

| | | | | | | | | | | |
|-----|-----|-------|----|------|-----|------|------|--------|---------|---------|
| 10 | 70 | 700 | 15 | 1.74 | 6 | 1.18 | 0.5 | 413 | 609 | 609 |
| 10 | 40 | 400 | 50 | 6.99 | 5 | 0.98 | 1 | 392 | 2796 | 2796 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 0.5 | 632 | 1596 | 1596 |
| 10 | 65 | 650 | 10 | 0.99 | 0.5 | 0.08 | 0.5 | 26 | 321.75 | 321.75 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 0.5 | 632 | 1596 | 1596 |
| 7 | 50 | 350 | 15 | 1.74 | 1 | 0.18 | 0.5 | 31.5 | 304.5 | 304.5 |
| 10 | 70 | 700 | 15 | 1.74 | 7 | 1.38 | 1 | 966 | 1218 | 1218 |
| 5.5 | 80 | 440 | 7 | 0.54 | 2 | 0.38 | 0.25 | 41.8 | 59.4 | 59.4 |
| 7 | 85 | 595 | 7 | 0.54 | 3 | 0.58 | 0.25 | 86.275 | 80.325 | 86.275 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 1 | 0.18 | 1 | 74.25 | 1336.5 | 1336.5 |
| 7 | 70 | 490 | 15 | 1.74 | 4 | 0.78 | 0.5 | 191.1 | 426.3 | 426.3 |
| 5.5 | 50 | 275 | 35 | 4.74 | 5 | 0.98 | 1 | 269.5 | 1303.5 | 1303.5 |
| 5.5 | 50 | 275 | 8 | 0.69 | 1 | 0.18 | 0.5 | 24.75 | 94.875 | 94.875 |
| 7 | 70 | 490 | 7 | 0.54 | 5 | 0.98 | 0.5 | 240.1 | 132.3 | 240.1 |
| 7 | 75 | 525 | 7 | 0.54 | 1 | 0.18 | 0.5 | 47.25 | 141.75 | 141.75 |
| 10 | 60 | 600 | 25 | 3.24 | 1 | 0.18 | 0.5 | 54 | 972 | 972 |
| 5.5 | 50 | 275 | 25 | 3.24 | 8 | 1.58 | 0.5 | 217.25 | 445.5 | 445.5 |
| 10 | 60 | 600 | 25 | 3.24 | 3 | 0.58 | 0.5 | 174 | 972 | 972 |
| 5.5 | 70 | 385 | 12 | 1.29 | 2 | 0.38 | 0.5 | 73.15 | 248.325 | 248.325 |
| 5 | 60 | 300 | 7 | 0.54 | 0.5 | 0.08 | 0.5 | 12 | 81 | 81 |
| 5 | 70 | 350 | 7 | 0.54 | 1 | 0.18 | 0.5 | 31.5 | 94.5 | 94.5 |
| 10 | 60 | 600 | 15 | 1.74 | 2 | 0.38 | 0.5 | 114 | 522 | 522 |
| 10 | 60 | 600 | 8 | 0.69 | 3 | 0.58 | 1 | 348 | 414 | 414 |
| 7 | 80 | 560 | 8 | 0.69 | 1 | 0.18 | 1 | 100.8 | 386.4 | 386.4 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 4 | 0.78 | 1 | 321.75 | 1336.5 | 1336.5 |
| 5.5 | 70 | 385 | 40 | 5.49 | | | 0.5 | | 1056.83 | 1056.83 |
| 5.5 | 70 | 385 | 25 | 3.24 | 1 | 0.18 | 0.5 | | 623.7 | 623.7 |
| 5.5 | 65 | 357.5 | 20 | 2.49 | 1 | 0.18 | 1 | | 890.175 | 890.175 |
| 5 | 70 | 350 | 25 | 3.24 | 7 | 1.38 | 1 | | 1134 | 1134 |
| 5 | 65 | 325 | 40 | 5.49 | | | 0.25 | | 446.063 | 446.063 |
| 5 | 60 | 300 | 50 | 6.99 | | | 1 | | 2097 | 2097 |
| 5 | 50 | 250 | 8 | 0.69 | | | 0.5 | | 86.25 | 86.25 |
| 10 | 30 | 300 | 7 | 0.54 | | | 0.25 | | 40.5 | 40.5 |
| 13 | 40 | 520 | 30 | 3.99 | | | 0.5 | | 1037.4 | 1037.4 |
| 10 | 450 | 4500 | 12 | 1.29 | | | 1 | | 5805 | 5805 |
| 10 | 50 | 500 | 15 | 1.74 | 3 | 0.58 | 1 | | 870 | 870 |
| 10 | 65 | 650 | 10 | 0.99 | | | 0.5 | | 321.75 | 321.75 |
| 10 | 45 | 450 | 10 | 0.99 | 4 | 0.78 | 1 | | 445.5 | 445.5 |
| 70 | 40 | 2800 | 30 | 3.99 | 20 | 3.98 | 1 | | 11172 | 11172 |
| 70 | 60 | 4200 | 8 | 0.69 | 0.5 | 0.08 | 0.5 | | 1449 | 1449 |
| 70 | 60 | 4200 | 20 | 2.49 | 10 | 1.98 | 0.5 | | 5229 | 5229 |
| 10 | 40 | 400 | 15 | 1.74 | 8 | 1.58 | 1 | | 696 | 696 |
| 10 | 50 | 500 | 8 | 0.69 | 1 | 0.18 | 1 | | 345 | 345 |
| 7 | 30 | 210 | 15 | 1.74 | 2 | 0.38 | 1 | | 365.4 | 365.4 |
| 10 | 40 | 400 | 10 | 0.99 | 4 | 0.78 | 1 | | 396 | 396 |
| 7 | 35 | 245 | 10 | 0.99 | 0.5 | 0.08 | 1 | | 242.55 | 242.55 |
| 10 | 40 | 400 | 10 | 0.99 | 2 | 0.38 | 1 | | 396 | 396 |
| 7 | 25 | 175 | 8 | 0.69 | 1 | 0.18 | 1 | | 120.75 | 120.75 |
| 7 | 35 | 245 | 50 | 6.99 | 20 | 3.98 | 0.5 | | 856.275 | 856.275 |
| 7 | 45 | 315 | 10 | 0.99 | 3 | 0.58 | 1 | | 311.85 | 311.85 |
| 5.5 | 30 | 165 | 30 | 3.99 | | | 0.5 | | 329.175 | 329.175 |
| 7 | 30 | 210 | 8 | 0.69 | 1 | 0.18 | 0.5 | | 72.45 | 72.45 |
| 10 | 30 | 300 | 10 | 0.99 | 2 | 0.38 | 1 | | 297 | 297 |
| 10 | 25 | 250 | 15 | 1.74 | | | 0.5 | | 217.5 | 217.5 |
| 10 | 40 | 400 | 30 | 3.99 | 4 | 0.78 | 0.5 | | 798 | 798 |
| 4 | 40 | 160 | 15 | 1.74 | 2 | 0.38 | 1 | | 278.4 | 278.4 |
| 10 | 15 | 150 | 8 | 0.69 | 0.5 | 0.08 | 0.5 | | 51.75 | 51.75 |
| 8 | 36 | 288 | 10 | 0.99 | 3 | 0.58 | 1 | | 285.12 | 285.12 |
| 3 | 30 | 90 | 10 | 0.99 | 8 | 1.58 | 1 | | 89.1 | 89.1 |
| 3 | 13 | 39 | 10 | 0.99 | 5 | 0.98 | 0.5 | | 19.305 | 19.305 |
| 8 | 10 | 80 | 8 | 0.69 | 0 | | 0.5 | | 27.6 | 27.6 |
| 3 | 13 | 39 | 15 | 1.74 | 3 | 0.58 | 0.5 | | 33.93 | 33.93 |
| 10 | 10 | 100 | 8 | 0.69 | 2 | 0.38 | 0.5 | | 34.5 | 34.5 |
| 8 | 20 | 160 | 15 | 1.74 | 5 | 0.98 | 0.5 | | 139.2 | 139.2 |

Drum 2: **66407**

Average activity per drum: **68472**

Surface Contamination

Window sill terrazzo stone material

Instrument MTE: 5527

Painted surface masking alpha, mostly soaked into material

| | | | | | | | | | | | | 1cps beta = | | BckGrnd | | 1cps Alpha = | | BckGrnd | |
|-----|----------------|---------------|--------------------------|---------------|------------------|----------------|-------------------|---|---|---|---|-------------|--------|------------|-----|--------------|------------|---------|--|
| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contamina ted | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.13 | Bq/cm2 | CPS 3.4 | 0.2 | Bq/cm2 | CPS 0.1 | | |
| 1 | 120 | 12 | 1440 | 45 | 5.408 | 0.3 | 0.04 | 0.9 | 51.84 | 7008.768 | 7008.77 | | | | | | | | |
| 2 | 110 | 12 | 1320 | 15 | 1.508 | 0.5 | 0.08 | 1 | 105.6 | 1990.56 | 1990.56 | | | | | | | | |
| 3 | 120 | 12 | 1440 | 100 | 12.558 | 20 | 3.98 | 0.8 | 4584.96 | 14466.82 | 14466.8 | | | | | | | | |
| 4 | 120 | 12 | 1440 | 110 | 13.858 | 5 | 0.98 | 0.8 | 1128.96 | 15964.42 | 15964.4 | | | | | | | | |
| 5 | 120 | 12 | 1440 | 20 | 2.158 | 2 | 0.38 | 0.9 | 492.48 | 2796.768 | 2796.77 | | | | | | | | |
| 6 | 74 | 12 | 888 | 200 | 25.558 | 20 | 3.98 | 1 | 3534.24 | 22695.5 | 22695.5 | | | | | | | | |
| 7 | 120 | 12 | 1440 | 20 | 2.158 | 3 | 0.58 | 1 | 835.2 | 3107.52 | 3107.52 | | | | | | | | |
| 8 | 120 | 12 | 1440 | 35 | 4.108 | 10 | 1.98 | 0.6 | 1710.72 | 3549.312 | 3549.31 | | | | | | | | |
| 9 | 120 | 12 | 1440 | 35 | 4.108 | 0.5 | 0.08 | 0.7 | 80.64 | 4140.864 | 4140.86 | | | | | | | | |
| | | | | | | | | | 12524.64 | 75720.53 | 75720.5 | | | | | | | | |

Vacuum cleaner bags

Instrument MTE: 2904

| Bag No. | Dose rate at contact ($\mu\text{Sv/hr}$) | B/g ($\mu\text{Sv/hr}$) | Dose rate ($\mu\text{Sv/hr}$) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ ray constant |
|---------|--|------------------------------|--|-----------------|--------------------------------------|---|
| 1 | | 0.064 | 0.07 | 0.5 | 223 | 6.7 |
| 2 | | 0.064 | 0.08 | 0.5 | 223 | 17.9 |
| 3 | | 0.064 | 0.07 | 0.3 | 223 | 2.4 |
| 4 | | 0.064 | 0.083 | 0.7 | 223 | 41.7 |
| 5 | | 0.064 | 0.087 | 0.7 | 223 | 50.5 |
| 6 | | 0.064 | 0.071 | 0.7 | 223 | 15.4 |
| 7 | | 0.064 | 0.072 | 0.7 | 223 | 17.6 |
| 8 | | 0.064 | 0.072 | 0.6 | 223 | 12.9 |
| 9 | | 0.064 | 0.078 | 0.7 | 223 | 30.8 |
| 10 | | 0.064 | 0.07 | 0.7 | 223 | 13.2 |
| 11 | | 0.064 | 0.075 | 0.7 | 223 | 24.2 |
| 12 | | 0.064 | 0.079 | 0.9 | 223 | 54.5 |
| 13 | | 0.064 | 0.082 | 0.9 | 223 | 65.4 |
| 14 | | 0.064 | 0.072 | 0.7 | 223 | 17.6 |
| 15 | | 0.064 | | | 223 | 0.0 |
| 16 | | 0.064 | | | 223 | 0.0 |
| 17 | | 0.064 | | | 223 | 0.0 |
| 18 | | 0.064 | | | 223 | 0.0 |
| 19 | | 0.064 | | | 223 | 0.0 |
| 20 | | 0.064 | | | 223 | 0.0 |
| 21 | | | | | 223 | 0.0 |
| 22 | | | | | 223 | 0.0 |
| 23 | | | | | 223 | 0.0 |
| 24 | | | | | 223 | 0.0 |
| 25 | | | | | 223 | 0.0 |
| 26 | | | | | 223 | 0.0 |
| 27 | | | | | 223 | 0.0 |
| 28 | | | | | 223 | 0.0 |
| 29 | | | | | 223 | 0.0 |
| 30 | | | | | 223 | 0.0 |
| 31 | | | | | 223 | 0.0 |
| 32 | | | | | 223 | 0.0 |
| 33 | | | | | 223 | 0.0 |
| 34 | | | | | 223 | 0.0 |
| 35 | | | | | 223 | 0.0 |
| 36 | | | | | 223 | 0.0 |
| 37 | | | | | 223 | 0.0 |
| 38 | | | | | 223 | 0.0 |
| 39 | | | | | 223 | 0.0 |
| 40 | | | | | 223 | 0.0 |
| 41 | | | | | 223 | 0.0 |

| | | | | | | |
|----|--|--|--|--|-----|-----|
| 42 | | | | | 223 | 0.0 |
| 43 | | | | | 223 | 0.0 |
| 44 | | | | | 223 | 0.0 |
| 45 | | | | | 223 | 0.0 |
| 46 | | | | | 223 | 0.0 |
| 47 | | | | | 223 | 0.0 |
| 48 | | | | | 223 | 0.0 |
| 49 | | | | | 223 | 0.0 |
| 50 | | | | | 223 | 0.0 |

KBq
370.8

Bag containing insulation bats
Dusts and particles from building ceiling
Instrument MTE: 2904

| Bag No. | Dose rate at contact ($\mu\text{Sv/hr}$) | B/g ($\mu\text{Sv/hr}$) | Dose rate ($\mu\text{Sv/hr}$) at: | Distance (m) | Specific γ ray constant | Calculated activity (GBq) using specific γ ray constant |
|---------|--|------------------------------|--|-----------------|--------------------------------------|---|
| 1 | | | | | 223 | 0.000000 |
| 2 | | | | | 223 | 0.000000 |
| 3 | | | | | 223 | 0.000000 |
| 4 | | | | | 223 | 0.000000 |
| 5 | | | | | 223 | 0.000000 |
| 6 | | | | | 223 | 0.000000 |
| 7 | | | | | 223 | 0.000000 |
| 8 | | | | | 223 | 0.000000 |
| 9 | | | | | 223 | 0.000000 |
| 10 | | | | | 223 | 0.000000 |
| 11 | | | | | 223 | 0.000000 |
| 12 | | | | | 223 | 0.000000 |
| 13 | | | | | 223 | 0.000000 |
| 14 | | | | | 223 | 0.000000 |
| 15 | | | | | 223 | 0.000000 |
| 16 | | | | | 223 | 0.000000 |
| 17 | | | | | 223 | 0.000000 |
| 18 | | | | | 223 | 0.000000 |
| 19 | | | | | 223 | 0.000000 |
| 20 | | | | | 223 | 0.000000 |
| 21 | | | | | 223 | 0.000000 |
| 22 | | | | | 223 | 0.000000 |
| 23 | | | | | 223 | 0.000000 |
| 24 | | | | | 223 | 0.000000 |
| 25 | | | | | 223 | 0.000000 |
| 26 | | | | | 223 | 0.000000 |
| 27 | | | | | 223 | 0.000000 |
| 28 | | | | | 223 | 0.000000 |
| 29 | | | | | 223 | 0.000000 |
| 30 | | | | | 223 | 0.000000 |
| 31 | | | | | 223 | 0.000000 |
| 32 | | | | | 223 | 0.000000 |
| 33 | | | | | 223 | 0.000000 |
| 34 | | | | | 223 | 0.000000 |
| 35 | | | | | 223 | 0.000000 |
| 36 | | | | | 223 | 0.000000 |
| 37 | | | | | 223 | 0.000000 |
| 38 | | | | | 223 | 0.000000 |
| 39 | | | | | 223 | 0.000000 |
| 40 | | | | | 223 | 0.000000 |
| 41 | | | | | 223 | 0.000000 |

| | | | | | | |
|----|--|--|--|--|-----|----------|
| 42 | | | | | 223 | 0.000000 |
| 43 | | | | | 223 | 0.000000 |
| 44 | | | | | 223 | 0.000000 |
| 45 | | | | | 223 | 0.000000 |
| 46 | | | | | 223 | 0.000000 |
| 47 | | | | | 223 | 0.000000 |
| 48 | | | | | 223 | 0.000000 |
| 49 | | | | | 223 | 0.000000 |
| 50 | | | | | 223 | 0.000000 |

Bag containing general rubble and bits and pieces

Dusts and particles from building including ceiling, wood skirting, plaster, and floor areas etc

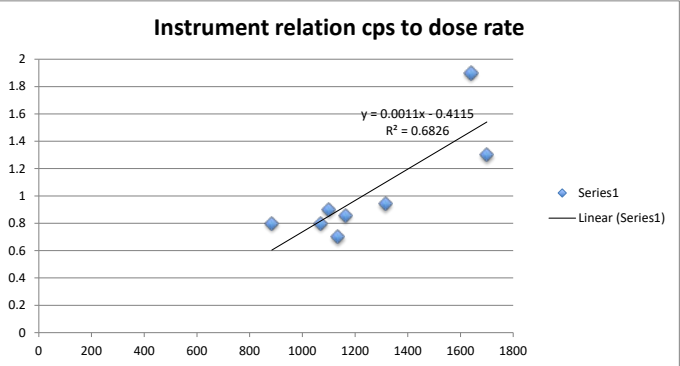
Instrument MTE: 2904

| Bag No. | Dose rate at contact ($\mu\text{Sv/hr}$) | B/g ($\mu\text{Sv/hr}$) | Dose rate ($\mu\text{Sv/hr}$) at: | Distance (m) | Specific γ ray constant | Calculated activity (GBq) using specific γ ray constant |
|---------|--|------------------------------|--|-----------------|--------------------------------------|---|
| 1 | | | | | 223 | 0.000000 |
| 2 | | | | | 223 | 0.000000 |
| 3 | | | | | 223 | 0.000000 |
| 4 | | | | | 223 | 0.000000 |
| 5 | | | | | 223 | 0.000000 |
| 6 | | | | | 223 | 0.000000 |
| 7 | | | | | 223 | 0.000000 |
| 8 | | | | | 223 | 0.000000 |
| 9 | | | | | 223 | 0.000000 |
| 10 | | | | | 223 | 0.000000 |
| 11 | | | | | 223 | 0.000000 |
| 12 | | | | | 223 | 0.000000 |
| 13 | | | | | 223 | 0.000000 |
| 14 | | | | | 223 | 0.000000 |
| 15 | | | | | 223 | 0.000000 |
| 16 | | | | | 223 | 0.000000 |
| 17 | | | | | 223 | 0.000000 |
| 18 | | | | | 223 | 0.000000 |
| 19 | | | | | 223 | 0.000000 |
| 20 | | | | | 223 | 0.000000 |
| 21 | | | | | 223 | 0.000000 |
| 22 | | | | | 223 | 0.000000 |
| 23 | | | | | 223 | 0.000000 |
| 24 | | | | | 223 | 0.000000 |
| 25 | | | | | 223 | 0.000000 |
| 26 | | | | | 223 | 0.000000 |
| 27 | | | | | 223 | 0.000000 |
| 28 | | | | | 223 | 0.000000 |
| 29 | | | | | 223 | 0.000000 |
| 30 | | | | | 223 | 0.000000 |
| 31 | | | | | 223 | 0.000000 |
| 32 | | | | | 223 | 0.000000 |
| 33 | | | | | 223 | 0.000000 |
| 34 | | | | | 223 | 0.000000 |
| 35 | | | | | 223 | 0.000000 |
| 36 | | | | | 223 | 0.000000 |
| 37 | | | | | 223 | 0.000000 |
| 38 | | | | | 223 | 0.000000 |
| 39 | | | | | 223 | 0.000000 |
| 40 | | | | | 223 | 0.000000 |
| 41 | | | | | 223 | 0.000000 |

| | | | | | | |
|----|--|--|--|--|-----|----------|
| 42 | | | | | 223 | 0.000000 |
| 43 | | | | | 223 | 0.000000 |
| 44 | | | | | 223 | 0.000000 |
| 45 | | | | | 223 | 0.000000 |
| 46 | | | | | 223 | 0.000000 |
| 47 | | | | | 223 | 0.000000 |
| 48 | | | | | 223 | 0.000000 |
| 49 | | | | | 223 | 0.000000 |
| 50 | | | | | 223 | 0.000000 |

Background 0.3
200

| Source position | approx dose rate at contact | Side | Dose rate (µSv/h) | Cps |
|-----------------|-----------------------------|------|-------------------|------|
| A | 430 | 1 | 1.3 | 1700 |
| A | 500 | 2 | 0.8 | 884 |
| A | | 3 | 1.9 | 1640 |
| A | | 4 | 0.7 | 1135 |
| B | 500 | 1 | 0.8 | 1070 |
| B | 430 | 2 | 0.9 | 1100 |
| B | | 3 | 0.86 | 1163 |
| B | | 4 | 0.94 | 1315 |



2235 0.71 1586.85
0.353553391 1025.8138

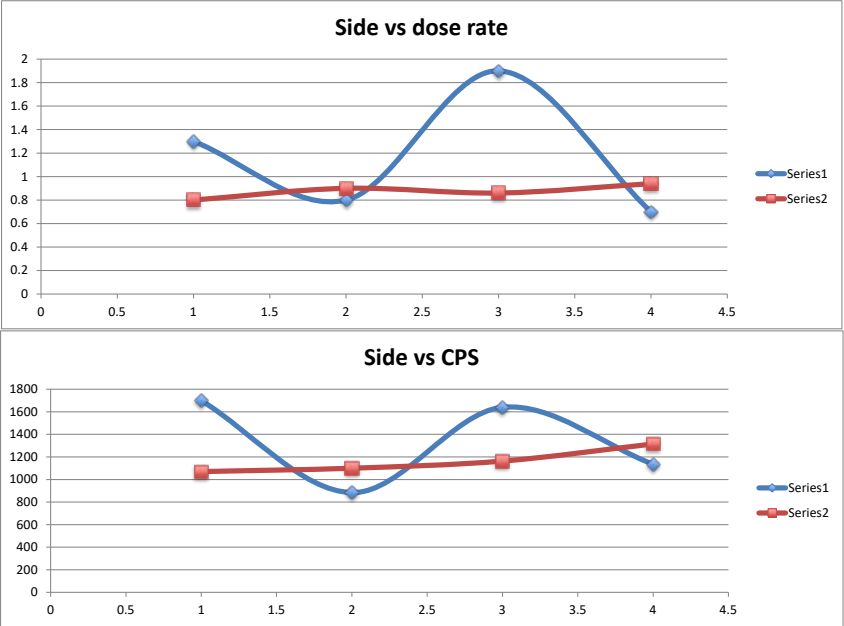
2235 0.306757233 1549.39758
1001.60281

PREDICTED cps value using $I=I(0)\exp(-u \cdot x)$
795.67183
925.0759656
925.0759656
795.67183

0.87440223
1.01674678

Average A or B at different drum sides difference to predicted value
1400 1.759519374
977 1.056129482
1477.5 1.59716613
1149 1.444062686
Standard deviation ERROR %
0.260682077

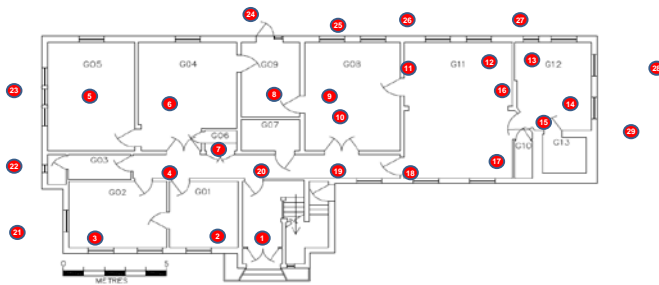
Addition of Errors formulae
ERROR = $\text{SQRT}(\delta x^2 + \delta y^2 + \delta z^2)$
156
Soil error 26%
Instrument Error 25%
Total approximate experimental error 36%



| No. | ²²⁶ Ra Bq/g |
|-------|------------------------|
| 2 | 0.0245 |
| 30 | 0.0245 |
| 4 | 0.027 |
| 24 | 0.027 |
| 25(B) | 0.028 |
| 21 | 0.0295 |
| 23 | 0.031 |
| 22 | 0.034 |
| 3 | 0.0355 |
| 25(A) | 0.0355 |
| 26 | 0.039 |
| 8 | 0.0455 |
| 6 | 0.046 |
| 28 | 0.0525 |
| 19 | 0.0696 |
| 29 | 0.07 |
| 16 | 0.0936 |
| 14 | 0.097 |
| 7 | 0.11 |
| 13 | 0.115 |
| 12 | 0.205 |
| 18 | 0.225 |
| 5 | 0.391 |
| 9 | 0.515 |
| 15(B) | 0.625 |
| 27 | 0.78 |
| 20 | 0.94 |
| 17 | 2.85 |
| 1 | 3.35 |
| 11 | 5.55 |
| 10 | 10 |
| 15(A) | 765 |

0.02695 10%

| No. | Sample ID | Collection Depth (m) | ²²⁶ Ra Bq/g |
|-------|------------|----------------------|------------------------|
| 1 | Entrance | 0.1-0.19 | 3.35 |
| 2 | G01/1 | 0.15-0.2 | 0.0245 |
| 3 | G02/1 | 0.15-0.2 | 0.0355 |
| 4 | C1/1 | 0.15-0.2 | 0.027 |
| 5 | G05 | 0.35-0.4 | 0.285 |
| 6 | G04/1 | 0.2-0.3 | 0.046 |
| 7 | G06/1 | 0.15-0.2 | 0.11 |
| 8 | G09/1 | 0.15 | 0.0455 |
| 9 | G08/1 | 0.39 | 0.515 |
| 10 | G08-2/1 | 0.1 | 10 |
| 11 | G11-4/1 | 0.1-0.2 | 5.55 |
| 12 | G11-5/1 | 0.15-0.2 | 0.205 |
| 13 | G12-2/1 | 0.1-0.2 | 0.115 |
| 14 | G12-4/1 | 0.15 | 0.097 |
| 15(A) | G13/1-A | 0.15-0.2 | 765 |
| 15(B) | G13/1-B | 0.1 | 0.625 |
| 16 | G11-3/1 | 0.15 | 0.0936 |
| 17 | G11-2/1 | 0.1 | 2.85 |
| 18 | G11-1/1 | 0.15-0.2 | 0.225 |
| 19 | C3/1 | 0.15 | 0.0695 |
| 20 | C2/2 | 0.2 | 0.94 |
| 21 | C | 0.15-0.25 | 0.0295 |
| 22 | F | 0.1-0.2 | 0.034 |
| 23 | B | 0.15-0.3 | 0.031 |
| 24 | | 0.15 | 0.027 |
| 25(A) | H(A) | 0.15 | 0.0355 |
| 25(B) | H(B) | 0.3 | 0.028 |
| 26 | G | 0.2-0.26 | 0.039 |
| 27 | A | 0.15 | 0.78 |
| 28 | E | 0.2 | 0.0525 |
| 29 | D | 0.15 | 0.07 |
| 30 | Background | 0.1-0.2 | 0.0245 |

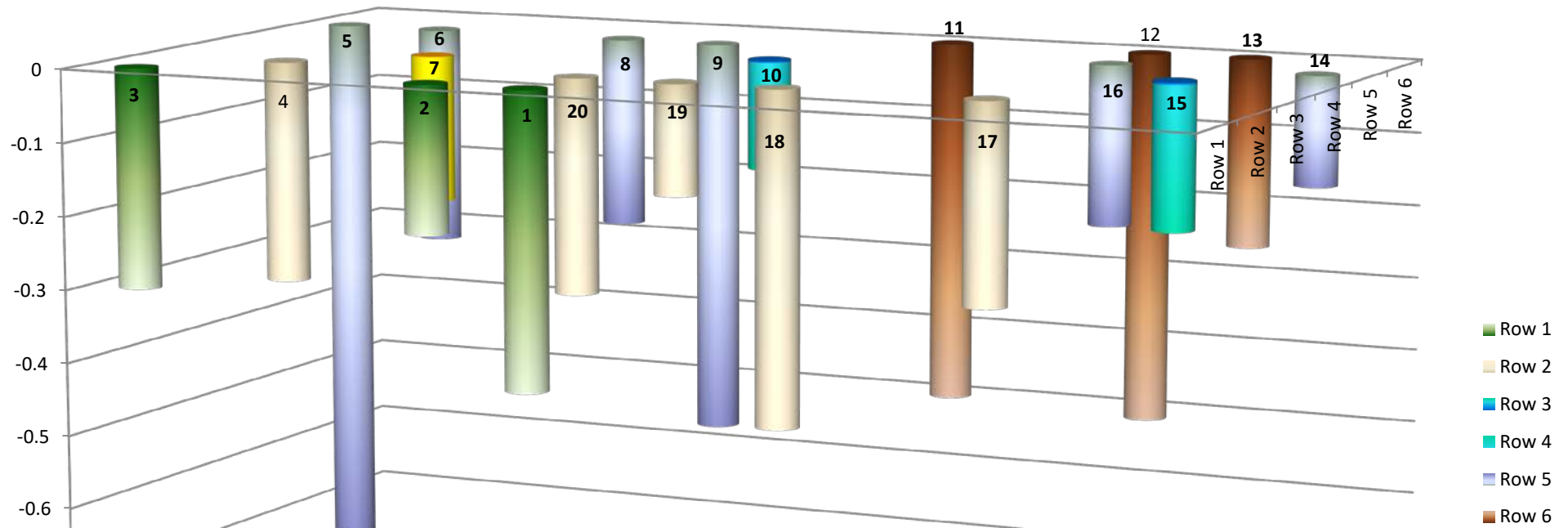


Sample 30 is a background sample collected from a grassed area North of the School of Chemical Engineering building

Maximum Depth of bore holes within Building 164

| | | | | | | | | | | | |
|-----------|-------|------|------|-------|-------|-------|-------|--|-------|-------|-------|
| Row 1 | -0.3 | | | -0.2 | -0.4 | | | | | | |
| Survey Pt | | | | | | | | | | | |
| Row 2 | | -0.3 | | | -0.29 | -0.15 | -0.45 | | -0.27 | | |
| Survey Pt | | | | | | | | | | | |
| Row 3 | | | -0.2 | | | | | | | | |
| Survey Pt | | | | | | | | | | | |
| Row 4 | | | | | | -0.15 | | | -0.2 | | |
| Survey Pt | | | | | | | | | | | |
| Row 5 | -0.74 | -0.3 | | -0.26 | -0.54 | | | | -0.22 | | -0.15 |
| Survey Pt | | | | | | | | | | | |
| Row 6 | | | | | | | -0.5 | | -0.51 | -0.26 | |
| Survey Pt | | | | | | | | | | | |

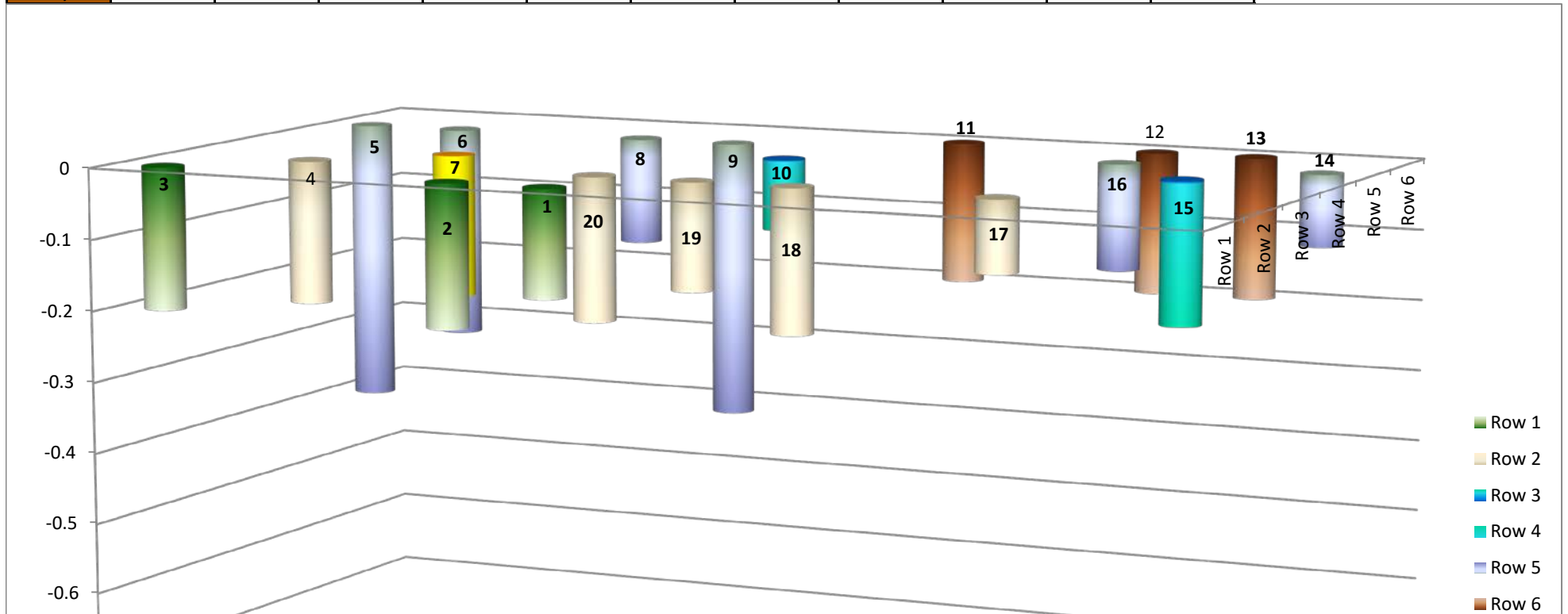
Maximum depth of each bore hole

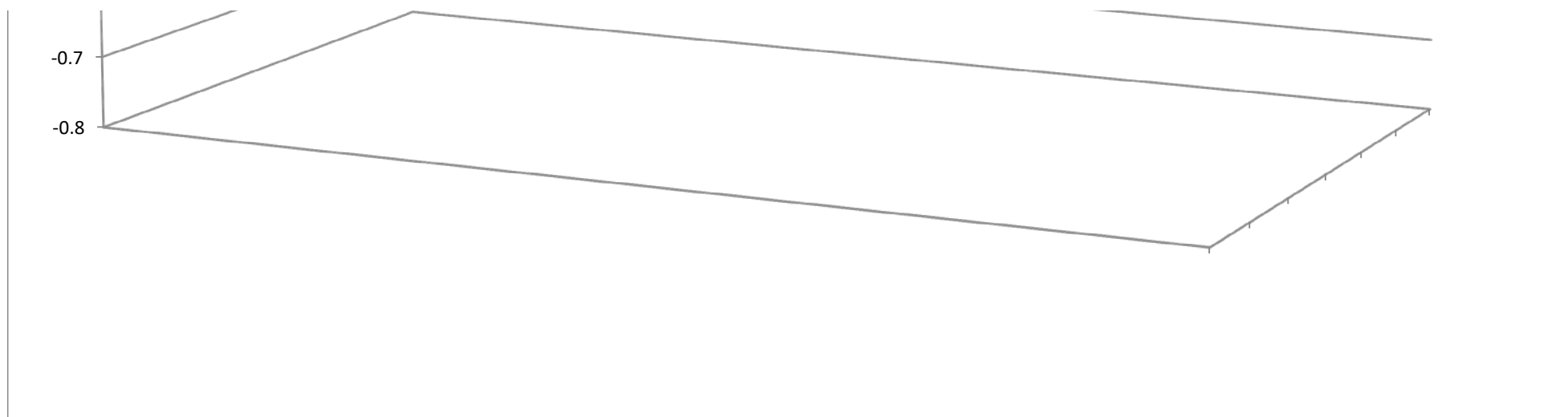




Maximum Depth of bore holes within Building 164

| | | | | | | | | | | | |
|-----------|------|------|------|-------|-------|-------|------|--|-------|------|------|
| Row 1 | -0.2 | | | -0.2 | -0.15 | | | | | | |
| Survey Pt | 3 | | | 2 | 1 | | | | | | |
| Row 2 | | -0.2 | | | -0.2 | -0.15 | -0.2 | | -0.1 | | |
| Survey Pt | | 4 | | | 20 | 19 | 18 | | 17 | | |
| Row 3 | | | -0.2 | | | | | | | | |
| Survey Pt | | | 7 | | | | | | | | |
| Row 4 | | | | | | -0.1 | | | -0.2 | | |
| Survey Pt | | | | | | 10 | | | 15 | | |
| Row 5 | -0.4 | -0.3 | | -0.15 | -0.39 | | | | -0.15 | | -0.1 |
| Survey Pt | 5 | 6 | | 8 | 9 | | | | 16 | | 14 |
| Row 6 | | | | | | | -0.2 | | -0.2 | -0.2 | |
| Survey Pt | | | | | | | 11 | | 12 | 13 | |

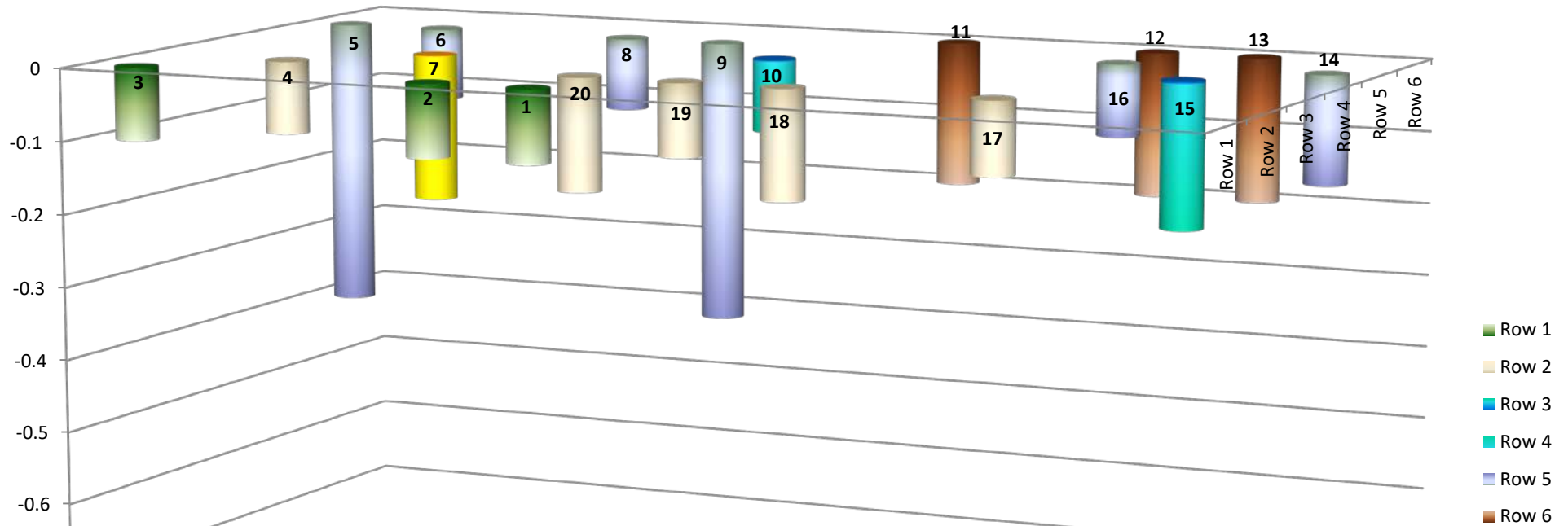


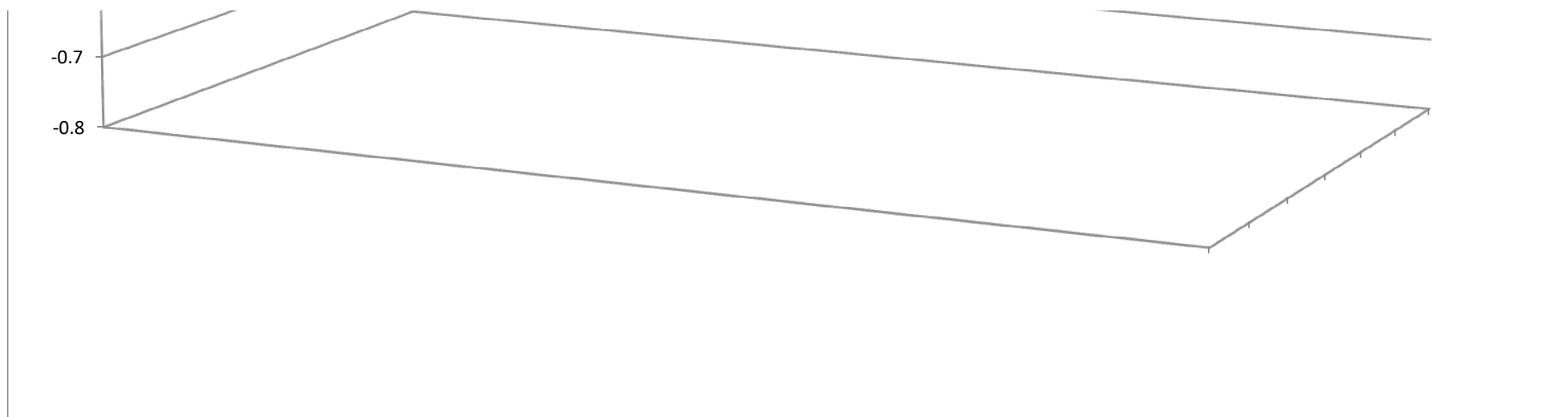


Maximum Depth of bore holes within Building 164

| | | | | | | | | | | | |
|-----------|------|------|------|------|--------|------|-------|--|------|------|-------|
| Row 1 | -0.1 | | | -0.1 | -0.1 | | | | | | |
| Survey Pt | 3 | | | 2 | 1 | | | | | | |
| Row 2 | | -0.1 | | | -0.155 | -0.1 | -0.15 | | -0.1 | | |
| Survey Pt | | 4 | | | 20 | 19 | 18 | | 17 | | |
| Row 3 | | | -0.2 | | | | | | | | |
| Survey Pt | | | 7 | | | | | | | | |
| Row 4 | | | | | | -0.1 | | | | -0.2 | |
| Survey Pt | | | | | | 10 | | | 15 | | |
| Row 5 | -0.4 | -0.1 | | -0.1 | -0.39 | | | | -0.1 | | -0.15 |
| Survey Pt | 5 | 6 | | 8 | 9 | | | | 16 | | 14 |
| Row 6 | | | | | | | -0.2 | | -0.2 | -0.2 | |
| Survey Pt | | | | | | | 11 | | 12 | 13 | |

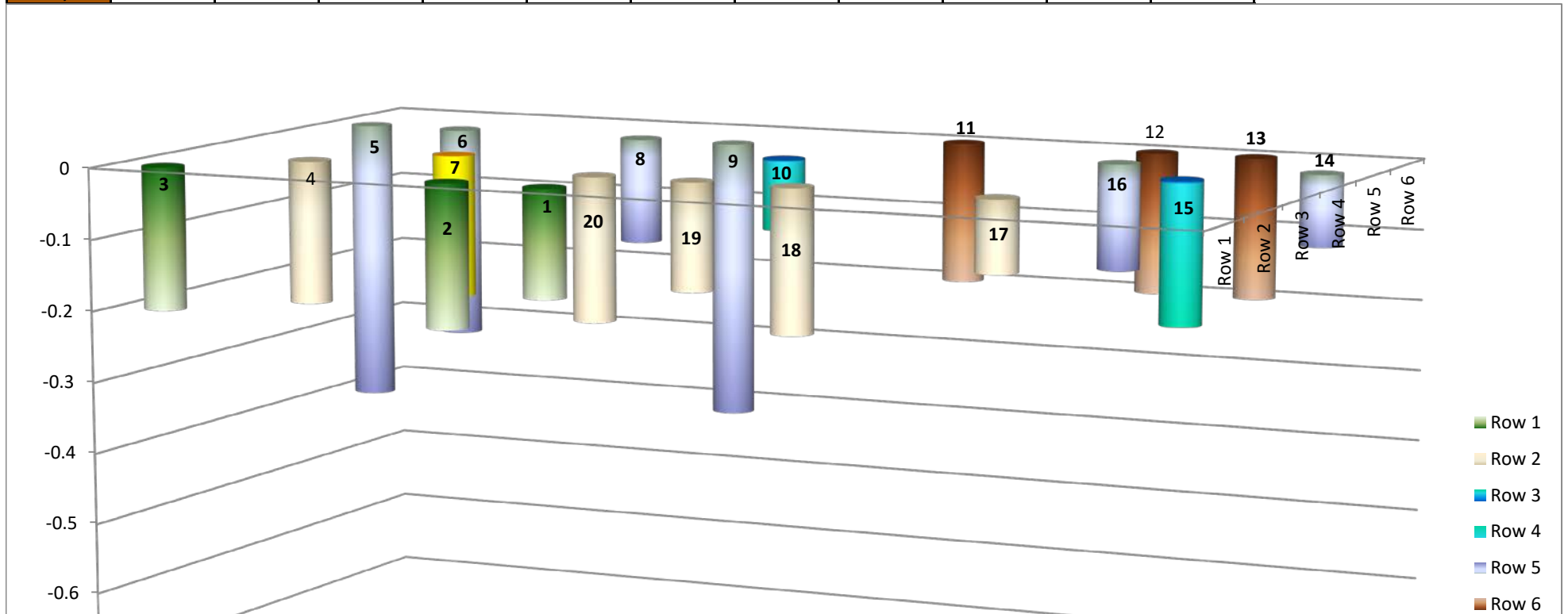
Depth where maximum count rate measured for each bore hole

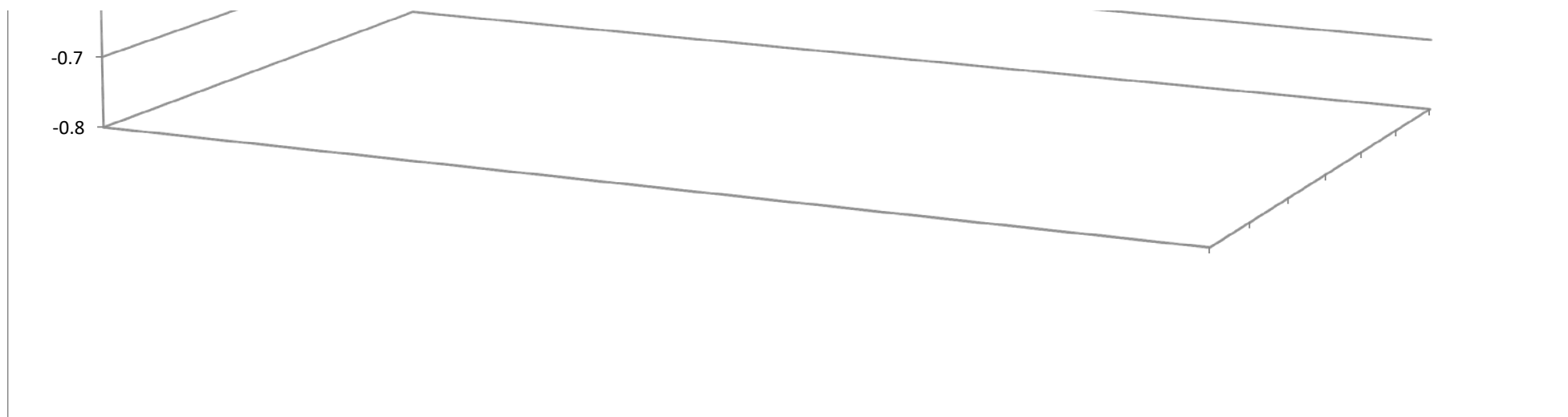




Maximum Depth of bore holes within Building 164

| | | | | | | | | | | | |
|-----------|------|------|------|-------|-------|-------|------|--|-------|------|------|
| Row 1 | -0.2 | | | -0.2 | -0.15 | | | | | | |
| Survey Pt | 3 | | | 2 | 1 | | | | | | |
| Row 2 | | -0.2 | | | -0.2 | -0.15 | -0.2 | | -0.1 | | |
| Survey Pt | | 4 | | | 20 | 19 | 18 | | 17 | | |
| Row 3 | | | -0.2 | | | | | | | | |
| Survey Pt | | | 7 | | | | | | | | |
| Row 4 | | | | | | -0.1 | | | -0.2 | | |
| Survey Pt | | | | | | 10 | | | 15 | | |
| Row 5 | -0.4 | -0.3 | | -0.15 | -0.39 | | | | -0.15 | | -0.1 |
| Survey Pt | 5 | 6 | | 8 | 9 | | | | 16 | | 14 |
| Row 6 | | | | | | | -0.2 | | -0.2 | -0.2 | |
| Survey Pt | | | | | | | 11 | | 12 | 13 | |

