+000 | 1.63E+001 | 2.58E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 5.88E-001 | 1.64E+000 | 2.88E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 2.81E+001 | 2.82E+002 | 5.26E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 1.45E-001 | 1.25E-001 | 2.44E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 5.88E-001 | 1.64E+000 | 2.88E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 1.13E-002 | 5.36E-001 | 1.00E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-214
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 6.637E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 12:57:26 PM
Live Time: 900.0 seconds
Real Time: 901.5 seconds
Dead Time: 0.17 %
Efficiency ID: srs035

| Nuclide Name | IDENTIFIED RADIONUCLIDES Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | UNIDENTIFIED RADIONUCLIDES Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
|---|---|---|---|---|---|---|
| K-40 | 2.88E+001 | 3.85E+000 | 1.99E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for 834.83 keV | | | -2.09E-002 | 8.81E-002 | 1.64E-001 |
| CO-57 | NOT FOUND/DATA for 122.06 keV | | | -2.96E-003 | 8.43E-002 | 1.40E-001 |
| CO-60 | NOT FOUND/DATA for 1332.50 keV | | | 1.45E-002 | 7.61E-002 | 1.72E-001 |
| ZN-65 | NOT FOUND/DATA for 1115.55 keV | | | -4.08E-002 | 2.12E-001 | 3.82E-001 |
| AG-110m | NOT FOUND/DATA for 657.76 keV | | | -6.42E-004 | 7.64E-002 | 1.49E-001 |
| SB-125 | NOT FOUND/DATA for 427.89 keV | | | 9.04E-002 | 2.24E-001 | 4.47E-001 |
| CS-134 | NOT FOUND/DATA for 604.70 keV | | | -1.65E-002 | 8.17E-002 | 1.45E-001 |
| CS-137 | NOT FOUND/DATA for 661.66 keV | | | 8.06E-002 | 9.80E-002 | 2.11E-001 |
| TL-208 | 3.57E-001 | 4.55E-001 | 2.06E-001 | FOUND | | |
| PB-212 | 1.48E+000 | 3.89E-001 | 4.30E-001 | FOUND | | |
| BI-214 | 1.05E+000 | 7.54E-001 | 3.87E-001 | FOUND | | |
| PB-214 | 7.59E-001 | 2.39E-001 | 4.56E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for 186.10 keV | | | 1.25E+000 | 1.95E+000 | 3.69E+000 |
| AC-228 | NOT FOUND/DATA for 911.21 keV | | | 8.48E-001 | 5.14E-001 | 1.14E+000 |
| TH-230 | NOT FOUND/DATA for 67.67 keV | | | 2.38E+000 | 3.46E+001 | 6.35E+001 |
| PA-231 | NOT FOUND/DATA for 300.02 keV | | | -6.72E-001 | 3.22E+000 | 5.46E+000 |
| PA-234 | NOT FOUND/DATA for 98.44 keV | | | -1.72E-001 | 3.15E-001 | 5.03E-001 |
| PA-234M | NOT FOUND/DATA for 1001.03 keV | | | -1.25E+001 | 1.85E+001 | 3.17E+001 |
| TH-234 | NOT FOUND/DATA for 92.60 keV | | | 8.43E-002 | 1.60E+000 | 2.72E+000 |
| U-234 | NOT FOUND/DATA for 53.20 keV | | | 1.32E+002 | 2.90E+002 | 5.62E+002 |
| U-235 | NOT FOUND/DATA for 185.71 keV | | | 4.26E-003 | 1.18E-001 | 2.15E-001 |
| U-238 | NOT FOUND/DATA for 92.60 keV | | | 8.43E-002 | 1.60E+000 | 2.72E+000 |
| AM-241 | NOT FOUND/DATA for 59.54 keV | | | 3.13E-001 | 5.66E-001 | 1.10E+000 |