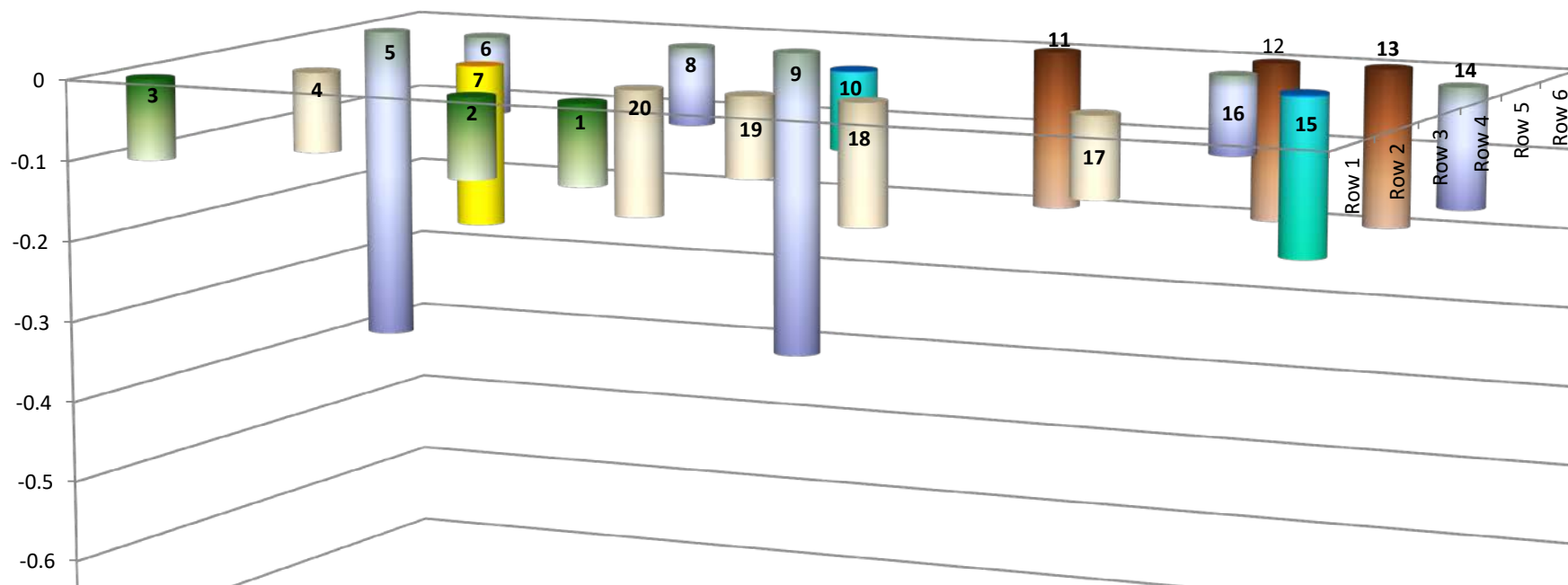


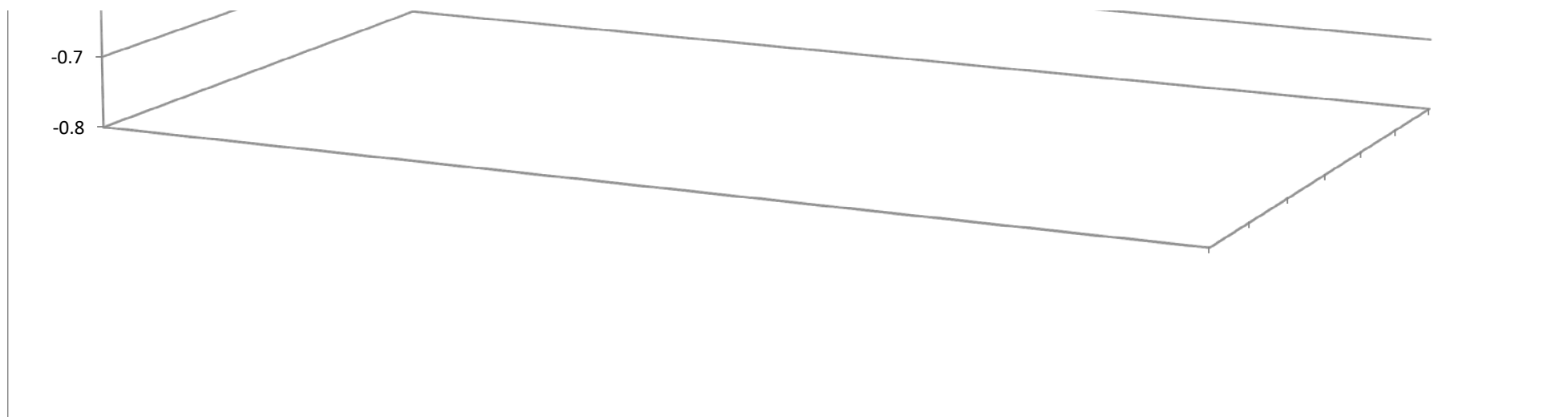


Maximum Depth of bore holes within Building 164

| | | | | | | | | | | | |
|-----------|------|------|------|------|--------|------|-------|--|------|------|-------|
| Row 1 | -0.1 | | | -0.1 | -0.1 | | | | | | |
| Survey Pt | 3 | | | 2 | 1 | | | | | | |
| Row 2 | | -0.1 | | | -0.155 | -0.1 | -0.15 | | -0.1 | | |
| Survey Pt | | 4 | | | 20 | 19 | 18 | | 17 | | |
| Row 3 | | | -0.2 | | | | | | | | |
| Survey Pt | | | 7 | | | | | | | | |
| Row 4 | | | | | | -0.1 | | | | -0.2 | |
| Survey Pt | | | | | | 10 | | | 15 | | |
| Row 5 | -0.4 | -0.1 | | -0.1 | -0.39 | | | | -0.1 | | -0.15 |
| Survey Pt | 5 | 6 | | 8 | 9 | | | | 16 | | 14 |
| Row 6 | | | | | | | -0.2 | | -0.2 | -0.2 | |
| Survey Pt | | | | | | | 11 | | 12 | 13 | |

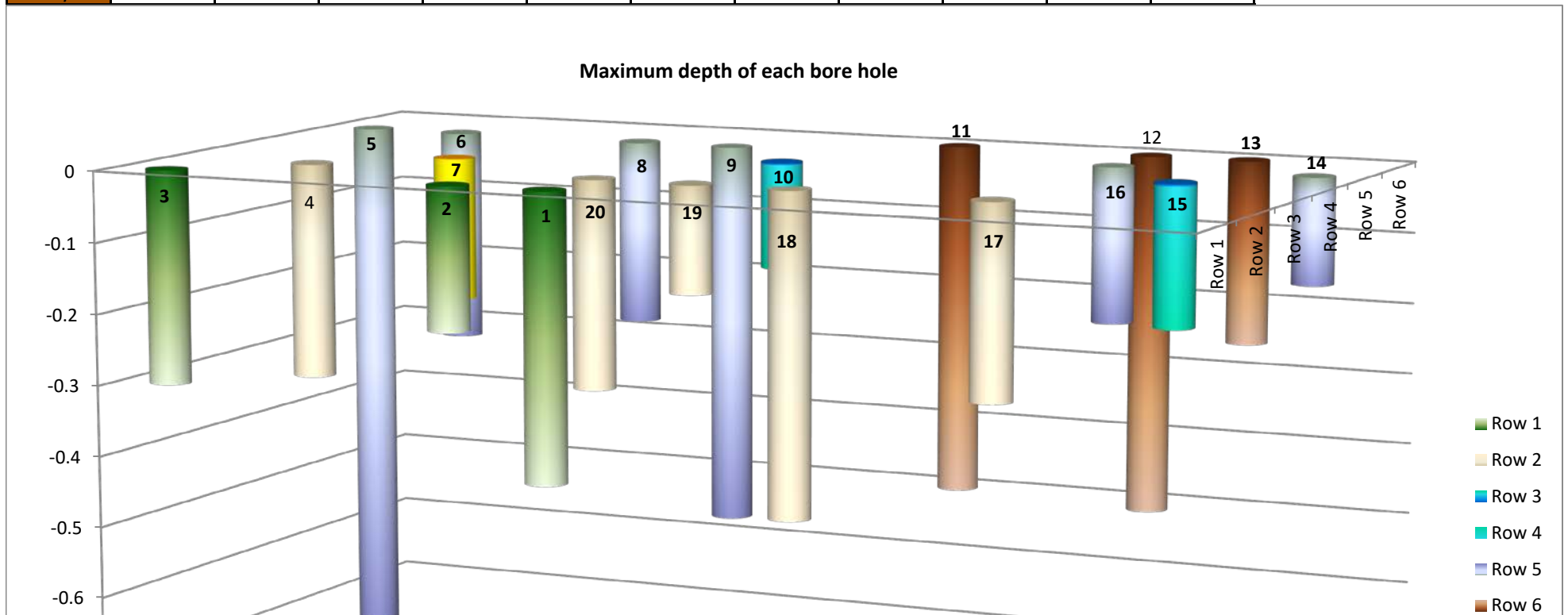
Depth where maximum count rate was measured for each bore hole

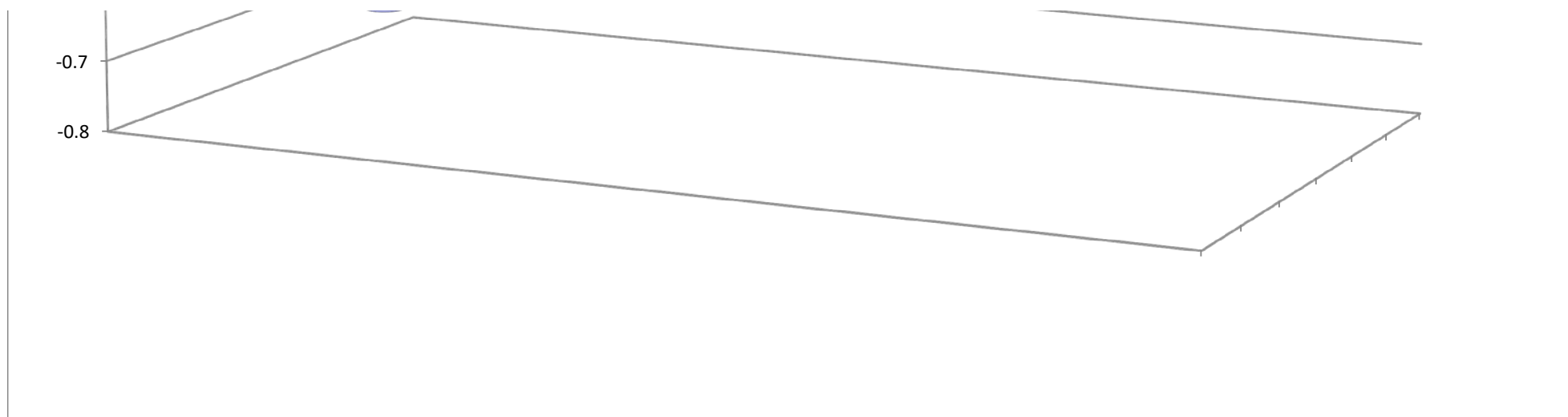




Maximum Depth of bore holes within Building 164

| | | | | | | | | | | | |
|-----------|-------|------|------|-------|-------|-------|-------|--|-------|-------|-------|
| Row 1 | -0.3 | | | -0.2 | -0.4 | | | | | | |
| Survey Pt | | | | | | | | | | | |
| Row 2 | | -0.3 | | | -0.29 | -0.15 | -0.45 | | -0.27 | | |
| Survey Pt | | | | | | | | | | | |
| Row 3 | | | -0.2 | | | | | | | | |
| Survey Pt | | | | | | | | | | | |
| Row 4 | | | | | | -0.15 | | | | -0.2 | |
| Survey Pt | | | | | | | | | | | |
| Row 5 | -0.74 | -0.3 | | -0.26 | -0.54 | | | | -0.22 | | -0.15 |
| Survey Pt | | | | | | | | | | | |
| Row 6 | | | | | | | -0.5 | | -0.51 | -0.26 | |
| Survey Pt | | | | | | | | | | | |





ANALYTICAL REQUEST FORM

IER (Inorganic/Tritium/MLR)

INSTRUCTIONS:

Very Important Note: prior commitments will determine the date(s) sample analyses commence.

- 1) This form is designed to be filled out 100% electronically.
- 2) **Please complete all 4 sections**
- 3) Don't forget to include ANY sample preparation requirements in the section provided &/or attach an extra worksheet.
- 4) **Please** remember to include an Excel table with **your sample identities**, in the next sheet of this workbook.

e-mail the completed form to [REDACTED]

- 5) A printout (b/w) of this form **MUST** accompany the submitted sample(s) with your Project Leader's **signature**

Section 1 - Client's Information

| | | | | | |
|---|--|--|---|---|------------|
| Requestor's Name: | [REDACTED] | | | Phone No.: | [REDACTED] |
| E-mail: | [REDACTED] | | | Date Submitted: | 13/03/2012 |
| Requestor's Association: | ANSTO staff <input checked="" type="checkbox"/> | Project Student <input type="checkbox"/> | AINSE Student <input type="checkbox"/> | External client <input type="checkbox"/> | |
| Urgency | High <input type="checkbox"/> | Med <input type="checkbox"/> | Low <input type="checkbox"/> | | |
| Sample Summary (No., type etc): | 34 x Soil Samples for damma spec (U and Th series) | | | | |
| Hazards : (chemical, radioactive, biological etc) | Radiological | | | | |
| Matrix & other Relevant Info: (be specific) | | | | | |
| Project : | Safety Commercial | | WBS element: 0073k-1-3 | | |
| Association: (choose more than one if appropriate) | ANSTO Project OP: | | AINSE Project <input type="checkbox"/> | | |
| | Research <input type="checkbox"/> | Commercial <input checked="" type="checkbox"/> | Safety <input type="checkbox"/> | Other ANSTO division/Facility <input type="checkbox"/> | |
| Accounting: | running cost: | | estimated staff time: | | |
| Sample Disposition at Completion of Analyses : | Discard <input type="checkbox"/> | | OR Return to Client/Originator <input checked="" type="checkbox"/> | | |

| | |
|--------------------------|-----------------------|
| Project Leader Approval: | Name: Robert Blackley |
|--------------------------|-----------------------|

ANALYTICAL REQUEST FORM **IER (Inorganic/Tritium/MLR)**

Section 2 - Sample Preparation

| | | |
|---|---|---|
| <input type="checkbox"/> Filtration (0.2 or 0.45µm) | <input type="checkbox"/> Nitric acid Leach | <input type="checkbox"/> Mixed acid leach |
| <input type="checkbox"/> Total Digestion | <input type="checkbox"/> TCLP | <input type="checkbox"/> Special request - please specify |
| <input type="checkbox"/> Freeze Drying | <input type="checkbox"/> Acidification (HNO ₃ / HCl) | <input type="checkbox"/> Not Required |

Section 3 - Analyses Required

| | | |
|--|---|--|
| <u>Inorganic Laboratory</u> | | |
| Physical Measurements | | |
| <input type="checkbox"/> Eh | <input type="checkbox"/> pH | <input type="checkbox"/> Turbidity |
| <input type="checkbox"/> Conductivity | <input type="checkbox"/> Acid/Base Accounting | <input type="checkbox"/> Alkalinity if present |
| <input type="checkbox"/> TSS - Suspended Solids | <input type="checkbox"/> TDS - Total Dissolved Solids | <input type="checkbox"/> Special request - please specify |
| Instrumental Measurements | | |
| <input type="checkbox"/> IC: F ⁻ Cl ⁻ Br ⁻ NO ₂ ⁻ NO ₃ ⁻ SO ₄ ²⁻ <small>(delete unwanted anions)</small> | | |
| <input type="checkbox"/> ICPAES - specify elements required on periodic table below | | <input type="checkbox"/> Speciation <small>(specify elemental species):</small> |
| <input type="checkbox"/> ICPMS - specify elements required on periodic table below | | |

ANALYTICAL REQUEST FORM **IER (Inorganic/Tritium/MLR)**

Radiochemical and Tritium Laboratories

- ☐ Sample Preparation
- ☐ Tritium ☐ including concentration via electrolysis
- ☐ Liquid Scintillation Counting
(specify nuclides):

Gamma Spectrometry:

- ☐ Qualitative
- ☒ Natural radioactivity (U + daughters, Th + daughters, K)
- ☐ Natural radioactivity (Specify nuclides)
- ☐ Fission Products (Specify)
- ☐ Natural Radioactivity (^{214}Pb , ^{210}Pb , ^{228}Ac , ^{212}Pb , ^{40}K)
- ☐ Fission Products (B23 & B41 Pond Samples)
- ☐ Other - pls specify

| | | | | | | | | | | | | | | | | |
|----|----|-----------------------|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|
| Li | Be | Then close the window | | | | | | | | | | B | C | N | O | F |
| Na | Mg | | | | | | | | | | | Al | Si | P | S | Cl |
| K | Ca | Sc | Ti | V | Cr | Mn | Fe | Co | Ni | Cu | Zn | Ga | Ge | As | Se | Br |
| Rb | Sr | Y | Zr | Nb | Mo | Tc | Ru | Rh | Pd | Ag | Cd | In | Sn | Sb | Te | I |
| Cs | Ba | La | Hf | Ta | W | Re | Os | Ir | Pt | Au | Hg | Tl | Pb | Bi | Po | At |
| Fr | Ra | Ac | Rf | Db | Sg | Bh | Hs | Mt | Uun | | | | | | | |
| | | Ce | Pr | Nd | Pm | Sm | Eu | Gd | Tb | Dy | Ho | Er | Tm | Yb | Lu | |
| | | Th | Pa | U | Np | Pu | Am | Cm | Bk | Cf | Es | Fm | Md | No | Lr | |

TEST FORM
tritium/MLR)

- ☐ Elements in **YELLOW** are standard ICP-AES analytes; quantification limits 50 – 100 ppb.
- ☐ Elements in **RED** are standard ICP-MS analytes; quantification limits 1 – 10 ppb.
- ☐ Elements in **BLUE** may only be analysed via special arrangement.
- ☐ Elements in **GREEN** are standard IC analytes.
- ☐ Elements in **PINK** are CNS analytes.
- ☐ Elements in **BLACK** can not be analysed.

Section 4 - Sample ID

| LIMS ID | Sample ID | Sample Description |
|-------------------|-----------|--|
| C2/2 | | Soil Samples taken from underneath the flooring of B164 Me |
| G11-4/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| E | | Soil Samples taken outside B164 Melb. Uni. |
| D | | Soil Samples taken outside B164 Melb. Uni. |
| H (B) | | Soil Samples taken outside B164 Melb. Uni. |
| H (A) | | Soil Samples taken outside B164 Melb. Uni. |
| G06/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G08-2/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| C | | Soil Samples taken outside B164 Melb. Uni. |
| B | | Soil Samples taken outside B164 Melb. Uni. |
| G13/1-A | | Soil Samples taken from underneath the flooring of B164 Me |
| G | | Soil Samples taken outside B164 Melb. Uni. |
| I | | Soil Samples taken outside B164 Melb. Uni. |
| F | | Soil Samples taken outside B164 Melb. Uni. |
| ENTRANCE | | Soil Samples taken from underneath the flooring of B164 Me |
| BG | | Soil Samples taken from underneath the flooring of B164 Me |
| A | | Soil Samples taken outside B164 Melb. Uni. |
| G08/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G05 | | Soil Samples taken from underneath the flooring of B164 Me |
| G12-1/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G02/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| C3 | | Soil Samples taken from underneath the flooring of B164 Me |
| G09/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G11-3/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G11-2/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G11-5 | | Soil Samples taken from underneath the flooring of B164 Me |
| G13/1-B | | Soil Samples taken from underneath the flooring of B164 Me |
| G01/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G11/1-1 | | Soil Samples taken from underneath the flooring of B164 Me |
| C1/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G04/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G-12-2/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| C2/2 Duplicate | | Soil Samples taken from underneath the flooring of B164 Me |
| G11-4/1 Duplicate | | Soil Samples taken from underneath the flooring of B164 Me |

| Bar Code No | Sample No | Room No | TE Num | Radon concentration Bq*m-3 | Error Bq*m-3 |
|-------------|-----------|-------------|--------|-------------------------------|-----------------|
| 204756 | 13 | G13 | TE13 | 822 | 14.0 |
| 204758 | 15 | Under floor | TE15 | 303 | 8.9 |
| 204735 | 1 | G01 | TE1 | 283 | 8.1 |
| 204760 | 16 | Under floor | TE16 | 275 | 8.5 |
| 204743 | 6 | G06 | TE6 | 270 | 8.1 |
| 204752 | 9 | G09 | TE9 | 266 | 8.1 |
| 204742 | 5 | G05 | TE5 | 261 | 7.9 |
| 204754 | 11 | G11 | TE11 | 235 | 7.8 |
| 204757 | 14 | G Hallway | TE14 | 223 | 7.7 |
| 204738 | 3 | G03 | TE3 | 218 | 7.3 |
| 204736 | 2 | G02 | TE2 | 206 | 7.1 |
| 204751 | 8 | G08 | TE8 | 200 | 7.2 |
| 204755 | 12 | G12 | TE12 | 192 | 7.2 |
| 204750 | 7 | G07 | TE7 | 189 | 7.0 |
| 204741 | 4 | G04 | TE4 | 179 | 6.7 |
| 204753 | 10 | G10 | TE10 | 174 | 6.8 |
| 204765 | 19 | 102 | TE19 | 165 | 6.9 |
| 204772 | 26 | Stairway | TE26 | 65 | 4.4 |
| 204764 | 18 | 101 | TE18 | 50 | 4.5 |
| 204767 | 21 | 104 | TE21 | 48 | 4.6 |
| 204763 | 17 | Hallway | TE17 | 45 | 4.4 |
| 204766 | 20 | 103 | TE20 | 39 | 4.3 |
| 204768 | 22 | 105 | TE22 | 32 | 4.2 |
| 204770 | 24 | 107 | TE24 | 30 | 4.1 |
| 204769 | 23 | 106 | TE23 | 28 | 4.1 |
| 204771 | 25 | 108 | TE25 | 18 | 3.2 |

| Bar Code No | Sample No | Room No | TE Num | Radon concentration Bq*m-3 | Error Bq*m-3 |
|-------------|-----------|-------------|--------|-------------------------------|-----------------|
| 204735 | 1 | G01 | TE1 | 283 | 8.1 |
| 204736 | 2 | G02 | TE2 | 206 | 7.1 |
| 204738 | 3 | G03 | TE3 | 218 | 7.3 |
| 204741 | 4 | G04 | TE4 | 179 | 6.7 |
| 204742 | 5 | G05 | TE5 | 261 | 7.9 |
| 204743 | 6 | G06 | TE6 | 270 | 8.1 |
| 204750 | 7 | G07 | TE7 | 189 | 7.0 |
| 204751 | 8 | G08 | TE8 | 200 | 7.2 |
| 204752 | 9 | G09 | TE9 | 266 | 8.1 |
| 204753 | 10 | G10 | TE10 | 174 | 6.8 |
| 204754 | 11 | G11 | TE11 | 235 | 7.8 |
| 204755 | 12 | G12 | TE12 | 192 | 7.2 |
| 204756 | 13 | G13 | TE13 | 822 | 14.0 |
| 204757 | 14 | G Hallway | TE14 | 223 | 7.7 |
| 204758 | 15 | Under floor | TE15 | 303 | 8.9 |
| 204760 | 16 | Under floor | TE16 | 275 | 8.5 |
| 204763 | 17 | Hallway | TE17 | 45 | 4.4 |
| 204764 | 18 | 101 | TE18 | 50 | 4.5 |
| 204765 | 19 | 102 | TE19 | 165 | 6.9 |
| 204766 | 20 | 103 | TE20 | 39 | 4.3 |
| 204767 | 21 | 104 | TE21 | 48 | 4.6 |
| 204768 | 22 | 105 | TE22 | 32 | 4.2 |
| 204769 | 23 | 106 | TE23 | 28 | 4.1 |
| 204770 | 24 | 107 | TE24 | 30 | 4.1 |
| 204771 | 25 | 108 | TE25 | 18 | 3.2 |
| 204772 | 26 | Stairway | TE26 | 65 | 4.4 |

Table Radiological QA / QC Intralab Duplicate Results

| Date Sampled | Units | | | RPD % | | | RPD % | | | RPD % |
|-----------------------|-------|------|--------------|-------|-----|-----|---------|-----|-----|---------|
| Sample ID | | D1 | D1 Duplicate | | | | | | | |
| Type of Sample / RPD% | | | | | | | | | | |
| Isotopes | | | | | | | | | | |
| Th-234 | Bq/g | 0.17 | 0.15 | 12.5 | | | #DIV/0! | | | #DIV/0! |
| Pa-234m | Bq/g | 0.30 | 0.28 | 6.9 | | | #DIV/0! | | | #DIV/0! |
| Th-230 | Bq/g | 0.28 | 0.28 | 0.0 | | | #DIV/0! | | | #DIV/0! |
| Pb-214 | Bq/g | 0.16 | 0.15 | 6.5 | | | #DIV/0! | | | #DIV/0! |
| Bi-214 | Bq/g | 0.16 | 0.14 | 13.3 | | | #DIV/0! | | | #DIV/0! |
| Pb-210 | Bq/g | 0.14 | 0.12 | 15.4 | | | #DIV/0! | | | #DIV/0! |
| Ac-228 | Bq/g | 0.48 | 0.44 | 8.7 | | | #DIV/0! | | | #DIV/0! |
| Th-228 | Bq/g | 0.37 | 0.48 | 25.9 | | | #DIV/0! | | | #DIV/0! |
| Ra-224 | Bq/g | 0.46 | 0.41 | 11.0 | | | #DIV/0! | | | #DIV/0! |
| Pb-212 | Bq/g | 0.47 | 0.43 | 8.9 | | | #DIV/0! | | | #DIV/0! |
| Bi-212 | Bq/g | 0.49 | 0.45 | 8.5 | | | #DIV/0! | | | #DIV/0! |
| Tl-208 | Bq/g | 0.16 | 0.14 | 13.3 | | | #DIV/0! | | | #DIV/0! |
| U-235 | Bq/g | 0.02 | 0.02 | 0.0 | | | #DIV/0! | | | #DIV/0! |
| Th-227 | Bq/g | 0.02 | 0.01 | 41.9 | | | #DIV/0! | | | |
| K-40 | Bq/g | 0.09 | 0.08 | 13.3 | | | #DIV/0! | | | |
| | | | | | | | | | | |
| | Bq/g | 7.1 | 6.4 | 10.0 | 0.0 | 0.0 | #DIV/0! | 0.0 | 0.0 | #DIV/0! |
| | | | | | | | | | | |

Table xx
Radiological Results

Melbourne Uni

| Date Sampled | | | | 19/06/2012 | | | | | | | | | | | | | | |
|-----------------------------------|--------|---------|---------|------------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|
| Sample ID | Units | Limit 1 | Limit 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15a |
| Number of samples: | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Isotopes | | | | | | | | | | | | | | | | | | |
| | Ra-226 | Bq/g | 10 | 10000 | 3.35 | 0.02 | 0.04 | 0.03 | 0.29 | 0.05 | 0.11 | 0.05 | 0.52 | 10.00 | 5.55 | 0.21 | 0.12 | 0.10 |
| | Ra-224 | Bq/g | 10 | 100000 | | | | | | | | | | | | | | |
| Ra-226 Activity (incl background) | | Bq/g | 1 | | 3.35 | 0.02 | 0.04 | 0.03 | 0.29 | 0.05 | 0.11 | 0.05 | 0.52 | 10.00 | 5.55 | 0.21 | 0.12 | 0.10 |
| Background Ra-226 | | Bq/g | | | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Total Activity (above background) | | Bq/g | 1 | | 3.33 | 0.00 | 0.01 | 0.00 | 0.26 | 0.02 | 0.09 | 0.02 | 0.49 | 9.98 | 5.53 | 0.18 | 0.09 | 0.07 |

Notes

Bq/g = Becquerels per gram

| | |
|-----------------|---|
| Exceeds Limit 1 | ? |
| Exceeds Limit 2 | ? |

Under building

| | | |
|--------------------|------|------|
| Average | 1.24 | Bq/g |
| Standard Deviation | 2.51 | |
| Medium | 0.14 | |
| Skewedness | 0.44 | |

Outside building

| | | |
|-----------------|------|------|
| Average | 0.14 | Bq/g |
| Standard Deviat | 0.27 | |
| Medium | 0.01 | |
| Skewedness | 0.47 | |

Derived Concentration Guideline Level is 100Bq/g Ra-226 above background

| | | | |
|---|----------|----------|--------|
| 1 | Entrance | 0.1-0.15 | 3.35 |
| 2 | G01/1 | 0.15-0.2 | 0.0245 |
| 3 | G02/1 | 0.15-0.2 | 0.0355 |

Table xx
Radiological Results

Melbourne Uni

| Date Sampled | | | | 19/06/2012 | | | | | | | | | | | | | | |
|-----------------------------------|-------|---------|---------|------------|------|------|------|------|------|------|------|------|-------|------|------|------|------|--------|
| Sample ID | Units | Limit 1 | Limit 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15a |
| Number of samples: | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Isotopes | | | | | | | | | | | | | | | | | | |
| Ra-226 | Bq/g | 10 | 10000 | 3.35 | 0.02 | 0.04 | 0.03 | 0.29 | 0.05 | 0.11 | 0.05 | 0.52 | 10.00 | 5.55 | 0.21 | 0.12 | 0.10 | 765.00 |
| Ra-224 | Bq/g | 10 | 100000 | | | | | | | | | | | | | | | |
| Ra-226 Activity (incl background) | Bq/g | 1 | | 3.35 | 0.02 | 0.04 | 0.03 | 0.29 | 0.05 | 0.11 | 0.05 | 0.52 | 10.00 | 5.55 | 0.21 | 0.12 | 0.10 | 765.00 |
| Background Ra-226 | Bq/g | | | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Total Activity (above background) | Bq/g | 1 | | 3.33 | 0.00 | 0.01 | 0.00 | 0.26 | 0.02 | 0.09 | 0.02 | 0.49 | 9.98 | 5.53 | 0.18 | 0.09 | 0.07 | 764.98 |

Notes

Bq/g = Becquerels per gram

| | |
|-----------------|---|
| Exceeds Limit 1 | ? |
| Exceeds Limit 2 | ? |

Under building

| | | |
|--------------------|--------|------|
| Average | 37.60 | Bq/g |
| Standard Deviation | 166.68 | |
| Medium | 0.18 | |
| Skewedness | 0.22 | |

Outside building

| | | |
|-----------------|------|------|
| Average | 0.14 | Bq/g |
| Standard Deviat | 0.27 | |
| Medium | 0.01 | |
| Skewedness | 0.47 | |

Derived Concentration Guideline Level is 100Bq/g Ra-226 above background

| | | | |
|---|----------|----------|--------|
| 1 | Entrance | 0.1-0.15 | 3.35 |
| 2 | G01/1 | 0.15-0.2 | 0.0245 |
| 3 | G02/1 | 0.15-0.2 | 0.0355 |

| Survey Point | Description | CPS 2" Na-I detector reading at contact | GM detector gamma reading at contact (uSv/h) | Observed dose rate/hr Environmental gamma monitor at 1 metre (uSv/h) | 100 sec counts Environmental gamma monitor at 1 metre (uSv/h) | Background subtraction | Net dose rate/hr at 1 metre environmental gamma monitor derived from integrated count over 100 seconds using radium calibration factors (uSv/h) |
|--------------|--|---|--|--|---|------------------------|---|
| A | Background outside building | 195 | | 0.13 | 214 | | 0.11 |
| B | Background on large grassed area towards Grattan St gate 9 | 145 | | 0.1 | 151 | | 0.08 |
| C | Background at Grattan St gate 9 | 135 | | 0.1 | 155 | | 0.08 |
| 1 | Door mat | 600 | | 0.17 | 246 | 151 | 0.049 |
| 2 | Entrance to bld | 350 | | 0.13 | 254 | 151 | 0.053 |
| 3 | Hallway 1 | 1300 | 1/0.3 | 0.16 | 305 | 151 | 0.080 |
| 4 | Hallway 2 | 800 | | 0.2 | 334 | 151 | 0.095 |
| 5 | Hallway 3 | 2500 | 2.2/0.43 | 1.2 | 1697 | 151 | 0.801 |
| 6 | Hallway 4 | 770 | | | | 151 | |
| 7 | Hallway 5 | 780 | | | | 151 | |
| 8 | Hallway 6 | 940 | 0.4 | 0.24 | 387 | 151 | 0.122 |
| 9 | Entrance to radium lab | 600 | | 0.25 | 410 | 151 | 0.134 |
| 10 | Under bench | 750 | | | | 151 | |
| 11 | In corner under bench | 920 | 0.4 at 1m | 0.21 | 390 | 151 | 0.124 |
| 12 | In cleaners closet | 900 | | 0.16 | 326 | 151 | 0.091 |
| 13 | at entrance to end lab | 800 | | 0.25 | 437 | 151 | 0.148 |
| 14 | In vault | 130 | | | | 151 | |
| 15 | Centre of end room | 600 | | | | 151 | |
| 16 | North corner of end room | 900 | | 0.21 | 425 | 151 | 0.142 |
| 17 | Eastern wall of end room | 520 | | 0.22 | 371 | 151 | 0.114 |
| 18 | In radium lab near entrance to end room | 800 | 0.5 at 1m | 0.21 | 410 | 151 | 0.134 |
| 19 | adjacent to white board in radium lab | 1100 | 0.4 at 1m | 0.22 | 408 | 151 | 0.133 |
| 20 | Near corner under cupboard in radium lab | 1400 | | | | | |
| 21 | South Eastern cnr of radium lab | 800 | | 0.2 | 338 | 151 | 0.097 |
| 22 | Northern end of radium lab | 1050 | | 0.22 | 390 | 151 | 0.124 |
| 23 | G08 - S.E. cnr | 420 | | 0.18 | 305 | 151 | 0.080 |
| 24 | G08 - E. Side | 260 | | 0.15 | 252 | 151 | 0.052 |
| 25 | G08 - centre | 1000 | 0.3 at 1m | 0.21 | 326 | 151 | 0.091 |
| 26 | G09 - Sth entrance | 650 | | 0.2 | 293 | 151 | 0.074 |
| 27 | G09 - East side | 370 | | 0.17 | 256 | 151 | 0.054 |
| 28 | G07 | 320 | | | | 151 | |
| 29 | G04 - Sth entrance | 470 | | 0.16 | 258 | 151 | 0.055 |
| 30 | G04 - Sth entrance | 400 | | | | | |
| 31 | G04 - CENTRE | 300 | | | | 151 | |
| 32 | G04 - Nth side | 220 | | | | 151 | |
| 33 | G04 - western side | 270 | | | | 151 | |
| 34 | G05 | 430 | | 0.12 | 214 | 151 | 0.033 |
| 35 | Corridor | 270 | | 0.14 | 275 | 151 | 0.064 |
| 36 | Corridor outside G02 | 460 | | 0.13 | 270 | 151 | 0.062 |
| 37 | G02 | 470 | | | | 151 | |
| 38 | G02 | 500 | | 0.15 | 279 | 151 | 0.066 |
| 39 | G01 | 400 | | 0.14 | 272 | 151 | 0.063 |

| | | | | | | | |
|----|-----|------|--|------|-----|-----|-------|
| 40 | G01 | 1600 | | 0.17 | 254 | 151 | 0.053 |
|----|-----|------|--|------|-----|-----|-------|

| Survey Point | Description | CPS 2" Na-I detector reading at contact | GM detector gamma reading at contact (uSv/h) | Observed dose rate/hr Environmental gamma monitor at 1 metre (uSv/h) | 100 sec counts Environmental gamma monitor at 1 metre (uSv/h) | Background subtraction | Net dose rate/hr at 1 metre environmental gamma monitor derived from integrated count over 100 seconds using radium calibration factors (uSv/h) |
|--------------|-------------|---|--|---|--|------------------------|--|
| A | | | | | 214 | | 0.111 |
| B | | | | | 151 | | 0.078 |
| C | | | | | 155 | | 0.080 |
| 1 | | | | 4 | | | |
| 2 | | | | 5 | | | |
| 3 | | | | 6 | 280 | 151 | 0.067 |
| 4 | | | | 7 | | | |
| 5 | | | | 8 | 349 | 151 | 0.103 |
| 6 | | | | 9 | 295 | 151 | 0.075 |
| 7 | | | | 10 | 290 | 151 | 0.072 |
| 8 | | | | 11 | 309 | 151 | 0.082 |
| 9 | | | | 12 | 294 | 151 | 0.074 |
| 10 | | | | 13 | 315 | 151 | 0.085 |
| 11 | | | | 14 | 261 | 151 | 0.057 |
| 12 | | | | 15 | | | |
| 13 | | | | 16 | 205 | 151 | 0.028 |
| 14 | | | | 17 | 200 | 151 | 0.025 |
| 15 | | | | 18 | 240 | 151 | 0.046 |
| 16 | | | | 19 | 275 | 151 | 0.064 |
| 17 | | | | 20 | 280 | 151 | 0.067 |
| 18 | | | | 21 | 257 | 151 | 0.055 |
| | | | | | | | |
| | | | | | | | |

| D233 At loading on 15/2/19 (not in equilibrium) | | | | D233 Equilibrium (26/3/19 - 39 days) | | | |
|---|-------------|-------------|-------------|--------------------------------------|-------------|--------------|-----------------|
| 7 points | CPS | If 6 points | CPS | 7 points | CPS | % increase | If 6 points CPS |
| 1 | 1363 | | | 1 | 7410 | 543.7 | |
| 2 | 2800 | 1 | 2800 | 2 | 5610 | 200.4 | 1 5610 |
| 3 | 2700 | 2 | 2700 | 3 | 6060 | 224.4 | 2 6060 |
| 4 | 2600 | 3 | 2600 | 4 | 6470 | 248.8 | 3 6470 |
| 5 | 3420 | 4 | 3420 | 5 | 6200 | 181.3 | 4 6200 |
| 6 | 3050 | 5 | 3050 | 6 | 5260 | 172.5 | 5 5260 |
| 7 | 4250 | 6 | 4250 | 7 | 6760 | 159.1 | 6 6760 |
| 12.9 Bq/g | <u>2883</u> | | <u>3137</u> | | <u>6253</u> | <u>247.2</u> | <u>6060</u> |
| 10 Bq/g | <u>2235</u> | | <u>2432</u> | | <u>4847</u> | | <u>4698</u> |

4847

4686 Assume 8 points (additional 2 are at 6000 each)

161 cps

| D231 At loading on 8/2/19 (not in equilibrium) | | | | D231 Equilibrium (5/3/19 - 25 days) | | | |
|--|-------------|----------|-------------|-------------------------------------|-------------|--------------|--------------|
| 7 points | CPS | 6 points | CPS | 7 points | CPS | % increase | 6 points CPS |
| 1 | 532 | | | 1 | 1400 | 283.2 | |
| 2 | 676 | 1 | 676 | 2 | 1272 | 188.2 | 1 1272 |
| 3 | 924 | 2 | 924 | 3 | 1548 | 167.5 | 2 1548 |
| 4 | 1428 | 3 | 1428 | 4 | 1653 | 115.8 | 3 1653 |
| 5 | 1221 | 4 | 1221 | 5 | 1588 | 130.1 | 4 1588 |
| 6 | 817 | 5 | 817 | 6 | 1214 | 148.6 | 5 1214 |
| 7 | 1143 | 6 | 1143 | 7 | 1457 | 127.5 | 6 1457 |
| 3.8 Bq/g | <u>963</u> | | <u>1035</u> | | <u>1447</u> | <u>163.0</u> | <u>1455</u> |
| 10 Bq/g | <u>2534</u> | | <u>2723</u> | | <u>3809</u> | | <u>3830</u> |

INVENTORY OF DRUMS OF MATERIAL REMOVED FROM BUILDING 164 - UNIVERSITY OF MELBOURNE 2017

| Drum No. | Description of contents | Photo No.s | Radionuclide | Dose rate (µSv/hr) at contact | Activity (kBq) | Gross Drum Mass (kg) | Net Drum (contents) Mass (kg) | Bq/g | A/D Ratio | Security Category | Drum classification |
|----------|--|----------------|--------------|-------------------------------|----------------|----------------------|-------------------------------|------|-----------|-------------------|---------------------|
| D1 | Contaminated asbestos guttering removed from building | 1904 1906 | Ra226 | | 47.5 | 75 | 55.5 | 0.86 | 0.0000012 | 5 | IW SCO-1 |
| D2 | Contaminated asbestos guttering removed from building | 1903 1907 | Ra226 | | 47.5 | 77.5 | 58 | 0.82 | 0.0000012 | 5 | IW SCO-1 |
| D3 | Contaminated asbestos guttering removed from building | 1905 1908 | Ra226 | | 47.5 | 84 | 64.5 | 0.74 | 0.0000012 | 5 | IW SCO-1 |
| D4 | Roof insulation bats | 1830 1831 | Ra226 | | 65.2 | 29 | 9.5 | 6.86 | 0.0000016 | 5 | IW SCO-1 |
| D5 | Roof insulation bats | 1832 1833 | Ra226 | | 114.2 | 28 | 8.5 | 13.4 | 0.0000029 | 5 | IW SCO-1 |
| D6 | Roof insulation bats | 1834 1835 | Ra226 | | 215.5 | 29.5 | 10 | 21.6 | 0.0000054 | 5 | IW SCO-1 |
| D7 | Roof insulation bats | 1836 1837 | Ra226 | | 56.1 | 34.5 | 15 | 3.74 | 0.0000014 | 5 | IW SCO-1 |
| D8 | Roof insulation bats | 1838 1839 | Ra226 | | 210.4 | 31.5 | 12 | 17.5 | 0.0000053 | 5 | IW SCO-1 |
| D9 | Roof insulation bats | 1840 1841 | Ra226 | | 248.1 | 29 | 9.5 | 26.1 | 0.0000062 | 5 | IW SCO-1 |
| D10 | Roof insulation bats | 1842 1843 | Ra226 | | 50.3 | 33 | 13.5 | 3.73 | 0.0000013 | 5 | IW SCO-1 |
| D11 | Roof insulation bats | 1844 1845 | Ra226 | | 28.2 | 32.5 | 13 | 2.17 | 0.0000007 | 5 | IW SCO-1 |
| D12 | Wood skirting, flooring, and ceiling bits, plaster etc | 1846 1847 | Ra226 | | 68.5 | 127 | 107.5 | 0.64 | 0.0000017 | 5 | IW SCO-1 |
| D13 | Wood skirting, flooring, and ceiling bits, plaster etc | 1848 1849 | Ra226 | | 68.5 | 144.5 | 125 | 0.55 | 0.0000017 | 5 | IW SCO-1 |
| D14 | Wood skirting, flooring, and ceiling bits, plaster etc | 1850 1851 | Ra226 | | 68.5 | 72 | 52.5 | 1.30 | 0.0000017 | 5 | IW SCO-1 |
| D15 | Wood skirting, flooring, and ceiling bits, plaster etc | 1852 1853 | Ra226 | | 68.5 | 81 | 61.5 | 1.11 | 0.0000017 | 5 | IW SCO-1 |
| D16 | Wood skirting, flooring, and ceiling bits, plaster etc | 1854 1855 | Ra226 | | 68.5 | 74.5 | 55 | 1.24 | 0.0000017 | 5 | IW SCO-1 |
| D17 | Wood skirting, flooring, and ceiling bits, plaster etc | 1856 1857 | Ra226 | | 68.5 | 138.5 | 119 | 0.58 | 0.0000017 | 5 | IW SCO-1 |
| D18 | Wood skirting, flooring, and ceiling bits, plaster etc | 1858 1859 | Ra226 | | 68.5 | 82.5 | 63 | 1.09 | 0.0000017 | 5 | IW SCO-1 |
| D19 | Wood skirting, flooring, and ceiling bits, plaster etc | 1860 1861 | Ra226 | | 68.5 | 112.5 | 93 | 0.74 | 0.0000017 | 5 | IW SCO-1 |
| D20 | Wood skirting, flooring, and ceiling bits, plaster etc | 1862 1863 | Ra226 | | 68.5 | 117.5 | 98 | 0.70 | 0.0000017 | 5 | IW SCO-1 |
| D21 | Wood skirting, flooring, and ceiling bits, plaster etc | 1864 1865 | Ra226 | | 68.5 | 122.5 | 103 | 0.66 | 0.0000017 | 5 | IW SCO-1 |
| D22 | Wood skirting, flooring, and ceiling bits, plaster etc | 1866 1867 | Ra226 | | 68.5 | 107 | 87.5 | 0.78 | 0.0000017 | 5 | IW SCO-1 |
| D23 | Wood skirting, flooring, and ceiling bits, plaster etc | 1868 1869 | Ra226 | | 68.5 | 87 | 67.5 | 1.01 | 0.0000017 | 5 | IW SCO-1 |
| D24 | Wood skirting, flooring, and ceiling bits, plaster etc | 1870 1871 | Ra226 | | 68.5 | 69 | 49.5 | 1.38 | 0.0000017 | 5 | IW SCO-1 |
| D25 | Wood skirting, flooring, and ceiling bits, plaster etc | 1872 1873 | Ra226 | | 68.5 | 71.5 | 52 | 1.32 | 0.0000017 | 5 | IW SCO-1 |
| D26 | Wood skirting, flooring, and ceiling bits, plaster etc | 1874 1875 | Ra226 | | 68.5 | 67.5 | 48 | 1.43 | 0.0000017 | 5 | IW SCO-1 |
| D27 | Wood skirting, flooring, and ceiling bits, plaster etc | 1876 1877 | Ra226 | | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW SCO-1 |
| D28 | Wood skirting, flooring, and ceiling bits, plaster etc | 1878 1879 | Ra226 | | 68.5 | 117 | 97.5 | 0.70 | 0.0000017 | 5 | IW SCO-1 |
| D29 | Wood skirting, flooring, and ceiling bits, plaster etc | 1880 1881 | Ra226 | | 68.5 | 64 | 44.5 | 1.54 | 0.0000017 | 5 | IW SCO-1 |
| D30 | Wood skirting, flooring, and ceiling bits, plaster etc | 1882 1883 | Ra226 | | 68.5 | 63 | 43.5 | 1.57 | 0.0000017 | 5 | IW SCO-1 |
| D31 | Wood skirting, flooring, and ceiling bits, plaster etc | 1884 1885 | Ra226 | | 68.5 | 67.5 | 48 | 1.43 | 0.0000017 | 5 | IW SCO-1 |
| D32 | Wood skirting, flooring, and ceiling bits, plaster etc | 1886 1887 | Ra226 | | 68.5 | 65.5 | 46 | 1.49 | 0.0000017 | 5 | IW SCO-1 |
| D33 | Wood skirting, flooring, and ceiling bits, plaster etc | 1888 1889 | Ra226 | | 68.5 | 66.5 | 47 | 1.46 | 0.0000017 | 5 | IW SCO-1 |
| D34 | Wall render rubble from G12 | 1890 1891 | Ra226 | | 448.5 | 150.5 | 131 | 3.42 | 0.0000112 | 5 | IW SCO-1 |
| D35 | Wall render rubble from G12 | 1892 1893 | Ra226 | | 205.3 | 137.5 | 118 | 1.74 | 0.0000051 | 5 | IW SCO-1 |
| D36 | Floor render rubble from room 108 and G12 | 1894 1895 | Ra226 | | 290.4 | 172.5 | 153 | 1.90 | 0.0000073 | 5 | IW SCO-1 |
| D37 | Rubble and bits and pieces | 1896 1897 | Ra226 | | 141.3 | 131 | 111.5 | 1.27 | 0.0000035 | 5 | IW |
| D38 | Rubble and bits and pieces | 1898 1899 | Ra226 | | 313.0 | 93 | 73.5 | 4.26 | 0.0000078 | 5 | IW |
| D39 | Rubble and bits and pieces | 1900 1901 1902 | Ra226 | | 520.8 | 88.5 | 69 | 7.55 | 0.0000130 | 5 | IW |
| D40 | Vacuum cleaner bags | 1909 1910 | Ra226 | | 968.0 | 98.5 | 79 | 12.3 | 0.0000242 | 5 | IW |
| D41 | Vacuum cleaner bags | 1971 1972 | Ra226 | | 479.0 | 95 | 75.5 | 6.3 | 0.0000120 | 5 | IW |
| D42 | Rubble and bits and pieces | 1966 1967 | Ra226 | | 43.0 | 112 | 92.5 | 0.46 | 0.0000011 | 5 | IW |
| D43 | Wood skirting, flooring, and ceiling bits, plaster etc | 1911 1912 | Ra226 | | 68.5 | 108 | 88.5 | 0.77 | 0.0000017 | 5 | IW SCO-1 |
| D44 | Wood skirting, flooring, and ceiling bits, plaster etc | 1913 1914 | Ra226 | | 68.5 | 88.5 | 69 | 0.99 | 0.0000017 | 5 | IW SCO-1 |
| D45 | Wood skirting, flooring, and ceiling bits, plaster etc | 1915 1916 | Ra226 | | 68.5 | 81.5 | 62 | 1.10 | 0.0000017 | 5 | IW SCO-1 |
| D46 | Wood skirting, flooring, and ceiling bits, plaster etc | 1917 1918 | Ra226 | | 68.5 | 121 | 101.5 | 0.67 | 0.0000017 | 5 | IW SCO-1 |
| D47 | Wood skirting, flooring, and ceiling bits, plaster etc | 1919 1920 | Ra226 | | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW SCO-1 |
| D48 | Wood skirting, flooring, and ceiling bits, plaster etc | 1921 1922 | Ra226 | | 68.5 | 77.5 | 58 | 1.18 | 0.0000017 | 5 | IW SCO-1 |
| D49 | Wood skirting, flooring, and ceiling bits, plaster etc | 1923 1924 | Ra226 | | 68.5 | 92.5 | 73 | 0.94 | 0.0000017 | 5 | IW SCO-1 |
| D50 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1930 1931 | Ra226 | | 12.1 | 200 | 180.5 | 0.07 | 0.0000003 | 5 | SCO-1 |
| D51 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1932 1933 | Ra226 | | 25.6 | 197.5 | 178 | 0.14 | 0.0000006 | 5 | SCO-1 |
| D52 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1934 1935 | Ra226 | | 22.6 | 195 | 175.5 | 0.13 | 0.0000006 | 5 | SCO-1 |
| D53 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1936 1937 | Ra226 | | 22.5 | 197.5 | 178 | 0.13 | 0.0000006 | 5 | SCO-1 |
| D54 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1941 1942 | Ra226 | | 20.3 | 195 | 175.5 | 0.12 | 0.0000005 | 5 | SCO-1 |
| D55 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1943 1944 | Ra226 | | 22.8 | 193 | 173.5 | 0.13 | 0.0000006 | 5 | SCO-1 |
| D56 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1945 1946 | Ra226 | | 22.8 | 199 | 179.5 | 0.13 | 0.0000006 | 5 | SCO-1 |
| D57 | Roof tiles - category 2 (1 to 4 Bq/cm² alpha) | 1947 1948 | Ra226 | | 143.2 | 194 | 174.5 | 0.82 | 0.0000036 | 5 | SCO-1 |
| D58 | Roof tiles - category 1 (>4 Bq/cm² alpha) | 1949 1950 | Ra226 | | 720.5 | 189 | 169.5 | 4.25 | 0.0000180 | 5 | SCO-1 |
| D59 | Roof tiles - category 1 (>4 Bq/cm² alpha) | 1951 1952 | Ra226 | | 22.8 | 202 | 182.5 | 0.12 | 0.0000006 | 5 | SCO-1 |
| D60 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1973 1974 | Ra226 | | 22.8 | 202.5 | 183 | 0.12 | 0.0000006 | 5 | SCO-1 |
| D61 | Ventilation duct material (plasterboard) | 1955 1956 | Ra226 | | 116.3 | 106 | 86.5 | 1.34 | 0.0000029 | 5 | IW |
| D62 | Ventilation duct material (metal) | 1953 1954 | Ra226 | | 125.3 | 71 | 51.5 | 2.43 | 0.0000031 | 5 | IW |
| D63 | Ventilation duct material (metal and lead) | 1957 1958 | Ra226 | | 125.3 | 88 | 68.5 | 1.83 | 0.0000031 | 5 | IW |
| D64 | Wood skirting, flooring, and ceiling bits, plaster etc | 1959 1960 | Ra226 | | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW |
| D65 | Roof battens and timbers | 1961 1962 | Ra226 | | 116.3 | 70 | 50.5 | 2.30 | 0.0000029 | 5 | IW |
| D66 | Roof battens and timbers | 1963 1968 | Ra226 | | 116.3 | 80.5 | 61 | 1.91 | 0.0000029 | 5 | IW |
| D67 | Roof battens and timbers | 1964 1965 | Ra226 | | 116.3 | 82.5 | 63 | 1.85 | 0.0000029 | 5 | IW |
| D68 | Roof battens and timbers | 1969 1970 | Ra226 | | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW |
| D69 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1975 1976 | Ra226 | | 22.8 | 200 | 180.5 | 0.13 | 0.0000006 | 5 | SCO-1 |
| D70 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1977 1978 | Ra226 | | 22.8 | 204 | 184.5 | 0.12 | 0.0000006 | 5 | SCO-1 |
| D71 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D72 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D73 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D74 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D75 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D76 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D77 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D78 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D79 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D80 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D81 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D82 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D83 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D84 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D85 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D86 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D87 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D88 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D89 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D90 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D91 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D92 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D93 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D94 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D95 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D96 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D97 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D98 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D99 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| D100 | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |

| | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
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| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| | | |
|--------------|--------|--------|
| Total of all | KBq | kg |
| Drums: | 8529.9 | 3254.5 |

| | | |
|-----------|---|---------------------------------------|
| 0.0001925 | 5 | Security category (of total of drums) |
|-----------|---|---------------------------------------|

D value (GBq) 40
Ra-226

| Security Category Levels | | |
|--------------------------------------|-----------------------|---------|
| DO NOT DELETE THIS TABLE! | | |
| Security Category Level Based on A/D | | |
| Category | A/D ratio value range | |
| 1 | 1000 | 1000000 |
| 2 | 10 | 1000 |
| 3 | 1 | 10 |
| 4 | 0.01 | 1 |
| 5 | 0 | 0.01 |

A/D≥1000

1000>A/D≥10

10>A/D≥1

1>A/D≥0.01

0.01>A/D&exempl/D

Surface Contamination measured on contents of 5 drums of tiles to determine "typical" average activity per drum within a count range

Broken tiles

Instrument MTE: 5527

Mostly fixed contamination on upper surfaces

DRUM 50

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|----------|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | | -0.51 | 1 | 0.196 | 0.5 | 94.08 | -244.8 | 94.08 |
| 2 | 40 | 24 | 960 | | -0.51 | 1.5 | 0.296 | 0.5 | 142.08 | -244.8 | 142.08 |
| 3 | 40 | 24 | 960 | | -0.51 | 0.67 | 0.13 | 0.5 | 62.4 | -244.8 | 62.4 |
| 4 | 40 | 24 | 960 | | -0.51 | 0.7 | 0.136 | 0.5 | 65.28 | -244.8 | 65.28 |
| 5 | 40 | 24 | 960 | | -0.51 | 0.5 | 0.096 | 0.5 | 46.08 | -244.8 | 46.08 |
| 6 | 40 | 24 | 960 | | -0.51 | 1 | 0.196 | 0.5 | 94.08 | -244.8 | 94.08 |
| 7 | 40 | 24 | 960 | | -0.51 | 2 | 0.396 | 0.5 | 190.08 | -244.8 | 190.08 |
| 8 | 40 | 24 | 960 | | -0.51 | 2 | 0.396 | 0.5 | 190.08 | -244.8 | 190.08 |
| 9 | 40 | 24 | 960 | | -0.51 | 0.5 | 0.096 | 0.5 | 46.08 | -244.8 | 46.08 |
| 10 | 40 | 24 | 960 | | -0.51 | 1 | 0.196 | 0.5 | 94.08 | -244.8 | 94.08 |
| 11 | 40 | 24 | 960 | 7.5 | 0.615 | 0 | -0.004 | 0.5 | -1.92 | 295.2 | 295.2 |
| 12 | 40 | 24 | 960 | 7 | 0.54 | 0.75 | 0.146 | 0.5 | 70.08 | 259.2 | 259.2 |
| 13 | 40 | 24 | 960 | 7 | 0.54 | 1.3 | 0.256 | 0.5 | 122.88 | 259.2 | 259.2 |
| 14 | 40 | 24 | 960 | 7 | 0.54 | 1.1 | 0.216 | 0.5 | 103.68 | 259.2 | 259.2 |
| 15 | 40 | 24 | 960 | 7 | 0.54 | 1.3 | 0.256 | 0.5 | 122.88 | 259.2 | 259.2 |
| 16 | 40 | 24 | 960 | 9 | 0.84 | 2 | 0.396 | 0.5 | 190.08 | 403.2 | 403.2 |
| 17 | 40 | 24 | 960 | 5 | 0.24 | 0.75 | 0.146 | 0.5 | 70.08 | 115.2 | 115.2 |
| 18 | 40 | 24 | 960 | 7 | 0.54 | 1 | 0.196 | 0.5 | 94.08 | 259.2 | 259.2 |
| 19 | 40 | 24 | 960 | 7 | 0.54 | 0.8 | 0.156 | 0.5 | 74.88 | 259.2 | 259.2 |
| 20 | 40 | 24 | 960 | 8 | 0.69 | 2.6 | 0.516 | 0.5 | 247.68 | 331.2 | 331.2 |
| 21 | 40 | 24 | 960 | 8 | 0.69 | 0.94 | 0.184 | 0.5 | 88.32 | 331.2 | 331.2 |
| 22 | 40 | 24 | 960 | 5 | 0.24 | 0.75 | 0.146 | 0.5 | 70.08 | 115.2 | 115.2 |
| 23 | 40 | 24 | 960 | 6 | 0.39 | 0.8 | 0.156 | 0.5 | 74.88 | 187.2 | 187.2 |
| 24 | 40 | 24 | 960 | 8 | 0.69 | 0.63 | 0.122 | 0.5 | 58.56 | 331.2 | 331.2 |
| 25 | 40 | 24 | 960 | 8 | 0.69 | 1.1 | 0.216 | 0.5 | 103.68 | 331.2 | 331.2 |
| 26 | 40 | 24 | 960 | 7 | 0.54 | 1 | 0.196 | 0.5 | 94.08 | 259.2 | 259.2 |
| 27 | 40 | 24 | 960 | 5 | 0.24 | 0.99 | 0.194 | 0.5 | 93.12 | 115.2 | 115.2 |
| 28 | 40 | 24 | 960 | 5 | 0.24 | 0.44 | 0.084 | 0.5 | 40.32 | 115.2 | 115.2 |
| 29 | 40 | 24 | 960 | 10 | 0.99 | 2 | 0.396 | 0.5 | 190.08 | 475.2 | 475.2 |
| 30 | 40 | 24 | 960 | 8 | 0.69 | 0.38 | 0.072 | 0.5 | 34.56 | 331.2 | 331.2 |
| 31 | 40 | 24 | 960 | 5 | 0.24 | 0.78 | 0.152 | 0.5 | 72.96 | 115.2 | 115.2 |
| 32 | 40 | 24 | 960 | 5 | 0.24 | 1 | 0.196 | 0.5 | 94.08 | 115.2 | 115.2 |
| 33 | 40 | 24 | 960 | 9 | 0.84 | 0.56 | 0.108 | 0.5 | 51.84 | 403.2 | 403.2 |
| 34 | 40 | 24 | 960 | 9 | 0.84 | 3.3 | 0.656 | 0.5 | 314.88 | 403.2 | 403.2 |
| 35 | 40 | 24 | 960 | 5 | 0.24 | 0.5 | 0.096 | 0.5 | 46.08 | 115.2 | 115.2 |
| 36 | 40 | 24 | 960 | 6 | 0.39 | 0.56 | 0.108 | 0.5 | 51.84 | 187.2 | 187.2 |
| 37 | 40 | 24 | 960 | 5 | 0.24 | 0.63 | 0.122 | 0.5 | 58.56 | 115.2 | 115.2 |
| 38 | 40 | 24 | 960 | 6 | 0.39 | 3 | 0.596 | 0.5 | 286.08 | 187.2 | 286.08 |
| 39 | 40 | 24 | 960 | 5 | 0.24 | 0.63 | 0.122 | 0.5 | 58.56 | 115.2 | 115.2 |
| 40 | 40 | 24 | 960 | 7 | 0.54 | 1.2 | 0.236 | 0.5 | 113.28 | 259.2 | 259.2 |
| 41 | 40 | 24 | 960 | 8 | 0.69 | 0.69 | 0.134 | 0.5 | 64.32 | 331.2 | 331.2 |
| 42 | 40 | 24 | 960 | 5 | 0.24 | 0.88 | 0.172 | 0.5 | 82.56 | 115.2 | 115.2 |
| 43 | 40 | 24 | 960 | 8 | 0.69 | 2.4 | 0.476 | 0.5 | 228.48 | 331.2 | 331.2 |
| 44 | 40 | 24 | 960 | 5 | 0.24 | 1.1 | 0.216 | 0.5 | 103.68 | 115.2 | 115.2 |
| 45 | 40 | 24 | 960 | 6 | 0.39 | 1 | 0.196 | 0.5 | 94.08 | 187.2 | 187.2 |
| 46 | 40 | 24 | 960 | 8 | 0.69 | 2 | 0.396 | 0.5 | 190.08 | 331.2 | 331.2 |
| 47 | 40 | 24 | 960 | 8 | 0.69 | 4 | 0.796 | 0.5 | 382.08 | 331.2 | 382.08 |
| 48 | 40 | 24 | 960 | 5 | 0.24 | 1.3 | 0.256 | 0.5 | 122.88 | 115.2 | 122.88 |
| 49 | 40 | 24 | 960 | 5 | 0.24 | 0.63 | 0.122 | 0.5 | 58.56 | 115.2 | 115.2 |
| 50 | 40 | 24 | 960 | 5 | 0.24 | 0.56 | 0.108 | 0.5 | 51.84 | 115.2 | 115.2 |
| 51 | 40 | 24 | 960 | 8 | 0.69 | 0.75 | 0.146 | 0.5 | 70.08 | 331.2 | 331.2 |
| 52 | 40 | 24 | 960 | 8 | 0.69 | 1.1 | 0.216 | 0.5 | 103.68 | 331.2 | 331.2 |
| 53 | 40 | 24 | 960 | 8 | 0.69 | 0.85 | 0.166 | 0.5 | 79.68 | 331.2 | 331.2 |
| 54 | 40 | 24 | 960 | 9 | 0.84 | 1.9 | 0.376 | 0.5 | 180.48 | 403.2 | 403.2 |
| 55 | 40 | 24 | 960 | 5 | 0.24 | 0.9 | 0.176 | 0.5 | 84.48 | 115.2 | 115.2 |
| Drum 50: | | | | | | | | | 6012 | 8460 | 12090 |

DRUM 51

| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 11 | 1.14 | 0.9 | 0.176 | 0.5 | 84.48 | 547.2 | 547.2 |
| 2 | 40 | 24 | 960 | 9.3 | 0.885 | 4.7 | 0.936 | 0.5 | 449.28 | 424.8 | 449.28 |
| 3 | 40 | 24 | 960 | 8.9 | 0.825 | 0.56 | 0.108 | 0.5 | 51.84 | 396 | 396 |
| 4 | 40 | 24 | 960 | 6.2 | 0.42 | 0.54 | 0.108 | 0.5 | 51.84 | 201.6 | 201.6 |
| 5 | 40 | 24 | 960 | 7.3 | 0.585 | 0.61 | 0.104 | 0.5 | 49.92 | 280.8 | 280.8 |
| 6 | 40 | 24 | 960 | 7.8 | 0.66 | 0.92 | 0.118 | 0.5 | 56.64 | 316.8 | 316.8 |
| 7 | 40 | 24 | 960 | 6.8 | 0.51 | 0.52 | 0.18 | 0.5 | 86.4 | 244.8 | 244.8 |
| 8 | 40 | 24 | 960 | 8.2 | 0.72 | 1 | 0.1 | 0.5 | 48 | 345.6 | 345.6 |
| 9 | 40 | 24 | 960 | 11.3 | 1.185 | 4.4 | 0.196 | 0.5 | 94.08 | 568.8 | 568.8 |
| 10 | 40 | 24 | 960 | 7.2 | 0.57 | 0.61 | 0.876 | 0.5 | 420.48 | 273.6 | 420.48 |
| 11 | 40 | 24 | 960 | 7.7 | 0.645 | 1.1 | 0.118 | 0.5 | 56.64 | 309.6 | 309.6 |
| 12 | 40 | 24 | 960 | 9.3 | 0.885 | 1.4 | 0.216 | 0.5 | 103.68 | 424.8 | 424.8 |
| 13 | 40 | 24 | 960 | 8.2 | 0.72 | 0.69 | 0.276 | 0.5 | 132.48 | 345.6 | 345.6 |
| 14 | 40 | 24 | 960 | 6.9 | 0.525 | 0.75 | 0.134 | 0.5 | 64.32 | 252 | 252 |
| 15 | 40 | 24 | 960 | 7.7 | 0.645 | 0.63 | 0.146 | 0.5 | 70.08 | 309.6 | 309.6 |
| 16 | 40 | 24 | 960 | 6.6 | 0.48 | 0.94 | 0.122 | 0.5 | 58.56 | 230.4 | 230.4 |
| 17 | 40 | 24 | 960 | 8.1 | 0.705 | 0.88 | 0.172 | 0.5 | 82.56 | 338.4 | 338.4 |
| 18 | 40 | 24 | 960 | 6.75 | 0.5025 | 0.62 | 0.12 | 0.5 | 57.6 | 241.2 | 241.2 |
| 19 | 40 | 24 | 960 | 7.4 | 0.6 | 0.75 | 0.146 | 0.5 | 70.08 | 288 | 288 |

| 1cps beta | | BckGrnd CPS | 1cps Alpha | | BckGrnd CPS |
|-----------|--------------------|-------------|------------|--------------------|-------------|
| 0.15 | Bq/cm ² | 3.4 | 0.2 | Bq/cm ² | 0.02 |

Drum 50 count range %
Alpha low (0.3 to 1 cps) 34 64.2
Alpha mid (1 to 2 cps) 14 26.4
Alpha high (2 to 5cps) 5 9.4
Alpha very high (5 to 20 cps) 0 0.0

53

Drum 51 count range %
Alpha low (0.3 to 1 cps) 33 60
Alpha mid (1 to 2 cps) 14 25.5
Alpha high (2 to 5cps) 7 12.7
Alpha very high (5 to 20 cps) 1 1.8

55

| | | | | | | | | | | | |
|----------|----|----|-----|------|-------|------|-------|-----|---------|--------|--------|
| 20 | 40 | 24 | 960 | 8.2 | 0.72 | 0.7 | 0.136 | 0.5 | 65.28 | 345.6 | 345.6 |
| 21 | 40 | 24 | 960 | 13 | 1.44 | 2.44 | 0.484 | 0.5 | 232.32 | 691.2 | 691.2 |
| 22 | 40 | 24 | 960 | 11 | 1.14 | 2.38 | 0.472 | 0.5 | 226.56 | 547.2 | 547.2 |
| 23 | 40 | 24 | 960 | 7.9 | 0.675 | 1.1 | 0.216 | 0.5 | 103.68 | 324 | 324 |
| 24 | 40 | 24 | 960 | 10.8 | 1.11 | 1.6 | 0.316 | 0.5 | 151.68 | 532.8 | 532.8 |
| 25 | 40 | 24 | 960 | 13.8 | 1.56 | 4.4 | 0.876 | 0.5 | 420.48 | 748.8 | 748.8 |
| 26 | 40 | 24 | 960 | 8.9 | 0.825 | 1.2 | 0.236 | 0.5 | 113.28 | 396 | 396 |
| 27 | 40 | 24 | 960 | 7.9 | 0.675 | 1.8 | 0.356 | 0.5 | 170.88 | 324 | 324 |
| 28 | 40 | 24 | 960 | 20 | 2.49 | 6.4 | 1.276 | 0.5 | 612.48 | 1195.2 | 1195.2 |
| 29 | 40 | 24 | 960 | 11.8 | 1.26 | 2.2 | 0.436 | 0.5 | 209.28 | 604.8 | 604.8 |
| 30 | 40 | 24 | 960 | 7.8 | 0.66 | 1.2 | 0.236 | 0.5 | 113.28 | 316.8 | 316.8 |
| 31 | 40 | 24 | 960 | 9.3 | 0.885 | 1.5 | 0.296 | 0.5 | 142.08 | 424.8 | 424.8 |
| 32 | 40 | 24 | 960 | 80 | 11.49 | 26 | 5.196 | 0.5 | 2494.08 | 5515.2 | 5515.2 |
| 33 | 40 | 24 | 960 | 7.8 | 0.66 | 0.94 | 0.184 | 0.5 | 88.32 | 316.8 | 316.8 |
| 34 | 40 | 24 | 960 | 6.2 | 0.42 | 0.54 | 0.104 | 0.5 | 49.92 | 201.6 | 201.6 |
| 35 | 40 | 24 | 960 | 7.5 | 0.615 | 0.75 | 0.146 | 0.5 | 70.08 | 295.2 | 295.2 |
| 36 | 40 | 24 | 960 | 6.9 | 0.525 | 1.1 | 0.216 | 0.5 | 103.68 | 252 | 252 |
| 37 | 40 | 24 | 960 | 7.2 | 0.57 | 0.67 | 0.13 | 0.5 | 62.4 | 273.6 | 273.6 |
| 38 | 40 | 24 | 960 | 7.9 | 0.675 | 0.82 | 0.16 | 0.5 | 76.8 | 324 | 324 |
| 39 | 40 | 24 | 960 | 10.7 | 1.095 | 5.2 | 1.036 | 0.5 | 497.28 | 525.6 | 525.6 |
| 40 | 40 | 24 | 960 | 16 | 1.89 | 2 | 0.396 | 0.5 | 190.08 | 907.2 | 907.2 |
| 41 | 40 | 24 | 960 | 7.2 | 0.57 | 0.58 | 0.112 | 0.5 | 53.76 | 273.6 | 273.6 |
| 42 | 40 | 24 | 960 | 7.8 | 0.66 | 1.38 | 0.272 | 0.5 | 130.56 | 316.8 | 316.8 |
| 43 | 40 | 24 | 960 | 6.2 | 0.42 | 0.54 | 0.104 | 0.5 | 49.92 | 201.6 | 201.6 |
| 44 | 40 | 24 | 960 | 7.2 | 0.57 | 0.77 | 0.15 | 0.5 | 72 | 273.6 | 273.6 |
| 45 | 40 | 24 | 960 | 7.8 | 0.66 | 0.94 | 0.184 | 0.5 | 88.32 | 316.8 | 316.8 |
| 46 | 40 | 24 | 960 | 7.2 | 0.57 | 0.63 | 0.122 | 0.5 | 58.56 | 273.6 | 273.6 |
| 47 | 40 | 24 | 960 | 8.1 | 0.705 | 1.13 | 0.222 | 0.5 | 106.56 | 338.4 | 338.4 |
| 48 | 40 | 24 | 960 | 6.7 | 0.495 | 0.55 | 0.106 | 0.5 | 50.88 | 237.6 | 237.6 |
| 49 | 40 | 24 | 960 | 7.1 | 0.555 | 0.62 | 0.12 | 0.5 | 57.6 | 266.4 | 266.4 |
| 50 | 40 | 24 | 960 | 7.4 | 0.6 | 0.69 | 0.134 | 0.5 | 64.32 | 288 | 288 |
| 51 | 40 | 24 | 960 | 7.8 | 0.66 | 1.2 | 0.236 | 0.5 | 113.28 | 316.8 | 316.8 |
| 52 | 40 | 24 | 960 | 6.4 | 0.45 | 0.78 | 0.152 | 0.5 | 72.96 | 216 | 216 |
| 53 | 40 | 24 | 960 | 6.9 | 0.525 | 0.81 | 0.158 | 0.5 | 75.84 | 252 | 252 |
| 54 | 40 | 24 | 960 | 6.3 | 0.435 | 0.64 | 0.124 | 0.5 | 59.52 | 208.8 | 208.8 |
| 55 | 40 | 24 | 960 | 7.3 | 0.585 | 0.92 | 0.18 | 0.5 | 86.4 | 280.8 | 280.8 |
| Drum 51: | | | | | | | | | 9423 | 25463 | 25634 |

DRUM 52

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 17 | 2.04 | 6.2 | 1.236 | 0.5 | 593.28 | 979.2 | 979.2 |
| 2 | 40 | 24 | 960 | 9 | 0.84 | 2.2 | 0.436 | 0.5 | 209.28 | 403.2 | 403.2 |
| 3 | 40 | 24 | 960 | 7.3 | 0.585 | 1.14 | 0.224 | 0.5 | 107.52 | 280.8 | 280.8 |
| 4 | 40 | 24 | 960 | 7.1 | 0.555 | 0.71 | 0.138 | 0.5 | 66.24 | 266.4 | 266.4 |
| 5 | 40 | 24 | 960 | 6.8 | 0.51 | 0.66 | 0.128 | 0.5 | 61.44 | 244.8 | 244.8 |
| 6 | 40 | 24 | 960 | 6.4 | 0.45 | 0.57 | 0.11 | 0.5 | 52.8 | 216 | 216 |
| 7 | 40 | 24 | 960 | 6.2 | 0.42 | 0.61 | 0.118 | 0.5 | 56.64 | 201.6 | 201.6 |
| 8 | 40 | 24 | 960 | 8.4 | 0.75 | 1.9 | 0.376 | 0.5 | 180.48 | 360 | 360 |
| 9 | 40 | 24 | 960 | 9.3 | 0.885 | 2.54 | 0.504 | 0.5 | 241.92 | 424.8 | 424.8 |
| 10 | 40 | 24 | 960 | 8.8 | 0.81 | 1.19 | 0.234 | 0.5 | 112.32 | 388.8 | 388.8 |
| 11 | 40 | 24 | 960 | 6.7 | 0.495 | 0.65 | 0.126 | 0.5 | 60.48 | 237.6 | 237.6 |
| 12 | 40 | 24 | 960 | 6.2 | 0.42 | 0.52 | 0.1 | 0.5 | 48 | 201.6 | 201.6 |
| 13 | 40 | 24 | 960 | 7.3 | 0.585 | 0.75 | 0.146 | 0.5 | 70.08 | 280.8 | 280.8 |
| 14 | 40 | 24 | 960 | 10.5 | 1.065 | 2.4 | 0.476 | 0.5 | 228.48 | 511.2 | 511.2 |
| 15 | 40 | 24 | 960 | 9 | 0.84 | 1.4 | 0.276 | 0.5 | 132.48 | 403.2 | 403.2 |
| 16 | 40 | 24 | 960 | 6.9 | 0.525 | 0.82 | 0.16 | 0.5 | 76.8 | 252 | 252 |
| 17 | 40 | 24 | 960 | 7.3 | 0.585 | 1.1 | 0.216 | 0.5 | 103.68 | 280.8 | 280.8 |
| 18 | 40 | 24 | 960 | 8 | 0.69 | 1.25 | 0.246 | 0.5 | 118.08 | 331.2 | 331.2 |
| 19 | 40 | 24 | 960 | 7.5 | 0.615 | 0.8 | 0.156 | 0.5 | 74.88 | 295.2 | 295.2 |
| 20 | 40 | 24 | 960 | 9 | 0.84 | 1.1 | 0.216 | 0.5 | 103.68 | 403.2 | 403.2 |
| 21 | 40 | 24 | 960 | 8.2 | 0.72 | 0.9 | 0.176 | 0.5 | 84.48 | 345.6 | 345.6 |
| 22 | 40 | 24 | 960 | 7.2 | 0.57 | 0.75 | 0.146 | 0.5 | 70.08 | 273.6 | 273.6 |
| 23 | 40 | 24 | 960 | 8 | 0.69 | 1.2 | 0.236 | 0.5 | 113.28 | 331.2 | 331.2 |
| 24 | 40 | 24 | 960 | 19 | 2.34 | 9 | 1.796 | 0.5 | 862.08 | 1123.2 | 1123.2 |
| 25 | 40 | 24 | 960 | 6.9 | 0.525 | 1.2 | 0.236 | 0.5 | 113.28 | 252 | 252 |
| 26 | 40 | 24 | 960 | 9.1 | 0.855 | 0.75 | 0.146 | 0.5 | 70.08 | 410.4 | 410.4 |
| 27 | 40 | 24 | 960 | 6.7 | 0.495 | 0.63 | 0.122 | 0.5 | 58.56 | 237.6 | 237.6 |
| 28 | 40 | 24 | 960 | 8.1 | 0.705 | 0.7 | 0.136 | 0.5 | 65.28 | 338.4 | 338.4 |
| 29 | 40 | 24 | 960 | 7.6 | 0.63 | 1.2 | 0.236 | 0.5 | 113.28 | 302.4 | 302.4 |
| 30 | 40 | 24 | 960 | 8.5 | 0.765 | 1.3 | 0.256 | 0.5 | 122.88 | 367.2 | 367.2 |
| 31 | 40 | 24 | 960 | 7.8 | 0.66 | 1.5 | 0.296 | 0.5 | 142.08 | 316.8 | 316.8 |
| 32 | 40 | 24 | 960 | 8.1 | 0.705 | 1.25 | 0.246 | 0.5 | 118.08 | 338.4 | 338.4 |
| 33 | 40 | 24 | 960 | 8.3 | 0.735 | 1.6 | 0.316 | 0.5 | 151.68 | 352.8 | 352.8 |
| 34 | 40 | 24 | 960 | 12.5 | 1.365 | 1.3 | 0.256 | 0.5 | 122.88 | 655.2 | 655.2 |
| 35 | 40 | 24 | 960 | 18.5 | 2.265 | 6.3 | 1.256 | 0.5 | 602.88 | 1087.2 | 1087.2 |
| 36 | 40 | 24 | 960 | 7.3 | 0.585 | 0.56 | 0.108 | 0.5 | 51.84 | 280.8 | 280.8 |
| 37 | 40 | 24 | 960 | 7.6 | 0.63 | 0.75 | 0.146 | 0.5 | 70.08 | 302.4 | 302.4 |
| 38 | 40 | 24 | 960 | 6 | 0.39 | 0.56 | 0.108 | 0.5 | 51.84 | 187.2 | 187.2 |
| 39 | 40 | 24 | 960 | 10.6 | 1.08 | 2.1 | 0.416 | 0.5 | 199.68 | 518.4 | 518.4 |
| 40 | 40 | 24 | 960 | 7.1 | 0.555 | 0.75 | 0.146 | 0.5 | 70.08 | 266.4 | 266.4 |
| 41 | 40 | 24 | 960 | 6.4 | 0.45 | 0.63 | 0.122 | 0.5 | 58.56 | 216 | 216 |
| 42 | 40 | 24 | 960 | 8.6 | 0.78 | 1.7 | 0.336 | 0.5 | 161.28 | 374.4 | 374.4 |
| 43 | 40 | 24 | 960 | 17.7 | 2.145 | 7.2 | 1.436 | 0.5 | 689.28 | 1029.6 | 1029.6 |
| 44 | 40 | 24 | 960 | 5.5 | 0.315 | 0.63 | 0.122 | 0.5 | 58.56 | 151.2 | 151.2 |
| 45 | 40 | 24 | 960 | 8.6 | 0.78 | 1.2 | 0.236 | 0.5 | 113.28 | 374.4 | 374.4 |
| 46 | 40 | 24 | 960 | 9.7 | 0.945 | 1.3 | 0.256 | 0.5 | 122.88 | 453.6 | 453.6 |
| 47 | 40 | 24 | 960 | 10.1 | 1.005 | 0.8 | 0.156 | 0.5 | 74.88 | 482.4 | 482.4 |
| 48 | 40 | 24 | 960 | 10.4 | 1.05 | 2.4 | 0.476 | 0.5 | 228.48 | 504 | 504 |
| 49 | 40 | 24 | 960 | 10 | 0.99 | 1 | 0.196 | 0.5 | 94.08 | 475.2 | 475.2 |
| 50 | 40 | 24 | 960 | 12 | 1.29 | 3 | 0.596 | 0.5 | 286.08 | 619.2 | 619.2 |
| 51 | 40 | 24 | 960 | 18.5 | 2.265 | 6.1 | 1.216 | 0.5 | 583.68 | 1087.2 | 1087.2 |

| | | |
|-------------------------------|----|------|
| Drum 52 count range | | % |
| Alpha low (0.3 to 1 cps) | 23 | 41.8 |
| Alpha mid (1 to 2 cps) | 20 | 36.4 |
| Alpha high (2 to 5cps) | 7 | 12.7 |
| Alpha very high (5 to 20 cps) | 5 | 9.1 |
| | 55 | |

| | | | | | | | | | | | |
|----------|----|----|-----|------|-------|------|-------|-----|--------|-------|-------|
| 52 | 40 | 24 | 960 | 11.6 | 1.23 | 2.5 | 0.496 | 0.5 | 238.08 | 590.4 | 590.4 |
| 53 | 40 | 24 | 960 | 10.4 | 1.05 | 1.3 | 0.256 | 0.5 | 122.88 | 504 | 504 |
| 54 | 40 | 24 | 960 | 7.5 | 0.615 | 0.58 | 0.112 | 0.5 | 53.76 | 295.2 | 295.2 |
| 55 | 40 | 24 | 960 | 6.5 | 0.465 | 0.98 | 0.192 | 0.5 | 92.16 | 223.2 | 223.2 |
| Drum 52: | | | | | | | | | 8931 | 22630 | 22630 |

DRUM 53

| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|----------|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 6.3 | 0.435 | 1.39 | 0.274 | 0.5 | 131.52 | 208.8 | 208.8 |
| 2 | 40 | 24 | 960 | 9.9 | 0.975 | 2.94 | 0.584 | 0.5 | 280.32 | 468 | 468 |
| 3 | 40 | 24 | 960 | 8.3 | 0.735 | 1.81 | 0.358 | 0.5 | 171.84 | 352.8 | 352.8 |
| 4 | 40 | 24 | 960 | 9.3 | 0.885 | 1.22 | 0.24 | 0.5 | 115.2 | 424.8 | 424.8 |
| 5 | 40 | 24 | 960 | 8.3 | 0.735 | 1.63 | 0.322 | 0.5 | 154.56 | 352.8 | 352.8 |
| 6 | 40 | 24 | 960 | 9.9 | 0.975 | 0.94 | 0.184 | 0.5 | 88.32 | 468 | 468 |
| 7 | 40 | 24 | 960 | 7 | 0.54 | 0.88 | 0.172 | 0.5 | 82.56 | 259.2 | 259.2 |
| 8 | 40 | 24 | 960 | 6.3 | 0.435 | 1.1 | 0.216 | 0.5 | 103.68 | 208.8 | 208.8 |
| 9 | 40 | 24 | 960 | 11.6 | 1.23 | 1.4 | 0.276 | 0.5 | 132.48 | 590.4 | 590.4 |
| 10 | 40 | 24 | 960 | 9.7 | 0.945 | 1.5 | 0.296 | 0.5 | 142.08 | 453.6 | 453.6 |
| 11 | 40 | 24 | 960 | 9.5 | 0.915 | 3 | 0.596 | 0.5 | 286.08 | 439.2 | 439.2 |
| 12 | 40 | 24 | 960 | 11.2 | 1.17 | 3.6 | 0.716 | 0.5 | 343.68 | 561.6 | 561.6 |
| 13 | 40 | 24 | 960 | 13.4 | 1.5 | 2.9 | 0.576 | 0.5 | 276.48 | 720 | 720 |
| 14 | 40 | 24 | 960 | 10.3 | 1.035 | 1.44 | 0.284 | 0.5 | 136.32 | 496.8 | 496.8 |
| 15 | 40 | 24 | 960 | 13.1 | 1.455 | 3.4 | 0.676 | 0.5 | 324.48 | 698.4 | 698.4 |
| 16 | 40 | 24 | 960 | 8.6 | 0.78 | 1.38 | 0.272 | 0.5 | 130.56 | 374.4 | 374.4 |
| 17 | 40 | 24 | 960 | 8.8 | 0.81 | 0.75 | 0.146 | 0.5 | 70.08 | 388.8 | 388.8 |
| 18 | 40 | 24 | 960 | 10.8 | 1.11 | 1.6 | 0.316 | 0.5 | 151.68 | 532.8 | 532.8 |
| 19 | 40 | 24 | 960 | 12.3 | 1.335 | 1.75 | 0.346 | 0.5 | 166.08 | 640.8 | 640.8 |
| 20 | 40 | 24 | 960 | 12.2 | 1.32 | 1.81 | 0.358 | 0.5 | 171.84 | 633.6 | 633.6 |
| 21 | 40 | 24 | 960 | 11.3 | 1.185 | 2.7 | 0.536 | 0.5 | 257.28 | 568.8 | 568.8 |
| 22 | 40 | 24 | 960 | 9.6 | 0.93 | 2.2 | 0.436 | 0.5 | 209.28 | 446.4 | 446.4 |
| 23 | 40 | 24 | 960 | 15.4 | 1.8 | 6.3 | 1.256 | 0.5 | 602.88 | 864 | 864 |
| 24 | 40 | 24 | 960 | 6.8 | 0.51 | 0.74 | 0.144 | 0.5 | 69.12 | 244.8 | 244.8 |
| 25 | 40 | 24 | 960 | 9 | 0.84 | 0.8 | 0.156 | 0.5 | 74.88 | 403.2 | 403.2 |
| 26 | 40 | 24 | 960 | 9.1 | 0.855 | 1.56 | 0.308 | 0.5 | 147.84 | 410.4 | 410.4 |
| 27 | 40 | 24 | 960 | 8.2 | 0.72 | 0.94 | 0.184 | 0.5 | 88.32 | 345.6 | 345.6 |
| 28 | 40 | 24 | 960 | 11.3 | 1.185 | 2.9 | 0.576 | 0.5 | 276.48 | 568.8 | 568.8 |
| 29 | 40 | 24 | 960 | 8.4 | 0.75 | 1.1 | 0.216 | 0.5 | 103.68 | 360 | 360 |
| 30 | 40 | 24 | 960 | 7.7 | 0.645 | 1.3 | 0.256 | 0.5 | 122.88 | 309.6 | 309.6 |
| 31 | 40 | 24 | 960 | 10.4 | 1.05 | 0.93 | 0.182 | 0.5 | 87.36 | 504 | 504 |
| 32 | 40 | 24 | 960 | 9.6 | 0.93 | 2.2 | 0.436 | 0.5 | 209.28 | 446.4 | 446.4 |
| 33 | 40 | 24 | 960 | 6.8 | 0.51 | 0.64 | 0.124 | 0.5 | 59.52 | 244.8 | 244.8 |
| 34 | 40 | 24 | 960 | 9.3 | 0.885 | 1.1 | 0.216 | 0.5 | 103.68 | 424.8 | 424.8 |
| 35 | 40 | 24 | 960 | 7.9 | 0.675 | 1 | 0.196 | 0.5 | 94.08 | 324 | 324 |
| 36 | 40 | 24 | 960 | 7.3 | 0.585 | 1.2 | 0.236 | 0.5 | 113.28 | 280.8 | 280.8 |
| 37 | 40 | 24 | 960 | 11.8 | 1.26 | 2.2 | 0.436 | 0.5 | 209.28 | 604.8 | 604.8 |
| 38 | 40 | 24 | 960 | 8.8 | 0.81 | 1.4 | 0.276 | 0.5 | 132.48 | 388.8 | 388.8 |
| 39 | 40 | 24 | 960 | 9.5 | 0.915 | 0.88 | 0.172 | 0.5 | 82.56 | 439.2 | 439.2 |
| 40 | 40 | 24 | 960 | 6.7 | 0.495 | 0.69 | 0.134 | 0.5 | 64.32 | 237.6 | 237.6 |
| 41 | 40 | 24 | 960 | 6.4 | 0.45 | 0.81 | 0.158 | 0.5 | 75.84 | 216 | 216 |
| 42 | 40 | 24 | 960 | 6 | 0.39 | 1.25 | 0.246 | 0.5 | 118.08 | 187.2 | 187.2 |
| 43 | 40 | 24 | 960 | 6.6 | 0.48 | 0.72 | 0.14 | 0.5 | 67.2 | 230.4 | 230.4 |
| 44 | 40 | 24 | 960 | 7.6 | 0.63 | 1.1 | 0.216 | 0.5 | 103.68 | 302.4 | 302.4 |
| 45 | 40 | 24 | 960 | 6.3 | 0.435 | 0.8 | 0.156 | 0.5 | 74.88 | 208.8 | 208.8 |
| 46 | 40 | 24 | 960 | 8 | 0.69 | 1.1 | 0.216 | 0.5 | 103.68 | 331.2 | 331.2 |
| 47 | 40 | 24 | 960 | 6.6 | 0.48 | 0.94 | 0.184 | 0.5 | 88.32 | 230.4 | 230.4 |
| 48 | 40 | 24 | 960 | 6.4 | 0.45 | 0.81 | 0.158 | 0.5 | 75.84 | 216 | 216 |
| 49 | 40 | 24 | 960 | 7.1 | 0.555 | 0.63 | 0.122 | 0.5 | 58.56 | 266.4 | 266.4 |
| 50 | 40 | 24 | 960 | 8.2 | 0.72 | 1.2 | 0.236 | 0.5 | 113.28 | 345.6 | 345.6 |
| 51 | 40 | 24 | 960 | 9.1 | 0.855 | 0.94 | 0.184 | 0.5 | 88.32 | 410.4 | 410.4 |
| 52 | 40 | 24 | 960 | 8.2 | 0.72 | 0.6 | 0.116 | 0.5 | 55.68 | 345.6 | 345.6 |
| 53 | 40 | 24 | 960 | 6.1 | 0.405 | 0.56 | 0.108 | 0.5 | 51.84 | 194.4 | 194.4 |
| 54 | 40 | 24 | 960 | 15.4 | 1.8 | 5.2 | 1.036 | 0.5 | 497.28 | 864 | 864 |
| 55 | 40 | 24 | 960 | 9.8 | 0.96 | 1.2 | 0.236 | 0.5 | 113.28 | 460.8 | 460.8 |
| Drum 53: | | | | | | | | | 8254 | 22500 | 22500 |

DRUM 54

| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 7.3 | 0.585 | 10.8 | 2.156 | 0.5 | 1034.88 | 280.8 | 1034.88 |
| 2 | 40 | 24 | 960 | 7.5 | 0.615 | 0.6 | 0.116 | 0.5 | 55.68 | 295.2 | 295.2 |
| 3 | 40 | 24 | 960 | 7.3 | 0.585 | 0.62 | 0.12 | 0.5 | 57.6 | 280.8 | 280.8 |
| 4 | 40 | 24 | 960 | 21 | 2.64 | 4.8 | 0.956 | 0.5 | 458.88 | 1267.2 | 1267.2 |
| 5 | 40 | 24 | 960 | 7.5 | 0.615 | 1.2 | 0.236 | 0.5 | 113.28 | 295.2 | 295.2 |
| 6 | 40 | 24 | 960 | 7.1 | 0.555 | 0.94 | 0.184 | 0.5 | 88.32 | 266.4 | 266.4 |
| 7 | 40 | 24 | 960 | 6.7 | 0.495 | 0.65 | 0.126 | 0.5 | 60.48 | 237.6 | 237.6 |
| 8 | 40 | 24 | 960 | 6.5 | 0.465 | 0.56 | 0.108 | 0.5 | 51.84 | 223.2 | 223.2 |
| 9 | 40 | 24 | 960 | 14.2 | 1.62 | 3.3 | 0.656 | 0.5 | 314.88 | 777.6 | 777.6 |
| 10 | 40 | 24 | 960 | 14.1 | 1.605 | 4.1 | 0.816 | 0.5 | 391.68 | 770.4 | 770.4 |
| 11 | 40 | 24 | 960 | 8.3 | 0.735 | 1.63 | 0.322 | 0.5 | 154.56 | 352.8 | 352.8 |
| 12 | 40 | 24 | 960 | 7.8 | 0.66 | 1.75 | 0.346 | 0.5 | 166.08 | 316.8 | 316.8 |
| 13 | 40 | 24 | 960 | 22 | 2.79 | 3.8 | 0.756 | 0.5 | 362.88 | 1339.2 | 1339.2 |
| 14 | 40 | 24 | 960 | 10.2 | 1.02 | 2.2 | 0.436 | 0.5 | 209.28 | 489.6 | 489.6 |
| 15 | 40 | 24 | 960 | 8.1 | 0.705 | 1.63 | 0.322 | 0.5 | 154.56 | 338.4 | 338.4 |
| 16 | 40 | 24 | 960 | 6.7 | 0.495 | 1.1 | 0.216 | 0.5 | 103.68 | 237.6 | 237.6 |
| 17 | 40 | 24 | 960 | 7.2 | 0.57 | 1.3 | 0.256 | 0.5 | 122.88 | 273.6 | 273.6 |

Drum 53 count range %
Alpha low (0.3 to 1 cps) 19 34.5
Alpha mid (1 to 2 cps) 24 43.6
Alpha high (2 to 5cps) 10 18.2
Alpha very high (5 to 20 cps) 2 3.6

55

Drum 54 count range %
Alpha low (0.3 to 1 cps) 23 41.8
Alpha mid (1 to 2 cps) 19 34.5
Alpha high (2 to 5cps) 12 21.8
Alpha very high (5 to 20 cps) 1 1.8

55

| | | | | | | | | | | | |
|--------------------------------|----|----|-----|------|-------|------|-------|-----|---------------|---------------------|------------------|
| 18 | 40 | 24 | 960 | 6.2 | 0.42 | 0.81 | 0.158 | 0.5 | 75.84 | 201.6 | 201.6 |
| 19 | 40 | 24 | 960 | 6.4 | 0.45 | 0.93 | 0.182 | 0.5 | 87.36 | 216 | 216 |
| 20 | 40 | 24 | 960 | 6.3 | 0.435 | 0.75 | 0.146 | 0.5 | 70.08 | 208.8 | 208.8 |
| 21 | 40 | 24 | 960 | 6.6 | 0.48 | 0.88 | 0.172 | 0.5 | 82.56 | 230.4 | 230.4 |
| 22 | 40 | 24 | 960 | 9 | 0.84 | 1.3 | 0.256 | 0.5 | 122.88 | 403.2 | 403.2 |
| 23 | 40 | 24 | 960 | 7.4 | 0.6 | 1.1 | 0.216 | 0.5 | 103.68 | 288 | 288 |
| 24 | 40 | 24 | 960 | 7.5 | 0.615 | 1 | 0.196 | 0.5 | 94.08 | 295.2 | 295.2 |
| 25 | 40 | 24 | 960 | 7.7 | 0.645 | 2.4 | 0.476 | 0.5 | 228.48 | 309.6 | 309.6 |
| 26 | 40 | 24 | 960 | 8.7 | 0.795 | 1.3 | 0.256 | 0.5 | 122.88 | 381.6 | 381.6 |
| 27 | 40 | 24 | 960 | 12.4 | 1.35 | 3.8 | 0.756 | 0.5 | 362.88 | 648 | 648 |
| 28 | 40 | 24 | 960 | 7.1 | 0.555 | 1.4 | 0.276 | 0.5 | 132.48 | 266.4 | 266.4 |
| 29 | 40 | 24 | 960 | 13.4 | 1.5 | 3.6 | 0.716 | 0.5 | 343.68 | 720 | 720 |
| 30 | 40 | 24 | 960 | 6.3 | 0.435 | 0.9 | 0.176 | 0.5 | 84.48 | 208.8 | 208.8 |
| 31 | 40 | 24 | 960 | 5.9 | 0.375 | 0.63 | 0.122 | 0.5 | 58.56 | 180 | 180 |
| 32 | 40 | 24 | 960 | 6.9 | 0.525 | 1.8 | 0.356 | 0.5 | 170.88 | 252 | 252 |
| 33 | 40 | 24 | 960 | 7.9 | 0.675 | 2.2 | 0.436 | 0.5 | 209.28 | 324 | 324 |
| 34 | 40 | 24 | 960 | 6.6 | 0.48 | 0.69 | 0.134 | 0.5 | 64.32 | 230.4 | 230.4 |
| 35 | 40 | 24 | 960 | 11.6 | 1.23 | 3.3 | 0.656 | 0.5 | 314.88 | 590.4 | 590.4 |
| 36 | 40 | 24 | 960 | 8.6 | 0.78 | 1.91 | 0.378 | 0.5 | 181.44 | 374.4 | 374.4 |
| 37 | 40 | 24 | 960 | 8.9 | 0.825 | 2.61 | 0.518 | 0.5 | 248.64 | 396 | 396 |
| 38 | 40 | 24 | 960 | 5.4 | 0.3 | 0.72 | 0.14 | 0.5 | 67.2 | 144 | 144 |
| 39 | 40 | 24 | 960 | 6.4 | 0.45 | 1.75 | 0.346 | 0.5 | 166.08 | 216 | 216 |
| 40 | 40 | 24 | 960 | 5.6 | 0.33 | 0.59 | 0.114 | 0.5 | 54.72 | 158.4 | 158.4 |
| 41 | 40 | 24 | 960 | 7.8 | 0.66 | 2.2 | 0.436 | 0.5 | 209.28 | 316.8 | 316.8 |
| 42 | 40 | 24 | 960 | 7.1 | 0.555 | 0.88 | 0.172 | 0.5 | 82.56 | 266.4 | 266.4 |
| 43 | 40 | 24 | 960 | 5.8 | 0.36 | 0.69 | 0.134 | 0.5 | 64.32 | 172.8 | 172.8 |
| 44 | 40 | 24 | 960 | 5.6 | 0.33 | 0.62 | 0.12 | 0.5 | 57.6 | 158.4 | 158.4 |
| 45 | 40 | 24 | 960 | 7.1 | 0.555 | 0.94 | 0.184 | 0.5 | 88.32 | 266.4 | 266.4 |
| 46 | 40 | 24 | 960 | 7.9 | 0.675 | 1.19 | 0.234 | 0.5 | 112.32 | 324 | 324 |
| 47 | 40 | 24 | 960 | 6.2 | 0.42 | 0.58 | 0.112 | 0.5 | 53.76 | 201.6 | 201.6 |
| 48 | 40 | 24 | 960 | 8.4 | 0.75 | 1.38 | 0.272 | 0.5 | 130.56 | 360 | 360 |
| 49 | 40 | 24 | 960 | 6.1 | 0.405 | 0.61 | 0.118 | 0.5 | 56.64 | 194.4 | 194.4 |
| 50 | 40 | 24 | 960 | 6.2 | 0.42 | 0.66 | 0.128 | 0.5 | 61.44 | 201.6 | 201.6 |
| 51 | 40 | 24 | 960 | 6.9 | 0.525 | 1.13 | 0.222 | 0.5 | 106.56 | 252 | 252 |
| 52 | 40 | 24 | 960 | 12.6 | 1.38 | 1.32 | 0.26 | 0.5 | 124.8 | 662.4 | 662.4 |
| 53 | 40 | 24 | 960 | 7.9 | 0.675 | 1.25 | 0.246 | 0.5 | 118.08 | 324 | 324 |
| 54 | 40 | 24 | 960 | 6.4 | 0.45 | 0.73 | 0.142 | 0.5 | 68.16 | 216 | 216 |
| 55 | 40 | 24 | 960 | 8.3 | 0.735 | 0.78 | 0.152 | 0.5 | 72.96 | 352.8 | 352.8 |
| Drum 54: | | | | | | | | | 8756 | 19555 | 20309 |
| Average of D51, D52, D53, D54: | | | | | | | | | Alpha 8841 | Beta/gamma 22537 | Highest 22768 |

DRUM 57

| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 52.2 | 7.32 | 15.9 | 3.176 | 0.5 | 1524.48 | 3513.6 | 3513.6 |
| 2 | 40 | 24 | 960 | 50.6 | 7.08 | 11.8 | 2.356 | 0.5 | 1130.88 | 3398.4 | 3398.4 |
| 3 | 40 | 24 | 960 | 92 | 13.29 | 10.7 | 2.136 | 0.5 | 1025.28 | 6379.2 | 6379.2 |
| 4 | 40 | 24 | 960 | 71 | 10.14 | 15.6 | 3.116 | 0.5 | 1495.68 | 4867.2 | 4867.2 |
| 5 | 40 | 24 | 960 | 24 | 3.09 | 6.7 | 1.336 | 0.5 | 641.28 | 1483.2 | 1483.2 |
| 6 | 40 | 24 | 960 | 31 | 4.14 | 7.3 | 1.456 | 0.5 | 698.88 | 1987.2 | 1987.2 |
| 7 | 40 | 24 | 960 | 34 | 4.59 | 10.8 | 2.156 | 0.5 | 1034.88 | 2203.2 | 2203.2 |
| 8 | 40 | 24 | 960 | 16.6 | 1.98 | 5.8 | 1.156 | 0.5 | 554.88 | 950.4 | 950.4 |
| 9 | 40 | 24 | 960 | 25 | 3.24 | 7.25 | 1.446 | 0.5 | 694.08 | 1555.2 | 1555.2 |
| 10 | 40 | 24 | 960 | 24.3 | 3.135 | 5.9 | 1.176 | 0.5 | 564.48 | 1504.8 | 1504.8 |
| 11 | 40 | 24 | 960 | 27 | 3.54 | 7.4 | 1.476 | 0.5 | 708.48 | 1699.2 | 1699.2 |
| 12 | 40 | 24 | 960 | 31 | 4.14 | 6.3 | 1.256 | 0.5 | 602.88 | 1987.2 | 1987.2 |
| 13 | 40 | 24 | 960 | 32 | 4.29 | 7.9 | 1.576 | 0.5 | 756.48 | 2059.2 | 2059.2 |
| 14 | 40 | 24 | 960 | 22 | 2.79 | 7.4 | 1.476 | 0.5 | 708.48 | 1339.2 | 1339.2 |
| 15 | 40 | 24 | 960 | 18.1 | 2.205 | 6.8 | 1.356 | 0.5 | 650.88 | 1058.4 | 1058.4 |
| 16 | 40 | 24 | 960 | 44 | 6.09 | 13.4 | 2.676 | 0.5 | 1284.48 | 2923.2 | 2923.2 |
| 17 | 40 | 24 | 960 | 51 | 7.14 | 9.3 | 1.856 | 0.5 | 890.88 | 3427.2 | 3427.2 |
| 18 | 40 | 24 | 960 | 22 | 2.79 | 5.7 | 1.136 | 0.5 | 545.28 | 1339.2 | 1339.2 |
| 19 | 40 | 24 | 960 | 52 | 7.29 | 12.3 | 2.456 | 0.5 | 1178.88 | 3499.2 | 3499.2 |
| 20 | 40 | 24 | 960 | 46 | 6.39 | 13.6 | 2.716 | 0.5 | 1303.68 | 3067.2 | 3067.2 |
| 21 | 40 | 24 | 960 | 40 | 5.49 | 12.8 | 2.556 | 0.5 | 1226.88 | 2635.2 | 2635.2 |
| 22 | 40 | 24 | 960 | 44 | 6.09 | 16.4 | 3.276 | 0.5 | 1572.48 | 2923.2 | 2923.2 |
| 23 | 40 | 24 | 960 | 43 | 5.94 | 11.8 | 2.356 | 0.5 | 1130.88 | 2851.2 | 2851.2 |
| 24 | 40 | 24 | 960 | 122 | 17.79 | 18.7 | 3.736 | 0.5 | 1793.28 | 8539.2 | 8539.2 |
| 25 | 40 | 24 | 960 | 190 | 27.99 | 12.3 | 2.456 | 0.5 | 1178.88 | 13435.2 | 13435.2 |
| 26 | 40 | 24 | 960 | 37 | 5.04 | 8.5 | 1.696 | 0.5 | 814.08 | 2419.2 | 2419.2 |
| 27 | 40 | 24 | 960 | 50 | 6.99 | 15 | 2.996 | 0.5 | 1438.08 | 3355.2 | 3355.2 |
| 28 | 40 | 24 | 960 | 50 | 6.99 | 5 | 0.996 | 0.5 | 478.08 | 3355.2 | 3355.2 |
| 29 | 40 | 24 | 960 | 30 | 3.99 | 6 | 1.196 | 0.5 | 574.08 | 1915.2 | 1915.2 |
| 30 | 40 | 24 | 960 | 40 | 5.49 | 10 | 1.996 | 0.5 | 958.08 | 2635.2 | 2635.2 |
| 31 | 40 | 24 | 960 | 40 | 5.49 | 15 | 2.996 | 0.5 | 1438.08 | 2635.2 | 2635.2 |
| 32 | 40 | 24 | 960 | 50 | 6.99 | 10 | 1.996 | 0.5 | 958.08 | 3355.2 | 3355.2 |
| 33 | 40 | 24 | 960 | 40 | 5.49 | 7 | 1.396 | 0.5 | 670.08 | 2635.2 | 2635.2 |
| 34 | 40 | 24 | 960 | 40 | 5.49 | 10 | 1.996 | 0.5 | 958.08 | 2635.2 | 2635.2 |
| 35 | 40 | 24 | 960 | 40 | 5.49 | 15 | 2.996 | 0.5 | 1438.08 | 2635.2 | 2635.2 |
| 36 | 40 | 24 | 960 | 30 | 3.99 | 15 | 2.996 | 0.5 | 1438.08 | 1915.2 | 1915.2 |
| 37 | 40 | 24 | 960 | 10 | 0.99 | 5 | 0.996 | 0.5 | 478.08 | 475.2 | 478.08 |
| 38 | 40 | 24 | 960 | 54 | 7.59 | 9.3 | 1.856 | 0.5 | 890.88 | 3643.2 | 3643.2 |
| 39 | 40 | 24 | 960 | 34 | 4.59 | 14.7 | 2.936 | 0.5 | 1409.28 | 2203.2 | 2203.2 |
| 40 | 40 | 24 | 960 | 64 | 9.09 | 18.7 | 3.736 | 0.5 | 1793.28 | 4363.2 | 4363.2 |
| 41 | 40 | 24 | 960 | 36 | 4.89 | 9.6 | 1.916 | 0.5 | 919.68 | 2347.2 | 2347.2 |
| 42 | 40 | 24 | 960 | 41 | 5.64 | 12.3 | 2.456 | 0.5 | 1178.88 | 2707.2 | 2707.2 |
| 43 | 40 | 24 | 960 | 20 | 2.49 | 6.8 | 1.356 | 0.5 | 650.88 | 1195.2 | 1195.2 |
| 44 | 40 | 24 | 960 | 23 | 2.94 | 8.2 | 1.636 | 0.5 | 785.28 | 1411.2 | 1411.2 |
| 45 | 40 | 24 | 960 | 26 | 3.39 | 10.4 | 2.076 | 0.5 | 996.48 | 1627.2 | 1627.2 |
| 46 | 40 | 24 | 960 | 14 | 1.59 | 8.83 | 1.762 | 0.5 | 845.76 | 763.2 | 845.76 |