Uncertainty reported at 2.0 sigma

**********
***** CERTIFICATE OF ANALYSIS *****
**********

Site Location: CE Windsor
Sample ID: MAC-0504-215
Sample Title: B-5 NORTH WING H/W LINE
Detector Name: 30%HPGE
Nuclide Library Used: C:\GENIE2K\CAMFILES\FSS.NLB
Sample Size: 7.399E+002 G
Sample Taken On: 4/12/2005 11:15:00 AM
Acquisition Started: 4/13/2005 1:14:33 PM
Live Time: 900.0 seconds
Real Time: 901.4 seconds
Dead Time: 0.16 %
Efficiency ID: srs035

| | IDENTIFIED RADIONUCLIDES | | | UNIDENTIFIED RADIONUCLIDES | | |
|---|---|---|---|---|---|---|
| Nuclide Name | Nuclide Activity (pCi/G) | Activity Uncert. (pCi/G) | Nuclide MDA (pCi/G) | Line Activity (pCi/G) | Line Act Uncert. (pCi/G) | Line MDA (pCi/G) |
| K-40 | 2.17E+001 | 5.94E+000 | 2.55E+000 | FOUND | | |
| MN-54 | NOT FOUND/DATA for | 834.83 keV | | -5.18E-002 | 6.70E-002 | 1.11E-001 |
| CO-57 | NOT FOUND/DATA for | 122.06 keV | | -4.48E-003 | 7.24E-002 | 1.22E-001 |
| CO-60 | NOT FOUND/DATA for | 1332.50 keV | | 1.43E-002 | 7.00E-002 | 1.54E-001 |
| ZN-65 | NOT FOUND/DATA for | 1115.55 keV | | -2.32E-002 | 2.07E-001 | 3.88E-001 |
| AG-110m | NOT FOUND/DATA for | 657.76 keV | | 1.41E-002 | 8.31E-002 | 1.62E-001 |
| SB-125 | NOT FOUND/DATA for | 427.89 keV | | -6.61E-002 | 2.14E-001 | 3.74E-001 |
| CS-134 | NOT FOUND/DATA for | 604.70 keV | | 2.84E-002 | 7.88E-002 | 1.57E-001 |
| CS-137 | NOT FOUND/DATA for | 661.66 keV | | 1.98E-002 | 9.36E-002 | 1.80E-001 |
| TL-208 | 3.70E-001 | 1.17E-001 | 1.90E-001 | FOUND | | |
| PB-212 | 1.25E+000 | 4.66E-001 | 3.77E-001 | FOUND | | |
| BI-214 | 5.33E-001 | 2.04E-001 | 3.50E-001 | FOUND | | |
| PB-214 | 6.72E-001 | 3.84E-001 | 4.87E-001 | FOUND | | |
| RA-226 | NOT FOUND/DATA for | 186.10 keV | | 1.42E+000 | 1.84E+000 | 3.47E+000 |
| AC-228 | 1.18E+000 | 5.14E-001 | 4.07E-001 | FOUND | | |
| TH-230 | NOT FOUND/DATA for | 67.67 keV | | -2.27E+001 | 3.07E+001 | 5.25E+001 |
| PA-231 | NOT FOUND/DATA for | 300.02 keV | | -4.85E-002 | 2.80E+000 | 4.78E+000 |
| PA-234 | NOT FOUND/DATA for | 131.20 keV | | -3.20E-001 | 3.74E-001 | 4.92E-001 |
| PA-234M | NOT FOUND/DATA for | 1001.03 keV | | -7.19E+000 | 1.79E+001 | 3.07E+001 |
| TH-234 | NOT FOUND/DATA for | 92.60 keV | | 3.26E-001 | 1.48E+000 | 2.57E+000 |
| U-234 | NOT FOUND/DATA for | 53.20 keV | | 2.20E+002 | 2.83E+002 | 5.49E+002 |
| U-235 | NOT FOUND/DATA for | 185.71 keV | | 1.03E-001 | 1.13E-001 | 2.16E-001 |
| U-238 | NOT FOUND/DATA for | 92.60 keV | | 3.26E-001 | 1.48E+000 | 2.57E+000 |
| AM-241 | NOT FOUND/DATA for | 59.54 keV | | 4.09E-001 | 5.21E-001 | 1.03E+000 |

Uncertainty reported at 2.0 sigma