Drum 57 count range %

Alpha low (0.3 to 1 cps) 0 0.0

Alpha mid (1 to 2 cps) 0 0.0

Alpha high (2 to 5cps) 2 3.6

Alpha very high (5 to 20 cps) 53 96.4

55

| | | | | | | | | | | | |
|----------|----|----|-----|----|------|-----|-------|-----|--------|------------|---------|
| 47 | 40 | 24 | 960 | 17 | 2.04 | 5.7 | 1.136 | 0.5 | 545.28 | 979.2 | 979.2 |
| 48 | 40 | 24 | 960 | 27 | 3.54 | 7.3 | 1.456 | 0.5 | 698.88 | 1699.2 | 1699.2 |
| 49 | 40 | 24 | 960 | 28 | 3.69 | 9.6 | 1.916 | 0.5 | 919.68 | 1771.2 | 1771.2 |
| 50 | 40 | 24 | 960 | 19 | 2.34 | 5.4 | 1.076 | 0.5 | 516.48 | 1123.2 | 1123.2 |
| 51 | 40 | 24 | 960 | 22 | 2.79 | 6.3 | 1.256 | 0.5 | 602.88 | 1339.2 | 1339.2 |
| 52 | 40 | 24 | 960 | 33 | 4.44 | 7.7 | 1.536 | 0.5 | 737.28 | 2131.2 | 2131.2 |
| 53 | 40 | 24 | 960 | 17 | 2.04 | 5.9 | 1.176 | 0.5 | 564.48 | 979.2 | 979.2 |
| 54 | 40 | 24 | 960 | 22 | 2.79 | 6.6 | 1.316 | 0.5 | 631.68 | 1339.2 | 1339.2 |
| 55 | 40 | 24 | 960 | 16 | 1.89 | 5.3 | 1.056 | 0.5 | 506.88 | 907.2 | 907.2 |
| | | | | | | | | | Alpha | Beta/gamma | Highest |
| Drum 57: | | | | | | | | | 51732 | 143122 | 143207 |

DRUM 58

| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|----------|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|---------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 80.2 | 11.52 | 42.1 | 8.416 | 0.5 | 4039.68 | 5529.6 | 5529.6 |
| 2 | 40 | 24 | 960 | 124 | 18.09 | 44.2 | 8.836 | 0.5 | 4241.28 | 8683.2 | 8683.2 |
| 3 | 40 | 24 | 960 | 92.6 | 13.38 | 41 | 8.196 | 0.5 | 3934.08 | 6422.4 | 6422.4 |
| 4 | 40 | 24 | 960 | 104 | 15.09 | 23.6 | 4.716 | 0.5 | 2263.68 | 7243.2 | 7243.2 |
| 5 | 40 | 24 | 960 | 167 | 24.54 | 64.5 | 12.896 | 0.5 | 6190.08 | 11779.2 | 11779.2 |
| 6 | 40 | 24 | 960 | 202 | 29.79 | 47.2 | 9.436 | 0.5 | 4529.28 | 14299.2 | 14299.2 |
| 7 | 40 | 24 | 960 | 92 | 13.29 | 28.8 | 5.756 | 0.5 | 2762.88 | 6379.2 | 6379.2 |
| 8 | 40 | 24 | 960 | 129 | 18.84 | 49.5 | 9.896 | 0.5 | 4750.08 | 9043.2 | 9043.2 |
| 9 | 40 | 24 | 960 | 188 | 27.69 | 34.2 | 6.836 | 0.5 | 3281.28 | 13291.2 | 13291.2 |
| 10 | 40 | 24 | 960 | 93 | 13.44 | 29.6 | 5.916 | 0.5 | 2839.68 | 6451.2 | 6451.2 |
| 11 | 40 | 24 | 960 | 170 | 24.99 | 49.8 | 9.956 | 0.5 | 4778.88 | 11995.2 | 11995.2 |
| 12 | 40 | 24 | 960 | 115 | 16.74 | 41.4 | 8.276 | 0.5 | 3972.48 | 8035.2 | 8035.2 |
| 13 | 40 | 24 | 960 | 81 | 11.64 | 26.5 | 5.296 | 0.5 | 2542.08 | 5587.2 | 5587.2 |
| 14 | 40 | 24 | 960 | 88 | 12.69 | 39.2 | 7.836 | 0.5 | 3761.28 | 6091.2 | 6091.2 |
| 15 | 40 | 24 | 960 | 175 | 25.74 | 33.3 | 6.656 | 0.5 | 3194.88 | 12355.2 | 12355.2 |
| 16 | 40 | 24 | 960 | 297 | 44.04 | 29.7 | 5.936 | 0.5 | 2849.28 | 21139.2 | 21139.2 |
| 17 | 40 | 24 | 960 | 57 | 8.04 | 21.6 | 4.316 | 0.5 | 2071.68 | 3859.2 | 3859.2 |
| 18 | 40 | 24 | 960 | 34 | 4.59 | 24.6 | 4.916 | 0.5 | 2359.68 | 2203.2 | 2359.68 |
| 19 | 40 | 24 | 960 | 48 | 6.69 | 21.7 | 4.336 | 0.5 | 2081.28 | 3211.2 | 3211.2 |
| 20 | 40 | 24 | 960 | 83 | 11.94 | 33.2 | 6.636 | 0.5 | 3185.28 | 5731.2 | 5731.2 |
| 21 | 40 | 24 | 960 | 96 | 13.89 | 22.6 | 4.516 | 0.5 | 2167.68 | 6667.2 | 6667.2 |
| 22 | 40 | 24 | 960 | 155 | 22.74 | 24.9 | 4.976 | 0.5 | 2388.48 | 10915.2 | 10915.2 |
| 23 | 40 | 24 | 960 | 65 | 9.24 | 28.2 | 5.636 | 0.5 | 2705.28 | 4435.2 | 4435.2 |
| 24 | 40 | 24 | 960 | 51 | 7.14 | 22.6 | 4.516 | 0.5 | 2167.68 | 3427.2 | 3427.2 |
| 25 | 40 | 24 | 960 | 81 | 11.64 | 33.7 | 6.736 | 0.5 | 3233.28 | 5587.2 | 5587.2 |
| 26 | 40 | 24 | 960 | 100 | 14.49 | 32.2 | 6.436 | 0.5 | 3089.28 | 6955.2 | 6955.2 |
| 27 | 40 | 24 | 960 | 68 | 9.69 | 23.4 | 4.676 | 0.5 | 2244.48 | 4651.2 | 4651.2 |
| 28 | 40 | 24 | 960 | 75 | 10.74 | 25 | 4.996 | 0.5 | 2398.08 | 5155.2 | 5155.2 |
| 29 | 40 | 24 | 960 | 375 | 55.74 | 45 | 8.996 | 0.5 | 4318.08 | 26755.2 | 26755.2 |
| 30 | 40 | 24 | 960 | 60 | 8.49 | 20 | 3.996 | 0.5 | 1918.08 | 4075.2 | 4075.2 |
| 31 | 40 | 24 | 960 | 350 | 51.99 | 70 | 13.996 | 0.5 | 6718.08 | 24955.2 | 24955.2 |
| 32 | 40 | 24 | 960 | 500 | 74.49 | 50 | 9.996 | 0.5 | 4798.08 | 35755.2 | 35755.2 |
| 33 | 40 | 24 | 960 | 75 | 10.74 | 20 | 3.996 | 0.5 | 1918.08 | 5155.2 | 5155.2 |
| 34 | 40 | 24 | 960 | 100 | 14.49 | 40 | 7.996 | 0.5 | 3838.08 | 6955.2 | 6955.2 |
| 35 | 40 | 24 | 960 | 70 | 9.99 | 30 | 5.996 | 0.5 | 2878.08 | 4795.2 | 4795.2 |
| 36 | 40 | 24 | 960 | 150 | 21.99 | 25 | 4.996 | 0.5 | 2398.08 | 10555.2 | 10555.2 |
| 37 | 40 | 24 | 960 | 80 | 11.49 | 25 | 4.996 | 0.5 | 2398.08 | 5515.2 | 5515.2 |
| 38 | 40 | 24 | 960 | 70 | 9.99 | 25 | 4.996 | 0.5 | 2398.08 | 4795.2 | 4795.2 |
| 39 | 40 | 24 | 960 | 150 | 21.99 | 60 | 11.996 | 0.5 | 5758.08 | 10555.2 | 10555.2 |
| 40 | 40 | 24 | 960 | 150 | 21.99 | 60 | 11.996 | 0.5 | 5758.08 | 10555.2 | 10555.2 |
| 41 | 40 | 24 | 960 | 150 | 21.99 | 70 | 13.996 | 0.5 | 6718.08 | 10555.2 | 10555.2 |
| 42 | 40 | 24 | 960 | 220 | 32.49 | 120 | 23.996 | 0.5 | 11518.08 | 15595.2 | 15595.2 |
| 43 | 40 | 24 | 960 | 85 | 12.24 | 25 | 4.996 | 0.5 | 2398.08 | 5875.2 | 5875.2 |
| 44 | 40 | 24 | 960 | 70 | 9.99 | 30 | 5.996 | 0.5 | 2878.08 | 4795.2 | 4795.2 |
| 45 | 40 | 24 | 960 | 300 | 44.49 | 90 | 17.996 | 0.5 | 8638.08 | 21355.2 | 21355.2 |
| 46 | 40 | 24 | 960 | 1000 | 149.49 | 35 | 6.996 | 0.5 | 3358.08 | 71755.2 | 71755.2 |
| 47 | 40 | 24 | 960 | 800 | 119.49 | 150 | 29.996 | 0.5 | 14398.08 | 57355.2 | 57355.2 |
| 48 | 40 | 24 | 960 | 272 | 40.29 | 91.4 | 18.276 | 0.5 | 8772.48 | 19339.2 | 19339.2 |
| 49 | 40 | 24 | 960 | 78 | 11.19 | 26.3 | 5.256 | 0.5 | 2522.88 | 5371.2 | 5371.2 |
| 50 | 40 | 24 | 960 | 123 | 17.94 | 38.4 | 7.676 | 0.5 | 3684.48 | 8611.2 | 8611.2 |
| 51 | 40 | 24 | 960 | 53 | 7.44 | 29.2 | 5.836 | 0.5 | 2801.28 | 3571.2 | 3571.2 |
| 52 | 40 | 24 | 960 | 86 | 12.39 | 21.2 | 4.236 | 0.5 | 2033.28 | 5947.2 | 5947.2 |
| 53 | 40 | 24 | 960 | 49 | 6.84 | 22.4 | 4.476 | 0.5 | 2148.48 | 3283.2 | 3283.2 |
| 54 | 40 | 24 | 960 | 66 | 9.39 | 27.1 | 5.416 | 0.5 | 2599.68 | 4507.2 | 4507.2 |
| 55 | 40 | 24 | 960 | 1600 | 239.49 | 300 | 59.996 | 0.5 | 28798.08 | 114955.2 | 114955.2 |
| | | | | | | | | | Alpha | Beta/gamma | Highest |
| Drum 58: | | | | | | | | | 238387 | 720418 | 720574 |

| | | |
|-------------------------------|----|------|
| Drum 58 count range | | % |
| Alpha low (0.3 to 1 cps) | 0 | 0.0 |
| Alpha mid (1 to 2 cps) | 0 | 0.0 |
| Alpha high (2 to 5cps) | 0 | 0.0 |
| Alpha very high (5 to 20 cps) | 1 | 1.8 |
| Alpha bloody high (> 20 cps) | 54 | 98.2 |
| | | 55 |

Observation: First 5 drums contain tiles removed from North Western Cnr of lower floor building (above G11), moving from roof pitch to gutter from North to South. Tiles 56 - 60 reflect those removed from middle to Southern end (above G13). Incidence of numbers of tiles with higher activity increased towards the Southern end (above G11-G13). Tiles above category 1 will be subject to individual calculation assessment to determine drum activity.

Drum activity categories:

| Category | Alpha count range | Activity range | Drum activity | Comment |
|------------|-------------------|--------------------------|---------------|---|
| Category 1 | <5cps alpha | <1 Bq/cm ² | 22.8 kBq | Activity based on average of drums 51 - 54 which have similar activities; and also higher worse case scenario to account for masking of alpha |
| Category 2 | 5 - 20 cps alpha | 1 - 4 Bq/cm ² | 143.2 kBq | Activity based on drum 57 |
| Category 3 | >20 cps alpha | >4 Bq/cm ² | 720.5 kBq | Activity based on drum 58 |

Summary of drum activities:

| | | |
|-----|---------------|----------|
| D50 | 1-2 cps alpha | 12.1 kBq |
| D51 | <5cps alpha | 25.6 kBq |
| D52 | <5cps alpha | 22.6 kBq |
| D53 | <5cps alpha | 22.5 kBq |
| D54 | <5cps alpha | 20.3 kBq |
| D55 | <5cps alpha | 22.8 kBq |
| D56 | <5cps alpha | 22.8 kBq |

| | | | |
|-----|------------------|-----------|----------|
| D57 | 5 - 20 cps alpha | 143.2 kBq | |
| D58 | >20 cps alpha | 720.5 kBq | hot one! |
| D59 | <5cps alpha | 22.8 kBq | |
| D60 | <5cps alpha | 22.8 kBq | |
| D69 | <5cps alpha | 22.8 kBq | |
| D70 | <5cps alpha | 22.8 kBq | |

Vacuum cleaner bags

Instrument MTE: 2904

| | Drum No. | Bag No. | B/g (μSv/hr) | Dose rate (μSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ | kg | g | Est. Bq/g |
|----|----------|---------|--------------|------------------------|--------------|-------------------------|--|------|------|-----------|
| | D40 | 1 | 0.064 | 0.07 | 0.5 | 223 | 6.7 | 2 | 2000 | 3.4 |
| | D40 | 2 | 0.064 | 0.08 | 0.5 | 223 | 17.9 | 2.4 | 2400 | 7.5 |
| | D40 | 3 | 0.064 | 0.07 | 0.3 | 223 | 2.4 | 1.1 | 1100 | 2.2 |
| | D40 | 4 | 0.064 | 0.083 | 0.7 | 223 | 41.7 | 2.5 | 2500 | 16.7 |
| | D40 | 5 | 0.064 | 0.087 | 0.7 | 223 | 50.5 | 1.5 | 1500 | 33.7 |
| | D40 | 6 | 0.064 | 0.071 | 0.7 | 223 | 15.4 | 2.3 | 2300 | 6.7 |
| | D40 | 7 | 0.064 | 0.072 | 0.7 | 223 | 17.6 | 1.8 | 1800 | 9.8 |
| | D40 | 8 | 0.064 | 0.072 | 0.6 | 223 | 12.9 | 1.8 | 1800 | 7.2 |
| | D40 | 9 | 0.064 | 0.078 | 0.7 | 223 | 30.8 | 3.1 | 3100 | 9.9 |
| | D40 | 10 | 0.064 | 0.07 | 0.7 | 223 | 13.2 | 2.3 | 2300 | 5.7 |
| | D40 | 11 | 0.064 | 0.075 | 0.7 | 223 | 24.2 | 0.75 | 750 | 32.2 |
| | D40 | 12 | 0.064 | 0.079 | 0.9 | 223 | 54.5 | 1.6 | 1600 | 34.1 |
| | D40 | 13 | 0.064 | 0.082 | 0.9 | 223 | 65.4 | 1.7 | 1700 | 38.5 |
| | D40 | 14 | 0.064 | 0.072 | 0.7 | 223 | 17.6 | 1.2 | 1200 | 14.6 |
| | D40 | 15 | 0.062 | 0.083 | 1.3 | 223 | 159.1 | 2.1 | 2100 | 75.8 |
| | D40 | 16 | 0.062 | 0.076 | 1 | 223 | 62.8 | 1.5 | 1500 | 41.9 |
| | D40 | 17 | 0.062 | 0.076 | 0.9 | 223 | 50.9 | 1.2 | 1200 | 42.4 |
| | D40 | 18 | 0.062 | 0.083 | 0.7 | 223 | 46.1 | 1.7 | 1700 | 27.1 |
| | D40 | 19 | 0.062 | 0.063 | 0.2 | 223 | 0.2 | 2.9 | 2900 | 0.1 |
| | D40 | 20 | 0.062 | 0.072 | 0.7 | 223 | 22.0 | 1.6 | 1600 | 13.7 |
| | D40 | 21 | 0.062 | 0.071 | 0.7 | 223 | 19.8 | 1.6 | 1600 | 12.4 |
| | D40 | 22 | 0.062 | 0.070 | 0.7 | 223 | 17.6 | 1.5 | 1500 | 11.7 |
| | D40 | 23 | 0.062 | 0.067 | 0.6 | 223 | 8.1 | 0.9 | 900 | 9.0 |
| | D40 | 24 | 0.062 | 0.070 | 0.6 | 223 | 12.9 | 2.5 | 2500 | 5.2 |
| | D40 | 25 | 0.062 | 0.080 | 0.8 | 223 | 51.7 | 3.7 | 3700 | 14.0 |
| | D40 | 26 | 0.062 | 0.071 | 0.8 | 223 | 25.8 | 1.4 | 1400 | 18.4 |
| | D40 | 27 | 0.062 | 0.068 | 0.6 | 223 | 9.7 | 2.8 | 2800 | 3.5 |
| | D40 | 28 | 0.062 | 0.074 | 0.4 | 223 | 8.6 | 3.2 | 3200 | 2.7 |
| | D40 | 29 | 0.062 | 0.075 | 0.4 | 223 | 9.3 | 3.9 | 3900 | 2.4 |
| | D40 | 30 | 0.062 | 0.073 | 0.5 | 223 | 12.3 | 1.4 | 1400 | 8.8 |
| | D40 | 31 | 0.062 | 0.075 | 0.4 | 223 | 9.3 | 1.5 | 1500 | 6.2 |
| | D40 | 32 | 0.062 | 0.069 | 0.7 | 223 | 15.4 | 2.2 | 2200 | 7.0 |
| | D40 | 33 | 0.062 | 0.072 | 1 | 223 | 44.8 | 4 | 4000 | 11.2 |
| | D40 | 34 | 0.062 | 0.072 | 0.5 | 223 | 11.2 | 3 | 3000 | 3.7 |
| 1 | D41 | 35 | 0.062 | 0.071 | 0.8 | 223 | 25.8 | 3 | 3000 | 8.6 |
| 2 | D41 | 36 | 0.062 | 0.071 | 0.3 | 223 | 3.6 | 1.9 | 1900 | 1.9 |
| 3 | D41 | 37 | 0.062 | 0.073 | 0.8 | 223 | 31.6 | 2.9 | 2900 | 10.9 |
| 4 | D41 | 38 | 0.062 | 0.069 | 0.7 | 223 | 15.4 | 4.5 | 4500 | 3.4 |
| 5 | D41 | 39 | 0.062 | 0.071 | 0.9 | 223 | 32.7 | 3.2 | 3200 | 10.2 |
| 6 | D41 | 40 | 0.062 | 0.071 | 0.6 | 223 | 14.5 | 3 | 3000 | 4.8 |
| 7 | D41 | 41 | 0.062 | 0.072 | 0.6 | 223 | 16.1 | 2.9 | 2900 | 5.6 |
| 8 | D41 | 42 | 0.062 | 0.071 | 0.6 | 223 | 14.5 | 3 | 3000 | 4.8 |
| 9 | D41 | 43 | 0.062 | 0.074 | 0.7 | 223 | 26.4 | 2.3 | 2300 | 11.5 |
| 10 | D41 | 44 | 0.062 | 0.074 | 0.8 | 223 | 34.4 | 2.2 | 2200 | 15.7 |
| 11 | D41 | 45 | 0.062 | 0.068 | 0.4 | 223 | 4.3 | 1.7 | 1700 | 2.5 |
| 12 | D41 | 46 | 0.062 | 0.07 | 0.9 | 223 | 29.1 | 3.8 | 3800 | 7.6 |
| 13 | D41 | 47 | 0.062 | 0.068 | 0.3 | 223 | 2.4 | 3.6 | 3600 | 0.7 |
| 14 | D41 | 48 | 0.062 | 0.068 | 0.9 | 223 | 21.8 | 2.8 | 2800 | 7.8 |
| 15 | D41 | 49 | 0.062 | 0.069 | 0.6 | 223 | 11.3 | 4.5 | 4500 | 2.5 |
| 16 | D41 | 50 | 0.062 | 0.07 | 0.6 | 223 | 12.9 | 3 | 3000 | 4.3 |
| 17 | D41 | 51 | 0.062 | 0.068 | 0.4 | 223 | 4.3 | 3 | 3000 | 1.4 |
| 18 | D41 | 52 | 0.062 | 0.07 | 0.9 | 223 | 29.1 | 2.2 | 2200 | 13.2 |
| 19 | D41 | 53 | 0.062 | 0.069 | 0.9 | 223 | 25.4 | 1.7 | 1700 | 15.0 |
| 20 | D41 | 54 | 0.062 | 0.069 | 0.4 | 223 | 5.0 | 1.5 | 1500 | 3.3 |
| 21 | D41 | 55 | 0.058 | 0.067 | 0.2 | 223 | 1.6 | 3.1 | 3100 | 0.5 |
| 22 | D41 | 56 | 0.058 | 0.072 | 1 | 223 | 62.8 | 2.1 | 2100 | 29.9 |
| 23 | D41 | 57 | 0.058 | 0.067 | 0.4 | 223 | 6.5 | 2 | 2000 | 3.2 |
| 24 | D41 | 58 | 0.058 | 0.067 | 0.5 | 223 | 10.1 | 2.5 | 2500 | 4.0 |
| 25 | D41 | 59 | 0.058 | 0.071 | 0.2 | 223 | 2.3 | 1.1 | 1100 | 2.1 |
| 26 | D41 | 60 | 0.058 | 0.071 | 0.3 | 223 | 5.2 | 3.5 | 3500 | 1.5 |
| 27 | D41 | 61 | 0.058 | 0.068 | 0.3 | 223 | 4.0 | 1.3 | 1300 | 3.1 |
| 28 | D41 | 62 | 0.058 | 0.064 | 0.2 | 223 | 1.1 | 1.5 | 1500 | 0.7 |
| 29 | D41 | 63 | 0.058 | 0.072 | 0.4 | 223 | 10.0 | 2.9 | 2900 | 3.5 |
| 30 | D41 | 64 | 0.058 | 0.07 | 0.1 | 223 | 0.5 | 1.8 | 1800 | 0.3 |
| 31 | D41 | 65 | 0.058 | 0.065 | 0.2 | 223 | 1.3 | 1.6 | 1600 | 0.8 |
| 32 | D41 | 66 | 0.058 | 0.072 | 0.3 | 223 | 5.7 | 0.6 | 600 | 9.4 |
| 33 | D41 | 67 | 0.058 | 0.065 | 0.2 | 223 | 1.3 | 3.1 | 3100 | 0.4 |
| 34 | D41 | 68 | 0.058 | 0.072 | 0.3 | 223 | 5.7 | 2.4 | 2400 | 2.4 |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |

70.65 kg

| | |
|---|-------|
| Total weight Drum D40 (Kg) No's. 1 to 34: | 70.7 |
| Total activity (kBq) No.s 1 to 34: | 968 |
| Average activity (kBq) per bag: | 28 |
| Average Bq/g: | 13.71 |

>10kBq
>10Bq/g

86.2 kg

| | |
|--|------|
| Total weight Drum D41 (Kg) No's. 35 to 68: | 86.2 |
| Total activity (kBq) No.s 35 to 68: | 479 |
| Average activity (kBq) per bag: | 14 |
| Average Bq/g: | 5.55 |

>10kBq
<10Bq/g

Bags containing general rubble and bits and pieces from ceiling collapses

Dusts and particles from building including contaminated ceiling, wood skirting, plaster, and floor areas, PVC plastic and electrical cable etc

Instrument MTE: 2904

| Drum No. | Bag No. | Dose rate at contact (μSv/hr) | B/g (μSv/hr) | Dose rate (μSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ ray constant | Gross Drum Mass (kg) * | Net Drum Mass (kg) * | Activity (kBq) | Est. Bq/g |
|----------|---------|-------------------------------|--------------|------------------------|--------------|-------------------------|---|------------------------|----------------------|----------------|-----------|
| D37 | 1 | | 0.062 | 0.071 | 0.7 | 223 | 19.78 | | | | |
| D37 | 2 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | | | | |
| D37 | 3 | | 0.062 | 0.072 | 0.6 | 223 | 16.14 | | | | |
| D37 | 4 | | 0.062 | 0.076 | 0.5 | 223 | 15.70 | | | | |
| D37 | 5 | | 0.062 | 0.077 | 0.3 | 223 | 6.05 | | | | |
| D37 | 6 | | 0.062 | 0.072 | 0.3 | 223 | 4.04 | | | | |
| D37 | 7 | | 0.062 | 0.07 | 0.5 | 223 | 8.97 | | | | |
| D37 | 8 | | 0.062 | 0.085 | 0.5 | 223 | 25.78 | | | | |
| D37 | 9 | | 0.062 | 0.07 | 0.4 | 223 | 5.74 | | | | |
| D37 | 10 | | 0.062 | 0.08 | 0.4 | 223 | 12.91 | | | | |
| D37 | 11 | | 0.062 | 0.07 | 0.4 | 223 | 5.74 | | | | |
| D37 | 12 | | 0.062 | 0.071 | 0.4 | 223 | 6.46 | | | | |
| D37 | 13 | | 0.062 | 0.077 | 0.4 | 223 | 10.76 | 131 | 111.5 | 141.3 | 1267 |
| D38 | 14 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | | | | |
| D38 | 15 | | 0.062 | 0.078 | 1.3 | 223 | 121.26 | | | | |
| D38 | 16 | | 0.062 | 0.073 | 0.6 | 223 | 17.76 | | | | |
| D38 | 17 | | 0.062 | 0.074 | 1.1 | 223 | 65.11 | | | | |
| D38 | 18 | | 0.062 | 0.079 | 1.1 | 223 | 92.24 | | | | |
| D38 | 19 | | 0.062 | 0.074 | 0.5 | 223 | 13.45 | 93 | 73.5 | 313.0 | 4259 |
| D39 | 20 | | 0.062 | 0.077 | 1.3 | 223 | 113.68 | | | | |
| D39 | 21 | | 0.062 | 0.078 | 1 | 223 | 71.75 | | | | |
| D39 | 22 | | 0.062 | 0.078 | 0.8 | 223 | 45.92 | | | | |
| D39 | 23 | | 0.062 | 0.08 | 1.4 | 223 | 158.21 | | | | |
| D39 | 24 | | 0.062 | 0.071 | 0.3 | 223 | 3.63 | | | | |
| D39 | 25 | | 0.062 | 0.076 | 1.4 | 223 | 123.05 | | | | |
| D39 | 26 | | 0.062 | 0.064 | 0.2 | 223 | 0.36 | | | | |
| D39 | 27 | | 0.062 | 0.068 | 0.3 | 223 | 2.42 | | | | |
| D39 | 28 | | 0.062 | 0.066 | 0.3 | 223 | 1.61 | | | | |
| D39 | 29 | | 0.062 | 0.063 | 0.2 | 223 | 0.18 | 88.5 | 69 | 520.8 | 7548 |
| D42 | 30 | | 0.062 | 0.067 | 0.5 | 223 | 5.61 | | | | |
| D42 | 31 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | | | | |
| D42 | 32 | | 0.062 | 0.068 | 0.2 | 223 | 1.08 | | | | |
| D42 | 33 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 34 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 35 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 36 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 37 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 38 | | 0.062 | 0.068 | 0.2 | 223 | 1.08 | | | | |
| D42 | 39 | | 0.062 | 0.072 | 0.3 | 223 | 4.04 | | | | |
| D42 | 40 | | 0.058 | 0.065 | 0.2 | 223 | 1.26 | | | | |
| D42 | 41 | | 0.058 | 0.088 | 0.2 | 223 | 5.38 | | | | |
| D42 | 42 | | 0.058 | 0.065 | 0.2 | 223 | 1.26 | | | | |
| D42 | 43 | | 0.058 | 0.066 | 0.2 | 223 | 1.43 | | | | |
| D42 | 44 | | 0.058 | 0.075 | 0.2 | 223 | 3.05 | | | | |
| D42 | 45 | | 0.058 | 0.13 | 0.2 | 223 | 12.91 | | | | |
| | 46 | | 0.058 | | | 223 | 0.00 | | | | |
| | 47 | | 0.058 | | | 223 | 0.00 | | | | |
| | 48 | | 0.058 | | | 223 | 0.00 | | | | |
| | 49 | | 0.058 | | | 223 | 0.00 | | | | |
| | 50 | | | | | 223 | 0.00 | | | | |

Roof battens and timber material**Instrument MTE: 5527, 5506****Higher area of contamination than ceiling material wood**

During processing of this material it was observed that *after vacuuming*, the count rate range was similar to that measured when processing the "wood and ceiling material" previously removed from ceilings, however the area of each piece of batten wood that was contaminated was found to be greater. In consideration of the similar typical count rate range, the activity determination derived for the "wood and ceiling material" has been applied to this "roof batten and timbers" material with the exception the fraction of the area factor has been increased to "1" (as in the case adopted for the ventilation duct plasterboard material). The resulting activity therefore has been determined as **116314 Bq** per drum.

The above activity level has been applied to the following drums:

D65**D66****D67****D68**

Drum contents: Metal duct material, plasterboard, dead rats, rat droppings, black dusts

Nb1 Initial assessment of lower floor ventilation duct material indicated a higher range of activity than ceiling material and greater area of contamination

Nb2 **Metal duct** material was monitored in several spots to determine an average count rate for both alpha and beta. Large duct items were cut up to manageable sizes of approximately 40 cm x 30 cm x 15 cm. Calculation of activity determined by applying average count rate for 10 items representative of total drum contents. The Estimated fraction of the area (i.e. 4 sides of a square shaped "box" of the duct material, inside and outside surfaces) contaminated has been determined as "1". Consequently this activity level **125280 Bq** will be applied to all drums containing **metal** duct material.

Nb3 Contaminated **duct plasterboard material** originating from the area where ducts have been removed was found to be over a area than when compared with similar material removed from the roof. Consequently the 'contaminated area' factor assigned is "1" for the purposes of determining duct drum activity.

Nb4 As the average activity for similar (ceiling) material was determined at 68472 Bq per drum with the fraction of contaminated area factors ranging from 0.25 to 1, in consideration that the majority of the "duct related material" surface area was more contaminated resulting in the estimated fraction of area contaminated being "1", the resulting activity per drum when this level is applied to the original "ceiling material calculation" data is **116314 Bq**. Consequently this activity level will be applied to all drums containing **duct plasterboard** and associated material.

Nb5 Instrument MTE's: 5527, 5505, 5506

Nb: Below calculation for metal duct material adopted and modified (estimated fraction of contaminated area) from "Drum calcs wood and ceiling material"

| | | | | | | | | | | | | | 1cps beta | | BckGrnd CPS | | 1cps Alpha | | BckGrnd CPS | |
|------|----------------|---------------|---------------|---------------------------------------|---------------|------------------------------|----------------|-------------------------------|---|---|--|---|-----------|--------------------|-------------|-----|--------------------|-----|-------------|--|
| No. | Length (cm) | Width (cm) | Depth (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.15 | Bq/cm ² | 3.4 | 0.2 | Bq/cm ² | 0.1 | | |
| 1 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 2 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 3 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 4 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 5 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 6 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 7 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 8 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 9 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 10 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| D62: | | | | | | | | | | | | | 125280 | | | | | | | |

Nb: Below calculation for duct related plasterboard was adopted and modified (estimated fraction of contaminated area increased) from "Drum calcs wood and ceiling material"

| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 1cps beta | | BckGrnd CPS | 1cps Alpha | | BckGrnd CPS |
|-----|----------------|---------------|---------------------------------------|---------------|------------------------------|----------------|-------------------------------|---|---|--|---|-----------|--------------------|----------------|------------|--------------------|----------------|
| | | | | | | | | | | | | 0.15 | Bq/cm ² | 3.4 | 0.2 | Bq/cm ² | 0.1 |
| 1 | 80 | 30 | 2400 | 15 | 1.74 | 15 | 2.98 | 1 | 7152 | 4176 | 7152 | | | | | | |
| 2 | 14 | 80 | 1120 | 15 | 1.74 | 10 | 1.98 | 1 | 2217.6 | 1948.8 | 2217.6 | | | | | | |
| 3 | 80 | 18 | 1440 | 60 | 8.49 | | | 1 | 0 | 12225.6 | 12225.6 | | | | | | |
| 4 | 30 | 25 | 750 | 7 | 0.54 | | | 1 | 0 | 405 | 405 | | | | | | |
| 5 | 25 | 20 | 500 | 7 | 0.54 | | | 1 | 0 | 270 | 270 | | | | | | |
| 6 | 25 | 7 | 175 | 7 | 0.54 | | | 1 | 0 | 94.5 | 94.5 | | | | | | |
| 7 | 18 | 65 | 1170 | 25 | 3.24 | | | 1 | 0 | 3790.8 | 3790.8 | | | | | | |
| 8 | 28 | 35 | 980 | 7 | 0.54 | | | 1 | 0 | 529.2 | 529.2 | | | | | | |
| 9 | 10 | 45 | 450 | 40 | 5.49 | | | 1 | 0 | 2470.5 | 2470.5 | | | | | | |
| | 10 | 40 | 400 | 15 | 1.74 | | | 1 | 0 | 696 | 696 | | | | | | |
| | 105 | 7 | 735 | 15 | 1.74 | | | 1 | 0 | 1278.9 | 1278.9 | | | | | | |
| | 18 | 80 | 1440 | 170 | 24.99 | | | 1 | 0 | 35985.6 | 35985.6 | | | | | | |
| | 180 | 7 | 1260 | 15 | 1.74 | | | 1 | 0 | 2192.4 | 2192.4 | | | | | | |
| | 18 | 80 | 1440 | 7 | 0.54 | | | 1 | 0 | 777.6 | 777.6 | | | | | | |
| | 18 | 60 | 1080 | 15 | 1.74 | | | 1 | 0 | 1879.2 | 1879.2 | | | | | | |
| | 18 | 70 | 1260 | 40 | 5.49 | | | 1 | 0 | 6917.4 | 6917.4 | | | | | | |
| | 18 | 75 | 1350 | 7 | 0.54 | | | 1 | 0 | 729 | 729 | | | | | | |
| | 70 | 30 | 2100 | 7 | 0.54 | | | 1 | 0 | 1134 | 1134 | | | | | | |
| | 70 | 30 | 2100 | 20 | 2.49 | | | 1 | 0 | 5229 | 5229 | | | | | | |
| | 60 | 30 | 1800 | 7 | 0.54 | | | 1 | 0 | 972 | 972 | | | | | | |
| | 18 | 80 | 1440 | 50 | 6.99 | | | 1 | 0 | 10065.6 | 10065.6 | | | | | | |
| | 60 | 30 | 1800 | 8 | 0.69 | | | 1 | 0 | 1242 | 1242 | | | | | | |
| | 7 | 180 | 1260 | 20 | 2.49 | | | 1 | 0 | 3137.4 | 3137.4 | | | | | | |
| | 75 | 5.5 | 412.5 | 7 | 0.54 | | | 1 | 0 | 222.75 | 222.75 | | | | | | |
| | 70 | 10 | 700 | 8 | 0.69 | | | 1 | 0 | 483 | 483 | | | | | | |
| | 10 | 70 | 700 | 10 | 0.99 | | | 1 | 0 | 693 | 693 | | | | | | |
| | 10 | 50 | 500 | 7 | 0.54 | | | 1 | 0 | 270 | 270 | | | | | | |
| | 65 | 7 | 455 | 8 | 0.69 | | | 1 | 0 | 313.95 | 313.95 | | | | | | |
| | 20 | 60 | 1200 | 10 | 0.99 | | | 1 | 0 | 1188 | 1188 | | | | | | |
| | 10 | 60 | 600 | 7 | 0.54 | | | 1 | 0 | 324 | 324 | | | | | | |
| | 7 | 130 | 910 | 25 | 3.24 | 7 | 1.38 | 1 | 1255.8 | 2948.4 | 2948.4 | | | | | | |
| | 7 | 75 | 525 | 25 | 3.24 | 20 | 3.98 | 1 | 2089.5 | 1701 | 2089.5 | | | | | | |
| | 10 | 70 | 700 | 7 | 0.54 | | | 1 | 0 | 378 | 378 | | | | | | |
| | 5.5 | 60 | 330 | 7 | 0.54 | | | 1 | 0 | 178.2 | 178.2 | | | | | | |
| | 7 | 50 | 350 | 7 | 0.54 | | | 1 | 0 | 189 | 189 | | | | | | |
| | 7 | 50 | 350 | 15 | 1.74 | 8 | 1.58 | 1 | 553 | 609 | 609 | | | | | | |
| | 30 | 30 | 900 | 30 | 3.99 | 20 | 3.98 | 1 | 3582 | 3591 | 3591 | | | | | | |
| | 20 | 30 | 600 | 7 | 0.54 | | | 1 | 0 | 324 | 324 | | | | | | |
| | 20 | 30 | 600 | 15 | 1.74 | 10 | 1.98 | 1 | 1188 | 1044 | 1188 | | | | | | |
| | 10 | 50 | 500 | 10 | 0.99 | 1 | 0.18 | 1 | 90 | 495 | 495 | | | | | | |
| | 10 | 50 | 500 | 15 | 1.74 | 1 | 0.18 | 1 | 90 | 870 | 870 | | | | | | |
| | 7 | 30 | 210 | 5 | 0.24 | 1 | 0.18 | 1 | 37.8 | 50.4 | 50.4 | | | | | | |
| | 20 | 30 | 600 | 5 | 0.24 | 1 | 0.18 | 1 | 108 | 144 | 144 | | | | | | |
| | 20 | 30 | 600 | 7 | 0.54 | 0.5 | 0.08 | 1 | 48 | 324 | 324 | | | | | | |

| | | | | | | | | | | |
|----|----|-----|----|------|----|------|---|-------|-------|-------|
| 20 | 30 | 600 | 7 | 0.54 | | | 1 | 0 | 324 | 324 |
| 20 | 30 | 600 | 7 | 0.54 | | | 1 | 0 | 324 | 324 |
| 30 | 30 | 900 | 60 | 8.49 | 25 | 4.98 | 1 | 4482 | 7641 | 7641 |
| 10 | 40 | 400 | 7 | 0.54 | 1 | 0.18 | 1 | 72 | 216 | 216 |
| 7 | 30 | 210 | 25 | 3.24 | 7 | 1.38 | 1 | 289.8 | 680.4 | 680.4 |
| 7 | 30 | 210 | 7 | 0.54 | | | 1 | 0 | 113.4 | 113.4 |
| 7 | 40 | 280 | 15 | 1.74 | 10 | 1.98 | 1 | 554.4 | 487.2 | 554.4 |
| 20 | 20 | 400 | 6 | 0.39 | | | 1 | 0 | 156 | 156 |

Drum X: **128274**

| | | | | | | | | | | |
|-----|-----|-------|-----|-------|-----|------|---|--------|---------|---------|
| 10 | 30 | 300 | 15 | 1.74 | 15 | 2.98 | 1 | 894 | 522 | 894 |
| 10 | 30 | 300 | 120 | 17.49 | 40 | 7.98 | 1 | 2394 | 5247 | 5247 |
| 10 | 30 | 300 | 18 | 2.19 | 2 | 0.38 | 1 | 114 | 657 | 657 |
| 10 | 40 | 400 | 8 | 0.69 | | | 1 | 0 | 276 | 276 |
| 20 | 30 | 600 | 8 | 0.69 | | | 1 | 0 | 414 | 414 |
| 5.5 | 60 | 330 | 8 | 0.69 | 3 | 0.58 | 1 | 191.4 | 227.7 | 227.7 |
| 10 | 60 | 600 | 8 | 0.69 | 1 | 0.18 | 1 | 108 | 414 | 414 |
| 10 | 70 | 700 | 15 | 1.74 | 10 | 1.98 | 1 | 1386 | 1218 | 1386 |
| 7 | 110 | 770 | 10 | 0.99 | 3 | 0.58 | 1 | 446.6 | 762.3 | 762.3 |
| 5.5 | 50 | 275 | 8 | 0.69 | | | 1 | 0 | 189.75 | 189.75 |
| 7 | 50 | 350 | 6 | 0.39 | | | 1 | 0 | 136.5 | 136.5 |
| 7 | 40 | 280 | 50 | 6.99 | 15 | 2.98 | 1 | 834.4 | 1957.2 | 1957.2 |
| 5.5 | 40 | 220 | 7 | 0.54 | | | 1 | 0 | 118.8 | 118.8 |
| 10 | 35 | 350 | 8 | 0.69 | | | 1 | 0 | 241.5 | 241.5 |
| 7 | 35 | 245 | 30 | 3.99 | 10 | 1.98 | 1 | 485.1 | 977.55 | 977.55 |
| 10 | 90 | 900 | 45 | 6.24 | 35 | 6.98 | 1 | 6282 | 5616 | 6282 |
| 10 | 80 | 800 | 15 | 1.74 | 2 | 0.38 | 1 | 304 | 1392 | 1392 |
| 7 | 65 | 455 | 20 | 2.49 | 3 | 0.58 | 1 | 263.9 | 1132.95 | 1132.95 |
| 10 | 80 | 800 | 20 | 2.49 | 1 | 0.18 | 1 | 144 | 1992 | 1992 |
| 10 | 70 | 700 | 15 | 1.74 | 6 | 1.18 | 1 | 826 | 1218 | 1218 |
| 10 | 40 | 400 | 50 | 6.99 | 5 | 0.98 | 1 | 392 | 2796 | 2796 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 1 | 1264 | 3192 | 3192 |
| 10 | 65 | 650 | 10 | 0.99 | 0.5 | 0.08 | 1 | 52 | 643.5 | 643.5 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 1 | 1264 | 3192 | 3192 |
| 7 | 50 | 350 | 15 | 1.74 | 1 | 0.18 | 1 | 63 | 609 | 609 |
| 10 | 70 | 700 | 15 | 1.74 | 7 | 1.38 | 1 | 966 | 1218 | 1218 |
| 5.5 | 80 | 440 | 7 | 0.54 | 2 | 0.38 | 1 | 167.2 | 237.6 | 237.6 |
| 7 | 85 | 595 | 7 | 0.54 | 3 | 0.58 | 1 | 345.1 | 321.3 | 345.1 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 1 | 0.18 | 1 | 74.25 | 1336.5 | 1336.5 |
| 7 | 70 | 490 | 15 | 1.74 | 4 | 0.78 | 1 | 382.2 | 852.6 | 852.6 |
| 5.5 | 50 | 275 | 35 | 4.74 | 5 | 0.98 | 1 | 269.5 | 1303.5 | 1303.5 |
| 5.5 | 50 | 275 | 8 | 0.69 | 1 | 0.18 | 1 | 49.5 | 189.75 | 189.75 |
| 7 | 70 | 490 | 7 | 0.54 | 5 | 0.98 | 1 | 480.2 | 264.6 | 480.2 |
| 7 | 75 | 525 | 7 | 0.54 | 1 | 0.18 | 1 | 94.5 | 283.5 | 283.5 |
| 10 | 60 | 600 | 25 | 3.24 | 1 | 0.18 | 1 | 108 | 1944 | 1944 |
| 5.5 | 50 | 275 | 25 | 3.24 | 8 | 1.58 | 1 | 434.5 | 891 | 891 |
| 10 | 60 | 600 | 25 | 3.24 | 3 | 0.58 | 1 | 348 | 1944 | 1944 |
| 5.5 | 70 | 385 | 12 | 1.29 | 2 | 0.38 | 1 | 146.3 | 496.65 | 496.65 |
| 5 | 60 | 300 | 7 | 0.54 | 0.5 | 0.08 | 1 | 24 | 162 | 162 |
| 5 | 70 | 350 | 7 | 0.54 | 1 | 0.18 | 1 | 63 | 189 | 189 |
| 10 | 60 | 600 | 15 | 1.74 | 2 | 0.38 | 1 | 228 | 1044 | 1044 |
| 10 | 60 | 600 | 8 | 0.69 | 3 | 0.58 | 1 | 348 | 414 | 414 |
| 7 | 80 | 560 | 8 | 0.69 | 1 | 0.18 | 1 | 100.8 | 386.4 | 386.4 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 4 | 0.78 | 1 | 321.75 | 1336.5 | 1336.5 |
| 5.5 | 70 | 385 | 40 | 5.49 | | | 1 | | 2113.65 | 2113.65 |
| 5.5 | 70 | 385 | 25 | 3.24 | 1 | 0.18 | 1 | | 1247.4 | 1247.4 |
| 5.5 | 65 | 357.5 | 20 | 2.49 | 1 | 0.18 | 1 | | 890.175 | 890.175 |
| 5 | 70 | 350 | 25 | 3.24 | 7 | 1.38 | 1 | | 1134 | 1134 |
| 5 | 65 | 325 | 40 | 5.49 | | | 1 | | 1784.25 | 1784.25 |
| 5 | 60 | 300 | 50 | 6.99 | | | 1 | | 2097 | 2097 |
| 5 | 50 | 250 | 8 | 0.69 | | | 1 | | 172.5 | 172.5 |
| 10 | 30 | 300 | 7 | 0.54 | | | 1 | | 162 | 162 |
| 13 | 40 | 520 | 30 | 3.99 | | | 1 | | 2074.8 | 2074.8 |
| 10 | 450 | 4500 | 12 | 1.29 | | | 1 | | 5805 | 5805 |
| 10 | 50 | 500 | 15 | 1.74 | 3 | 0.58 | 1 | | 870 | 870 |
| 10 | 65 | 650 | 10 | 0.99 | | | 1 | | 643.5 | 643.5 |
| 10 | 45 | 450 | 10 | 0.99 | 4 | 0.78 | 1 | | 445.5 | 445.5 |
| 70 | 40 | 2800 | 30 | 3.99 | 20 | 3.98 | 1 | | 11172 | 11172 |
| 70 | 60 | 4200 | 8 | 0.69 | 0.5 | 0.08 | 1 | | 2898 | 2898 |
| 70 | 60 | 4200 | 20 | 2.49 | 10 | 1.98 | 1 | | 10458 | 10458 |
| 10 | 40 | 400 | 15 | 1.74 | 8 | 1.58 | 1 | | 696 | 696 |
| 10 | 50 | 500 | 8 | 0.69 | 1 | 0.18 | 1 | | 345 | 345 |
| 7 | 30 | 210 | 15 | 1.74 | 2 | 0.38 | 1 | | 365.4 | 365.4 |
| 10 | 40 | 400 | 10 | 0.99 | 4 | 0.78 | 1 | | 396 | 396 |
| 7 | 35 | 245 | 10 | 0.99 | 0.5 | 0.08 | 1 | | 242.55 | 242.55 |
| 10 | 40 | 400 | 10 | 0.99 | 2 | 0.38 | 1 | | 396 | 396 |
| 7 | 25 | 175 | 8 | 0.69 | 1 | 0.18 | 1 | | 120.75 | 120.75 |
| 7 | 35 | 245 | 50 | 6.99 | 20 | 3.98 | 1 | | 1712.55 | 1712.55 |
| 7 | 45 | 315 | 10 | 0.99 | 3 | 0.58 | 1 | | 311.85 | 311.85 |
| 5.5 | 30 | 165 | 30 | 3.99 | | | 1 | | 658.35 | 658.35 |
| 7 | 30 | 210 | 8 | 0.69 | 1 | 0.18 | 1 | | 144.9 | 144.9 |
| 10 | 30 | 300 | 10 | 0.99 | 2 | 0.38 | 1 | | 297 | 297 |
| 10 | 25 | 250 | 15 | 1.74 | | | 1 | | 435 | 435 |
| 10 | 40 | 400 | 30 | 3.99 | 4 | 0.78 | 1 | | 1596 | 1596 |
| 4 | 40 | 160 | 15 | 1.74 | 2 | 0.38 | 1 | | 278.4 | 278.4 |
| 10 | 15 | 150 | 8 | 0.69 | 0.5 | 0.08 | 1 | | 103.5 | 103.5 |
| 8 | 36 | 288 | 10 | 0.99 | 3 | 0.58 | 1 | | 285.12 | 285.12 |
| 3 | 30 | 90 | 10 | 0.99 | 8 | 1.58 | 1 | | 89.1 | 89.1 |

| | | | | | | | | | |
|----|----|-----|----|------|---|------|---|-------|-------|
| 3 | 13 | 39 | 10 | 0.99 | 5 | 0.98 | 1 | 38.61 | 38.61 |
| 8 | 10 | 80 | 8 | 0.69 | 0 | | 1 | 55.2 | 55.2 |
| 3 | 13 | 39 | 15 | 1.74 | 3 | 0.58 | 1 | 67.86 | 67.86 |
| 10 | 10 | 100 | 8 | 0.69 | 2 | 0.38 | 1 | 69 | 69 |
| 8 | 20 | 160 | 15 | 1.74 | 5 | 0.98 | 1 | 278.4 | 278.4 |

Drum Y: 104353

Average activity per drum: 116314 applied to D61

Bags containing insulation bats
Dusts and particles from building ceiling
Instrument MTE: 2904

| Drum | B/g ($\mu\text{Sv/hr}$) | Dose rate ($\mu\text{Sv/hr}$) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ | Drum Activity (kBq) |
|------|------------------------------|--|-----------------|--------------------------------------|---|------------------------|
| 4 | 0.06 | 0.067 | 0.7 | 223 | 15.38 | 65.2 |
| 4 | 0.06 | 0.065 | 1 | 223 | 22.42 | |
| 4 | 0.06 | 0.066 | 0.8 | 223 | 17.22 | |
| 4 | 0.06 | 0.065 | 0.6 | 223 | 8.07 | |
| 4 | 0.06 | 0.064 | 0.3 | 223 | 1.61 | |
| 4 | 0.06 | 0.063 | 0.2 | 223 | 0.54 | |
| 5 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | 114.2 |
| 5 | 0.06 | 0.067 | 1.5 | 223 | 70.63 | |
| 5 | 0.06 | 0.066 | 1.1 | 223 | 32.56 | |
| 6 | 0.06 | 0.065 | 0.4 | 223 | 3.59 | 215.5 |
| 6 | 0.06 | 0.074 | 1.5 | 223 | 141.26 | |
| 6 | 0.06 | 0.067 | 1.5 | 223 | 70.63 | |
| 7 | 0.06 | 0.065 | 1 | 223 | 22.42 | 56.1 |
| 7 | 0.06 | 0.064 | 0.6 | 223 | 6.46 | |
| 7 | 0.06 | 0.064 | 0.5 | 223 | 4.48 | |
| 7 | 0.06 | 0.063 | 1.3 | 223 | 22.74 | |
| 8 | 0.06 | 0.073 | 1.6 | 223 | 149.24 | 210.4 |
| 8 | 0.06 | 0.065 | 1.2 | 223 | 32.29 | |
| 8 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | |
| 8 | 0.06 | 0.064 | 1 | 223 | 17.94 | |
| 9 | 0.06 | 0.066 | 1.1 | 223 | 32.56 | 248.1 |
| 9 | 0.06 | 0.073 | 1.5 | 223 | 131.17 | |
| 9 | 0.06 | 0.068 | 1.5 | 223 | 80.72 | |
| 9 | 0.06 | 0.0651 | 0.4 | 223 | 3.66 | |
| 10 | 0.06 | 0.065 | 0.9 | 223 | 18.16 | 50.3 |
| 10 | 0.06 | 0.065 | 1 | 223 | 22.42 | |
| 10 | 0.06 | 0.066 | 0.6 | 223 | 9.69 | |
| 11 | 0.06 | 0.064 | 0.4 | 223 | 2.87 | 28.2 |
| 11 | 0.06 | 0.065 | 0.8 | 223 | 14.35 | |
| 11 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |

Surface Contamination measured on contents of 2 drums to determine "typical" average activity per drum
Wood skirting, flooring, and ceiling bits, plaster etc
Instrument MTE: 5527
Painted or laquered surface masking alpha, mostly soaked into material

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contamina ted | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 1cps beta | | BckGrnd CPS | | 1cps Alpha | | BckGrnd CPS | |
|---------|----------------|---------------|--------------------------|---------------|------------------|----------------|-------------------|---|---|---|---|-----------|--------|----------------|-----|------------|-----|----------------|--|
| | | | | | | | | | | | | 0.15 | Bq/cm2 | 3.4 | 0.2 | Bq/cm2 | 0.1 | | |
| 1 | 80 | 30 | 2400 | 15 | 1.74 | 15 | 2.98 | 0.5 | 3576 | 2088 | 3576 | | | | | | | | |
| 2 | 14 | 80 | 1120 | 15 | 1.74 | 10 | 1.98 | 1 | 2217.6 | 1948.8 | 2217.6 | | | | | | | | |
| 3 | 80 | 18 | 1440 | 60 | 8.49 | | | 0.5 | 0 | 6112.8 | 6112.8 | | | | | | | | |
| 4 | 30 | 25 | 750 | 7 | 0.54 | | | 1 | 0 | 405 | 405 | | | | | | | | |
| 5 | 25 | 20 | 500 | 7 | 0.54 | | | 1 | 0 | 270 | 270 | | | | | | | | |
| 6 | 25 | 7 | 175 | 7 | 0.54 | | | 0.5 | 0 | 47.25 | 47.25 | | | | | | | | |
| 7 | 18 | 65 | 1170 | 25 | 3.24 | | | 0.25 | 0 | 947.7 | 947.7 | | | | | | | | |
| 8 | 28 | 35 | 980 | 7 | 0.54 | | | 0.5 | 0 | 264.6 | 264.6 | | | | | | | | |
| 9 | 10 | 45 | 450 | 40 | 5.49 | | | 0.25 | 0 | 617.625 | 617.625 | | | | | | | | |
| | 10 | 40 | 400 | 15 | 1.74 | | | 1 | 0 | 696 | 696 | | | | | | | | |
| | 105 | 7 | 735 | 15 | 1.74 | | | 1 | 0 | 1278.9 | 1278.9 | | | | | | | | |
| | 18 | 80 | 1440 | 170 | 24.99 | | | 0.5 | 0 | 17992.8 | 17992.8 | | | | | | | | |
| | 180 | 7 | 1260 | 15 | 1.74 | | | 0.25 | 0 | 548.1 | 548.1 | | | | | | | | |
| | 18 | 80 | 1440 | 7 | 0.54 | | | 0.25 | 0 | 194.4 | 194.4 | | | | | | | | |
| | 18 | 60 | 1080 | 15 | 1.74 | | | 0.125 | 0 | 234.9 | 234.9 | | | | | | | | |
| | 18 | 70 | 1260 | 40 | 5.49 | | | 1 | 0 | 6917.4 | 6917.4 | | | | | | | | |
| | 18 | 75 | 1350 | 7 | 0.54 | | | 0.25 | 0 | 182.25 | 182.25 | | | | | | | | |
| | 70 | 30 | 2100 | 7 | 0.54 | | | 0.5 | 0 | 567 | 567 | | | | | | | | |
| | 70 | 30 | 2100 | 20 | 2.49 | | | 0.125 | 0 | 653.625 | 653.625 | | | | | | | | |
| | 60 | 30 | 1800 | 7 | 0.54 | | | 1 | 0 | 972 | 972 | | | | | | | | |
| | 18 | 80 | 1440 | 50 | 6.99 | | | 1 | 0 | 10065.6 | 10065.6 | | | | | | | | |
| | 60 | 30 | 1800 | 8 | 0.69 | | | 0.125 | 0 | 155.25 | 155.25 | | | | | | | | |
| | 7 | 180 | 1260 | 20 | 2.49 | | | 1 | 0 | 3137.4 | 3137.4 | | | | | | | | |
| | 75 | 5.5 | 412.5 | 7 | 0.54 | | | 1 | 0 | 222.75 | 222.75 | | | | | | | | |
| | 70 | 10 | 700 | 8 | 0.69 | | | 0.5 | 0 | 241.5 | 241.5 | | | | | | | | |
| | 10 | 70 | 700 | 10 | 0.99 | | | 0.5 | 0 | 346.5 | 346.5 | | | | | | | | |
| | 10 | 50 | 500 | 7 | 0.54 | | | 0.5 | 0 | 135 | 135 | | | | | | | | |
| | 65 | 7 | 455 | 8 | 0.69 | | | 0.25 | 0 | 78.4875 | 78.4875 | | | | | | | | |
| | 20 | 60 | 1200 | 10 | 0.99 | | | 0.5 | 0 | 594 | 594 | | | | | | | | |
| | 10 | 60 | 600 | 7 | 0.54 | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| | 7 | 130 | 910 | 25 | 3.24 | 7 | 1.38 | 0.5 | 627.9 | 1474.2 | 1474.2 | | | | | | | | |
| | 7 | 75 | 525 | 25 | 3.24 | 20 | 3.98 | 0.5 | 1044.75 | 850.5 | 1044.75 | | | | | | | | |
| | 10 | 70 | 700 | 7 | 0.54 | | | 0.5 | 0 | 189 | 189 | | | | | | | | |
| | 5.5 | 60 | 330 | 7 | 0.54 | | | 0.5 | 0 | 89.1 | 89.1 | | | | | | | | |
| | 7 | 50 | 350 | 7 | 0.54 | | | 0.5 | 0 | 94.5 | 94.5 | | | | | | | | |
| | 7 | 50 | 350 | 15 | 1.74 | 8 | 1.58 | 1 | 553 | 609 | 609 | | | | | | | | |
| | 30 | 30 | 900 | 30 | 3.99 | 20 | 3.98 | 0.5 | 1791 | 1795.5 | 1795.5 | | | | | | | | |
| | 20 | 30 | 600 | 7 | 0.54 | | | 1 | 0 | 324 | 324 | | | | | | | | |
| | 20 | 30 | 600 | 15 | 1.74 | 10 | 1.98 | 0.5 | 594 | 522 | 594 | | | | | | | | |
| | 10 | 50 | 500 | 10 | 0.99 | 1 | 0.18 | 1 | 90 | 495 | 495 | | | | | | | | |
| | 10 | 50 | 500 | 15 | 1.74 | 1 | 0.18 | 0.5 | 45 | 435 | 435 | | | | | | | | |
| | 7 | 30 | 210 | 5 | 0.24 | 1 | 0.18 | 1 | 37.8 | 50.4 | 50.4 | | | | | | | | |
| | 20 | 30 | 600 | 5 | 0.24 | 1 | 0.18 | 1 | 108 | 144 | 144 | | | | | | | | |
| | 20 | 30 | 600 | 7 | 0.54 | 0.5 | 0.08 | 1 | 48 | 324 | 324 | | | | | | | | |
| | 20 | 30 | 600 | 7 | 0.54 | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| | 20 | 30 | 600 | 7 | 0.54 | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| | 30 | 30 | 900 | 60 | 8.49 | 25 | 4.98 | 0.25 | 1120.5 | 1910.25 | 1910.25 | | | | | | | | |
| | 10 | 40 | 400 | 7 | 0.54 | 1 | 0.18 | 0.25 | 18 | 54 | 54 | | | | | | | | |
| | 7 | 30 | 210 | 25 | 3.24 | 7 | 1.38 | 0.5 | 144.9 | 340.2 | 340.2 | | | | | | | | |
| | 7 | 30 | 210 | 7 | 0.54 | | | 0.5 | 0 | 56.7 | 56.7 | | | | | | | | |
| | 7 | 40 | 280 | 15 | 1.74 | 10 | 1.98 | 0.5 | 277.2 | 243.6 | 277.2 | | | | | | | | |
| | 20 | 20 | 400 | 6 | 0.39 | | | 0.5 | 0 | 78 | 78 | | | | | | | | |
| Drum 1: | | | | | | | | | | | 70537 | | | | | | | | |

| | | | | | | | | | | |
|-----|-----|-----|-----|-------|----|------|------|--------|---------|---------|
| 10 | 30 | 300 | 15 | 1.74 | 15 | 2.98 | 0.5 | 447 | 261 | 447 |
| 10 | 30 | 300 | 120 | 17.49 | 40 | 7.98 | 0.5 | 1197 | 2623.5 | 2623.5 |
| 10 | 30 | 300 | 18 | 2.19 | 2 | 0.38 | 0.5 | 57 | 328.5 | 328.5 |
| 10 | 40 | 400 | 8 | 0.69 | | | 0.25 | 0 | 69 | 69 |
| 20 | 30 | 600 | 8 | 0.69 | | | 0.25 | 0 | 103.5 | 103.5 |
| 5.5 | 60 | 330 | 8 | 0.69 | 3 | 0.58 | 0.25 | 47.85 | 56.925 | 56.925 |
| 10 | 60 | 600 | 8 | 0.69 | 1 | 0.18 | 0.5 | 54 | 207 | 207 |
| 10 | 70 | 700 | 15 | 1.74 | 10 | 1.98 | 0.5 | 693 | 609 | 693 |
| 7 | 110 | 770 | 10 | 0.99 | 3 | 0.58 | 0.25 | 111.65 | 190.575 | 190.575 |
| 5.5 | 50 | 275 | 8 | 0.69 | | | 0.25 | 0 | 47.4375 | 47.4375 |
| 7 | 50 | 350 | 6 | 0.39 | | | 0.25 | 0 | 34.125 | 34.125 |
| 7 | 40 | 280 | 50 | 6.99 | 15 | 2.98 | 0.25 | 208.6 | 489.3 | 489.3 |
| 5.5 | 40 | 220 | 7 | 0.54 | | | 0.25 | 0 | 29.7 | 29.7 |
| 10 | 35 | 350 | 8 | 0.69 | | | 0.25 | 0 | 60.375 | 60.375 |
| 7 | 35 | 245 | 30 | 3.99 | 10 | 1.98 | 0.5 | 242.55 | 488.775 | 488.775 |
| 10 | 90 | 900 | 45 | 6.24 | 35 | 6.98 | 0.25 | 1570.5 | 1404 | 1570.5 |
| 10 | 80 | 800 | 15 | 1.74 | 2 | 0.38 | 0.5 | 152 | 696 | 696 |
| 7 | 65 | 455 | 20 | 2.49 | 3 | 0.58 | 0.5 | 131.95 | 566.475 | 566.475 |
| 10 | 80 | 800 | 20 | 2.49 | 1 | 0.18 | 0.5 | 72 | 996 | 996 |

| | | | | | | | | | | |
|-----|-----|-------|----|------|-----|------|------|--------|---------|---------|
| 10 | 70 | 700 | 15 | 1.74 | 6 | 1.18 | 0.5 | 413 | 609 | 609 |
| 10 | 40 | 400 | 50 | 6.99 | 5 | 0.98 | 1 | 392 | 2796 | 2796 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 0.5 | 632 | 1596 | 1596 |
| 10 | 65 | 650 | 10 | 0.99 | 0.5 | 0.08 | 0.5 | 26 | 321.75 | 321.75 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 0.5 | 632 | 1596 | 1596 |
| 7 | 50 | 350 | 15 | 1.74 | 1 | 0.18 | 0.5 | 31.5 | 304.5 | 304.5 |
| 10 | 70 | 700 | 15 | 1.74 | 7 | 1.38 | 1 | 966 | 1218 | 1218 |
| 5.5 | 80 | 440 | 7 | 0.54 | 2 | 0.38 | 0.25 | 41.8 | 59.4 | 59.4 |
| 7 | 85 | 595 | 7 | 0.54 | 3 | 0.58 | 0.25 | 86.275 | 80.325 | 86.275 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 1 | 0.18 | 1 | 74.25 | 1336.5 | 1336.5 |
| 7 | 70 | 490 | 15 | 1.74 | 4 | 0.78 | 0.5 | 191.1 | 426.3 | 426.3 |
| 5.5 | 50 | 275 | 35 | 4.74 | 5 | 0.98 | 1 | 269.5 | 1303.5 | 1303.5 |
| 5.5 | 50 | 275 | 8 | 0.69 | 1 | 0.18 | 0.5 | 24.75 | 94.875 | 94.875 |
| 7 | 70 | 490 | 7 | 0.54 | 5 | 0.98 | 0.5 | 240.1 | 132.3 | 240.1 |
| 7 | 75 | 525 | 7 | 0.54 | 1 | 0.18 | 0.5 | 47.25 | 141.75 | 141.75 |
| 10 | 60 | 600 | 25 | 3.24 | 1 | 0.18 | 0.5 | 54 | 972 | 972 |
| 5.5 | 50 | 275 | 25 | 3.24 | 8 | 1.58 | 0.5 | 217.25 | 445.5 | 445.5 |
| 10 | 60 | 600 | 25 | 3.24 | 3 | 0.58 | 0.5 | 174 | 972 | 972 |
| 5.5 | 70 | 385 | 12 | 1.29 | 2 | 0.38 | 0.5 | 73.15 | 248.325 | 248.325 |
| 5 | 60 | 300 | 7 | 0.54 | 0.5 | 0.08 | 0.5 | 12 | 81 | 81 |
| 5 | 70 | 350 | 7 | 0.54 | 1 | 0.18 | 0.5 | 31.5 | 94.5 | 94.5 |
| 10 | 60 | 600 | 15 | 1.74 | 2 | 0.38 | 0.5 | 114 | 522 | 522 |
| 10 | 60 | 600 | 8 | 0.69 | 3 | 0.58 | 1 | 348 | 414 | 414 |
| 7 | 80 | 560 | 8 | 0.69 | 1 | 0.18 | 1 | 100.8 | 386.4 | 386.4 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 4 | 0.78 | 1 | 321.75 | 1336.5 | 1336.5 |
| 5.5 | 70 | 385 | 40 | 5.49 | | | 0.5 | | 1056.83 | 1056.83 |
| 5.5 | 70 | 385 | 25 | 3.24 | 1 | 0.18 | 0.5 | | 623.7 | 623.7 |
| 5.5 | 65 | 357.5 | 20 | 2.49 | 1 | 0.18 | 1 | | 890.175 | 890.175 |
| 5 | 70 | 350 | 25 | 3.24 | 7 | 1.38 | 1 | | 1134 | 1134 |
| 5 | 65 | 325 | 40 | 5.49 | | | 0.25 | | 446.063 | 446.063 |
| 5 | 60 | 300 | 50 | 6.99 | | | 1 | | 2097 | 2097 |
| 5 | 50 | 250 | 8 | 0.69 | | | 0.5 | | 86.25 | 86.25 |
| 10 | 30 | 300 | 7 | 0.54 | | | 0.25 | | 40.5 | 40.5 |
| 13 | 40 | 520 | 30 | 3.99 | | | 0.5 | | 1037.4 | 1037.4 |
| 10 | 450 | 4500 | 12 | 1.29 | | | 1 | | 5805 | 5805 |
| 10 | 50 | 500 | 15 | 1.74 | 3 | 0.58 | 1 | | 870 | 870 |
| 10 | 65 | 650 | 10 | 0.99 | | | 0.5 | | 321.75 | 321.75 |
| 10 | 45 | 450 | 10 | 0.99 | 4 | 0.78 | 1 | | 445.5 | 445.5 |
| 70 | 40 | 2800 | 30 | 3.99 | 20 | 3.98 | 1 | | 11172 | 11172 |
| 70 | 60 | 4200 | 8 | 0.69 | 0.5 | 0.08 | 0.5 | | 1449 | 1449 |
| 70 | 60 | 4200 | 20 | 2.49 | 10 | 1.98 | 0.5 | | 5229 | 5229 |
| 10 | 40 | 400 | 15 | 1.74 | 8 | 1.58 | 1 | | 696 | 696 |
| 10 | 50 | 500 | 8 | 0.69 | 1 | 0.18 | 1 | | 345 | 345 |
| 7 | 30 | 210 | 15 | 1.74 | 2 | 0.38 | 1 | | 365.4 | 365.4 |
| 10 | 40 | 400 | 10 | 0.99 | 4 | 0.78 | 1 | | 396 | 396 |
| 7 | 35 | 245 | 10 | 0.99 | 0.5 | 0.08 | 1 | | 242.55 | 242.55 |
| 10 | 40 | 400 | 10 | 0.99 | 2 | 0.38 | 1 | | 396 | 396 |
| 7 | 25 | 175 | 8 | 0.69 | 1 | 0.18 | 1 | | 120.75 | 120.75 |
| 7 | 35 | 245 | 50 | 6.99 | 20 | 3.98 | 0.5 | | 856.275 | 856.275 |
| 7 | 45 | 315 | 10 | 0.99 | 3 | 0.58 | 1 | | 311.85 | 311.85 |
| 5.5 | 30 | 165 | 30 | 3.99 | | | 0.5 | | 329.175 | 329.175 |
| 7 | 30 | 210 | 8 | 0.69 | 1 | 0.18 | 0.5 | | 72.45 | 72.45 |
| 10 | 30 | 300 | 10 | 0.99 | 2 | 0.38 | 1 | | 297 | 297 |
| 10 | 25 | 250 | 15 | 1.74 | | | 0.5 | | 217.5 | 217.5 |
| 10 | 40 | 400 | 30 | 3.99 | 4 | 0.78 | 0.5 | | 798 | 798 |
| 4 | 40 | 160 | 15 | 1.74 | 2 | 0.38 | 1 | | 278.4 | 278.4 |
| 10 | 15 | 150 | 8 | 0.69 | 0.5 | 0.08 | 0.5 | | 51.75 | 51.75 |
| 8 | 36 | 288 | 10 | 0.99 | 3 | 0.58 | 1 | | 285.12 | 285.12 |
| 3 | 30 | 90 | 10 | 0.99 | 8 | 1.58 | 1 | | 89.1 | 89.1 |
| 3 | 13 | 39 | 10 | 0.99 | 5 | 0.98 | 0.5 | | 19.305 | 19.305 |
| 8 | 10 | 80 | 8 | 0.69 | 0 | | 0.5 | | 27.6 | 27.6 |
| 3 | 13 | 39 | 15 | 1.74 | 3 | 0.58 | 0.5 | | 33.93 | 33.93 |
| 10 | 10 | 100 | 8 | 0.69 | 2 | 0.38 | 0.5 | | 34.5 | 34.5 |
| 8 | 20 | 160 | 15 | 1.74 | 5 | 0.98 | 0.5 | | 139.2 | 139.2 |

Drum 2: **66407**Average activity per drum: **68472**

Surface Contamination measured on given areas of rendered wall to determine "typical" average activity per bag of removed render
Render and rubble

Instrument MTE: 5527

Painted surface masking alpha. Beta/gamma response likely from radium

| Area 1 (bag of render rubble) | | Area 2 (bag of render rubble) | |
|-------------------------------|-----------------------|-------------------------------|-----------------------|
| No. | cps beta | No. | cps beta |
| 1 | 150 | 1 | 45 |
| 2 | 100 | 2 | 25 |
| 3 | 50 | 3 | 40 |
| 4 | 75 | 4 | 40 |
| 5 | 50 | 5 | 60 |
| 6 | 110 | 6 | 30 |
| 7 | 175 | 7 | 60 |
| 8 | 35 | 8 | 30 |
| 9 | 40 | 9 | 220 |
| 10 | 150 | 10 | 90 |
| 11 | 60 | 11 | 70 |
| 12 | 110 | 12 | 50 |
| 13 | 45 | 13 | 100 |
| 14 | 45 | 14 | 30 |
| 15 | 30 | 15 | 90 |
| 16 | 50 | 16 | 60 |
| 17 | 110 | 17 | 25 |
| 18 | 30 | 18 | 20 |
| 19 | 90 | 19 | 100 |
| 20 | 40 | 20 | 40 |
| 21 | 25 | 21 | 60 |
| 22 | 100 | 22 | 60 |
| 23 | 70 | 23 | 45 |
| 24 | 90 | 24 | 50 |
| 25 | 40 | 25 | 50 |
| 26 | 130 | 26 | 40 |
| 27 | 100 | 27 | 60 |
| 28 | 45 | 28 | 50 |
| 29 | 50 | 29 | 50 |
| 30 | 60 | | |
| 31 | 50 | | |
| 32 | 200 | | |
| 33 | 200 | | |
| 34 | 90 | | |
| 35 | 40 | | |
| 36 | 25 | | |
| 37 | 60 | | |
| 38 | 45 | | |
| 39 | 80 | | |
| 40 | 25 | | |
| 41 | 20 | | |
| 42 | 40 | | |
| 43 | 30 | | |
| 44 | 40 | | |
| 45 | 60 | | |
| 46 | 60 | | |
| 47 | 45 | | |
| 48 | 45 | | |
| 49 | 70 | | |
| 50 | 30 | | |
| 51 | 30 | | |
| 52 | 25 | | |
| 53 | 25 | | |
| 54 | 20 | | |
| 55 | 40 | | |
| 56 | 50 | | |
| | <u>3700</u> | | <u>1690</u> |
| Ave cps: | 66.1 | Ave cps: | 58.3 |
| | cm² | | cm² |
| Area for bag 1: | 49 | Points | 56 |
| | | | 2744 |

| | | | |
|------------------------------------|------|--------------------|------|
| Area of bag 2: | 49 | 29 | 1421 |
| Average of bag 1 + bag 2 contents: | 62.2 | cps | |
| Instrument beta response 1cps = | 0.13 | Bq/cm ² | |
| Average activity concentration = | 8.1 | Bq/cm ² | |
| Total activity of Bag 1: | 22 | kBq | |
| Total activity of Bag 2: | 11 | kBq | |

| Drum No. | Area of detector x No. of poi | cm ² | Points | cm ² | Ave Conc. | kBq |
|-----------------------|----------------------------------|-----------------|--------|-----------------|-----------|---------------|
| D34 | Total activity of Bag 1: | 49 | 56 | 2744 | 8.1 | 22.23 |
| D34 | Total activity of Bag 2: | 49 | 29 | 1421 | 8.1 | 11.51 |
| | Dim. of area removed | cm | cm | cm ² | Ave Conc. | kBq |
| D34 | Total activity of Bag 3: | 80 | 40 | 3200 | 8.1 | 31.61 |
| | | 26 | 27 | 702 | | |
| D34 | Total activity of Bag 4: | 100 | 115 | 11500 | 8.1 | 93.15 |
| D34 | Total activity of Bag 5: | 80 | 130 | 10400 | 8.1 | 84.24 |
| D34 | Total activity of Bag 6: | 25 | 130 | 3250 | 8.1 | 47.39 |
| | | 20 | 130 | 2600 | | |
| D34 | Total activity of Bag 7: | 50 | 85 | 4250 | 8.1 | 48.20 |
| | | 20 | 85 | 1700 | | |
| D34 | Total activity of Bag 8: | 80 | 85 | 6800 | 8.1 | 55.08 |
| D34 | Total activity of Bag 9: | 80 | 85 | 6800 | 8.1 | 55.08 |
| Total activity (kBq): | | | | | | 448.47 |
| D35 | Total activity of Bag 10: | 50 | 60 | 3000 | 8.1 | 24.30 |
| D35 | Total activity of Bag 11: | 30 | 40 | 1200 | 8.1 | 9.72 |
| D35 | Total activity of Bag 12: | 60 | 80 | 4800 | 8.1 | 53.46 |
| | | 20 | 90 | 1800 | | |
| D35 | Total activity of Bag 13: | 80 | 100 | 8000 | 8.1 | 64.80 |
| D35 | Total activity of Bag 14: | 470 | 10 | 4700 | 8.1 | 38.07 |
| D35 | Total activity of Bag 15: | 20 | 10 | 200 | 8.1 | 1.62 |
| D35 | Total activity of Bag 16: | 10 | 35 | 350 | 8.1 | 2.84 |
| D35 | Total activity of Bag 17: | 30 | 30 | 900 | 8.1 | 7.29 |
| D35 | Total activity of Bag 18: | 40 | 10 | 400 | 8.1 | 3.24 |
| Total activity (kBq): | | | | | | 205.34 |
| D36 | Total activity of Bag 19: | 110 | 40 | 4400 | 8.1 | 35.64 |
| D36 | Total activity of Bag 20: | 40 | 55 | 2200 | 8.1 | 17.82 |

| | | | | | | |
|-----------------------|----------------------------------|----|----|------|-----|--------------|
| D36 | Total activity of Bag 21: | 40 | 40 | 1600 | 8.1 | 12.96 |
| D36 | Total activity of Bag 22: | 30 | 75 | 2250 | 8.1 | 18.23 |
| D36 | Total activity of Bag 23: | 20 | 10 | 200 | 8.1 | 1.62 |
| Total activity (kBq): | | | | | | 86.27 |

Surface Contamination

Window sill terrazzo stone material

Instrument MTE: 5527

Painted surface masking alpha, mostly soaked into material

| | | | | | | | | | | | | 1cps beta = | | BckGrnd CP5 | | 1cps Alpha = | | BckGrnd CP5 | |
|-----|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|-------------|--------|-------------|-----|--------------|-----|-------------|--|
| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.13 | Bq/cm2 | 3.4 | 0.2 | Bq/cm2 | 0.1 | | |
| 1 | 120 | 12 | 1440 | 45 | 5.408 | 0.3 | 0.04 | 0.9 | 51.84 | 7008.768 | 7008.77 | | | | | | | | |
| 2 | 110 | 12 | 1320 | 15 | 1.508 | 0.5 | 0.08 | 1 | 105.6 | 1990.56 | 1990.56 | | | | | | | | |
| 3 | 120 | 12 | 1440 | 100 | 12.558 | 20 | 3.98 | 0.8 | 4584.96 | 14466.82 | 14466.8 | | | | | | | | |
| 4 | 120 | 12 | 1440 | 110 | 13.858 | 5 | 0.98 | 0.8 | 1128.96 | 15964.42 | 15964.4 | | | | | | | | |
| 5 | 120 | 12 | 1440 | 20 | 2.158 | 2 | 0.38 | 0.9 | 492.48 | 2796.768 | 2796.77 | | | | | | | | |
| 6 | 74 | 12 | 888 | 200 | 25.558 | 20 | 3.98 | 1 | 3534.24 | 22695.5 | 22695.5 | | | | | | | | |
| 7 | 120 | 12 | 1440 | 20 | 2.158 | 3 | 0.58 | 1 | 835.2 | 3107.52 | 3107.52 | | | | | | | | |
| 8 | 120 | 12 | 1440 | 35 | 4.108 | 10 | 1.98 | 0.6 | 1710.72 | 3549.312 | 3549.31 | | | | | | | | |
| 9 | 120 | 12 | 1440 | 35 | 4.108 | 0.5 | 0.08 | 0.7 | 80.64 | 4140.864 | 4140.86 | | | | | | | | |
| | | | | | | | | | 12524.64 | 75720.53 | 75720.5 | | | | | | | | |

Pieces of guttering measurements and assumptions:

| Measured spots | Beta CPS | Typical alpha response assumed (CPS) (based on known comparative measurements from wood/skirting board etc) | Average assumed α cps of spots | Bq/cm ² α | 1cps /Bq/cm ² Alpha |
|----------------|----------|---|---------------------------------------|-----------------------------|--------------------------------|
| 1 | 170 | 60 | 47.5 | 9.5 | 0.2 |
| 2 | 120 | 40 | | | |
| 3 | 100 | 35 | | | |
| 4 | 60 | 25 | | | |
| 5 | 50 | 20 | | | |
| 6 | 30 | 10 | | | |

Assumptions

Each piece of gutter is approximately 100 cm x 10 cm (length and bottom surface of U shaped gutter only)

Surface area: 1000 cm²

Assume approximately 50% of each gutter piece is contaminated

Assumed contaminated surface area: 500 cm²

Total activity per piece of gutter: 4750 Bq

2 pieces of guttering per bag 9500 Bq

5 bags per drum 47500 Bq

Total assumed drum activity: 47.5 kBq

Nb: The above assumptions and calculations are estimates based on comparative readings between instrument responses to different radiations observed on other similar materials. This method of calculating activity was necessary as it was not possible to assess directly the alpha readings (used for quantification) as the items contained asbestos and had already been sealed by asbestos specialists, and the risk of potential release exceeded the value of getting better, more accurate radiation measurements when the items will ultimately still be considered as radioactive and hazardous material.

INVENTORY OF DRUMS OF MATERIAL REMOVED FROM BUILDING 164 - UNIVERSITY OF MELBOURNE 2017-18

| Drum No. | Shipping Date | Description of contents | Photo No.s | Radionuclide | Dose rate (µSv/hr) at contact | Activity (kBq) | Gross Drum Mass (kg) | Net Drum (contents) Mass (kg) | Bq/g | A/D Ratio | Security Category | Drum classification |
|----------|---------------|--|------------|--------------|-------------------------------|----------------|----------------------|-------------------------------|-------|-----------|-------------------|---------------------|
| D1 | | Contaminated asbestos guttering removed from building | 1904 1906 | Ra226 | | 47.5 | 75 | 55.5 | 0.86 | 0.0000012 | 5 | IW SCO-1 |
| D2 | | Contaminated asbestos guttering removed from building | 1903 1907 | Ra226 | | 47.5 | 77.5 | 58 | 0.82 | 0.0000012 | 5 | IW SCO-1 |
| D3 | | Contaminated asbestos guttering removed from building | 1905 1908 | Ra226 | | 47.5 | 84 | 64.5 | 0.74 | 0.0000012 | 5 | IW SCO-1 |
| D4 | | Roof insulation bats | 1830 1831 | Ra226 | | 65.2 | 29 | 9.5 | 6.86 | 0.0000016 | 5 | IW SCO-1 |
| D5 | | Roof insulation bats | 1832 1833 | Ra226 | | 114.2 | 28 | 8.5 | 13.4 | 0.0000029 | 5 | IW SCO-1 |
| D6 | | Roof insulation bats | 1834 1835 | Ra226 | | 215.5 | 29.5 | 10 | 21.6 | 0.0000054 | 5 | IW SCO-1 |
| D7 | | Roof insulation bats | 1836 1837 | Ra226 | | 56.1 | 34.5 | 15 | 3.74 | 0.0000014 | 5 | IW SCO-1 |
| D8 | | Roof insulation bats | 1838 1839 | Ra226 | | 210.4 | 31.5 | 12 | 17.5 | 0.0000053 | 5 | IW SCO-1 |
| D9 | | Roof insulation bats | 1840 1841 | Ra226 | | 248.1 | 29 | 9.5 | 26.1 | 0.0000062 | 5 | IW SCO-1 |
| D10 | | Roof insulation bats | 1842 1843 | Ra226 | | 50.3 | 33 | 13.5 | 3.73 | 0.0000013 | 5 | IW SCO-1 |
| D11 | | Roof insulation bats | 1844 1845 | Ra226 | | 28.2 | 32.5 | 13 | 2.17 | 0.0000007 | 5 | IW SCO-1 |
| 1 D12 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1846 1847 | Ra226 | | 68.5 | 127 | 107.5 | 0.64 | 0.0000017 | 5 | IW SCO-1 |
| 2 D13 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1848 1849 | Ra226 | | 68.5 | 144.5 | 125 | 0.55 | 0.0000017 | 5 | IW SCO-1 |
| 3 D14 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1850 1851 | Ra226 | | 68.5 | 72 | 52.5 | 1.30 | 0.0000017 | 5 | IW SCO-1 |
| 4 D15 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1852 1853 | Ra226 | | 68.5 | 81 | 61.5 | 1.11 | 0.0000017 | 5 | IW SCO-1 |
| 5 D16 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1854 1855 | Ra226 | | 68.5 | 74.5 | 55 | 1.24 | 0.0000017 | 5 | IW SCO-1 |
| 6 D17 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1856 1857 | Ra226 | | 68.5 | 138.5 | 119 | 0.58 | 0.0000017 | 5 | IW SCO-1 |
| 7 D18 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1858 1859 | Ra226 | | 68.5 | 82.5 | 63 | 1.09 | 0.0000017 | 5 | IW SCO-1 |
| 8 D19 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1860 1861 | Ra226 | | 68.5 | 112.5 | 93 | 0.74 | 0.0000017 | 5 | IW SCO-1 |
| 9 D20 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1862 1863 | Ra226 | | 68.5 | 117.5 | 98 | 0.70 | 0.0000017 | 5 | IW SCO-1 |
| D21 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1864 1865 | Ra226 | | 68.5 | 122.5 | 103 | 0.66 | 0.0000017 | 5 | IW SCO-1 |
| D22 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1866 1867 | Ra226 | | 68.5 | 107 | 87.5 | 0.78 | 0.0000017 | 5 | IW SCO-1 |
| D23 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1868 1869 | Ra226 | | 68.5 | 87 | 67.5 | 1.01 | 0.0000017 | 5 | IW SCO-1 |
| D24 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1870 1871 | Ra226 | | 68.5 | 69 | 49.5 | 1.38 | 0.0000017 | 5 | IW SCO-1 |
| D25 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1872 1873 | Ra226 | | 68.5 | 71.5 | 52 | 1.32 | 0.0000017 | 5 | IW SCO-1 |
| D26 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1874 1875 | Ra226 | | 68.5 | 67.5 | 48 | 1.43 | 0.0000017 | 5 | IW SCO-1 |
| D27 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1876 1877 | Ra226 | | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW SCO-1 |
| D28 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1878 1879 | Ra226 | | 68.5 | 117 | 97.5 | 0.70 | 0.0000017 | 5 | IW SCO-1 |
| D29 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1880 1881 | Ra226 | | 68.5 | 64 | 44.5 | 1.54 | 0.0000017 | 5 | IW SCO-1 |
| D30 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1882 1883 | Ra226 | | 68.5 | 63 | 43.5 | 1.57 | 0.0000017 | 5 | IW SCO-1 |
| D31 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1884 1885 | Ra226 | | 68.5 | 67.5 | 48 | 1.43 | 0.0000017 | 5 | IW SCO-1 |
| D32 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1886 1887 | Ra226 | | 68.5 | 65.5 | 46 | 1.49 | 0.0000017 | 5 | IW SCO-1 |
| D33 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1888 1889 | Ra226 | | 68.5 | 66.5 | 47 | 1.46 | 0.0000017 | 5 | IW SCO-1 |
| D34 | | Wall render rubble from G12 | 1890 1891 | Ra226 | | 448.5 | 150.5 | 131 | 3.42 | 0.0000112 | 5 | IW SCO-1 |
| D35 | | Wall render rubble from G12 | 1892 1893 | Ra226 | | 205.3 | 137.5 | 118 | 1.74 | 0.0000051 | 5 | IW SCO-1 |
| D36 | | Floor render rubble from room 108 and G12 | 1894 1895 | Ra226 | #REF! | 172.5 | 153 | #REF! | #REF! | #REF! | IW SCO-1 | |
| D37 | | Rubble and bits and pieces | 1896 1897 | Ra226 | | 141.3 | 131 | 111.5 | 1.27 | 0.0000035 | 5 | IW |
| D38 | | Rubble and bits and pieces | 1898 1899 | Ra226 | | 313.0 | 93 | 73.5 | 4.26 | 0.0000078 | 5 | IW |
| D39 | | Rubble and bits and pieces | 1900 1901 | Ra226 | | 520.8 | 88.5 | 69 | 7.55 | 0.0000130 | 5 | IW |
| D40 | | Vacuum cleaner bags | 1909 1910 | Ra226 | | 968.0 | 98.5 | 79 | 12.3 | 0.0000242 | 5 | IW |
| D41 | | Vacuum cleaner bags | 1971 1972 | Ra226 | | 479.0 | 95 | 75.5 | 6.3 | 0.0000120 | 5 | IW |
| D42 | | Rubble and bits and pieces | 1966 1967 | Ra226 | | 43.0 | 112 | 92.5 | 0.46 | 0.0000011 | 5 | IW |
| D43 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1911 1912 | Ra226 | | 68.5 | 108 | 88.5 | 0.77 | 0.0000017 | 5 | IW SCO-1 |
| D44 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1913 1914 | Ra226 | | 68.5 | 88.5 | 69 | 0.99 | 0.0000017 | 5 | IW SCO-1 |
| D45 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1915 1916 | Ra226 | | 68.5 | 81.5 | 62 | 1.10 | 0.0000017 | 5 | IW SCO-1 |
| D46 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1917 1918 | Ra226 | | 68.5 | 121 | 101.5 | 0.67 | 0.0000017 | 5 | IW SCO-1 |
| D47 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1919 1920 | Ra226 | | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW SCO-1 |
| D48 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1921 1922 | Ra226 | | 68.5 | 77.5 | 58 | 1.18 | 0.0000017 | 5 | IW SCO-1 |
| 10 D49 | 2/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1923 1924 | Ra226 | | 68.5 | 92.5 | 73 | 0.94 | 0.0000017 | 5 | IW SCO-1 |
| 11 D50 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1930 1931 | Ra226 | | 12.1 | 200 | 180.5 | 0.07 | 0.0000003 | 5 | IW SCO-1 |
| 12 D51 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1932 1933 | Ra226 | | 25.6 | 197.5 | 178 | 0.14 | 0.0000006 | 5 | IW SCO-1 |
| 13 D52 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1934 1935 | Ra226 | | 22.6 | 195 | 175.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| 14 D53 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1936 1937 | Ra226 | | 22.5 | 197.5 | 178 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| 15 D54 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1941 1942 | Ra226 | | 20.3 | 195 | 175.5 | 0.12 | 0.0000005 | 5 | IW SCO-1 |
| 16 D55 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1943 1944 | Ra226 | | 22.8 | 193 | 173.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| 17 D56 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1945 1946 | Ra226 | | 22.8 | 199 | 179.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D57 | | Roof tiles - category 2 (1 to 4 Bq/cm² alpha) | 1947 1948 | Ra226 | | 143.2 | 194 | 174.5 | 0.82 | 0.0000036 | 5 | IW SCO-1 |
| D58 | | Roof tiles - category 3 (4 to 20 Bq/cm² alpha) | 1949 1950 | Ra226 | | 720.5 | 189 | 169.5 | 4.25 | 0.0000180 | 5 | IW SCO-1 |
| D59 | | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1951 1952 | Ra226 | | 22.8 | 202 | 182.5 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| D60 | | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1973 1974 | Ra226 | | 22.8 | 202.5 | 183 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| D61 | | Ventilation duct material (plasterboard) | 1955 1956 | Ra226 | | 116.3 | 106 | 86.5 | 1.34 | 0.0000029 | 5 | IW SCO-1 |
| D62 | | Ventilation duct material (metal) | 1953 1954 | Ra226 | | 125.3 | 71 | 51.5 | 2.43 | 0.0000031 | 5 | IW SCO-1 |
| D63 | | Ventilation duct material (metal and lead) | 1957 1958 | Ra226 | | 125.3 | 88 | 68.5 | 1.83 | 0.0000031 | 5 | IW SCO-1 |
| D64 | | Wood skirting, flooring, and ceiling bits, plaster etc | 1959 1960 | Ra226 | | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW SCO-1 |
| 18 D65 | 1/05/2018 | Roof battens and timbers | 1961 1962 | Ra226 | | 116.3 | 70 | 50.5 | 2.30 | 0.0000029 | 5 | IW SCO-1 |
| 19 D66 | 1/05/2018 | Roof battens and timbers | 1963 1968 | Ra226 | | 116.3 | 80.5 | 61 | 1.91 | 0.0000029 | 5 | IW SCO-1 |
| 20 D67 | 1/05/2018 | Roof battens and timbers | 1964 1965 | Ra226 | | 116.3 | 82.5 | 63 | 1.85 | 0.0000029 | 5 | IW SCO-1 |
| 21 D68 | 1/05/2018 | Roof battens and timbers | 1969 1970 | Ra226 | | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW SCO-1 |
| 22 D69 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1975 1976 | Ra226 | | 22.8 | 200 | 180.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| 23 D70 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1977 1978 | Ra226 | | 22.8 | 204 | 184.5 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| 24 D71 | 1/05/2018 | Roof tiles - category 2 (1 to 4 Bq/cm² alpha) | 1979 1980 | Ra226 | | 143.2 | 204 | 184.5 | 0.78 | 0.0000036 | 5 | IW SCO-1 |
| 25 D72 | 1/05/2018 | Roof tiles - category 3 (4 to 20 Bq/cm² alpha) | 1981 1982 | Ra226 | | 720.5 | 204.5 | 185 | 3.89 | 0.0000180 | 5 | IW SCO-1 |
| 26 D73 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1983 1984 | Ra226 | | 22.8 | 193 | 173.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| 27 D74 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1985 1986 | Ra226 | | 22.8 | 221.5 | 202 | 0.11 | 0.0000006 | 5 | IW SCO-1 |
| 28 D75 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1987 1988 | Ra226 | | 22.8 | 224 | 204.5 | 0.11 | 0.0000006 | 5 | IW SCO-1 |
| 29 D76 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1989 1990 | Ra226 | | 22.8 | 227 | 207.5 | 0.11 | 0.0000006 | 5 | IW SCO-1 |
| 30 D77 | 1/05/2018 | Roof tiles - category 2 (1 to 4 Bq/cm² alpha) | 1991 1992 | Ra226 | | 143.2 | 220.5 | 201 | 0.71 | 0.0000036 | 5 | IW SCO-1 |
| D78 | | Roof tiles - category 2 (1 to 4 Bq/cm² alpha) | 2092 2093 | Ra226 | | 143.2 | 203.5 | 184 | 0.78 | 0.0000036 | 5 | IW SCO-1 |
| D79 | | Roof tiles - category 2 (1 to 4 Bq/cm² alpha) | 2094 2095 | Ra226 | | 143.2 | 209.5 | 190 | 0.75 | 0.0000036 | 5 | IW SCO-1 |
| D80 | | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2096 2097 | Ra226 | | 22.8 | 194.5 | 175 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D81 | | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2098 2099 | Ra226 | | 22.8 | 205.5 | 186 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| D82 | | Roof tiles - category 3 (4 to 20 Bq/cm² alpha) | 2100 2101 | Ra226 | | 720.5 | 208.5 | 189 | 3.81 | 0.0000180 | 5 | IW SCO-1 |
| D83 | | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2102 2103 | Ra226 | | 22.8 | 199.5 | 180 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D84 | | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2104 2105 | Ra226 | | 22.8 | 204 | 184.5 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| D85 | | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2106 2107 | Ra226 | | 22.8 | 195.5 | 176 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| 31 D86 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2123 2124 | Ra226 | | 22.8 | 203.5 | 184 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| 32 D87 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2125 2126 | Ra226 | | 22.8 | 195.5 | 176 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| 33 D88 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2127 2128 | Ra226 | | 22.8 | 196 | 176.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| 34 D89 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2129 2130 | Ra226 | | 22.8 | 206.5 | 187 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| D90 | | Roof tiles - category 3 (4 to 20 Bq/cm² alpha) | 2131 2132 | Ra226 | | 720.5 | 193 | 173.5 | 4.15 | 0.0000180 | 5 | IW SCO-1 |
| D91 | | Roof battens and timbers | 2108 2109 | Ra226 | | 116.3 | 58.5 | 39 | 2.98 | 0.0000029 | 5 | IW SCO-1 |
| 35 D92 | 1/05/2018 | Roof battens and timbers | 2110 2111 | Ra226 | | 116.3 | 60.5 | 41 | 2.84 | 0.0000029 | 5 | IW SCO-1 |
| D93 | | Roof battens and timbers | 2112 2113 | Ra226 | | 116.3 | 61 | 41.5 | 2.80 | 0.0000029 | 5 | IW SCO-1 |
| D94 | | Ventilation duct material (metal) | 2114 2115 | Ra226 | | 125.3 | 107 | 87.5 | 1.43 | 0.0000031 | 5 | IW SCO-1 |
| D95 | | Ventilation duct material (metal) | 2116 2117 | Ra226 | | 125.3 | 84 | 64.5 | 1.94 | 0.00 | | |

| | | | | | | | | | | | | | | | |
|----|------|-----------|---|------|------|--|-------|--|-------|-------|-------|---------|-----------|---------|----------|
| 44 | D117 | 2/05/2018 | Roof bearers and timbers from room G11 | 2171 | 2172 | | Ra226 | | 116.3 | 76 | 56.5 | 2.06 | 0.0000029 | 5 | IW SCO-1 |
| | D118 | | Roof bearers and timbers from room G11 | 2173 | 2174 | | Ra226 | | 116.3 | 84 | 64.5 | 1.80 | 0.0000029 | 5 | IW SCO-1 |
| 45 | D119 | 1/05/2018 | Roof bearers and timbers from room G11 | 2175 | 2176 | | Ra226 | | 116.3 | 86 | 66.5 | 1.75 | 0.0000029 | 5 | IW SCO-1 |
| 46 | D120 | 1/05/2018 | Roof bearers and timbers from room G-08, G11 | 2177 | 2178 | | Ra226 | | 116.3 | 66.5 | 47 | 2.47 | 0.0000029 | 5 | IW SCO-1 |
| | D121 | | Roof bearers and timbers Room G-08 | 2179 | 2180 | | Ra226 | | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW SCO-1 |
| | D122 | | Roof bearers and timbers Room G-08 | 2181 | 2182 | | Ra226 | | 116.3 | 94.5 | 75 | 1.55 | 0.0000029 | 5 | IW SCO-1 |
| 47 | D123 | 1/05/2018 | Roof bearers and timbers Room G-11 | 2183 | 2184 | | Ra226 | | 116.3 | 96.5 | 77 | 1.51 | 0.0000029 | 5 | IW SCO-1 |
| 48 | D124 | 2/05/2018 | Roof bearers and timbers Room G-08, G11 | 2185 | 2186 | | Ra226 | | 116.3 | 90.5 | 71 | 1.64 | 0.0000029 | 5 | IW SCO-1 |
| 49 | D125 | 2/05/2018 | Roof bearers and timbers Room G-11 | 2187 | 2188 | | Ra226 | | 116.3 | 87.5 | 68 | 1.71 | 0.0000029 | 5 | IW SCO-1 |
| | D126 | | Roof bearers and timbers Room G-11 | 2189 | 2190 | | Ra226 | | 116.3 | 90 | 70.5 | 1.65 | 0.0000029 | 5 | IW SCO-1 |
| 50 | D127 | 2/05/2018 | Roof bearers and timbers Room G-11 | 2191 | 2192 | | Ra226 | | 116.3 | 91 | 71.5 | 1.63 | 0.0000029 | 5 | IW SCO-1 |
| | D128 | | Roof bearers and timbers Room G-11 | 2193 | 2194 | | Ra226 | | 116.3 | 92 | 72.5 | 1.60 | 0.0000029 | 5 | IW SCO-1 |
| | D129 | | Roof bearers and timbers Room G-11 | 2195 | 2196 | | Ra226 | | 116.3 | 78.5 | 59 | 1.97 | 0.0000029 | 5 | IW SCO-1 |
| 51 | D130 | 1/05/2018 | Roof bearers and timbers Room G-11 | 2197 | 2198 | | Ra226 | | 116.3 | 97 | 77.5 | 1.50 | 0.0000029 | 5 | IW SCO-1 |
| 52 | D131 | 2/05/2018 | Roof bearers and timbers Room G-08, G11 | 2201 | 2202 | | Ra226 | | 116.3 | 89 | 69.5 | 1.67 | 0.0000029 | 5 | IW SCO-1 |
| | D132 | | Roof bearers and timbers Room G-08, G11 | 2199 | 2200 | | Ra226 | | 116.3 | 91.5 | 72 | 1.62 | 0.0000029 | 5 | IW SCO-1 |
| | D133 | | Roof bearers and timbers Room G-08, G11 | 2203 | 2204 | | Ra226 | | 116.3 | 89.5 | 70 | 1.66 | 0.0000029 | 5 | IW SCO-1 |
| | D134 | | Roof bearers and timbers Room G-08, G11 | 2205 | 2206 | | Ra226 | | 116.3 | 90.5 | 71 | 1.64 | 0.0000029 | 5 | IW SCO-1 |
| | D135 | | Roof bearers and timbers Room G-08, G11 | 2207 | 2208 | | Ra226 | | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW SCO-1 |
| | | | Roof bearers and timbers Room G08, G11, G12, G14 | 2209 | 2210 | | Ra226 | | 116.3 | 87 | 67.5 | | | | |
| 53 | D136 | 2/05/2018 | Roof bearers and timbers Room G08, G11, G12, G15 | 2211 | 2212 | | Ra226 | | 116.3 | 83.5 | 64 | 1.82 | 0.0000029 | 5 | IW SCO-1 |
| 54 | D137 | 1/05/2018 | Roof bearers and timbers Room G08, G11, G12, G16 | 2213 | 2214 | | Ra226 | | 116.3 | 76 | 56.5 | | | | |
| 55 | D138 | 2/05/2018 | Roof bearers and timbers Room G08, G11, G12, G17 | 2215 | 2216 | | Ra226 | | 116.3 | 81 | 61.5 | 2.06 | 0.0000029 | 5 | IW SCO-1 |
| 56 | D139 | 1/05/2018 | Roof bearers and timbers Room G08, G11, G12, G18 | 2217 | 2218 | | Ra226 | | 116.3 | 76.5 | 57 | 1.89 | 0.0000029 | 5 | IW SCO-1 |
| 57 | D140 | 1/05/2018 | Roof bearers and timbers Room G08, G11, G12, G19 | 2219 | 2220 | | Ra226 | | 116.3 | 78.5 | 59 | 2.04 | 0.0000029 | 5 | IW SCO-1 |
| 58 | D141 | 1/05/2018 | | | | | | | | | | 1.97 | 0.0000029 | 5 | IW SCO-1 |
| 59 | D142 | 2/05/2018 | Rubble and bits and pieces | 2221 | 2222 | | Ra226 | | 27.7 | 114.5 | 95 | 0.29 | 0.0000007 | 5 | IW |
| 60 | D143 | 1/05/2018 | Ventilation duct material (metal) | 2223 | 2224 | | Ra226 | | 125.3 | 84.5 | 65 | 1.93 | 0.0000031 | 5 | IW SCO-1 |
| 61 | D144 | 1/05/2018 | Ventilation duct material (metal) | 2225 | 2226 | | Ra226 | | 125.3 | 51.5 | 32 | 3.92 | 0.0000031 | 5 | IW SCO-1 |
| 62 | D145 | 1/05/2018 | Soft waste | 2227 | 2228 | | Ra226 | | 23.8 | 82 | 62.5 | 0.38 | 0.0000006 | 5 | IW |
| 63 | D146 | 1/05/2018 | Ventilation duct material (metal) | 2229 | 2230 | | Ra226 | | 125.3 | 143.5 | 124 | 1.01 | 0.0000031 | 5 | IW SCO-1 |
| 64 | D147 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm ² alpha) | 2231 | 2232 | | Ra226 | | 22.8 | 226 | 206.5 | 0.11 | 0.0000006 | 5 | IW SCO-1 |
| 65 | D148 | 2/05/2018 | Rubble and bits and pieces | 2233 | 2234 | | Ra226 | | 312.5 | 118 | 98.5 | 3.17 | 0.0000078 | 5 | IW |
| 66 | D149 | 2/05/2018 | Rubble and bits and pieces | 2235 | 2236 | | Ra226 | | 394.3 | 118 | 98.5 | 4.00 | 0.0000099 | 5 | IW |
| 67 | D150 | 2/05/2018 | Bricks Ex room G12/G13 | 2237 | 2238 | | Ra226 | | 49.6 | 239 | 219.5 | 0.23 | 0.0000012 | 5 | IW SCO-1 |
| 68 | D151 | 1/05/2018 | Bricks Ex room G12/G13 | 2239 | 2240 | | Ra226 | | 49.6 | 199 | 179.5 | 0.28 | 0.0000012 | 5 | IW SCO-1 |
| 69 | D152 | 1/05/2018 | Floor bearers and timbers ex G12 | 2247 | 2248 | | Ra226 | | 116.3 | 101.5 | 82 | 1.42 | 0.0000029 | 5 | IW SCO-1 |
| 70 | D153 | 1/05/2018 | Floor bearers and timbers ex G13 | 2249 | 2250 | | Ra226 | | 116.3 | 105.5 | 86 | 1.35 | 0.0000029 | 5 | IW SCO-1 |
| | D154 | | Large bits of surface contaminated concrete ex G12/13 | | | | Ra226 | | 430.0 | | -19.5 | -22.05 | 0.0000108 | 5 | IW SCO-1 |
| 71 | D155 | 2/05/2018 | Insulation bats and lagging etc | 2253 | 2254 | | Ra226 | | 57.7 | 30.5 | 11 | 5.25 | 0.0000014 | 5 | IW |
| 72 | D156 | 1/05/2018 | Rubble and bits and pieces | 2362 | 2363 | | Ra226 | | 26.4 | 145 | 125.5 | 0.21 | 0.0000007 | 5 | IW |
| | D157 | | Floor bearers and timbers ex G11 | 2366 | 2367 | | Ra226 | | 116.3 | 68 | 48.5 | 2.40 | 0.0000029 | 5 | IW SCO-1 |
| | D158 | | Floor bearers and timbers ex G11 | 2368 | 2369 | | Ra226 | | 116.3 | 78.5 | 59 | 1.97 | 0.0000029 | 5 | IW SCO-1 |
| | D159 | | Floor bearers and timbers ex G11 | 2370 | 2371 | | Ra226 | | 116.3 | 86.5 | 67 | 1.74 | 0.0000029 | 5 | IW SCO-1 |
| | D160 | | Floor bearers and timbers ex G11 | 2372 | 2373 | | Ra226 | | 116.3 | 81 | 61.5 | 1.89 | 0.0000029 | 5 | IW SCO-1 |
| | D161 | | Floor bearers and timbers ex G11 | 2374 | 2375 | | Ra226 | | 116.3 | 66.5 | 47 | 2.47 | 0.0000029 | 5 | IW SCO-1 |
| | D162 | | Floor bearers and timbers ex G11 | 2376 | 2377 | | Ra226 | | 116.3 | 90 | 70.5 | 1.65 | 0.0000029 | 5 | IW SCO-1 |
| | D163 | | Floor bearers and timbers ex G11 | 2378 | 2379 | | Ra226 | | 116.3 | 77.5 | 58 | 2.01 | 0.0000029 | 5 | IW SCO-1 |
| | D164 | | Floor bearers and timbers ex G11 | 2380 | 2381 | | Ra226 | | 116.3 | 100 | 80.5 | 1.44 | 0.0000029 | 5 | IW SCO-1 |
| | D165 | | Floor bearers and timbers ex G11 | | | | Ra226 | | 116.3 | | -19.5 | -5.96 | 0.0000029 | 5 | |
| | D166 | | Floor bearers and timbers ex G11 | | | | Ra226 | | 116.3 | | -19.5 | -1.71 | 0.0000008 | 5 | |
| | D167 | | | | | | Ra226 | | ??? | | -19.5 | #VALUE! | #VALUE! | #VALUE! | |
| | | | | | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| | | | Contaminated brick/rubble from G12/13 | | | | Ra226 | | 33.4 | | -19.5 | -1.71 | 0.0000008 | 5 | |
| | | | | | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| | TBA | | Vacuum cleaner bags (only half a drum) | | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| | TBA | | Insulation Bats | | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| | TBA | | Metal ducting/door frame G13 + metal from under G12 | | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |

Temporary work sheet

GROSS Drum mass (kg): **18154** (Total to date)
Average of 118 drums: **154** kg (Total weighed to date)
25.5 pallets (4 to a pallet) **615** per pallet
8 pallets (32 drums) = **4923** kg per load on average
Transport 130 drums = **4** Vehicle trips

Total of all Drums: KBq #REF! kg (INCOMPLETE) #REF! #REF! Security category (of total of drums)

D value (GBq) 40
Ra-226

| Security Category Levels DO NOT DELETE THIS TABLE! | | |
|--|-----------------------|---------|
| Security Category Level Based on A/D | | |
| Category | A/D ratio value range | |
| 1 | 1000 | 1000000 |
| 2 | 10 | 1000 |
| 3 | 1 | 10 |
| 4 | 0.01 | 1 |
| 5 | 0 | 0.01 |

A/D≥1000
1000>A/D≥10
10>A/D≥1
1>A/D≥0.01
0.01>A/D exempt/D

INVENTORY OF DRUMS OF MATERIAL REMOVED FROM BUILDING 164 - UNIVERSITY OF MELBOURNE 2017-18

| Drum No. | Shipping Date | Description of contents | Photo No.s | Radionuclide | Dose rate (µSv/hr) at contact | Activity (kBq) | Gross Drum Mass (kg) | Net Drum (contents) Mass (kg) | Bq/g | A/D Ratio | Security Category | Drum classification |
|----------|---------------|--|------------|--------------|-------------------------------|----------------|----------------------|-------------------------------|-----------|-----------|-------------------|---------------------|
| D1 | | Contaminated asbestos guttering removed from building | 1904 1906 | Ra226 | 47.5 | 75 | 55.5 | 0.86 | 0.000012 | 5 | IW | SCO-1 |
| D2 | | Contaminated asbestos guttering removed from building | 1903 1907 | Ra226 | 47.5 | 77.5 | 58 | 0.82 | 0.000012 | 5 | IW | SCO-1 |
| D3 | | Contaminated asbestos guttering removed from building | 1905 1908 | Ra226 | 47.5 | 84 | 64.5 | 0.74 | 0.000012 | 5 | IW | SCO-1 |
| D4 | 24/10/2018 | Roof insulation bats | 1830 1831 | Ra226 | 65.2 | 29 | 9.5 | 6.86 | 0.0000016 | 5 | IW | SCO-1 |
| D5 | 24/10/2018 | Roof insulation bats | 1832 1833 | Ra226 | 114.2 | 28 | 8.5 | 13.4 | 0.0000029 | 5 | IW | SCO-1 |
| D6 | 24/10/2018 | Roof insulation bats | 1834 1835 | Ra226 | 215.5 | 29.5 | 10 | 21.6 | 0.0000054 | 5 | IW | SCO-1 |
| D7 | 24/10/2018 | Roof insulation bats | 1836 1837 | Ra226 | 56.1 | 34.5 | 15 | 3.74 | 0.0000014 | 5 | IW | SCO-1 |
| D8 | 24/10/2018 | Roof insulation bats | 1838 1839 | Ra226 | 210.4 | 31.5 | 12 | 17.5 | 0.0000053 | 5 | IW | SCO-1 |
| D9 | 24/10/2018 | Roof insulation bats | 1840 1841 | Ra226 | 248.1 | 29 | 9.5 | 26.1 | 0.0000062 | 5 | IW | SCO-1 |
| D10 | 24/10/2018 | Roof insulation bats | 1842 1843 | Ra226 | 50.3 | 33 | 13.5 | 3.73 | 0.0000013 | 5 | IW | SCO-1 |
| D11 | 24/10/2018 | Roof insulation bats | 1844 1845 | Ra226 | 28.2 | 32.5 | 13 | 2.17 | 0.0000007 | 5 | IW | SCO-1 |
| D12 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1846 1847 | Ra226 | 68.5 | 127 | 107.5 | 0.64 | 0.0000017 | 5 | IW | SCO-1 |
| D13 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1848 1849 | Ra226 | 68.5 | 144.5 | 125 | 0.55 | 0.0000017 | 5 | IW | SCO-1 |
| D14 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1850 1851 | Ra226 | 68.5 | 72 | 52.5 | 1.30 | 0.0000017 | 5 | IW | SCO-1 |
| D15 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1852 1853 | Ra226 | 68.5 | 81 | 61.5 | 1.11 | 0.0000017 | 5 | IW | SCO-1 |
| D16 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1854 1855 | Ra226 | 68.5 | 74.5 | 55 | 1.24 | 0.0000017 | 5 | IW | SCO-1 |
| D17 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1856 1857 | Ra226 | 68.5 | 138.5 | 119 | 0.58 | 0.0000017 | 5 | IW | SCO-1 |
| D18 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1858 1859 | Ra226 | 68.5 | 82.5 | 63 | 1.09 | 0.0000017 | 5 | IW | SCO-1 |
| D19 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1860 1861 | Ra226 | 68.5 | 112.5 | 93 | 0.74 | 0.0000017 | 5 | IW | SCO-1 |
| D20 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1862 1863 | Ra226 | 68.5 | 117.5 | 98 | 0.70 | 0.0000017 | 5 | IW | SCO-1 |
| D21 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1864 1865 | Ra226 | 68.5 | 122.5 | 103 | 0.66 | 0.0000017 | 5 | IW | SCO-1 |
| D22 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1866 1867 | Ra226 | 68.5 | 107 | 87.5 | 0.78 | 0.0000017 | 5 | IW | SCO-1 |
| D23 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1868 1869 | Ra226 | 68.5 | 87 | 67.5 | 1.01 | 0.0000017 | 5 | IW | SCO-1 |
| D24 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1870 1871 | Ra226 | 68.5 | 69 | 49.5 | 1.38 | 0.0000017 | 5 | IW | SCO-1 |
| D25 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1872 1873 | Ra226 | 68.5 | 71.5 | 52 | 1.32 | 0.0000017 | 5 | IW | SCO-1 |
| D26 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1874 1875 | Ra226 | 68.5 | 67.5 | 48 | 1.43 | 0.0000017 | 5 | IW | SCO-1 |
| D27 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1876 1877 | Ra226 | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW | SCO-1 |
| D28 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1878 1879 | Ra226 | 68.5 | 117 | 97.5 | 0.70 | 0.0000017 | 5 | IW | SCO-1 |
| D29 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1880 1881 | Ra226 | 68.5 | 64 | 44.5 | 1.54 | 0.0000017 | 5 | IW | SCO-1 |
| D30 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1882 1883 | Ra226 | 68.5 | 63 | 43.5 | 1.57 | 0.0000017 | 5 | IW | SCO-1 |
| D31 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1884 1885 | Ra226 | 68.5 | 67.5 | 48 | 1.43 | 0.0000017 | 5 | IW | SCO-1 |
| D32 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1886 1887 | Ra226 | 68.5 | 65.5 | 46 | 1.49 | 0.0000017 | 5 | IW | SCO-1 |
| D33 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1888 1889 | Ra226 | 68.5 | 66.5 | 47 | 1.46 | 0.0000017 | 5 | IW | SCO-1 |
| D34 | 24/10/2018 | Wall render rubble from G12 | 1890 1891 | Ra226 | 448.5 | 150.5 | 131 | 3.42 | 0.0000112 | 5 | IW | SCO-1 |
| D35 | 24/10/2018 | Wall render rubble from G12 | 1892 1893 | Ra226 | 205.3 | 137.5 | 118 | 1.74 | 0.0000051 | 5 | IW | SCO-1 |
| D36 | 24/10/2018 | Floor render rubble from room 108 and G12 | 1894 1895 | Ra226 | 290.4 | 172.5 | 153 | 1.90 | 0.0000073 | 5 | IW | SCO-1 |
| D37 | 24/10/2018 | Rubble and bits and pieces | 1896 1897 | Ra226 | 141.3 | 131 | 111.5 | 1.27 | 0.0000035 | 5 | IW | |
| D38 | 24/10/2018 | Rubble and bits and pieces | 1898 1899 | Ra226 | 313.0 | 93 | 73.5 | 4.26 | 0.0000078 | 5 | IW | |
| D39 | 24/10/2018 | Rubble and bits and pieces | 1900 1901 | Ra226 | 520.8 | 88.5 | 69 | 7.55 | 0.0000130 | 5 | IW | |
| D40 | 24/10/2018 | Vacuum cleaner bags | 1909 1910 | Ra226 | 968.0 | 98.5 | 79 | 12.3 | 0.0000242 | 5 | IW | |
| D41 | 24/10/2018 | Vacuum cleaner bags | 1971 1972 | Ra226 | 479.0 | 95 | 75.5 | 6.3 | 0.0000120 | 5 | IW | |
| D42 | 24/10/2018 | Rubble and bits and pieces | 1966 1967 | Ra226 | 43.0 | 112 | 92.5 | 0.46 | 0.0000011 | 5 | IW | |
| D43 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1911 1912 | Ra226 | 68.5 | 108 | 88.5 | 0.77 | 0.0000017 | 5 | IW | SCO-1 |
| D44 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1913 1914 | Ra226 | 68.5 | 88.5 | 69 | 0.99 | 0.0000017 | 5 | IW | SCO-1 |
| D45 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1915 1916 | Ra226 | 68.5 | 81.5 | 62 | 1.10 | 0.0000017 | 5 | IW | SCO-1 |
| D46 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1917 1918 | Ra226 | 68.5 | 121 | 101.5 | 0.67 | 0.0000017 | 5 | IW | SCO-1 |
| D47 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1919 1920 | Ra226 | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW | SCO-1 |
| D48 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1921 1922 | Ra226 | 68.5 | 77.5 | 58 | 1.18 | 0.0000017 | 5 | IW | SCO-1 |
| D49 | 2/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1923 1924 | Ra226 | 68.5 | 92.5 | 73 | 0.94 | 0.0000017 | 5 | IW | SCO-1 |
| D50 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1930 1931 | Ra226 | 12.1 | 200 | 180.5 | 0.07 | 0.0000003 | 5 | IW | SCO-1 |
| D51 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1932 1933 | Ra226 | 25.6 | 197.5 | 178 | 0.14 | 0.0000006 | 5 | IW | SCO-1 |
| D52 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1934 1935 | Ra226 | 22.6 | 195 | 175.5 | 0.13 | 0.0000006 | 5 | IW | SCO-1 |
| D53 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1936 1937 | Ra226 | 22.5 | 197.5 | 178 | 0.13 | 0.0000006 | 5 | IW | SCO-1 |
| D54 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1941 1942 | Ra226 | 20.3 | 195 | 175.5 | 0.12 | 0.0000005 | 5 | IW | SCO-1 |
| D55 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1943 1944 | Ra226 | 22.8 | 193 | 173.5 | 0.13 | 0.0000006 | 5 | IW | SCO-1 |
| D56 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1945 1946 | Ra226 | 22.8 | 199 | 179.5 | 0.13 | 0.0000006 | 5 | IW | SCO-1 |
| D57 | 24/10/2018 | Roof tiles - category 2 (1 to 4 Bq/cm² alpha) | 1947 1948 | Ra226 | 143.2 | 194 | 174.5 | 0.82 | 0.0000036 | 5 | IW | SCO-1 |
| D58 | 24/10/2018 | Roof tiles - category 3 (4 to 20 Bq/cm² alpha) | 1949 1950 | Ra226 | 720.5 | 189 | 169.5 | 4.25 | 0.0000180 | 5 | IW | SCO-1 |
| D59 | 24/10/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1951 1952 | Ra226 | 22.8 | 202 | 182.5 | 0.12 | 0.0000006 | 5 | IW | SCO-1 |
| D60 | 24/10/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1973 1974 | Ra226 | 22.8 | 202.5 | 183 | 0.12 | 0.0000006 | 5 | IW | SCO-1 |
| D61 | 24/10/2018 | Ventilation duct material (plasterboard) | 1955 1956 | Ra226 | 116.3 | 106 | 86.5 | 1.34 | 0.0000029 | 5 | IW | SCO-1 |
| D62 | 24/10/2018 | Ventilation duct material (metal) | 1953 1954 | Ra226 | 125.3 | 71 | 51.5 | 2.43 | 0.0000031 | 5 | IW | SCO-1 |
| D63 | 24/10/2018 | Ventilation duct material (metal and lead) | 1957 1958 | Ra226 | 125.3 | 88 | 68.5 | 1.83 | 0.0000031 | 5 | IW | SCO-1 |
| D64 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1959 1960 | Ra226 | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW | SCO-1 |
| D65 | 1/05/2018 | Roof battens and timbers | 1961 1962 | Ra226 | 116.3 | 70 | 50.5 | 2.30 | 0.0000029 | 5 | IW | SCO-1 |
| D66 | 1/05/2018 | Roof battens and timbers | 1963 1968 | Ra226 | 116.3 | 80.5 | 61 | 1.91 | 0.0000029 | 5 | IW | SCO-1 |
| D67 | 1/05/2018 | Roof battens and timbers | 1964 1965 | Ra226 | 116.3 | 82.5 | 63 | 1.85 | 0.0000029 | 5 | IW | SCO-1 |
| D68 | 1/05/2018 | Roof battens and timbers | 1969 1970 | Ra226 | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW | SCO-1 |
| D69 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1975 1976 | Ra226 | 22.8 | 200 | 180.5 | 0.13 | 0.0000006 | 5 | IW | SCO-1 |
| D70 | 1/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1977 1978 | Ra226 | 22.8 | 204 | 184.5 | 0.12 | 0.0000006 | 5 | IW | SCO-1 |
| D71 | 1/05/2018 | Roof tiles - category 2 (1 to 4 Bq/cm² alpha) | 1979 1980 | Ra226 | 143.2 | 204 | 184.5 | 0.78 | 0.0000036 | 5 | IW | SCO-1 |
| D72 | 1/05/2018 | Roof tiles - category 3 (4 to 20 Bq/cm² alpha) | 1981 1982 | Ra226 | 720.5 | 204.5 | 185 | 3.89 | 0.0000180 | 5 | IW | SCO-1 |
| D73 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1983 1984 | Ra226 | 22.8 | 193 | 173.5 | 0.13 | 0.0000006 | 5 | IW | SCO-1 |
| D74 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1985 1986 | Ra226 | 22.8 | 221.5 | 202 | 0.11 | 0.0000006 | 5 | IW | SCO-1 |
| D75 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1987 1988 | Ra226 | 22.8 | 224 | 204.5 | 0.11 | 0.0000006 | 5 | IW | SCO-1 |
| D76 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 1989 1990 | Ra226 | 22.8 | 227 | 207.5 | 0.11 | 0.0000006 | 5 | IW | SCO-1 |
| D77 | 1/05/2018 | Roof tiles - category 2 (1 to 4 Bq/cm² alpha) | 1991 1992 | Ra226 | 143.2 | 230.5 | 201 | 0.71 | 0.0000036 | 5 | IW | SCO-1 |
| D78 | 24/10/2018 | Roof tiles - category 2 (1 to 4 Bq/cm² alpha) | 2092 2093 | Ra226 | 143.2 | 203.5 | 184 | 0.78 | 0.0000036 | 5 | IW | SCO-1 |
| D79 | 24/10/2018 | Roof tiles - category 2 (1 to 4 Bq/cm² alpha) | 2094 2095 | Ra226 | 143.2 | 209.5 | 190 | 0.75 | 0.0000036 | 5 | IW | SCO-1 |
| D80 | 24/10/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2096 2097 | Ra226 | 22.8 | 194.5 | 175 | 0.13 | 0.0000006 | 5 | IW | SCO-1 |
| D81 | 24/10/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2098 2099 | Ra226 | 22.8 | 205.5 | 186 | 0.12 | 0.0000006 | 5 | IW | SCO-1 |
| D82 | 24/10/2018 | Roof tiles - category 3 (4 to 20 Bq/cm² alpha) | 2100 2101 | Ra226 | 720.5 | 208.5 | 189 | 3.81 | 0.0000180 | 5 | IW | SCO-1 |
| D83 | 24/10/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2102 2103 | Ra226 | 22.8 | 199.5 | 180 | 0.13 | 0.0000006 | 5 | IW | SCO-1 |
| D84 | 24/10/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2104 2105 | Ra226 | 22.8 | 204 | 184.5 | 0.12 | 0.0000006 | 5 | IW | SCO-1 |
| D85 | 24/10/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2106 2107 | Ra226 | 22.8 | 195.5 | 176 | 0.13 | 0.0000006 | 5 | IW | SCO-1 |
| D86 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2123 2124 | Ra226 | 22.8 | 203.5 | 184 | 0.12 | 0.0000006 | 5 | IW | SCO-1 |
| D87 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2125 2126 | Ra226 | 22.8 | 195.5 | 176 | 0.13 | 0.0000006 | 5 | IW | SCO-1 |
| D88 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2127 2128 | Ra226 | 22.8 | 196 | 176.5 | 0.13 | 0.0000006 | 5 | IW | SCO-1 |
| D89 | 2/05/2018 | Roof tiles - category 1 (<1 Bq/cm² alpha) | 2129 2130 | Ra226 | 22.8 | 206.5 | 187 | 0.12 | 0.0000006 | 5 | IW | SCO-1 |
| D90 | 24/10/2018 | Roof tiles - category 3 (4 to 20 Bq/cm² alpha) | 2131 2132 | Ra226 | 720.5 | 193 | 173.5 | 4.15 | 0.0000180 | 5 | IW | SCO- |

| | | | | | | | | | | | | | | | |
|-----|------|------------|---|------|------|--|-------|--|-------|-------|-------|--------|-----------|---|----------|
| 39 | D112 | 1/05/2018 | Roof bearers and timbers from room G11, G12, G13 | 2161 | 2162 | | Ra226 | | 116.3 | 74.5 | 55 | 2.11 | 0.0000029 | 5 | IW SCO-1 |
| 40 | D113 | 1/05/2018 | Roof bearers and timbers from room G11, G12, G13 | 2163 | 2164 | | Ra226 | | 116.3 | 75 | 55.5 | 2.10 | 0.0000029 | 5 | IW SCO-1 |
| 41 | D114 | 1/05/2018 | Roof bearers and timbers from room G11 | 2165 | 2166 | | Ra226 | | 116.3 | 83.5 | 64 | 1.82 | 0.0000029 | 5 | IW SCO-1 |
| 42 | D115 | 1/05/2018 | Roof bearers and timbers from room G11 | 2167 | 2168 | | Ra226 | | 116.3 | 81 | 61.5 | 1.89 | 0.0000029 | 5 | IW SCO-1 |
| 43 | D116 | 1/05/2018 | Roof bearers and timbers from room G11 | 2169 | 2170 | | Ra226 | | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW SCO-1 |
| 44 | D117 | 2/05/2018 | Roof bearers and timbers from room G11 | 2171 | 2172 | | Ra226 | | 116.3 | 76 | 56.5 | 2.06 | 0.0000029 | 5 | IW SCO-1 |
| 71 | D118 | 24/10/2018 | Roof bearers and timbers from room G11 | 2173 | 2174 | | Ra226 | | 116.3 | 84 | 64.5 | 1.80 | 0.0000029 | 5 | IW SCO-1 |
| 45 | D119 | 1/05/2018 | Roof bearers and timbers from room G11 | 2175 | 2176 | | Ra226 | | 116.3 | 86 | 66.5 | 1.75 | 0.0000029 | 5 | IW SCO-1 |
| 46 | D120 | 1/05/2018 | Roof bearers and timbers from room G-08, G11 | 2177 | 2178 | | Ra226 | | 116.3 | 66.5 | 47 | 2.47 | 0.0000029 | 5 | IW SCO-1 |
| 72 | D121 | 24/10/2018 | Roof bearers and timbers Room G-08 | 2179 | 2180 | | Ra226 | | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW SCO-1 |
| 73 | D122 | 24/10/2018 | Roof bearers and timbers Room G-08 | 2181 | 2182 | | Ra226 | | 116.3 | 94.5 | 75 | 1.55 | 0.0000029 | 5 | IW SCO-1 |
| 47 | D123 | 1/05/2018 | Roof bearers and timbers Room G-11 | 2183 | 2184 | | Ra226 | | 116.3 | 96.5 | 77 | 1.51 | 0.0000029 | 5 | IW SCO-1 |
| 48 | D124 | 2/05/2018 | Roof bearers and timbers Room G-08, G11 | 2185 | 2186 | | Ra226 | | 116.3 | 90.5 | 71 | 1.64 | 0.0000029 | 5 | IW SCO-1 |
| 49 | D125 | 2/05/2018 | Roof bearers and timbers Room G-11 | 2187 | 2188 | | Ra226 | | 116.3 | 87.5 | 68 | 1.71 | 0.0000029 | 5 | IW SCO-1 |
| 74 | D126 | 24/10/2018 | Roof bearers and timbers Room G-11 | 2189 | 2190 | | Ra226 | | 116.3 | 90 | 70.5 | 1.65 | 0.0000029 | 5 | IW SCO-1 |
| 50 | D127 | 2/05/2018 | Roof bearers and timbers Room G-11 | 2191 | 2192 | | Ra226 | | 116.3 | 91 | 71.5 | 1.63 | 0.0000029 | 5 | IW SCO-1 |
| 75 | D128 | 24/10/2018 | Roof bearers and timbers Room G-11 | 2193 | 2194 | | Ra226 | | 116.3 | 92 | 72.5 | 1.60 | 0.0000029 | 5 | IW SCO-1 |
| 76 | D129 | 24/10/2018 | Roof bearers and timbers Room G-11 | 2195 | 2196 | | Ra226 | | 116.3 | 78.5 | 59 | 1.97 | 0.0000029 | 5 | IW SCO-1 |
| 51 | D130 | 1/05/2018 | Roof bearers and timbers Room G-11 | 2197 | 2198 | | Ra226 | | 116.3 | 97 | 77.5 | 1.50 | 0.0000029 | 5 | IW SCO-1 |
| 52 | D131 | 2/05/2018 | Roof bearers and timbers Room G-08, G11 | 2201 | 2202 | | Ra226 | | 116.3 | 89 | 69.5 | 1.67 | 0.0000029 | 5 | IW SCO-1 |
| 77 | D132 | 24/10/2018 | Roof bearers and timbers Room G-08, G11 | 2199 | 2200 | | Ra226 | | 116.3 | 91.5 | 72 | 1.62 | 0.0000029 | 5 | IW SCO-1 |
| 78 | D133 | 24/10/2018 | Roof bearers and timbers Room G-08, G11 | 2203 | 2204 | | Ra226 | | 116.3 | 89.5 | 70 | 1.66 | 0.0000029 | 5 | IW SCO-1 |
| 79 | D134 | 24/10/2018 | Roof bearers and timbers Room G-08, G11 | 2205 | 2206 | | Ra226 | | 116.3 | 90.5 | 71 | 1.64 | 0.0000029 | 5 | IW SCO-1 |
| 80 | D135 | 24/10/2018 | Roof bearers and timbers Room G-08, G11 | 2207 | 2208 | | Ra226 | | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW SCO-1 |
| 53 | D136 | 2/05/2018 | Roof bearers and timbers Room G08, G11, G12, G14 | 2209 | 2210 | | Ra226 | | 116.3 | 87 | 67.5 | 1.72 | 0.0000029 | 5 | IW SCO-1 |
| 54 | D137 | 1/05/2018 | Roof bearers and timbers Room G08, G11, G12, G15 | 2211 | 2212 | | Ra226 | | 116.3 | 83.5 | 64 | 1.82 | 0.0000029 | 5 | IW SCO-1 |
| 55 | D138 | 2/05/2018 | Roof bearers and timbers Room G08, G11, G12, G16 | 2213 | 2214 | | Ra226 | | 116.3 | 76 | 56.5 | 2.06 | 0.0000029 | 5 | IW SCO-1 |
| 56 | D139 | 1/05/2018 | Roof bearers and timbers Room G08, G11, G12, G17 | 2215 | 2216 | | Ra226 | | 116.3 | 81 | 61.5 | 1.89 | 0.0000029 | 5 | IW SCO-1 |
| 57 | D140 | 1/05/2018 | Roof bearers and timbers Room G08, G11, G12, G18 | 2217 | 2218 | | Ra226 | | 116.3 | 76.5 | 57 | 2.04 | 0.0000029 | 5 | IW SCO-1 |
| 58 | D141 | 1/05/2018 | Roof bearers and timbers Room G08, G11, G12, G19 | 2219 | 2220 | | Ra226 | | 116.3 | 78.5 | 59 | 1.97 | 0.0000029 | 5 | IW SCO-1 |
| 59 | D142 | 2/05/2018 | Rubble and bits and pieces | 2221 | 2222 | | Ra226 | | 27.7 | 114.5 | 95 | 0.29 | 0.0000007 | 5 | IW |
| 60 | D143 | 1/05/2018 | Ventilation duct material (metal) | 2223 | 2224 | | Ra226 | | 125.3 | 84.5 | 65 | 1.93 | 0.0000031 | 5 | IW SCO-1 |
| 61 | D144 | 1/05/2018 | Ventilation duct material (metal) | 2225 | 2226 | | Ra226 | | 125.3 | 51.5 | 32 | 3.92 | 0.0000031 | 5 | IW SCO-1 |
| 62 | D145 | 1/05/2018 | Soft waste | 2227 | 2228 | | Ra226 | | 23.8 | 82 | 62.5 | 0.38 | 0.0000006 | 5 | IW |
| 63 | D146 | 1/05/2018 | Ventilation duct material (metal) | 2229 | 2230 | | Ra226 | | 125.3 | 143.5 | 124 | 1.01 | 0.0000031 | 5 | IW SCO-1 |
| 64 | D147 | 1/05/2018 | Roof tiles - category 1 (<1 Ba/cm ² alpha) | 2231 | 2232 | | Ra226 | | 22.8 | 226 | 206.5 | 0.11 | 0.0000006 | 5 | IW SCO-1 |
| 65 | D148 | 2/05/2018 | Rubble and bits and pieces | 2233 | 2234 | | Ra226 | | 312.5 | 118 | 98.5 | 3.17 | 0.0000078 | 5 | IW |
| 66 | D149 | 2/05/2018 | Rubble and bits and pieces | 2235 | 2236 | | Ra226 | | 394.3 | 118 | 98.5 | 4.00 | 0.0000099 | 5 | IW |
| 67 | D150 | 2/05/2018 | Bricks Ex room G12/G13 | 2237 | 2238 | | Ra226 | | 49.6 | 239 | 219.5 | 0.23 | 0.0000012 | 5 | IW SCO-1 |
| 68 | D151 | 1/05/2018 | Bricks Ex room G12/G13 | 2239 | 2240 | | Ra226 | | 49.6 | 199 | 179.5 | 0.28 | 0.0000012 | 5 | IW SCO-1 |
| 69 | D152 | 1/05/2018 | Floor bearers and timbers ex G12 | 2247 | 2248 | | Ra226 | | 116.3 | 101.5 | 82 | 1.42 | 0.0000029 | 5 | IW SCO-1 |
| 70 | D153 | 1/05/2018 | Floor bearers and timbers ex G13 | 2249 | 2250 | | Ra226 | | 116.3 | 105.5 | 86 | 1.35 | 0.0000029 | 5 | IW SCO-1 |
| | D154 | 1/2 full | Large bits of surface contaminated concrete ex G12/13 | | | | Ra226 | | 430.0 | | -19.5 | -22.05 | 0.0000108 | 5 | IW SCO-1 |
| 71 | D155 | 2/05/2018 | Insulation bats and lagging etc | 2253 | 2254 | | Ra226 | | 57.7 | 30.5 | 11 | 5.25 | 0.0000014 | 5 | IW |
| 72 | D156 | 1/05/2018 | Rubble and bits and pieces | 2362 | 2363 | | Ra226 | | 26.4 | 145 | 125.5 | 0.21 | 0.0000007 | 5 | IW |
| 81 | D157 | 24/10/2018 | Floor bearers and timbers ex G11 | 2366 | 2367 | | Ra226 | | 116.3 | 68 | 48.5 | 2.40 | 0.0000029 | 5 | IW SCO-1 |
| 82 | D158 | 24/10/2018 | Floor bearers and timbers ex G11 | 2368 | 2369 | | Ra226 | | 116.3 | 78.5 | 59 | 1.97 | 0.0000029 | 5 | IW SCO-1 |
| 83 | D159 | 24/10/2018 | Floor bearers and timbers ex G11 | 2370 | 2371 | | Ra226 | | 116.3 | 86.5 | 67 | 1.74 | 0.0000029 | 5 | IW SCO-1 |
| 84 | D160 | 24/10/2018 | Floor bearers and timbers ex G11 | 2372 | 2373 | | Ra226 | | 116.3 | 81 | 61.5 | 1.89 | 0.0000029 | 5 | IW SCO-1 |
| 85 | D161 | 24/10/2018 | Floor bearers and timbers ex G11 | 2374 | 2375 | | Ra226 | | 116.3 | 66.5 | 47 | 2.47 | 0.0000029 | 5 | IW SCO-1 |
| 86 | D162 | 24/10/2018 | Floor bearers and timbers ex G11 | 2376 | 2377 | | Ra226 | | 116.3 | 90 | 70.5 | 1.65 | 0.0000029 | 5 | IW SCO-1 |
| 87 | D163 | 24/10/2018 | Floor bearers and timbers ex G11 | 2378 | 2379 | | Ra226 | | 116.3 | 77.5 | 58 | 2.01 | 0.0000029 | 5 | IW SCO-1 |
| 88 | D164 | 24/10/2018 | Floor bearers and timbers ex G11 | 2380 | 2381 | | Ra226 | | 116.3 | 100 | 80.5 | 1.44 | 0.0000029 | 5 | IW SCO-1 |
| 89 | D165 | 24/10/2018 | Floor bearers and timbers ex G11 | 2382 | 2383 | | Ra226 | | 116.3 | 110 | 90 | 1.29 | 0.0000029 | 5 | IW SCO-1 |
| 90 | D166 | 24/10/2018 | Floor bearers and timbers ex G11 | 2384 | 2385 | | Ra226 | | 116.3 | 78.5 | 59 | 1.97 | 0.0000029 | 5 | IW SCO-1 |
| 91 | D167 | 24/10/2018 | Metal duct, G13 door frame & pipes from under G12 & G11 | 2419 | 2420 | | Ra226 | | 125.3 | 212 | 192.5 | 0.65 | 0.0000031 | 5 | IW SCO-1 |
| 92 | D168 | 24/10/2018 | Ventilation duct material (metal) | 2431 | 2432 | | Ra226 | | 125.3 | 83 | 63.5 | 1.97 | 0.0000031 | 5 | IW SCO-1 |
| 93 | D169 | 24/10/2018 | Metal pipes etc from under G01, G02, G08 & G09 | 2403 | 2404 | | Ra226 | | 116.3 | 131 | 111.5 | 1.04 | 0.0000029 | 5 | 1W SCO-1 |
| 94 | D170 | 24/10/2018 | Floor bearers and timbers ex G09 | 2407 | 2408 | | Ra226 | | 116.3 | 70 | 50.5 | 2.30 | 0.0000029 | 5 | IW |
| 95 | D171 | 24/10/2018 | Floor bearers and timbers ex G09 | 2411 | 2412 | | Ra226 | | 116.3 | 91 | 71.5 | 1.63 | 0.0000029 | 5 | IW |
| 96 | D172 | 24/10/2018 | Floor bearers and timbers ex G09 | 2394 | 2395 | | Ra226 | | 116.3 | 90 | 70.5 | 1.65 | 0.0000029 | 5 | IW |
| 97 | D173 | 24/10/2018 | Floor bearers and timbers ex G09 | 2396 | 2398 | | Ra226 | | 116.3 | 77 | 57.5 | 2.02 | 0.0000029 | 5 | IW |
| 98 | D174 | 24/10/2018 | Floor bearers and timbers ex G09 | 2415 | 2416 | | Ra226 | | 116.3 | 61 | 41.5 | 2.80 | 0.0000029 | 5 | IW |
| 99 | D175 | 24/10/2018 | Floor bearers and timbers ex G09 | 2392 | 2393 | | Ra226 | | 116.3 | 77 | 57.5 | 2.02 | 0.0000029 | 5 | IW |
| 100 | D176 | 24/10/2018 | Floor bearers and timbers ex G09 | 2413 | 2414 | | Ra226 | | 116.3 | 90 | 70.5 | 1.65 | 0.0000029 | 5 | IW |
| 101 | D177 | 24/10/2018 | Floor bearers and timbers ex G01 & G02 | 2401 | 2402 | | Ra226 | | 116.3 | 82 | 62.5 | 1.86 | 0.0000029 | 5 | IW |
| 102 | D178 | 24/10/2018 | Floor bearers and timbers ex G01 & G02 | 2390 | 2391 | | Ra226 | | 116.3 | 89 | 69.5 | 1.67 | 0.0000029 | 5 | IW |
| 103 | D179 | 24/10/2018 | Floor bearers and timbers ex G01 & G02 | 2405 | 2406 | | Ra226 | | 116.3 | 76 | 56.5 | 2.06 | 0.0000029 | 5 | IW |
| 104 | D180 | 24/10/2018 | Floor bearers and timbers ex G08 & G11 | 2409 | 2410 | | Ra226 | | 116.3 | 92.5 | 73 | 1.59 | 0.0000029 | 5 | IW |
| 105 | D181 | 24/10/2018 | Floor bearers and timbers ex G08 & G11 | 2388 | 2389 | | Ra226 | | 116.3 | 116 | 96.5 | 1.21 | 0.0000029 | 5 | IW |
| 106 | D182 | 24/10/2018 | Floor bearers and timbers ex G08 & G11 | 2399 | 2400 | | Ra226 | | 116.3 | 115 | 95.5 | 1.22 | 0.0000029 | 5 | IW |
| 107 | D183 | 24/10/2018 | Roof tiles - category 1 (<1 Ba/cm ² alpha) | 2423 | 2424 | | Ra226 | | 22.8 | 178 | 158.5 | 0.14 | 0.0000006 | 5 | IW |
| 108 | D184 | 24/10/2018 | Roof tiles - category 1 (<1 Ba/cm ² alpha) | 2425 | 2426 | | Ra226 | | 22.8 | 179 | 159.5 | 0.14 | 0.0000006 | 5 | IW |
| 109 | D185 | 24/10/2018 | Roof tiles - category 2 (1 to 4 Ba/cm ² alpha) | 2421 | 2422 | | Ra226 | | 143.2 | 170 | 150.5 | 0.95 | 0.0000036 | 5 | IW |
| 110 | D186 | 24/10/2018 | Roof tiles - category 2 (1 to 4 Ba/cm ² alpha) | 2427 | 2428 | | Ra226 | | 143.2 | 173 | 153.5 | 0.93 | 0.0000036 | 5 | IW |
| 111 | D187 | 24/10/2018 | Roof tiles - category 3 (4 to 20 Ba/cm ² alpha) | 2429 | 2430 | | Ra226 | | 720.5 | 136.5 | 117 | 6.16 | 0.0000180 | 5 | IW |
| | D188 | 5/6 full | Rubble and bits and pieces bags 93 - 100 | | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| | D189 | 3/4 full | Rubble and bits & pieces (inc wood etc from under G11, G08) | | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| 112 | D190 | 24/10/2018 | Contaminated brick & rubble from G12/13 | 2448 | 2449 | | Ra226 | | 45.8 | 186.5 | 167 | 0.27 | 0.0000011 | 5 | IW SCO-1 |
| 113 | D191 | 24/10/2018 | Floor bearers and timbers ex G04 | 2423 | 2424 | | Ra226 | | 116.3 | 64 | 44.5 | 2.61 | 0.0000029 | 5 | IW |
| 114 | D192 | 24/10/2018 | Floor bearers and timbers ex G04 | 2435 | 2436 | | Ra226 | | 116.3 | 103.5 | 84 | 1.38 | 0.0000029 | 5 | IW |
| 115 | D193 | 24/10/2018 | Vacuum cleaner bags | 2437 | 2439 | | Ra226 | | 591.0 | 123 | 103.5 | 5.71 | 0.0000148 | 5 | I |

| Security Category Level Based on A/D | | |
|--------------------------------------|-----------------------|---------|
| Category | A/D ratio value range | |
| 1 | 1000 | 1000000 |
| 2 | 10 | 1000 |
| 3 | 1 | 10 |
| 4 | 0.01 | 1 |
| 5 | 0 | 0.01 |

A/D≥1000

1000>A/D≥10

10>A/D≥1

1>A/D≥0.01

0.01>A/D≥exempt/D

Surface Contamination measured on surfaces of **70.45** bricks to determine "typical" average activity per brick within a count range

Bricks (mostly intact)

Instrument MTE: 5506

Mostly fixed contamination on surfaces

DRUM 150

| No. | Brick size factor | Surface area (cm ²) | cps (alpha) | Bq/cm ² (alpha) | cps (beta) | Bq/cm ² (beta) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | Brick weight (kg) | 1cps beta | | BckGrnd CPS | 1cps Alpha | | BckGrnd CPS |
|-----|-------------------|---------------------------------|-------------|----------------------------|------------|---------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|-------------------|-----------|--------------------|-------------|------------|--------------------|-------------|
| | | | | | | | | | | | | 0.15 | Bq/cm ² | 3.4 | 0.2 | Bq/cm ² | 0.02 |
| 1 | 1 | 968 | 12 | 2.396 | 22.4 | 2.85 | 0.2 | 463.626 | 551.475 | 551.475 | 4.2 | | | | | | |
| 2 | 1 | 968 | 1.5 | 0.296 | 7.4 | 0.6 | 0.2 | 57.276 | 116.1 | 116.1 | 4.2 | | | | | | |
| 3 | 0.5 | 484 | 0.5 | 0.096 | 5.4 | 0.3 | 0.2 | 9.288 | 29.025 | 29.025 | 2.1 | | | | | | |
| 4 | 1 | 968 | 1.3 | 0.256 | 4.4 | 0.15 | 0.2 | 49.536 | 29.025 | 49.536 | 4.2 | | | | | | |
| 5 | 0.5 | 484 | 2 | 0.396 | 23.4 | 3 | 0.2 | 38.313 | 290.25 | 290.25 | 2.1 | | | | | | |
| 6 | 1 | 968 | 1 | 0.196 | 3.9 | 0.075 | 0.2 | 37.926 | 14.5125 | 37.926 | 4.2 | | | | | | |
| 7 | 0.25 | 242 | 38 | 7.596 | 58.4 | 8.25 | 0.2 | 367.4565 | 399.0938 | 399.09375 | 1.05 | | | | | | |
| 8 | 1 | 968 | 0.4 | 0.076 | 4.4 | 0.15 | 0.2 | 14.706 | 29.025 | 29.025 | 4.2 | | | | | | |
| 9 | 0.5 | 484 | 80 | 15.996 | 163.4 | 24 | 0.2 | 1547.613 | 2322 | 2322 | 2.1 | | | | | | |
| 10 | 0.5 | 484 | 1 | 0.196 | 3.4 | 0 | 0.2 | 18.963 | 0 | 18.963 | 2.1 | | | | | | |
| 11 | 0.5 | 484 | 0.5 | 0.096 | 3.4 | 0 | 0.2 | 9.288 | 0 | 9.288 | 2.1 | | | | | | |
| 12 | 0.5 | 484 | 0.4 | 0.076 | 3.4 | 0 | 0.2 | 7.353 | 0 | 7.353 | 2.1 | | | | | | |
| 13 | 1 | 968 | 10 | 1.996 | 97.4 | 14.1 | 0.2 | 386.226 | 2728.35 | 2728.35 | 4.2 | | | | | | |
| 14 | 0.5 | 484 | 0.8 | 0.156 | 3.4 | 0 | 0.2 | 15.093 | 0 | 15.093 | 2.1 | | | | | | |
| 15 | 1 | 968 | 2 | 0.396 | 20.4 | 2.55 | 0.2 | 76.626 | 493.425 | 493.425 | 4.2 | | | | | | |
| 16 | 1 | 968 | 1 | 0.196 | 11.4 | 1.2 | 0.5 | 94.815 | 580.5 | 580.5 | 4.2 | | | | | | |
| 17 | 1 | 968 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 46.44 | 0 | 46.44 | 4.2 | | | | | | |
| 18 | 1 | 968 | 1 | 0.196 | 9.4 | 0 | 0.5 | 94.815 | 0 | 94.815 | 4.2 | | | | | | |
| 19 | 1 | 968 | 4 | 0.796 | 63.4 | 9 | 0.5 | 385.065 | 4353.75 | 4353.75 | 4.2 | | | | | | |
| 20 | 1 | 968 | 15 | 2.996 | 19.4 | 2.4 | 0.5 | 1449.315 | 1161 | 1449.315 | 4.2 | | | | | | |
| 21 | 1 | 968 | 1.5 | 0.296 | 27.4 | 3.6 | 0.5 | 143.19 | 1741.5 | 1741.5 | 4.2 | | | | | | |
| 22 | 1 | 968 | 2.7 | 0.536 | 50.4 | 7.05 | 0.5 | 259.29 | 3410.438 | 3410.4375 | 4.2 | | | | | | |
| 23 | 1 | 968 | 0.4 | 0.076 | 4.4 | 0.15 | 0.5 | 36.765 | 72.5625 | 72.5625 | 4.2 | | | | | | |
| 24 | 0.5 | 484 | 0.6 | 0.116 | 43.4 | 6 | 0.5 | 28.0575 | 1451.25 | 1451.25 | 2.1 | | | | | | |
| 25 | 1 | 968 | 0.6 | 0.116 | 7.4 | 0.6 | 0.5 | 56.115 | 290.25 | 290.25 | 4.2 | | | | | | |
| 26 | 1 | 968 | 0.4 | 0.076 | 3.4 | 0 | 0.5 | 36.765 | 0 | 36.765 | 4.2 | | | | | | |
| 27 | 1 | 968 | 18 | 3.596 | 6.4 | 0.45 | 0.5 | 1739.565 | 217.6875 | 1739.565 | 4.2 | | | | | | |
| 28 | 1 | 968 | 0.4 | 0.076 | 3.4 | 0 | 0.5 | 36.765 | 0 | 36.765 | 4.2 | | | | | | |
| 29 | 1 | 968 | 4 | 0.796 | 47.4 | 6.6 | 0.5 | 385.065 | 3192.75 | 3192.75 | 4.2 | | | | | | |
| 30 | 1 | 968 | 4 | 0.796 | 12.4 | 1.35 | 0.5 | 385.065 | 653.0625 | 653.0625 | 4.2 | | | | | | |
| 31 | 1 | 968 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 46.44 | 0 | 46.44 | 4.2 | | | | | | |
| 32 | 1 | 968 | 1.5 | 0.296 | 15.4 | 1.8 | 0.5 | 143.19 | 870.75 | 870.75 | 4.2 | | | | | | |
| 33 | 0.5 | 484 | 0.5 | 0.096 | 5.4 | 0.3 | 0.5 | 23.22 | 72.5625 | 72.5625 | 2.1 | | | | | | |
| 34 | 1 | 968 | 0.5 | 0.096 | 6.4 | 0.45 | 0.5 | 46.44 | 217.6875 | 217.6875 | 4.2 | | | | | | |
| 35 | 1 | 968 | 1 | 0.196 | 30.4 | 4.05 | 0.5 | 94.815 | 1959.188 | 1959.1875 | 4.2 | | | | | | |
| 36 | 1 | 968 | 2.1 | 0.416 | 14.5 | 1.665 | 0.2 | 80.496 | 322.1775 | 322.1775 | 4.2 | | | | | | |
| 37 | 1 | 968 | 10 | 1.996 | 37 | 5.04 | 0.2 | 386.226 | 975.24 | 975.24 | 4.2 | | | | | | |
| 38 | 1 | 968 | 19 | 3.796 | 30 | 3.99 | 0.2 | 734.526 | 772.065 | 772.065 | 4.2 | | | | | | |
| 39 | 1 | 968 | 1.7 | 0.336 | 13 | 1.44 | 0.5 | 162.54 | 696.6 | 696.6 | 4.2 | | | | | | |
| 40 | 1 | 968 | 2 | 0.396 | 10 | 0.99 | 0.5 | 191.565 | 478.9125 | 478.9125 | 4.2 | | | | | | |
| 41 | 1 | 968 | 6 | 1.196 | 10 | 0.99 | 0.5 | 578.565 | 478.9125 | 578.565 | 4.2 | | | | | | |
| 42 | 1 | 968 | 10 | 1.996 | 32 | 4.29 | 0.5 | 965.565 | 2075.288 | 2075.2875 | 4.2 | | | | | | |
| 43 | 1 | 968 | 0.5 | 0.096 | 7 | 0.54 | 0.5 | 46.44 | 261.225 | 261.225 | 4.2 | | | | | | |
| 44 | 1 | 968 | 7 | 1.396 | 23 | 2.94 | 0.5 | 675.315 | 1422.225 | 1422.225 | 4.2 | | | | | | |
| 45 | 0.5 | 484 | 9 | 1.796 | 120 | 17.49 | 0.5 | 434.4075 | 4230.394 | 4230.39375 | 2.1 | | | | | | |
| 46 | 0.2 | 194 | 1 | 0.196 | 4 | 0.09 | 0.5 | 18.963 | 8.7075 | 18.963 | 0.84 | | | | | | |

| | | | |
|---|------|--------|--|
| All surface measurements : Surface areas of different brick faces | | | |
| 22.5 | 10.5 | 236.25 | |
| 22.5 | 10.5 | 236.25 | |
| 22.5 | 7.5 | 168.75 | |
| 22.5 | 7.5 | 168.75 | |
| 10.5 | 7.5 | 78.75 | |
| 10.5 | 7.5 | 78.75 | |
| <u>967.5</u> Total surface area of a brick | | | |
| Brick weight: 4.2 kg | | | |

39.45

| | | | |
|-------|-------|-------|-----|
| 12905 | 38969 | 41245 | 166 |
|-------|-------|-------|-----|

248.9 Bq/kg

| | | |
|---|------|----|
| Bag of contaminated brick/render rubble 1 | 4232 | 17 |
| Bag of contaminated brick/render rubble 2 | 2987 | 12 |
| Loose pieces of render rubble | 1742 | 7 |
| | 0 | |
| | 0 | |

| | | |
|-----------------|-------|-----|
| Total Activity: | 50206 | 202 |
|-----------------|-------|-----|

Drum 151:

| | | | cps (alpha) | Bq/cm ² (alpha) | cps (beta) | Bq/cm ² (beta) | | | | | |
|----|-----|-----|-------------|----------------------------|------------|---------------------------|-----|----------|----------|------------|-----|
| 1 | 1 | 968 | 0.7 | 0.136 | 23.4 | 3 | 0.5 | 65.79 | 1451.25 | 1451.25 | 4.2 |
| 2 | 1 | 968 | 1 | 0.196 | 11.4 | 1.2 | 0.5 | 94.815 | 580.5 | 580.5 | 4.2 |
| 3 | 1 | 968 | 0 | -0.004 | 8.4 | 0.75 | 0.5 | -1.935 | 362.8125 | 362.8125 | 4.2 |
| 4 | 1 | 968 | 2.8 | 0.556 | 13.4 | 1.5 | 0.5 | 268.965 | 725.625 | 725.625 | 4.2 |
| 5 | 1 | 968 | 0.5 | 0.096 | 13.4 | 1.5 | 0.5 | 46.44 | 725.625 | 725.625 | 4.2 |
| 6 | 1 | 968 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 46.44 | 0 | 46.44 | 4.2 |
| 7 | 1 | 968 | 0.7 | 0.136 | 6.4 | 0.45 | 0.5 | 65.79 | 217.6875 | 217.6875 | 4.2 |
| 8 | 1 | 968 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 46.44 | 0 | 46.44 | 4.2 |
| 9 | 1 | 968 | 22 | 4.396 | 35.4 | 4.8 | 0.5 | 2126.565 | 2322 | 2322 | 4.2 |
| 10 | 1 | 968 | 17 | 3.396 | 14.4 | 1.65 | 0.5 | 1642.815 | 798.1875 | 1642.815 | 4.2 |
| 11 | 1 | 968 | 9 | 1.796 | 17.4 | 2.1 | 0.5 | 868.815 | 1015.875 | 1015.875 | 4.2 |
| 12 | 1 | 968 | 10 | 1.996 | 37.4 | 5.1 | 0.5 | 965.565 | 2467.125 | 2467.125 | 4.2 |
| 13 | 1 | 968 | 1.2 | 0.236 | 5.4 | 0.3 | 0.5 | 114.165 | 145.125 | 145.125 | 4.2 |
| 14 | 1 | 968 | 1 | 0.196 | 13.4 | 1.5 | 0.5 | 94.815 | 725.625 | 725.625 | 4.2 |
| 15 | 1 | 968 | 3 | 0.596 | 7.4 | 0.6 | 0.5 | 288.315 | 290.25 | 290.25 | 4.2 |
| 16 | 1 | 968 | 4 | 0.796 | 13.4 | 1.5 | 0.5 | 385.065 | 725.625 | 725.625 | 4.2 |
| 17 | 1 | 968 | 15 | 2.996 | 7.4 | 0.6 | 0.5 | 1449.315 | 290.25 | 1449.315 | 4.2 |
| 18 | 1 | 968 | 2 | 0.396 | 8.4 | 0.75 | 0.5 | 191.565 | 362.8125 | 362.8125 | 4.2 |
| 19 | 1 | 968 | 3 | 0.596 | 12.4 | 1.35 | 0.5 | 288.315 | 653.0625 | 653.0625 | 4.2 |
| 20 | 0.5 | 484 | 23 | 4.596 | 33.4 | 4.5 | 0.5 | 1111.658 | 1088.438 | 1111.6575 | 2.1 |
| 21 | 0.5 | 484 | 23 | 4.596 | 42.4 | 5.85 | 0.5 | 1111.658 | 1414.969 | 1414.96875 | 2.1 |
| 22 | 1 | 968 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 46.44 | 0 | 46.44 | 4.2 |
| 23 | 1 | 968 | 1.3 | 0.256 | 7.4 | 0.6 | 0.5 | 123.84 | 290.25 | 290.25 | 4.2 |
| 24 | 1 | 968 | 7 | 1.396 | 53.4 | 7.5 | 0.5 | 675.315 | 3628.125 | 3628.125 | 4.2 |

| | | | | | | | | | | | |
|----|-----|-----|-----|--------|------|------|-----|----------|----------|----------|-----|
| 25 | 1 | 968 | 3 | 0.596 | 9.4 | 0.9 | 0.5 | 288.315 | 435.375 | 435.375 | 4.2 |
| 26 | 0.5 | 484 | 1 | 0.196 | 4.4 | 0.15 | 0.5 | 47.4075 | 36.28125 | 47.4075 | 2.1 |
| 27 | 0.5 | 484 | 7 | 1.396 | 10.4 | 1.05 | 0.5 | 337.6575 | 253.9688 | 337.6575 | 2.1 |
| 28 | 1 | 968 | 1.5 | 0.296 | 12.4 | 1.35 | 0.5 | 143.19 | 653.0625 | 653.0625 | 4.2 |
| 29 | 1 | 968 | 1.6 | 0.316 | 12.4 | 1.35 | 0.5 | 152.865 | 653.0625 | 653.0625 | 4.2 |
| 30 | 1 | 968 | 1 | 0.196 | 9.4 | 0.9 | 0.5 | 94.815 | 435.375 | 435.375 | 4.2 |
| 31 | 0.5 | 484 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 23.22 | 0 | 23.22 | 2.1 |
| 32 | 0.5 | 484 | 0.8 | 0.156 | 5.4 | 0.3 | 0.5 | 37.7325 | 72.5625 | 72.5625 | 2.1 |
| 33 | 1 | 968 | 80 | 15.996 | 23.4 | 3 | 0.5 | 7738.065 | 1451.25 | 7738.065 | 4.2 |
| 34 | 1 | 968 | 20 | 3.996 | 6.4 | 0.45 | 0.5 | 1933.065 | 217.6875 | 1933.065 | 4.2 |

31Drum 151: **22913** **24490** **34776** **130.2**

| | | |
|---|------------|------|
| Bag of contaminated brick/render rubble 3 | 3236.06649 | 13 |
| Bag of contaminated brick/render rubble 4 | 3484.99468 | 14 |
| Bag of contaminated brick/render rubble 5 | 3733.92287 | 15 |
| Bag of contaminated brick/render rubble 6 | 3858.38696 | 15.5 |
| | 0 | |
| | 0 | |

Total Activity: **49090** **187.7****267.1** Bq/kgAverage of D150/D151 Drum Activity (Bq): **49.6** kBq
(for all brick drum classifications)**258.0** Bq/kg**Drum 154:**

Drum containing large pieces of surface contaminated concrete from under G12/13

kBq **kg**
67.8 141.5**** Method of determining activity**

Drum activity determined by assuming 80% of each piece of concrete was contaminated (as observed). The 80% figure was then applied to the average activity concentration that was applied to the bricks from G12/13 in drums 150 and 151 to arrive at a modified concentration level of 479.2Bq/kg. This methodology (used to determine total drum activity) was used due to the difficulties in determining the total surface area of the peices of concrete.

479.2 Bq/kg

Consider deleting this section

| alpha cps | *** (Bq/cm2) | items | factor | L (cm) | W (cm) | H (cm) | Area (cm2) | Total activity (Bq) | Total No. of similar sized items | Total drum activity (kBq) |
|-----------|--------------|-------|--------|--------|--------|--------|------------|---------------------|----------------------------------|---------------------------|
| 5 | 0.996 | 1 | 0.8 | 40 | 30 | 30 | 36000 | 28684.8 | 15 | 430 |

****** Highest (most conservative) activity used to determine drum activity****Drum 190:**

| | Bq | kg |
|--|-----------|-----------|
| Bag of contaminated brick/rubble from G12/13 7 | 6450 | 25 |
| Bag of contaminated brick/rubble from G12/13 8 | 1290 | 5 |
| Bag of contaminated brick/rubble from G12/13 9 | 2064 | 8 |
| Bag of contaminated brick/rubble from G12/13 10 | 387 | 1.5 |
| Bag of contaminated brick/rubble from G12/13 11 | 2967 | 11.5 |
| Bag of contaminated brick/rubble from G12/13 12 | 2709 | 10.5 |
| Bag of contaminated brick/rubble from G12/13 13 | 2322 | 9 |
| Bag of contaminated brick/rubble from G12/13 14 | 2322 | 9 |
| Bag of contaminated brick/rubble from G12/13 15 | 12901 | 50 |
| Bag of contaminated brick/rubble from G04 16 | 1729 | 6.7 |
| Bag of contaminated brick/rubble from G12 | 2580 | 10 |
| Bag of contaminated brick/rubble from main entrance | 1419 | 5.5 |
| Bag of contaminated brick/rubble from G12 window frame | 1935 | 7.5 |
| Bag of contaminated brick/rubble from G12 | 4773 | 18.5 |

Total (kBq) **45.85** 178

167 kg!

Drum 188:

| | Bq | kg |
|----------------------------------|-----------|-----------|
| Bag of contaminated brick/rubble | 2580 | 10 |
| Bag of contaminated brick/rubble | 5160 | 20 |
| Bag of contaminated brick/rubble | 3483 | 13.5 |
| Bag of contaminated brick/rubble | 4386 | 17 |
| Bag of contaminated brick/rubble | 4257 | 16.5 |
| Bag of contaminated brick/rubble | 3483 | 13.5 |
| Bag of contaminated brick/rubble | 2838 | 11 |
| Bag of contaminated brick/rubble | 2967 | 11.5 |
| Bag of contaminated brick/rubble | 5934 | 23 |
| Bag of contaminated brick/rubble | 645 | 2.5 |
| Bag of contaminated brick/rubble | 1161 | 4.5 |

Total (kBq) **36.90** 143**Drum 189:**

| | Bq | kg |
|---|-----------|-----------|
| Bags of contaminated brick/rubble from under G08, G11 | 21931 | 85 |
| Block of wood from G12 wall | 516 | 2 |
| | 0 | |
| Bag of contaminated brick/rubble | 0 | |
| Bag of contaminated brick/rubble | 0 | |
| Bag of contaminated brick/rubble | 0 | |
| Bag of contaminated brick/rubble | 0 | |
| Bag of contaminated brick/rubble | 0 | |
| Bag of contaminated brick/rubble | 0 | |

Total (kBq) **22.45** 87

Typical contents of drums includes:

Bags containing general rubble and bits and pieces from ceiling collapses (D37, D38, D39, D42)

Dusts and particles from building including contaminated ceiling, wood skirting, plaster, and floor areas, PVC plastic and electrical cable etc (D142, D148, D149, D156, D??)

Bags containing general rubble, wood, rocks, concrete bits and pieces from under floors G11 and G08 (D189)

Instrument MTE: 2904

| Drum No. | Bag No. | Dose rate at contact (µSv/hr) | B/g (µSv/hr) | Dose rate (µSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ ray constant | Gross Drum Mass (kg) * | Net Drum Mass (kg) * | Activity (kBq) | Est. Bq/g |
|----------|---------|-------------------------------|--------------|------------------------|--------------|-------------------------|---|------------------------|----------------------|----------------|-----------|
| D37 | 1 | | 0.062 | 0.071 | 0.7 | 223 | 19.78 | | | | |
| D37 | 2 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | | | | |
| D37 | 3 | | 0.062 | 0.072 | 0.6 | 223 | 16.14 | | | | |
| D37 | 4 | | 0.062 | 0.076 | 0.5 | 223 | 15.70 | | | | |
| D37 | 5 | | 0.062 | 0.077 | 0.3 | 223 | 6.05 | | | | |
| D37 | 6 | | 0.062 | 0.072 | 0.3 | 223 | 4.04 | | | | |
| D37 | 7 | | 0.062 | 0.07 | 0.5 | 223 | 8.97 | | | | |
| D37 | 8 | | 0.062 | 0.085 | 0.5 | 223 | 25.78 | | | | |
| D37 | 9 | | 0.062 | 0.07 | 0.4 | 223 | 5.74 | | | | |
| D37 | 10 | | 0.062 | 0.08 | 0.4 | 223 | 12.91 | | | | |
| D37 | 11 | | 0.062 | 0.07 | 0.4 | 223 | 5.74 | | | | |
| D37 | 12 | | 0.062 | 0.071 | 0.4 | 223 | 6.46 | | | | |
| D37 | 13 | | 0.062 | 0.077 | 0.4 | 223 | 10.76 | 131 | 111.5 | 141.3 | 1267 |
| D38 | 14 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | | | | |
| D38 | 15 | | 0.062 | 0.078 | 1.3 | 223 | 121.26 | | | | |
| D38 | 16 | | 0.062 | 0.073 | 0.6 | 223 | 17.76 | | | | |
| D38 | 17 | | 0.062 | 0.074 | 1.1 | 223 | 65.11 | | | | |
| D38 | 18 | | 0.062 | 0.079 | 1.1 | 223 | 92.24 | | | | |
| D38 | 19 | | 0.062 | 0.074 | 0.5 | 223 | 13.45 | 93 | 73.5 | 313.0 | 4259 |
| D39 | 20 | | 0.062 | 0.077 | 1.3 | 223 | 113.68 | | | | |
| D39 | 21 | | 0.062 | 0.078 | 1 | 223 | 71.75 | | | | |
| D39 | 22 | | 0.062 | 0.078 | 0.8 | 223 | 45.92 | | | | |
| D39 | 23 | | 0.062 | 0.08 | 1.4 | 223 | 158.21 | | | | |
| D39 | 24 | | 0.062 | 0.071 | 0.3 | 223 | 3.63 | | | | |
| D39 | 25 | | 0.062 | 0.076 | 1.4 | 223 | 123.05 | | | | |
| D39 | 26 | | 0.062 | 0.064 | 0.2 | 223 | 0.36 | | | | |
| D39 | 27 | | 0.062 | 0.068 | 0.3 | 223 | 2.42 | | | | |
| D39 | 28 | | 0.062 | 0.066 | 0.3 | 223 | 1.61 | | | | |
| D39 | 29 | | 0.062 | 0.063 | 0.2 | 223 | 0.18 | 88.5 | 69 | 520.8 | 7548 |
| D42 | 30 | | 0.062 | 0.067 | 0.5 | 223 | 5.61 | | | | |
| D42 | 31 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | | | | |
| D42 | 32 | | 0.062 | 0.068 | 0.2 | 223 | 1.08 | | | | |
| D42 | 33 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 34 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 35 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 36 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 37 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 38 | | 0.062 | 0.068 | 0.2 | 223 | 1.08 | | | | |
| D42 | 39 | | 0.062 | 0.072 | 0.3 | 223 | 4.04 | | | | |
| D42 | 40 | | 0.058 | 0.065 | 0.2 | 223 | 1.26 | | | | |
| D42 | 41 | | 0.058 | 0.088 | 0.2 | 223 | 5.38 | | | | |
| D42 | 42 | | 0.058 | 0.065 | 0.2 | 223 | 1.26 | | | | |
| D42 | 43 | | 0.058 | 0.066 | 0.2 | 223 | 1.43 | | | | |
| D42 | 44 | | 0.058 | 0.075 | 0.2 | 223 | 3.05 | | | | |
| D42 | 45 | | 0.058 | 0.13 | 0.2 | 223 | 12.91 | | -19.5 | 43.0 | -2205 |
| D142 | 46 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D142 | 47 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D142 | 48 | | 0.056 | 0.062 | 0.6 | 223 | 9.69 | | | | |
| D142 | 49 | | 0.056 | 0.062 | 0.2 | 223 | 1.08 | | | | |
| D142 | 50 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D142 | 51 | | 0.056 | 0.063 | 0.2 | 223 | 1.26 | | | | |
| D142 | 52 | | 0.081 | 0.09 | 0.1 | 223 | 0.40 | | | | |
| D142 | 53 | | 0.081 | 0.091 | 0.5 | 223 | 11.21 | | | | |
| D142 | 54 | | 0.081 | 0.092 | 0.1 | 223 | 0.49 | | | | |
| D142 | 55 | | 0.081 | 0.089 | 0.1 | 223 | 0.36 | | | | |
| D142 | 56 | | 0.081 | 0.086 | 0.2 | 223 | 0.90 | | | | |
| D142 | 57 | | 0.081 | 0.085 | 0.2 | 223 | 0.72 | | | | |
| D142 | 58 | | 0.081 | 0.087 | 0.2 | 223 | 1.08 | | -19.5 | 27.71 | -1421 |
| D148 | 59 | | 0.081 | 0.086 | 0.1 | 223 | 0.22 | | | | |
| D148 | 60 | | 0.081 | 0.093 | 1.5 | 223 | 121.08 | | | | |
| D148 | 61 | | 0.081 | 0.088 | 1 | 223 | 31.39 | | | | |
| D148 | 62 | | 0.081 | 0.086 | 0.5 | 223 | 5.61 | | | | |
| D148 | 63 | | 0.081 | 0.09 | 0.5 | 223 | 10.09 | | | | |
| D148 | 64 | | 0.081 | 0.086 | 0.7 | 223 | 10.99 | | | | |
| D148 | 65 | | 0.081 | 0.085 | 0.2 | 223 | 0.72 | | | | |
| D148 | 66 | | 0.081 | 0.096 | 1.4 | 223 | 131.84 | | | | |
| D148 | 67 | | 0.058 | 0.068 | 0.1 | 223 | 0.45 | | | | |
| D148 | 68 | | 0.058 | 0.06 | 0.1 | 223 | 0.09 | | -19.5 | 312.47 | -16024 |
| D149 | 69 | | 0.081 | 0.087 | 0.1 | 223 | 0.27 | | | | |
| D149 | 70 | | 0.081 | 0.095 | 0.8 | 223 | 40.18 | | | | |
| D149 | 71 | | 0.081 | 0.086 | 0.3 | 223 | 2.02 | | | | |
| D149 | 72 | | 0.081 | 0.088 | 1.1 | 223 | 37.98 | | | | |
| D149 | 73 | | 0.081 | 0.087 | 0.7 | 223 | 13.18 | | | | |
| D149 | 74 | | 0.058 | 0.061 | 0.1 | 223 | 0.13 | | | | |
| D149 | 75 | | 0.081 | 0.085 | 1 | 223 | 17.94 | | | | |
| D149 | 76 | | 0.081 | 0.09 | 0.9 | 223 | 32.69 | | | | |
| D149 | 77 | | 0.058 | 0.062 | 0.3 | 223 | 1.61 | | | | |
| D149 | 78 | | 0.058 | 0.065 | 0.4 | 223 | 5.02 | | | | |
| D149 | 79 | | 0.058 | 0.064 | 0.4 | 223 | 4.30 | | | | |

Roof bearers and timber material**Instrument MTE: 5527, 5506, 6907****Higher area of contamination than ceiling material wood**

During processing of this material it was observed that *after vacuuming*, the count rate range was similar to that measured when processing the "wood and ceiling material" previously removed from ceilings, however the area of each piece of *bearer* wood that was contaminated was found to be greater. In consideration of the similar typical count rate range, the activity determination derived for the "wood and ceiling material" has been applied to this "roof bearer and timber" material with the exception the fraction of the area factor has been increased to "1" (as in the case adopted for the ventilation duct plasterboard material). The resulting activity therefore has been determined as **116314 Bq** per drum. This is the same classification as that applied to "roof battens and timber" material. The main distinction is that the bearer material is heavier and consists of larger pieces

The above activity level has been applied to the following drums:

- D104** Originated from G12/G13
- D105** Originated from G12/G13
- D106** Originated from G12/G13
- D107** Originated from G12/G13
- D108** Originated from G12/G13
- D109** Originated from G12/G13
- D110** Originated from G12/G13
- D111** Originated from G12/G13
- D112** Originated from G11/G12/G13
- D113** Originated from G11/G12/G13
- D114** Originated from G11
- D115** Originated from G11
- D116** Originated from G11
- D117** Originated from G11
- D118** Originated from G11
- D119** Originated from G11
- D120** Originated from G08 + G11
- D121** Originated from G08
- D122** Originated from G08
- D123** Originated from G11
- D124** Originated from G08 + G11
- D125** Originated from G11
- D126** Originated from G11
- D127** Originated from G11
- D128** Originated from G11
- D129** Originated from G11
- D130** Originated from G11
- D131** Originated from G08 + G11
- D132** Originated from G08 + G11
- D133** Originated from G08 + G11
- D134** Originated from G08 + G11
- D135** Originated from G08 + G11
- D136** From all areas of G08, G11, G12, and G13
- D137** From all areas of G08, G11, G12, and G14
- D138** From all areas of G08, G11, G12, and G15
- D139** From all areas of G08, G11, G12, and G16
- D140** From all areas of G08, G11, G12, and G17
- D141** From all areas of G08, G11, G12, and G18
- D194** Wood, plasterboard etc from main entrance etc

Surface Contamination

Window sill terrazzo stone material

Instrument MTE: 5527

Painted surface masking alpha, mostly soaked into material

| | | | | | | | | | | | | 1cps beta = | | BckGrnd CPS | | 1cps Alpha = | | BckGrnd CPS | | | | | | |
|-----|----------------|---------------|--------------------------|---------------|------------------|----------------|-------------------|---|---|---|---|-------------|----------|----------------|-----|--------------|-----|----------------|--|--|--|--|--|--|
| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contamina ted | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.13 | Bq/cm2 | 3.4 | 0.2 | Bq/cm2 | 0.1 | | | | | | | |
| 1 | 120 | 12 | 1440 | 45 | 5.408 | 0.3 | 0.04 | 0.9 | 51.84 | 7008.768 | 7008.77 | Slate | | | | | | | | | | | | |
| 2 | 110 | 12 | 1320 | 15 | 1.508 | 0.5 | 0.08 | 1 | 105.6 | 1990.56 | 1990.56 | | | | | | | | | | | | | |
| 3 | 120 | 12 | 1440 | 100 | 12.558 | 20 | 3.98 | 0.8 | 4584.96 | 14466.82 | 14466.8 | | | | | | | | | | | | | |
| 4 | 120 | 12 | 1440 | 110 | 13.858 | 5 | 0.98 | 0.8 | 1128.96 | 15964.42 | 15964.4 | | | | | | | | | | | | | |
| 5 | 120 | 12 | 1440 | 20 | 2.158 | 2 | 0.38 | 0.9 | 492.48 | 2796.768 | 2796.77 | | | | | | | | | | | | | |
| 6 | 74 | 12 | 888 | 200 | 25.558 | 20 | 3.98 | 1 | 3534.24 | 22695.5 | 22695.5 | | | | | | | | | | | | | |
| 7 | 120 | 12 | 1440 | 20 | 2.158 | 3 | 0.58 | 1 | 835.2 | 3107.52 | 3107.52 | | | | | | | | | | | | | |
| 8 | 120 | 12 | 1440 | 35 | 4.108 | 10 | 1.98 | 0.6 | 1710.72 | 3549.312 | 3549.31 | | | | | | | | | | | | | |
| 9 | 120 | 12 | 1440 | 35 | 4.108 | 0.5 | 0.08 | 0.7 | 80.64 | 4140.864 | 4140.86 | | | | | | | | | | | | | |
| 10 | 74 | 12 | 888 | 11 | 0.988 | 1.3 | 0.24 | 0.5 | 106.56 | 438.672 | 438.672 | | | | | | | | | | | | | |
| 11 | 20 | 8 | 160 | 7.3 | 0.507 | 0.8 | 0.14 | 0.5 | 11.2 | 40.56 | 40.56 | | | | | | | | | | | | | |
| 1 | 26.5 | 42 | 1113 | 15 | 1.508 | 3 | 0.58 | 0.5 | 322.77 | 839.202 | 839.202 | | | | | | | | | | | | | |
| 2 | 35 | 33 | 1155 | 9 | 0.728 | 0.75 | 0.13 | 0.25 | 37.5375 | 210.21 | 210.21 | | | | | | | | | | | | | |
| 3 | 26 | 29 | 754 | 9 | 0.728 | 1 | 0.18 | 0.25 | 33.93 | 137.228 | 137.228 | | | | | | | | | | | | | |
| 4 | 13 | 18 | 234 | 11 | 0.988 | 3 | 0.58 | 0.25 | 33.93 | 57.798 | 57.798 | | | | | | | | | | | | | |
| 5 | 10 | 18 | 180 | 9 | 0.728 | 0.8 | 0.14 | 0.25 | 6.3 | 32.76 | 32.76 | | | | | | | | | | | | | |
| 6 | 27 | 24 | 648 | 7 | 0.468 | 0.8 | 0.14 | 0.125 | 11.34 | 37.908 | 37.908 | | | | | | | | | | | | | |
| 7 | 20 | 10 | 200 | 18 | 1.898 | 8.2 | 1.62 | 0.5 | 162 | 189.8 | 189.8 | | | | | | | | | | | | | |
| 8 | 36.5 | 40 | 1460 | 12.5 | 1.183 | 3.5 | 0.68 | 0.125 | 124.1 | 215.8975 | 215.898 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 13374.31 | 77920.56 | 77921 | | | | | | | | | | |

Surface contaminated floor render and rubble removed from room 108 (upstairs) and drummed with wall render material from room G12
 Activity determined by applying typical range of counts converted to Bq/cm² as previously determined for wall render on lower floor G12
 Average activity as applied to floor contamination is 8.1 Bq/cm²

Instrument MTE: 5527

Alpha/Beta/gamma response likely from radium

Area of removed floor rubble averaged for each bag as each has similar weights

| Drum No. | Dim. of area removed | cm | cm | cm ² | Ave Conc. | kBq |
|--------------|-------------------------|----|----|-----------------|-----------|-------------------|
| D36 | Total activity of Bag 1 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 2 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 3 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 4 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 5 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 6 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 7 | 60 | 60 | 3600 | 8.1 | 29.16 |
| Total | | | | | | 204.12 kBq |

Old freezer room floor

Activity determined by average count rate (alpha) MTE 5506 Count rate ranged from 2cps to 15 cps, typical average 3 cps = 6 Bq/cm²
 Floor render rubble (screed on top of concrete) removed and bagged prior to placement into a single drum

| | cm | cm | cm ² | Bq/cm ² | | |
|------|-----|-----|-----------------|--------------------|---------------|------------|
| D200 | 250 | 150 | 37500 | 6 | 225.00 | kBq |
| D201 | 250 | 150 | 37500 | 6 | 225.00 | kBq |

Bags containing insulation bats

Dusts and particles from building ceiling

Instrument MTE: 2904

Nb: These items are contaminated, due to their varying size, composition, and material it is not possible to apply surface contamination factors. The material is largely in two forms, roof insulation bats (which are like sponge blocks), and lagging (a cloth type material used to wrap around pipes). Consequently activity measurement is subject to large error

| Drum | B/g ($\mu\text{Sv/hr}$) | Dose rate ($\mu\text{Sv/hr}$) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ ray constant | Drum Activity (kBq) |
|------|------------------------------|--|-----------------|--------------------------------------|---|------------------------|
| D4 | 0.06 | 0.067 | 0.7 | 223 | 15.38 | 65.2 |
| D4 | 0.06 | 0.065 | 1 | 223 | 22.42 | |
| D4 | 0.06 | 0.066 | 0.8 | 223 | 17.22 | |
| D4 | 0.06 | 0.065 | 0.6 | 223 | 8.07 | |
| D4 | 0.06 | 0.064 | 0.3 | 223 | 1.61 | |
| D4 | 0.06 | 0.063 | 0.2 | 223 | 0.54 | 114.2 |
| D5 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | |
| D5 | 0.06 | 0.067 | 1.5 | 223 | 70.63 | |
| D5 | 0.06 | 0.066 | 1.1 | 223 | 32.56 | 215.5 |
| D6 | 0.06 | 0.065 | 0.4 | 223 | 3.59 | |
| D6 | 0.06 | 0.074 | 1.5 | 223 | 141.26 | |
| D6 | 0.06 | 0.067 | 1.5 | 223 | 70.63 | 56.1 |
| D7 | 0.06 | 0.065 | 1 | 223 | 22.42 | |
| D7 | 0.06 | 0.064 | 0.6 | 223 | 6.46 | |
| D7 | 0.06 | 0.064 | 0.5 | 223 | 4.48 | |
| D7 | 0.06 | 0.063 | 1.3 | 223 | 22.74 | 210.4 |
| D8 | 0.06 | 0.073 | 1.6 | 223 | 149.24 | |
| D8 | 0.06 | 0.065 | 1.2 | 223 | 32.29 | |
| D8 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | |
| D8 | 0.06 | 0.064 | 1 | 223 | 17.94 | 248.1 |
| D9 | 0.06 | 0.066 | 1.1 | 223 | 32.56 | |
| D9 | 0.06 | 0.073 | 1.5 | 223 | 131.17 | |
| D9 | 0.06 | 0.068 | 1.5 | 223 | 80.72 | |
| D9 | 0.06 | 0.0651 | 0.4 | 223 | 3.66 | 50.3 |
| D10 | 0.06 | 0.065 | 0.9 | 223 | 18.16 | |
| D10 | 0.06 | 0.065 | 1 | 223 | 22.42 | |
| D10 | 0.06 | 0.066 | 0.6 | 223 | 9.69 | 28.2 |
| D11 | 0.06 | 0.064 | 0.4 | 223 | 2.87 | |
| D11 | 0.06 | 0.065 | 0.8 | 223 | 14.35 | |
| D11 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | 57.7 |
| D155 | 0.056 | 0.06 | 0.1 | 223 | 0.18 | |
| D155 | 0.081 | 0.09 | 0.3 | 223 | 3.63 | |
| D155 | 0.081 | 0.086 | 0.6 | 223 | 8.07 | |
| D155 | 0.081 | 0.088 | 0.4 | 223 | 5.02 | |
| D155 | 0.081 | 0.09 | 0.7 | 223 | 19.78 | 81.4 |
| D155 | 0.081 | 0.094 | 0.6 | 223 | 20.99 | |
| D194 | 0.081 | 0.086 | 0.1 | 223 | 0.22 | |
| D194 | 0.081 | 0.09 | 0.8 | 223 | 25.83 | |
| D194 | 0.081 | 0.09 | 0.4 | 223 | 6.46 | |
| D194 | 0.066 | 0.069 | 0.05 | 223 | 0.03 | |
| D194 | 0.066 | 0.072 | 0.5 | 223 | 6.73 | |
| D194 | 0.079 | 0.0863 | 0.5 | 223 | 8.18 | 175.0 |
| D194 | 0.079 | 0.835 | 0.1 | 223 | 33.90 | |
| D199 | 0.0075 | 0.08 | 0.4 | 223 | 52.02 | |
| D199 | 0.0075 | 0.089 | 0.3 | 223 | 32.89 | |
| D199 | 0.0075 | 0.085 | 0.4 | 223 | 55.61 | 0.0 |
| D199 | 0.0075 | 0.093 | 0.3 | 223 | 34.51 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | 0.0 |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |

Packaged 14/11/17 - no numbers on bags, only 5-6 per drum

1/2 full as of 5/9/18

Drum contents: Metal duct material, plasterboard, dead rats, rat droppings, black dusts

Nb1 Initial assessment of lower floor ventilation duct material indicated a higher range of activity than ceiling material and greater area of contamination

Nb2 **Metal duct** material was monitored in several spots to determine an average count rate for both alpha and beta. Large duct items were cut up to manageable sizes of approximately 40 cm x 30 cm x 15 cm. Calculation of activity determined by applying average count rate for 10 items representative of total drum contents. The Estimated fraction of the area (i.e. 4 sides of a square shaped "box" of the duct material, inside and outside surfaces) contaminated has been determine as "1". Consequently this activity level **125280 Bq** will be applied to all drums containing **metal** duct material.

Nb3 Contaminated **duct plasterboard material** originating from the area where ducts have been removed was found to be over a larger area than when compared with similar material removed from the roof. Consequently the 'contaminated area' factor assigned is "1" for the purposes of determining duct drum activity.

Nb4 As the average activity for similar (ceiling) material was determined at 68472 Bq per drum with the fraction of contaminated area factors ranging from 0.25 to 1, in consideration that the majority of the "duct related material" surface area was more contaminated resulting in the estimated fraction of area contaminated being "1", the resulting activity per drum when this level is applied to the original "ceiling material calculation" data is **116314 Bq**. Consequently this activity level will be applied to all drums containing **duct plasterboard** and associated material.

Nb5 Drum D167 contains metal door frame ex G13, pipes etc from under G12 and G11 determined to be of similar activity as that described in Note 2. above

Nb6 Drum D168 contains metal ventilation material removed from upper floor areas, similar activity as that described in Note 2. above

Nb7 Drum D169 contains contaminated metal pipes etc from under floors G08, G09; and from G01 and G02. The contamination levels were found to be more consistent with the contaminated wood that was also removed from these areas, therefore the activities were deemed to be similar (i.e. 116314 Bq) to the wood.

Nb: Below calculation for metal duct material adopted and modified (estimated fraction of contaminated area) from "Drum calcs wood and ceiling material"

| | | | | | | | | | | | | | 1cps beta | | BckGrnd CPS | | 1cps Alpha | | BckGrnd CPS | |
|-----|-------------|------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|---|--|---------------------------------------|-----------|--------------------|-------------|-----|--------------------|-----|-------------|--|
| No. | Length (cm) | Width (cm) | Depth (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.15 | Bq/cm ² | 3.4 | 0.2 | Bq/cm ² | 0.1 | | |
| 1 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 2 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 3 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 4 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 5 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 6 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 7 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 8 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 9 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 10 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |

D62: **125280**

Nb: The below calculation used for the duct related plasterboard was adopted and modified from the "Drum calcs wood and ceiling material" calculations as the typical count rates were similar, only the estimated fraction of contaminated area factor was increased as the area of contamination on duct related material was greater.

| | | | | | | | | | | | | 1cps beta | | BckGrnd CPS | | 1cps Alpha | | BckGrnd CPS | |
|-----|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|---------------------|---------------------|---------------------------------------|-----------|--------------------|-------------|-----|--------------------|-----|-------------|--|
| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) | Total Activity (Bq) | Highest activity (alpha or beta) (Bq) | 0.15 | Bq/cm ² | 3.4 | 0.2 | Bq/cm ² | 0.1 | | |
| 1 | 80 | 30 | 2400 | 15 | 1.74 | 15 | 2.98 | 1 | 7152 | 4176 | 7152 | | | | | | | | |
| 2 | 14 | 80 | 1120 | 15 | 1.74 | 10 | 1.98 | 1 | 2217.6 | 1948.8 | 2217.6 | | | | | | | | |
| 3 | 80 | 18 | 1440 | 60 | 8.49 | | | 1 | 0 | 12225.6 | 12225.6 | | | | | | | | |
| 4 | 30 | 25 | 750 | 7 | 0.54 | | | 1 | 0 | 405 | 405 | | | | | | | | |
| 5 | 25 | 20 | 500 | 7 | 0.54 | | | 1 | 0 | 270 | 270 | | | | | | | | |
| 6 | 25 | 7 | 175 | 7 | 0.54 | | | 1 | 0 | 94.5 | 94.5 | | | | | | | | |
| 7 | 18 | 65 | 1170 | 25 | 3.24 | | | 1 | 0 | 3790.8 | 3790.8 | | | | | | | | |
| 8 | 28 | 35 | 980 | 7 | 0.54 | | | 1 | 0 | 529.2 | 529.2 | | | | | | | | |
| 9 | 10 | 45 | 450 | 40 | 5.49 | | | 1 | 0 | 2470.5 | 2470.5 | | | | | | | | |
| | 10 | 40 | 400 | 15 | 1.74 | | | 1 | 0 | 696 | 696 | | | | | | | | |
| 105 | 7 | 735 | 15 | 1.74 | | | | 1 | 0 | 1278.9 | 1278.9 | | | | | | | | |
| 18 | 80 | 1440 | 170 | 24.99 | | | | 1 | 0 | 35985.6 | 35985.6 | | | | | | | | |
| 180 | 7 | 1260 | 15 | 1.74 | | | | 1 | 0 | 2192.4 | 2192.4 | | | | | | | | |
| 18 | 80 | 1440 | 7 | 0.54 | | | | 1 | 0 | 777.6 | 777.6 | | | | | | | | |
| 18 | 60 | 1080 | 15 | 1.74 | | | | 1 | 0 | 1879.2 | 1879.2 | | | | | | | | |
| 18 | 70 | 1260 | 40 | 5.49 | | | | 1 | 0 | 6917.4 | 6917.4 | | | | | | | | |
| 18 | 75 | 1350 | 7 | 0.54 | | | | 1 | 0 | 729 | 729 | | | | | | | | |
| 70 | 30 | 2100 | 7 | 0.54 | | | | 1 | 0 | 1134 | 1134 | | | | | | | | |
| 70 | 30 | 2100 | 20 | 2.49 | | | | 1 | 0 | 5229 | 5229 | | | | | | | | |
| 60 | 30 | 1800 | 7 | 0.54 | | | | 1 | 0 | 972 | 972 | | | | | | | | |
| 18 | 80 | 1440 | 50 | 6.99 | | | | 1 | 0 | 10065.6 | 10065.6 | | | | | | | | |
| 60 | 30 | 1800 | 8 | 0.69 | | | | 1 | 0 | 1242 | 1242 | | | | | | | | |
| 7 | 180 | 1260 | 20 | 2.49 | | | | 1 | 0 | 3137.4 | 3137.4 | | | | | | | | |
| 75 | 5.5 | 412.5 | 7 | 0.54 | | | | 1 | 0 | 222.75 | 222.75 | | | | | | | | |
| 70 | 10 | 700 | 8 | 0.69 | | | | 1 | 0 | 483 | 483 | | | | | | | | |
| 10 | 70 | 700 | 10 | 0.99 | | | | 1 | 0 | 693 | 693 | | | | | | | | |
| 10 | 50 | 500 | 7 | 0.54 | | | | 1 | 0 | 270 | 270 | | | | | | | | |
| 65 | 7 | 455 | 8 | 0.69 | | | | 1 | 0 | 313.95 | 313.95 | | | | | | | | |
| 20 | 60 | 1200 | 10 | 0.99 | | | | 1 | 0 | 1188 | 1188 | | | | | | | | |
| 10 | 60 | 600 | 7 | 0.54 | | | | 1 | 0 | 324 | 324 | | | | | | | | |
| 7 | 130 | 910 | 25 | 3.24 | | 7 | 1.38 | 1 | 1255.8 | 2948.4 | 2948.4 | | | | | | | | |
| 7 | 75 | 525 | 25 | 3.24 | | 20 | 3.98 | 1 | 2089.5 | 1701 | 2089.5 | | | | | | | | |
| 10 | 70 | 700 | 7 | 0.54 | | | | 1 | 0 | 378 | 378 | | | | | | | | |
| 5.5 | 60 | 330 | 7 | 0.54 | | | | 1 | 0 | 178.2 | 178.2 | | | | | | | | |
| 7 | 50 | 350 | 7 | 0.54 | | | | 1 | 0 | 189 | 189 | | | | | | | | |
| 7 | 50 | 350 | 15 | 1.74 | | 8 | 1.58 | 1 | 553 | 609 | 609 | | | | | | | | |
| 30 | 30 | 900 | 30 | 3.99 | | 20 | 3.98 | 1 | 3582 | 3591 | 3591 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 1 | 0 | 324 | 324 | | | | | | | | |
| 20 | 30 | 600 | 15 | 1.74 | | 10 | 1.98 | 1 | 1188 | 1044 | 1188 | | | | | | | | |
| 10 | 50 | 500 | 10 | 0.99 | | 1 | 0.18 | 1 | 90 | 495 | 495 | | | | | | | | |
| 10 | 50 | 500 | 15 | 1.74 | | 1 | 0.18 | 1 | 90 | 870 | 870 | | | | | | | | |
| 7 | 30 | 210 | 5 | 0.24 | | 1 | 0.18 | 1 | 37.8 | 50.4 | 50.4 | | | | | | | | |
| 20 | 30 | 600 | 5 | 0.24 | | 1 | 0.18 | 1 | 108 | 144 | 144 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | 0.5 | 0.08 | 1 | 48 | 324 | 324 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 1 | 0 | 324 | 324 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 1 | 0 | 324 | 324 | | | | | | | | |
| 30 | 30 | 900 | 60 | 8.49 | | 25 | 4.98 | 1 | 4482 | 7641 | 7641 | | | | | | | | |
| 10 | 40 | 400 | 7 | 0.54 | | 1 | 0.18 | 1 | 72 | 216 | 216 | | | | | | | | |

| | | | | | | | | | | |
|----|----|-----|----|------|----|------|---|-------|-------|-------|
| 7 | 30 | 210 | 25 | 3.24 | 7 | 1.38 | 1 | 289.8 | 680.4 | 680.4 |
| 7 | 30 | 210 | 7 | 0.54 | | | 1 | 0 | 113.4 | 113.4 |
| 7 | 40 | 280 | 15 | 1.74 | 10 | 1.98 | 1 | 554.4 | 487.2 | 554.4 |
| 20 | 20 | 400 | 6 | 0.39 | | | 1 | 0 | 156 | 156 |

Drum X: 128274

| | | | | | | | | | | |
|-----|-----|-------|-----|-------|-----|------|---|--------|---------|---------|
| 10 | 30 | 300 | 15 | 1.74 | 15 | 2.98 | 1 | 894 | 522 | 894 |
| 10 | 30 | 300 | 120 | 17.49 | 40 | 7.98 | 1 | 2394 | 5247 | 5247 |
| 10 | 30 | 300 | 18 | 2.19 | 2 | 0.38 | 1 | 114 | 657 | 657 |
| 10 | 40 | 400 | 8 | 0.69 | | | 1 | 0 | 276 | 276 |
| 20 | 30 | 600 | 8 | 0.69 | | | 1 | 0 | 414 | 414 |
| 5.5 | 60 | 330 | 8 | 0.69 | 3 | 0.58 | 1 | 191.4 | 227.7 | 227.7 |
| 10 | 60 | 600 | 8 | 0.69 | 1 | 0.18 | 1 | 108 | 414 | 414 |
| 10 | 70 | 700 | 15 | 1.74 | 10 | 1.98 | 1 | 1386 | 1218 | 1386 |
| 7 | 110 | 770 | 10 | 0.99 | 3 | 0.58 | 1 | 446.6 | 762.3 | 762.3 |
| 5.5 | 50 | 275 | 8 | 0.69 | | | 1 | 0 | 189.75 | 189.75 |
| 7 | 50 | 350 | 6 | 0.39 | | | 1 | 0 | 136.5 | 136.5 |
| 7 | 40 | 280 | 50 | 6.99 | 15 | 2.98 | 1 | 834.4 | 1957.2 | 1957.2 |
| 5.5 | 40 | 220 | 7 | 0.54 | | | 1 | 0 | 118.8 | 118.8 |
| 10 | 35 | 350 | 8 | 0.69 | | | 1 | 0 | 241.5 | 241.5 |
| 7 | 35 | 245 | 30 | 3.99 | 10 | 1.98 | 1 | 485.1 | 977.55 | 977.55 |
| 10 | 90 | 900 | 45 | 6.24 | 35 | 6.98 | 1 | 6282 | 5616 | 6282 |
| 10 | 80 | 800 | 15 | 1.74 | 2 | 0.38 | 1 | 304 | 1392 | 1392 |
| 7 | 65 | 455 | 20 | 2.49 | 3 | 0.58 | 1 | 263.9 | 1132.95 | 1132.95 |
| 10 | 80 | 800 | 20 | 2.49 | 1 | 0.18 | 1 | 144 | 1992 | 1992 |
| 10 | 70 | 700 | 15 | 1.74 | 6 | 1.18 | 1 | 826 | 1218 | 1218 |
| 10 | 40 | 400 | 50 | 6.99 | 5 | 0.98 | 1 | 392 | 2796 | 2796 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 1 | 1264 | 3192 | 3192 |
| 10 | 65 | 650 | 10 | 0.99 | 0.5 | 0.08 | 1 | 52 | 643.5 | 643.5 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 1 | 1264 | 3192 | 3192 |
| 7 | 50 | 350 | 15 | 1.74 | 1 | 0.18 | 1 | 63 | 609 | 609 |
| 10 | 70 | 700 | 15 | 1.74 | 7 | 1.38 | 1 | 966 | 1218 | 1218 |
| 5.5 | 80 | 440 | 7 | 0.54 | 2 | 0.38 | 1 | 167.2 | 237.6 | 237.6 |
| 7 | 85 | 595 | 7 | 0.54 | 3 | 0.58 | 1 | 345.1 | 321.3 | 345.1 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 1 | 0.18 | 1 | 74.25 | 1336.5 | 1336.5 |
| 7 | 70 | 490 | 15 | 1.74 | 4 | 0.78 | 1 | 382.2 | 852.6 | 852.6 |
| 5.5 | 50 | 275 | 35 | 4.74 | 5 | 0.98 | 1 | 269.5 | 1303.5 | 1303.5 |
| 5.5 | 50 | 275 | 8 | 0.69 | 1 | 0.18 | 1 | 49.5 | 189.75 | 189.75 |
| 7 | 70 | 490 | 7 | 0.54 | 5 | 0.98 | 1 | 480.2 | 264.6 | 480.2 |
| 7 | 75 | 525 | 7 | 0.54 | 1 | 0.18 | 1 | 94.5 | 283.5 | 283.5 |
| 10 | 60 | 600 | 25 | 3.24 | 1 | 0.18 | 1 | 108 | 1944 | 1944 |
| 5.5 | 50 | 275 | 25 | 3.24 | 8 | 1.58 | 1 | 434.5 | 891 | 891 |
| 10 | 60 | 600 | 25 | 3.24 | 3 | 0.58 | 1 | 348 | 1944 | 1944 |
| 5.5 | 70 | 385 | 12 | 1.29 | 2 | 0.38 | 1 | 146.3 | 496.65 | 496.65 |
| 5 | 60 | 300 | 7 | 0.54 | 0.5 | 0.08 | 1 | 24 | 162 | 162 |
| 5 | 70 | 350 | 7 | 0.54 | 1 | 0.18 | 1 | 63 | 189 | 189 |
| 10 | 60 | 600 | 15 | 1.74 | 2 | 0.38 | 1 | 228 | 1044 | 1044 |
| 10 | 60 | 600 | 8 | 0.69 | 3 | 0.58 | 1 | 348 | 414 | 414 |
| 7 | 80 | 560 | 8 | 0.69 | 1 | 0.18 | 1 | 100.8 | 386.4 | 386.4 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 4 | 0.78 | 1 | 321.75 | 1336.5 | 1336.5 |
| 5.5 | 70 | 385 | 40 | 5.49 | | | 1 | | 2113.65 | 2113.65 |
| 5.5 | 70 | 385 | 25 | 3.24 | 1 | 0.18 | 1 | | 1247.4 | 1247.4 |
| 5.5 | 65 | 357.5 | 20 | 2.49 | 1 | 0.18 | 1 | | 890.175 | 890.175 |
| 5 | 70 | 350 | 25 | 3.24 | 7 | 1.38 | 1 | | 1134 | 1134 |
| 5 | 65 | 325 | 40 | 5.49 | | | 1 | | 1784.25 | 1784.25 |
| 5 | 60 | 300 | 50 | 6.99 | | | 1 | | 2097 | 2097 |
| 5 | 50 | 250 | 8 | 0.69 | | | 1 | | 172.5 | 172.5 |
| 10 | 30 | 300 | 7 | 0.54 | | | 1 | | 162 | 162 |
| 13 | 40 | 520 | 30 | 3.99 | | | 1 | | 2074.8 | 2074.8 |
| 10 | 450 | 4500 | 12 | 1.29 | | | 1 | | 5805 | 5805 |
| 10 | 50 | 500 | 15 | 1.74 | 3 | 0.58 | 1 | | 870 | 870 |
| 10 | 65 | 650 | 10 | 0.99 | | | 1 | | 643.5 | 643.5 |
| 10 | 45 | 450 | 10 | 0.99 | 4 | 0.78 | 1 | | 445.5 | 445.5 |
| 70 | 40 | 2800 | 30 | 3.99 | 20 | 3.98 | 1 | | 11172 | 11172 |
| 70 | 60 | 4200 | 8 | 0.69 | 0.5 | 0.08 | 1 | | 2898 | 2898 |
| 70 | 60 | 4200 | 20 | 2.49 | 10 | 1.98 | 1 | | 10458 | 10458 |
| 10 | 40 | 400 | 15 | 1.74 | 8 | 1.58 | 1 | | 696 | 696 |
| 10 | 50 | 500 | 8 | 0.69 | 1 | 0.18 | 1 | | 345 | 345 |
| 7 | 30 | 210 | 15 | 1.74 | 2 | 0.38 | 1 | | 365.4 | 365.4 |
| 10 | 40 | 400 | 10 | 0.99 | 4 | 0.78 | 1 | | 396 | 396 |
| 7 | 35 | 245 | 10 | 0.99 | 0.5 | 0.08 | 1 | | 242.55 | 242.55 |
| 10 | 40 | 400 | 10 | 0.99 | 2 | 0.38 | 1 | | 396 | 396 |
| 7 | 25 | 175 | 8 | 0.69 | 1 | 0.18 | 1 | | 120.75 | 120.75 |
| 7 | 35 | 245 | 50 | 6.99 | 20 | 3.98 | 1 | | 1712.55 | 1712.55 |
| 7 | 45 | 315 | 10 | 0.99 | 3 | 0.58 | 1 | | 311.85 | 311.85 |
| 5.5 | 30 | 165 | 30 | 3.99 | | | 1 | | 658.35 | 658.35 |
| 7 | 30 | 210 | 8 | 0.69 | 1 | 0.18 | 1 | | 144.9 | 144.9 |
| 10 | 30 | 300 | 10 | 0.99 | 2 | 0.38 | 1 | | 297 | 297 |
| 10 | 25 | 250 | 15 | 1.74 | | | 1 | | 435 | 435 |
| 10 | 40 | 400 | 30 | 3.99 | 4 | 0.78 | 1 | | 1596 | 1596 |
| 4 | 40 | 160 | 15 | 1.74 | 2 | 0.38 | 1 | | 278.4 | 278.4 |
| 10 | 15 | 150 | 8 | 0.69 | 0.5 | 0.08 | 1 | | 103.5 | 103.5 |
| 8 | 36 | 288 | 10 | 0.99 | 3 | 0.58 | 1 | | 285.12 | 285.12 |
| 3 | 30 | 90 | 10 | 0.99 | 8 | 1.58 | 1 | | 89.1 | 89.1 |
| 3 | 13 | 39 | 10 | 0.99 | 5 | 0.98 | 1 | | 38.61 | 38.61 |
| 8 | 10 | 80 | 8 | 0.69 | 0 | | 1 | | 55.2 | 55.2 |
| 3 | 13 | 39 | 15 | 1.74 | 3 | 0.58 | 1 | | 67.86 | 67.86 |
| 10 | 10 | 100 | 8 | 0.69 | 2 | 0.38 | 1 | | 69 | 69 |
| 8 | 20 | 160 | 15 | 1.74 | 5 | 0.98 | 1 | | 278.4 | 278.4 |

Drum Y: 104353

Average activity per drum: 116314 applied to D61

Drums containing metal where
activity of 125.3 kBq has been
assigned:

D62
D63
D94
D95
D96
D101
D102
D103
D143
D144
D146
D167
D168

Drums containing plasterboard etc where
activity of 116.3 kBq has been assigned:

D61
D194

Drums containing metal pipes etc
where activity of 116.3 kBq has been
assigned:

D204 1/2 filled
D169

Metal pipes etc from under G04, G05 etc
Metal pipes etc from under G01, G02, G08 & G09

Surface Contamination measured on given areas of rendered wall to determine "typical" average activity per bag of removed render
Render and rubble

Instrument MTE: 5527

Painted surface masking alpha. Beta/gamma response likely from radium

| Area 1 (bag of render rubble) | | Area 2 (bag of render rubble) | |
|-------------------------------|-----------------------|-------------------------------|-----------------------|
| No. | cps beta | No. | cps beta |
| 1 | 150 | 1 | 45 |
| 2 | 100 | 2 | 25 |
| 3 | 50 | 3 | 40 |
| 4 | 75 | 4 | 40 |
| 5 | 50 | 5 | 60 |
| 6 | 110 | 6 | 30 |
| 7 | 175 | 7 | 60 |
| 8 | 35 | 8 | 30 |
| 9 | 40 | 9 | 220 |
| 10 | 150 | 10 | 90 |
| 11 | 60 | 11 | 70 |
| 12 | 110 | 12 | 50 |
| 13 | 45 | 13 | 100 |
| 14 | 45 | 14 | 30 |
| 15 | 30 | 15 | 90 |
| 16 | 50 | 16 | 60 |
| 17 | 110 | 17 | 25 |
| 18 | 30 | 18 | 20 |
| 19 | 90 | 19 | 100 |
| 20 | 40 | 20 | 40 |
| 21 | 25 | 21 | 60 |
| 22 | 100 | 22 | 60 |
| 23 | 70 | 23 | 45 |
| 24 | 90 | 24 | 50 |
| 25 | 40 | 25 | 50 |
| 26 | 130 | 26 | 40 |
| 27 | 100 | 27 | 60 |
| 28 | 45 | 28 | 50 |
| 29 | 50 | 29 | 50 |
| 30 | 60 | | |
| 31 | 50 | | |
| 32 | 200 | | |
| 33 | 200 | | |
| 34 | 90 | | |
| 35 | 40 | | |
| 36 | 25 | | |
| 37 | 60 | | |
| 38 | 45 | | |
| 39 | 80 | | |
| 40 | 25 | | |
| 41 | 20 | | |
| 42 | 40 | | |
| 43 | 30 | | |
| 44 | 40 | | |
| 45 | 60 | | |
| 46 | 60 | | |
| 47 | 45 | | |
| 48 | 45 | | |
| 49 | 70 | | |
| 50 | 30 | | |
| 51 | 30 | | |
| 52 | 25 | | |
| 53 | 25 | | |
| 54 | 20 | | |
| 55 | 40 | | |
| 56 | 50 | | |
| | <u>3700</u> | | <u>1690</u> |
| Ave cps: | 66.1 | Ave cps: | 58.3 |
| | cm² | | cm² |
| Area for bag 1: | 49 | Points | 56 |
| | | | 2744 |

| | | | |
|------------------------------------|------|--------------------|------|
| Area of bag 2: | 49 | 29 | 1421 |
| Average of bag 1 + bag 2 contents: | 62.2 | cps | |
| Instrument beta response 1cps = | 0.13 | Bq/cm ² | |
| Average activity concentration = | 8.1 | Bq/cm ² | |
| Total activity of Bag 1: | 22 | kBq | |
| Total activity of Bag 2: | 11 | kBq | |

| Drum No. | Area of detector x No. of poi | cm ² | Points | cm ² | Ave Conc. | kBq |
|-----------------------|----------------------------------|-----------------|--------|-----------------|-----------|---------------|
| D34 | Total activity of Bag 1: | 49 | 56 | 2744 | 8.1 | 22.23 |
| D34 | Total activity of Bag 2: | 49 | 29 | 1421 | 8.1 | 11.51 |
| | Dim. of area removed | cm | cm | cm ² | Ave Conc. | kBq |
| D34 | Total activity of Bag 3: | 80 | 40 | 3200 | 8.1 | 31.61 |
| | | 26 | 27 | 702 | | |
| D34 | Total activity of Bag 4: | 100 | 115 | 11500 | 8.1 | 93.15 |
| D34 | Total activity of Bag 5: | 80 | 130 | 10400 | 8.1 | 84.24 |
| D34 | Total activity of Bag 6: | 25 | 130 | 3250 | 8.1 | 47.39 |
| | | 20 | 130 | 2600 | | |
| D34 | Total activity of Bag 7: | 50 | 85 | 4250 | 8.1 | 48.20 |
| | | 20 | 85 | 1700 | | |
| D34 | Total activity of Bag 8: | 80 | 85 | 6800 | 8.1 | 55.08 |
| D34 | Total activity of Bag 9: | 80 | 85 | 6800 | 8.1 | 55.08 |
| Total activity (kBq): | | | | | | 448.47 |
| D35 | Total activity of Bag 10: | 50 | 60 | 3000 | 8.1 | 24.30 |
| D35 | Total activity of Bag 11: | 30 | 40 | 1200 | 8.1 | 9.72 |
| D35 | Total activity of Bag 12: | 60 | 80 | 4800 | 8.1 | 53.46 |
| | | 20 | 90 | 1800 | | |
| D35 | Total activity of Bag 13: | 80 | 100 | 8000 | 8.1 | 64.80 |
| D35 | Total activity of Bag 14: | 470 | 10 | 4700 | 8.1 | 38.07 |
| D35 | Total activity of Bag 15: | 20 | 10 | 200 | 8.1 | 1.62 |
| D35 | Total activity of Bag 16: | 10 | 35 | 350 | 8.1 | 2.84 |
| D35 | Total activity of Bag 17: | 30 | 30 | 900 | 8.1 | 7.29 |
| D35 | Total activity of Bag 18: | 40 | 10 | 400 | 8.1 | 3.24 |
| Total activity (kBq): | | | | | | 205.34 |
| D36 | Total activity of Bag 19: | 110 | 40 | 4400 | 8.1 | 35.64 |
| D36 | Total activity of Bag 20: | 40 | 55 | 2200 | 8.1 | 17.82 |

| | | | | | | |
|-----------------------|---------------------------|----|----|------|-----|--------------|
| D36 | Total activity of Bag 21: | 40 | 40 | 1600 | 8.1 | 12.96 |
| D36 | Total activity of Bag 22: | 30 | 75 | 2250 | 8.1 | 18.23 |
| D36 | Total activity of Bag 23: | 20 | 10 | 200 | 8.1 | 1.62 |
| Total activity (kBq): | | | | | | 86.27 |

Bags containing general spoft waste

Tyvek suits, gloves, clothes, tape, plastic sheeting etc

Instrument MTE: 2904

| Drum No. | Bag No. | Dose rate at contact (μSv/hr) | B/g (μSv/hr) | Dose rate (μSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ ray constant | Gross Drum Mass (kg) * | Net Drum Mass (kg) * | Activity (kBq) | Est. Bq/g |
|----------|---------|-------------------------------|--------------|------------------------|--------------|-------------------------|---|------------------------|----------------------|----------------|-----------|
| D145 | 1 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D145 | 2 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D145 | 3 | | 0.056 | 0.063 | 0.3 | 223 | 2.83 | | | | |
| D145 | 4 | | 0.056 | 0.062 | 0.7 | 223 | 13.18 | | | | |
| D145 | 5 | | 0.056 | 0.062 | 0.5 | 223 | 6.73 | | | | |
| D145 | 6 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D145 | 7 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D145 | 8 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D145 | 9 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | -19.5 | 23.8 | -1221 |
| | 10 | | 0.081 | 0.086 | 0.1 | 223 | 0.22 | | | | |
| | 11 | | 0.081 | 0.087 | 0.5 | 223 | 6.73 | | | | |
| | 12 | | 0.081 | 0.088 | 0.5 | 223 | 7.85 | | | | |
| | 13 | | 0.081 | 0.087 | 0.3 | 223 | 2.42 | | | | |
| | 14 | | 0.081 | 0.088 | 0.2 | 223 | 1.26 | | | | |
| | 15 | | | | | 223 | 0.00 | | | | |
| | 16 | | | | | 223 | 0.00 | | | | |
| | 17 | | | | | 223 | 0.00 | | | | |
| | 18 | | | | | 223 | 0.00 | | | | |
| | 19 | | | | | 223 | 0.00 | | | | |
| | 20 | | | | | 223 | 0.00 | | | | |
| | 21 | | | | | 223 | 0.00 | | | | |
| | 22 | | | | | 223 | 0.00 | | | | |
| | 23 | | | | | 223 | 0.00 | | | | |
| | 24 | | | | | 223 | 0.00 | | | | |
| | 25 | | | | | 223 | 0.00 | | | | |
| | 26 | | | | | 223 | 0.00 | | -19.5 | 18.5 | -947 |
| | 27 | | | | | 223 | 0.00 | | | | |
| | 28 | | | | | 223 | 0.00 | | | | |
| | 29 | | | | | 223 | 0.00 | | | | |
| | 30 | | | | | 223 | 0.00 | | | | |
| | 31 | | | | | 223 | 0.00 | | | | |
| | 32 | | | | | 223 | 0.00 | | | | |
| | 33 | | | | | 223 | 0.00 | | | | |
| | 34 | | | | | 223 | 0.00 | | | | |
| | 35 | | | | | 223 | 0.00 | | | | |
| | 36 | | | | | 223 | 0.00 | | | | |
| | 37 | | | | | 223 | 0.00 | | | | |
| | 38 | | | | | 223 | 0.00 | | | | |
| | 39 | | | | | 223 | 0.00 | | | | |
| | 40 | | | | | 223 | 0.00 | | | | |
| | 41 | | | | | 223 | 0.00 | | | | |
| | 42 | | | | | 223 | 0.00 | | -19.5 | 0.0 | 0 |
| | 43 | | | | | 223 | 0.00 | | | | |
| | 44 | | | | | 223 | 0.00 | | | | |
| | 45 | | | | | 223 | 0.00 | | | | |
| | 46 | | | | | 223 | 0.00 | | | | |
| | 47 | | | | | 223 | 0.00 | | | | |
| | 48 | | | | | 223 | 0.00 | | | | |
| | 49 | | | | | 223 | 0.00 | | | | |
| | 50 | | | | | 223 | 0.00 | | | | |
| | 51 | | | | | 223 | 0.00 | | | | |
| | 52 | | | | | 223 | 0.00 | | | | |
| | 53 | | | | | 223 | 0.00 | | | | |
| | 54 | | | | | 223 | 0.00 | | | | |

14/11/2017

Bags containing general contaminated rubble mixed with soil etc from under floor G12
Instrument MTE: 2904

*Measurements conducted to determine typical estimated activity range per drum for application on future similar material from under floors to enable bulk excavation and drumming.
Calibration factor derived from instrument response against several known specific activity samples of radium scale used to obtain a response graph in terms of cps/kBq.

10 Bq/g 10000 Bq
10000 Bq/kg 10 kBq
10 kBq/kg 10 kBq

* 400 cps net = 10000 Bq (10kBq) 1 25 0.025

600 cps Gross = 10000 Bq

Background with Na-I: 200 cps (SQRT 200 = 14.14 * 2.33 = 32.6, therefore critical limit = 200 + 33 = 232 cps)

Drums graded by count rate into categories of:

| Drum Prefix | Count rate range | Category |
|-------------|------------------|---------------------------------|
| DW | 232 > 300cps | Low level |
| DX | 300 > 600 cps | Low level up to 10 000 Bq |
| DY | 600 > 1200 cps | Medium level 10 000 - 25 000 Bq |
| DZ | > 1200 cps | High level > 25 000 Bq |

Drum Description

DW1 Rubble, top soil and initial scrapings from under G12

DW2 Rubble, top soil and initial scrapings from under G12

DW3 Soil from under G12 ("hot spots" down to 500 mm)

| Dru m No. | Contents Description | Bag No. | Bag Mass (kg) * | cps 2" Na I | B/g (µSv/hr) | B/g cps 2" NaI | Dose rate (µSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ ray constant | Calculated activity (kBq) using radium scale cps/kBq calc with B/g of "x" cps | Gross Drum Mass (kg) * | Net Drum Mass (kg) * | Activity (kBq) | Est. Bq/g |
|--|--|---------|--------------------|----------------|-----------------|-------------------|------------------------------|-----------------|-------------------------------|--|---|---------------------------|-------------------------|----------------|-----------|
| DW1 | Rubble, top soil and initial scrapings from under G12 | 1 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 2 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 3 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 4 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 5 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 6 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 7 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 8 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 9 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 10 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 11 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 12 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 13 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 14 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 15 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 16 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 17 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 18 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 19 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 20 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 21 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 22 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 23 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 24 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 25 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 26 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 27 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 28 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 29 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 30 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 31 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 32 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 33 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 34 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 35 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 36 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 37 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 38 | | 200 | 0.057 | 200 | | | 223 | 0.00 | 0.00 | | 188.50 | 169 | 92.5 |
| No DW1 has about 570 cps inside the drum with a range of 370 - 440 cps against a background of 270 cps | | | | | | | | | | | | | | | |

| | | |
|----------|-------|--------------|
| Drum DW1 | | |
| Location | cps | BG 169 cps |
| Top drum | 210 | (using SPA3) |
| Side 1 | 280 | |
| Side 2 | 210 | |
| Side 3 | 192 | |
| Side 4 | 200 | |
| Total | 1092 | |
| Average | 218.4 | |

cps @ 50 cm
230 cps ???

| | | | | | | | | | | | | | | | |
|-----|--|----|--|-----|-------|-----|--|--|-----|------|------|--------|-----|------|---------|
| DW2 | Rubble, top soil and initial scrapings from under G12 | 1 | | 200 | 0.058 | 169 | | | 223 | 0.00 | 0.78 | | | | #DIV/0! |
| DW2 | | 2 | | 232 | 0.058 | 169 | | | 223 | 0.00 | 1.58 | | | | #DIV/0! |
| DW2 | | 3 | | 212 | 0.058 | 169 | | | 223 | 0.00 | 1.08 | | | | #DIV/0! |
| DW2 | | 4 | | 244 | 0.058 | 169 | | | 223 | 0.00 | 1.88 | | | | #DIV/0! |
| DW2 | | 5 | | 235 | 0.058 | 169 | | | 223 | 0.00 | 1.65 | | | | #DIV/0! |
| DW2 | | 6 | | 223 | 0.058 | 169 | | | 223 | 0.00 | 1.35 | | | | #DIV/0! |
| DW2 | | 7 | | 224 | 0.058 | 169 | | | 223 | 0.00 | 1.38 | | | | #DIV/0! |
| DW2 | | 8 | | 230 | 0.057 | 169 | | | 223 | 0.00 | 1.53 | | | | #DIV/0! |
| DW2 | | 9 | | 253 | 0.057 | 169 | | | 223 | 0.00 | 2.10 | | | | #DIV/0! |
| DW2 | | 10 | | 241 | 0.057 | 169 | | | 223 | 0.00 | 1.80 | | | | #DIV/0! |
| DW2 | | 11 | | 217 | 0.057 | 169 | | | 223 | 0.00 | 1.20 | | | | #DIV/0! |
| DW2 | | 12 | | 213 | 0.057 | 169 | | | 223 | 0.00 | 1.10 | | | | #DIV/0! |
| DW2 | | 13 | | 225 | 0.057 | 169 | | | 223 | 0.00 | 1.40 | | | | #DIV/0! |
| DW2 | | 14 | | 269 | 0.057 | 169 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW2 | | 15 | | 243 | 0.057 | 169 | | | 223 | 0.00 | 1.85 | | | | #DIV/0! |
| DW2 | | 16 | | 258 | 0.057 | 169 | | | 223 | 0.00 | 2.23 | | | | #DIV/0! |
| DW2 | | 17 | | 219 | 0.057 | 169 | | | 223 | 0.00 | 1.25 | | | | #DIV/0! |
| DW2 | | 18 | | 240 | 0.057 | 169 | | | 223 | 0.00 | 1.78 | | | | #DIV/0! |
| DW2 | | 19 | | 229 | 0.057 | 169 | | | 223 | 0.00 | 1.50 | | | | #DIV/0! |
| DW2 | | 20 | | 212 | 0.057 | 169 | | | 223 | 0.00 | 1.08 | | | | #DIV/0! |
| DW2 | | 21 | | 216 | 0.057 | 169 | | | 223 | 0.00 | 1.18 | | | | #DIV/0! |
| DW2 | | 22 | | 217 | 0.057 | 169 | | | 223 | 0.00 | 1.20 | | | | #DIV/0! |
| DW2 | | 23 | | 252 | 0.057 | 169 | | | 223 | 0.00 | 2.08 | | | | #DIV/0! |
| DW2 | | 24 | | 223 | 0.057 | 169 | | | 223 | 0.00 | 1.35 | | | | #DIV/0! |
| DW2 | | 25 | | 227 | 0.057 | 169 | | | 223 | 0.00 | 1.45 | | | | #DIV/0! |
| DW2 | | 26 | | 253 | 0.057 | 169 | | | 223 | 0.00 | 2.10 | | | | #DIV/0! |
| DW2 | | 27 | | 265 | 0.057 | 169 | | | 223 | 0.00 | 2.40 | | | | #DIV/0! |
| DW2 | | 28 | | 261 | 0.057 | 169 | | | 223 | 0.00 | 2.30 | | | | #DIV/0! |
| DW2 | | 29 | | 253 | 0.057 | 169 | | | 223 | 0.00 | 2.10 | | | | #DIV/0! |
| DW2 | | 30 | | 271 | 0.057 | 169 | | | 223 | 0.00 | 2.55 | | | | #DIV/0! |
| DW2 | | 31 | | 234 | 0.057 | 169 | | | 223 | 0.00 | 1.63 | | | | #DIV/0! |
| DW2 | | 32 | | 300 | 0.057 | 169 | | | 223 | 0.00 | 3.28 | | | | #DIV/0! |
| DW2 | | 33 | | 280 | 0.057 | 169 | | | 223 | 0.00 | 2.78 | | | | #DIV/0! |
| | | | | | | | | | | | | 184.50 | 165 | 57.4 | 348 |

| | | |
|---------------------|-------|------------------------|
| Drum DW2 BG 169 cps | | |
| Location | cps | @ contact (using SPA3) |
| Top drum | 245 | |
| Side 1 | 209 | |
| Side 2 | 212 | |
| Side 3 | 220 | |
| Side 4 | 230 | |
| Total | 1116 | |
| Average | 223.2 | |

Average cps @ 50 cm
200 cps ???

| | | | | | | | | | | | | | | | |
|-----|--|----|--|-----|-------|-----|--|--|-----|------|-------|--|--|--|---------|
| DW3 | Soil from under G12 ("hot spots" down to 500 mm) | 1 | | 190 | 0.058 | 169 | | | 223 | 0.00 | 0.53 | | | | #DIV/0! |
| DW3 | | 2 | | 264 | 0.058 | 169 | | | 223 | 0.00 | 2.38 | | | | #DIV/0! |
| DW3 | | 3 | | 200 | 0.058 | 169 | | | 223 | 0.00 | 0.78 | | | | #DIV/0! |
| DW3 | | 4 | | 175 | 0.058 | 169 | | | 223 | 0.00 | 0.15 | | | | #DIV/0! |
| DW3 | | 5 | | 255 | 0.058 | 169 | | | 223 | 0.00 | 2.15 | | | | #DIV/0! |
| DW3 | | 6 | | 280 | 0.058 | 169 | | | 223 | 0.00 | 2.78 | | | | #DIV/0! |
| DW3 | | 7 | | 204 | 0.058 | 169 | | | 223 | 0.00 | 0.88 | | | | #DIV/0! |
| DW3 | | 8 | | 255 | 0.057 | 169 | | | 223 | 0.00 | 2.15 | | | | #DIV/0! |
| DW3 | | 9 | | 230 | 0.057 | 169 | | | 223 | 0.00 | 1.53 | | | | #DIV/0! |
| DW3 | | 10 | | 170 | 0.057 | 169 | | | 223 | 0.00 | 0.03 | | | | #DIV/0! |
| DW3 | | 11 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 12 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 13 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 14 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 15 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 16 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 17 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 18 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 19 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |

| | | | | | | | | | | | | |
|-----|--|--|--|--|--|--|--|--|-----|------|------|--|
| DZ1 | | | | | | | | | 223 | 0.00 | 0.00 | |
| DZ1 | | | | | | | | | 223 | 0.00 | 0.00 | |
| DZ1 | | | | | | | | | 223 | 0.00 | 0.00 | |
| DZ1 | | | | | | | | | 223 | 0.00 | 0.00 | |

Vacuum cleaner bags

Instrument MTE: 2904

| | Drum No. | Bag No. | B/g (μSv/hr) | Dose rate (μSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ | kg | g | Est. Bq/g |
|---|----------|---------|--------------|------------------------|--------------|-------------------------|--|------|------|-----------|
| 1 | D40 | 1 | 0.064 | 0.07 | 0.5 | 223 | 6.7 | 2 | 2000 | 3.4 |
| | D40 | 2 | 0.064 | 0.08 | 0.5 | 223 | 17.9 | 2.4 | 2400 | 7.5 |
| | D40 | 3 | 0.064 | 0.07 | 0.3 | 223 | 2.4 | 1.1 | 1100 | 2.2 |
| | D40 | 4 | 0.064 | 0.083 | 0.7 | 223 | 41.7 | 2.5 | 2500 | 16.7 |
| | D40 | 5 | 0.064 | 0.087 | 0.7 | 223 | 50.5 | 1.5 | 1500 | 33.7 |
| | D40 | 6 | 0.064 | 0.071 | 0.7 | 223 | 15.4 | 2.3 | 2300 | 6.7 |
| | D40 | 7 | 0.064 | 0.072 | 0.7 | 223 | 17.6 | 1.8 | 1800 | 9.8 |
| | D40 | 8 | 0.064 | 0.072 | 0.6 | 223 | 12.9 | 1.8 | 1800 | 7.2 |
| | D40 | 9 | 0.064 | 0.078 | 0.7 | 223 | 30.8 | 3.1 | 3100 | 9.9 |
| | D40 | 10 | 0.064 | 0.07 | 0.7 | 223 | 13.2 | 2.3 | 2300 | 5.7 |
| | D40 | 11 | 0.064 | 0.075 | 0.7 | 223 | 24.2 | 0.75 | 750 | 32.2 |
| | D40 | 12 | 0.064 | 0.079 | 0.9 | 223 | 54.5 | 1.6 | 1600 | 34.1 |
| | D40 | 13 | 0.064 | 0.082 | 0.9 | 223 | 65.4 | 1.7 | 1700 | 38.5 |
| | D40 | 14 | 0.064 | 0.072 | 0.7 | 223 | 17.6 | 1.2 | 1200 | 14.6 |
| | D40 | 15 | 0.062 | 0.083 | 1.3 | 223 | 159.1 | 2.1 | 2100 | 75.8 |
| | D40 | 16 | 0.062 | 0.076 | 1 | 223 | 62.8 | 1.5 | 1500 | 41.9 |
| | D40 | 17 | 0.062 | 0.076 | 0.9 | 223 | 50.9 | 1.2 | 1200 | 42.4 |
| | D40 | 18 | 0.062 | 0.083 | 0.7 | 223 | 46.1 | 1.7 | 1700 | 27.1 |
| | D40 | 19 | 0.062 | 0.063 | 0.2 | 223 | 0.2 | 2.9 | 2900 | 0.1 |
| | D40 | 20 | 0.062 | 0.072 | 0.7 | 223 | 22.0 | 1.6 | 1600 | 13.7 |
| | D40 | 21 | 0.062 | 0.071 | 0.7 | 223 | 19.8 | 1.6 | 1600 | 12.4 |
| | D40 | 22 | 0.062 | 0.070 | 0.7 | 223 | 17.6 | 1.5 | 1500 | 11.7 |
| | D40 | 23 | 0.062 | 0.067 | 0.6 | 223 | 8.1 | 0.9 | 900 | 9.0 |
| | D40 | 24 | 0.062 | 0.070 | 0.6 | 223 | 12.9 | 2.5 | 2500 | 5.2 |
| | D40 | 25 | 0.062 | 0.080 | 0.8 | 223 | 51.7 | 3.7 | 3700 | 14.0 |
| | D40 | 26 | 0.062 | 0.071 | 0.8 | 223 | 25.8 | 1.4 | 1400 | 18.4 |
| | D40 | 27 | 0.062 | 0.068 | 0.6 | 223 | 9.7 | 2.8 | 2800 | 3.5 |
| | D40 | 28 | 0.062 | 0.074 | 0.4 | 223 | 8.6 | 3.2 | 3200 | 2.7 |
| | D40 | 29 | 0.062 | 0.075 | 0.4 | 223 | 9.3 | 3.9 | 3900 | 2.4 |
| | D40 | 30 | 0.062 | 0.073 | 0.5 | 223 | 12.3 | 1.4 | 1400 | 8.8 |
| | D40 | 31 | 0.062 | 0.075 | 0.4 | 223 | 9.3 | 1.5 | 1500 | 6.2 |
| | D40 | 32 | 0.062 | 0.069 | 0.7 | 223 | 15.4 | 2.2 | 2200 | 7.0 |
| | D40 | 33 | 0.062 | 0.072 | 1 | 223 | 44.8 | 4 | 4000 | 11.2 |
| | D40 | 34 | 0.062 | 0.072 | 0.5 | 223 | 11.2 | 3 | 3000 | 3.7 |
| 2 | D41 | 35 | 0.062 | 0.071 | 0.8 | 223 | 25.8 | 3 | 3000 | 8.6 |
| | D41 | 36 | 0.062 | 0.071 | 0.3 | 223 | 3.6 | 1.9 | 1900 | 1.9 |
| | D41 | 37 | 0.062 | 0.073 | 0.8 | 223 | 31.6 | 2.9 | 2900 | 10.9 |
| | D41 | 38 | 0.062 | 0.069 | 0.7 | 223 | 15.4 | 4.5 | 4500 | 3.4 |
| | D41 | 39 | 0.062 | 0.071 | 0.9 | 223 | 32.7 | 3.2 | 3200 | 10.2 |
| | D41 | 40 | 0.062 | 0.071 | 0.6 | 223 | 14.5 | 3 | 3000 | 4.8 |
| | D41 | 41 | 0.062 | 0.072 | 0.6 | 223 | 16.1 | 2.9 | 2900 | 5.6 |
| | D41 | 42 | 0.062 | 0.071 | 0.6 | 223 | 14.5 | 3 | 3000 | 4.8 |
| | D41 | 43 | 0.062 | 0.074 | 0.7 | 223 | 26.4 | 2.3 | 2300 | 11.5 |
| | D41 | 44 | 0.062 | 0.074 | 0.8 | 223 | 34.4 | 2.2 | 2200 | 15.7 |
| | D41 | 45 | 0.062 | 0.068 | 0.4 | 223 | 4.3 | 1.7 | 1700 | 2.5 |
| | D41 | 46 | 0.062 | 0.07 | 0.9 | 223 | 29.1 | 3.8 | 3800 | 7.6 |
| | D41 | 47 | 0.062 | 0.068 | 0.3 | 223 | 2.4 | 3.6 | 3600 | 0.7 |
| | D41 | 48 | 0.062 | 0.068 | 0.9 | 223 | 21.8 | 2.8 | 2800 | 7.8 |
| | D41 | 49 | 0.062 | 0.069 | 0.6 | 223 | 11.3 | 4.5 | 4500 | 2.5 |
| | D41 | 50 | 0.062 | 0.07 | 0.6 | 223 | 12.9 | 3 | 3000 | 4.3 |
| | D41 | 51 | 0.062 | 0.068 | 0.4 | 223 | 4.3 | 3 | 3000 | 1.4 |
| | D41 | 52 | 0.062 | 0.07 | 0.9 | 223 | 29.1 | 2.2 | 2200 | 13.2 |
| | D41 | 53 | 0.062 | 0.069 | 0.9 | 223 | 25.4 | 1.7 | 1700 | 15.0 |
| | D41 | 54 | 0.062 | 0.069 | 0.4 | 223 | 5.0 | 1.5 | 1500 | 3.3 |
| | D41 | 55 | 0.058 | 0.067 | 0.2 | 223 | 1.6 | 3.1 | 3100 | 0.5 |
| | D41 | 56 | 0.058 | 0.072 | 1 | 223 | 62.8 | 2.1 | 2100 | 29.9 |
| | D41 | 57 | 0.058 | 0.067 | 0.4 | 223 | 6.5 | 2 | 2000 | 3.2 |
| | D41 | 58 | 0.058 | 0.067 | 0.5 | 223 | 10.1 | 2.5 | 2500 | 4.0 |
| | D41 | 59 | 0.058 | 0.071 | 0.2 | 223 | 2.3 | 1.1 | 1100 | 2.1 |
| | D41 | 60 | 0.058 | 0.071 | 0.3 | 223 | 5.2 | 3.5 | 3500 | 1.5 |
| | D41 | 61 | 0.058 | 0.068 | 0.3 | 223 | 4.0 | 1.3 | 1300 | 3.1 |
| | D41 | 62 | 0.058 | 0.064 | 0.2 | 223 | 1.1 | 1.5 | 1500 | 0.7 |
| | D41 | 63 | 0.058 | 0.072 | 0.4 | 223 | 10.0 | 2.9 | 2900 | 3.5 |
| | D41 | 64 | 0.058 | 0.07 | 0.1 | 223 | 0.5 | 1.8 | 1800 | 0.3 |
| | D41 | 65 | 0.058 | 0.065 | 0.2 | 223 | 1.3 | 1.6 | 1600 | 0.8 |
| | D41 | 66 | 0.058 | 0.072 | 0.3 | 223 | 5.7 | 0.6 | 600 | 9.4 |
| | D41 | 67 | 0.058 | 0.065 | 0.2 | 223 | 1.3 | 3.1 | 3100 | 0.4 |
| | D41 | 68 | 0.058 | 0.072 | 0.3 | 223 | 5.7 | 2.4 | 2400 | 2.4 |
| 1 | D100 | 69 | 0.056 | 0.061 | 0.6 | 223 | 8.1 | 3.1 | 3100 | 2.6 |
| | D100 | 70 | 0.056 | 0.061 | 0.6 | 223 | 8.1 | 1.5 | 1500 | 5.4 |
| | D100 | 71 | 0.056 | 0.06 | 1.1 | 223 | 21.7 | 2.1 | 2100 | 10.3 |
| | D100 | 72 | 0.056 | 0.062 | 0.3 | 223 | 2.4 | 2.6 | 2600 | 0.9 |
| | D100 | 73 | 0.056 | 0.063 | 1 | 223 | 31.4 | 1.5 | 1500 | 20.9 |
| | D100 | 74 | 0.056 | 0.063 | 0.6 | 223 | 11.3 | 1.7 | 1700 | 6.6 |
| | D100 | 75 | 0.056 | 0.063 | 0.5 | 223 | 7.8 | 0.78 | 780 | 10.1 |
| | D100 | 76 | 0.056 | 0.063 | 0.6 | 223 | 11.3 | 0.8 | 800 | 14.1 |
| | D100 | 77 | 0.056 | 0.06 | 0.2 | 223 | 0.7 | 0.6 | 600 | 1.2 |
| | D100 | 78 | 0.056 | 0.06 | 0.8 | 223 | 11.5 | 1.1 | 1100 | 10.4 |
| | D100 | 79 | 0.056 | 0.062 | 0.5 | 223 | 6.7 | 1.3 | 1300 | 5.2 |
| | D100 | 80 | 0.056 | 0.071 | 1.6 | 223 | 172.2 | 1.8 | 1800 | 95.7 |
| | D100 | 81 | 0.056 | 0.063 | 0.8 | 223 | 20.1 | 2.8 | 2800 | 7.2 |
| | D100 | 82 | 0.056 | 0.061 | 1.2 | 223 | 32.3 | 1.4 | 1400 | 23.1 |
| | D100 | 83 | 0.056 | 0.06 | 1.1 | 223 | 21.7 | 1 | 1000 | 21.7 |
| | D100 | 84 | 0.056 | 0.062 | 0.6 | 223 | 9.7 | 1.2 | 1200 | 8.1 |
| | D100 | 85 | 0.056 | 0.063 | 0.6 | 223 | 11.3 | 1.1 | 1100 | 10.3 |
| | D100 | 86 | 0.056 | 0.06 | 0.8 | 223 | 11.5 | 1.9 | 1900 | 6.0 |
| | D100 | 87 | 0.056 | 0.065 | 1.6 | 223 | 103.3 | 2 | 2000 | 51.7 |

70.65 kg

| | | |
|---|-------|---------|
| Total weight Drum D40 (Kg) No's. 1 to 34: | 70.7 | |
| Total activity (kBq) No.s 1 to 34: | 968 | |
| Average activity (kBq) per bag: | 28 | >10kBq |
| Average Bq/g: | 13.71 | <10Bq/g |

86.2 kg

| | | |
|--|------|---------|
| Total weight Drum D41 (Kg) No's. 35 to 68: | 86.2 | |
| Total activity (kBq) No.s 35 to 68: | 479 | |
| Average activity (kBq) per bag: | 14 | >10kBq |
| Average Bq/g: | 5.55 | <10Bq/g |

| | | | | | | | | | | |
|----|------|-----|-------|-------|------|-----|-------|------|------|---------|
| 20 | D100 | 88 | 0.056 | 0.064 | 1.6 | 223 | 91.8 | 1.6 | 1600 | 57.4 |
| 21 | D100 | 89 | 0.056 | 0.06 | 1.4 | 223 | 35.2 | 2.2 | 2200 | 16.0 |
| 22 | D100 | 90 | 0.056 | 0.061 | 1.3 | 223 | 37.9 | 1.4 | 1400 | 27.1 |
| 23 | D100 | 91 | 0.056 | 0.063 | 0.8 | 223 | 20.1 | 1.7 | 1700 | 11.8 |
| 24 | D100 | 92 | 0.056 | 0.063 | 0.6 | 223 | 11.3 | 1.1 | 1100 | 10.3 |
| 25 | D100 | 93 | 0.056 | 0.061 | 1 | 223 | 22.4 | 1.6 | 1600 | 14.0 |
| 26 | D100 | 94 | 0.056 | 0.07 | 1.6 | 223 | 160.7 | 1.4 | 1400 | 114.8 |
| 27 | D100 | 95 | 0.056 | 0.061 | 0.6 | 223 | 8.1 | 2 | 2000 | 4.0 |
| 28 | D100 | 96 | 0.056 | 0.062 | 0.4 | 223 | 4.3 | 1.5 | 1500 | 2.9 |
| 29 | D100 | 97 | 0.056 | 0.062 | 0.6 | 223 | 9.7 | 3.1 | 3100 | 3.1 |
| 30 | D100 | 98 | 0.056 | 0.063 | 0.5 | 223 | 7.8 | 2.4 | 2400 | 3.3 |
| 31 | D100 | 99 | 0.056 | 0.061 | 0.7 | 223 | 11.0 | 1.2 | 1200 | 9.2 |
| 32 | D100 | 100 | 0.056 | 0.062 | 0.8 | 223 | 17.2 | 1.6 | 1600 | 10.8 |
| 33 | D100 | 101 | 0.056 | 0.063 | 0.1 | 223 | 0.3 | 1.9 | 1900 | 0.2 |
| 34 | D100 | 102 | 0.056 | 0.075 | 1.6 | 223 | 218.1 | 1.3 | 1300 | 167.8 |
| 35 | D100 | 103 | 0.056 | 0.062 | 0.3 | 223 | 2.4 | 2 | 2000 | 1.2 |
| 36 | D100 | 104 | 0.056 | 0.062 | 0.4 | 223 | 4.3 | 1.3 | 1300 | 3.3 |
| 37 | D100 | 105 | 0.056 | 0.065 | 1.6 | 223 | 103.3 | 1.7 | 1700 | 60.8 |
| 1 | D193 | 106 | 0.056 | 0.061 | 0.6 | 223 | 8.1 | 2.5 | 2500 | 3.2 |
| 2 | D193 | 107 | 0.056 | 0.062 | 0.5 | 223 | 6.7 | 0.9 | 900 | 7.5 |
| 3 | D193 | 108 | 0.081 | 0.085 | 0.4 | 223 | 2.9 | 1.1 | 1100 | 2.6 |
| 4 | D193 | 109 | 0.081 | 0.094 | 0.4 | 223 | 9.3 | 2.4 | 2400 | 3.9 |
| 5 | D193 | 110 | 0.081 | 0.089 | 0.7 | 223 | 17.6 | 3.5 | 3500 | 5.0 |
| 6 | D193 | 111 | 0.081 | 0.09 | 0.7 | 223 | 19.8 | 3.5 | 3500 | 5.7 |
| 7 | D193 | 112 | 0.081 | 0.091 | 0.8 | 223 | 28.7 | 1.3 | 1300 | 22.1 |
| 8 | D193 | 113 | 0.081 | 0.086 | 0.2 | 223 | 0.9 | 0.65 | 650 | 1.4 |
| 9 | D193 | 114 | 0.081 | 0.086 | 0.7 | 223 | 11.0 | 0.75 | 750 | 14.6 |
| 10 | D193 | 115 | 0.081 | 0.105 | 1.1 | 223 | 130.2 | 1.2 | 1200 | 108.5 |
| 11 | D193 | 116 | 0.081 | 0.089 | 0.7 | 223 | 17.6 | 1.2 | 1200 | 14.6 |
| 12 | D193 | 117 | 0.081 | 0.095 | 1.1 | 223 | 76.0 | 1.4 | 1400 | 54.3 |
| 13 | D193 | 118 | 0.081 | 0.09 | 1.1 | 223 | 48.8 | 1.3 | 1300 | 37.6 |
| 14 | D193 | 119 | 0.081 | 0.087 | 1 | 223 | 26.9 | 3 | 3000 | 9.0 |
| 15 | D193 | 120 | 0.06 | 0.065 | 0.9 | 223 | 18.2 | 2 | 2000 | 9.1 |
| 16 | D193 | 121 | 0.06 | 0.065 | 0.6 | 223 | 8.1 | 2 | 2000 | 4.0 |
| 17 | D193 | 122 | 0.06 | 0.065 | 0.2 | 223 | 0.9 | 2 | 2000 | 0.4 |
| 18 | D193 | 123 | 0.06 | 0.064 | 0.4 | 223 | 2.9 | 2 | 2000 | 1.4 |
| 19 | D193 | 124 | 0.06 | 0.064 | 0.4 | 223 | 2.9 | 1 | 1000 | 2.9 |
| 20 | D193 | 125 | 0.079 | 0.084 | 0.5 | 223 | 5.6 | 2.4 | 2400 | 2.3 |
| 21 | D193 | 126 | 0.079 | 0.087 | 0.2 | 223 | 1.4 | 2.6 | 2600 | 0.6 |
| 22 | D193 | 127 | 0.079 | 0.087 | 0.3 | 223 | 3.2 | 4.1 | 4100 | 0.8 |
| 23 | D193 | 128 | 0.079 | 0.088 | 0.3 | 223 | 3.6 | 2.3 | 2300 | 1.6 |
| 24 | D193 | 129 | 0.07 | 0.088 | 0.2 | 223 | 3.2 | 3.9 | 3900 | 0.8 |
| 25 | D193 | 130 | 0.07 | 0.124 | 0.2 | 223 | 9.7 | 3.4 | 3400 | 2.8 |
| 26 | D193 | 131 | 0.07 | 0.097 | 0.7 | 223 | 59.3 | 4.2 | 4200 | 14.1 |
| 27 | D193 | 132 | 0.07 | 0.088 | 0.45 | 223 | 16.3 | 3 | 3000 | 5.4 |
| 28 | D193 | 133 | 0.07 | 0.086 | 0.4 | 223 | 11.5 | 4.5 | 4500 | 2.6 |
| 29 | D193 | 134 | 0.07 | 0.097 | 0.5 | 223 | 30.3 | 5 | 5000 | 6.1 |
| 30 | D193 | 135 | 0.07 | 0.08 | 0.2 | 223 | 1.8 | 3.8 | 3800 | 0.5 |
| 31 | D193 | 136 | 0.07 | 0.08 | 0.2 | 223 | 1.8 | 3.8 | 3800 | 0.5 |
| 32 | D193 | 137 | 0.07 | 0.08 | 0.2 | 223 | 1.8 | 5 | 5000 | 0.4 |
| 33 | D193 | 138 | 0.07 | 0.08 | 0.2 | 223 | 1.8 | 5 | 5000 | 0.4 |
| 34 | D193 | 139 | 0.07 | 0.08 | 0.2 | 223 | 1.8 | 2.8 | 2800 | 0.6 |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |

61.28 kg

| | |
|--|-------|
| Total weight Drum D100 (Kg) No's. 69 to 105: | 61.3 |
| Total activity (kBq) No.s 69 to 105: | 1269 |
| Average activity (kBq) per bag: | 34 |
| Average Bq/g: | 20.71 |

>10kBq
>108q/g

45.1 kg

| | |
|---|------|
| Total weight Drum D193 (Kg) No's. 106 to 139: | 89.5 |
| Total activity (kBq) No.s 106 to 128: | 540 |
| Average activity (kBq) per bag: | 23 |
| Average Bq/g: | 6.03 |

89.5 kg

| | |
|---|------|
| Total weight Drum D100 (Kg) No's. 106 to 139: | 89.5 |
| Total activity (kBq) No.s 106 to 139: | 591 |
| Average activity (kBq) per bag: | 17 |
| Average Bq/g: | 6.60 |

>10kBq
>108q/g

Surface Contamination measured on contents of 2 drums to determine "typical" average activity per drum
Wood skirting, flooring, and ceiling bits, plaster etc
Instrument MTE: 5527
Painted or laquered surface masking alpha, mostly soaked into material

| | | | | | | | | | | | | 1cps beta | | BckGrnd | | 1cps Alpha | | BckGrnd | |
|---------|----------------|---------------|--------------------------|---------------|------------------|----------------|-------------------|---|---|---|---|-----------|--------|------------|-----|------------|------------|---------|--|
| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contamina ted | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.15 | Bq/cm2 | CPS 3.4 | 0.2 | Bq/cm2 | CPS 0.1 | | |
| 1 | 80 | 30 | 2400 | 15 | 1.74 | 15 | 2.98 | 0.5 | 3576 | 2088 | 3576 | | | | | | | | |
| 2 | 14 | 80 | 1120 | 15 | 1.74 | 10 | 1.98 | 1 | 2217.6 | 1948.8 | 2217.6 | | | | | | | | |
| 3 | 80 | 18 | 1440 | 60 | 8.49 | | | 0.5 | 0 | 6112.8 | 6112.8 | | | | | | | | |
| 4 | 30 | 25 | 750 | 7 | 0.54 | | | 1 | 0 | 405 | 405 | | | | | | | | |
| 5 | 25 | 20 | 500 | 7 | 0.54 | | | 1 | 0 | 270 | 270 | | | | | | | | |
| 6 | 25 | 7 | 175 | 7 | 0.54 | | | 0.5 | 0 | 47.25 | 47.25 | | | | | | | | |
| 7 | 18 | 65 | 1170 | 25 | 3.24 | | | 0.25 | 0 | 947.7 | 947.7 | | | | | | | | |
| 8 | 28 | 35 | 980 | 7 | 0.54 | | | 0.5 | 0 | 264.6 | 264.6 | | | | | | | | |
| 9 | 10 | 45 | 450 | 40 | 5.49 | | | 0.25 | 0 | 617.625 | 617.625 | | | | | | | | |
| | 10 | 40 | 400 | 15 | 1.74 | | | 1 | 0 | 696 | 696 | | | | | | | | |
| 105 | 7 | 735 | 15 | 1.74 | | | | 1 | 0 | 1278.9 | 1278.9 | | | | | | | | |
| 18 | 80 | 1440 | 170 | 24.99 | | | | 0.5 | 0 | 17992.8 | 17992.8 | | | | | | | | |
| 180 | 7 | 1260 | 15 | 1.74 | | | | 0.25 | 0 | 548.1 | 548.1 | | | | | | | | |
| 18 | 80 | 1440 | 7 | 0.54 | | | | 0.25 | 0 | 194.4 | 194.4 | | | | | | | | |
| 18 | 60 | 1080 | 15 | 1.74 | | | | 0.125 | 0 | 234.9 | 234.9 | | | | | | | | |
| 18 | 70 | 1260 | 40 | 5.49 | | | | 1 | 0 | 6917.4 | 6917.4 | | | | | | | | |
| 18 | 75 | 1350 | 7 | 0.54 | | | | 0.25 | 0 | 182.25 | 182.25 | | | | | | | | |
| 70 | 30 | 2100 | 7 | 0.54 | | | | 0.5 | 0 | 567 | 567 | | | | | | | | |
| 70 | 30 | 2100 | 20 | 2.49 | | | | 0.125 | 0 | 653.625 | 653.625 | | | | | | | | |
| 60 | 30 | 1800 | 7 | 0.54 | | | | 1 | 0 | 972 | 972 | | | | | | | | |
| 18 | 80 | 1440 | 50 | 6.99 | | | | 1 | 0 | 10065.6 | 10065.6 | | | | | | | | |
| 60 | 30 | 1800 | 8 | 0.69 | | | | 0.125 | 0 | 155.25 | 155.25 | | | | | | | | |
| 7 | 180 | 1260 | 20 | 2.49 | | | | 1 | 0 | 3137.4 | 3137.4 | | | | | | | | |
| 75 | 5.5 | 412.5 | 7 | 0.54 | | | | 1 | 0 | 222.75 | 222.75 | | | | | | | | |
| 70 | 10 | 700 | 8 | 0.69 | | | | 0.5 | 0 | 241.5 | 241.5 | | | | | | | | |
| 10 | 70 | 700 | 10 | 0.99 | | | | 0.5 | 0 | 346.5 | 346.5 | | | | | | | | |
| 10 | 50 | 500 | 7 | 0.54 | | | | 0.5 | 0 | 135 | 135 | | | | | | | | |
| 65 | 7 | 455 | 8 | 0.69 | | | | 0.25 | 0 | 78.4875 | 78.4875 | | | | | | | | |
| 20 | 60 | 1200 | 10 | 0.99 | | | | 0.5 | 0 | 594 | 594 | | | | | | | | |
| 10 | 60 | 600 | 7 | 0.54 | | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| 7 | 130 | 910 | 25 | 3.24 | | 7 | 1.38 | 0.5 | 627.9 | 1474.2 | 1474.2 | | | | | | | | |
| 7 | 75 | 525 | 25 | 3.24 | | 20 | 3.98 | 0.5 | 1044.75 | 850.5 | 1044.75 | | | | | | | | |
| 10 | 70 | 700 | 7 | 0.54 | | | | 0.5 | 0 | 189 | 189 | | | | | | | | |
| 5.5 | 60 | 330 | 7 | 0.54 | | | | 0.5 | 0 | 89.1 | 89.1 | | | | | | | | |
| 7 | 50 | 350 | 7 | 0.54 | | | | 0.5 | 0 | 94.5 | 94.5 | | | | | | | | |
| 7 | 50 | 350 | 15 | 1.74 | | 8 | 1.58 | 1 | 553 | 609 | 609 | | | | | | | | |
| 30 | 30 | 900 | 30 | 3.99 | | 20 | 3.98 | 0.5 | 1791 | 1795.5 | 1795.5 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 1 | 0 | 324 | 324 | | | | | | | | |
| 20 | 30 | 600 | 15 | 1.74 | | 10 | 1.98 | 0.5 | 594 | 522 | 594 | | | | | | | | |
| 10 | 50 | 500 | 10 | 0.99 | | 1 | 0.18 | 1 | 90 | 495 | 495 | | | | | | | | |
| 10 | 50 | 500 | 15 | 1.74 | | 1 | 0.18 | 0.5 | 45 | 435 | 435 | | | | | | | | |
| 7 | 30 | 210 | 5 | 0.24 | | 1 | 0.18 | 1 | 37.8 | 50.4 | 50.4 | | | | | | | | |
| 20 | 30 | 600 | 5 | 0.24 | | 1 | 0.18 | 1 | 108 | 144 | 144 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | 0.5 | 0.08 | 1 | 48 | 324 | 324 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| 30 | 30 | 900 | 60 | 8.49 | | 25 | 4.98 | 0.25 | 1120.5 | 1910.25 | 1910.25 | | | | | | | | |
| 10 | 40 | 400 | 7 | 0.54 | | 1 | 0.18 | 0.25 | 18 | 54 | 54 | | | | | | | | |
| 7 | 30 | 210 | 25 | 3.24 | | 7 | 1.38 | 0.5 | 144.9 | 340.2 | 340.2 | | | | | | | | |
| 7 | 30 | 210 | 7 | 0.54 | | | | 0.5 | 0 | 56.7 | 56.7 | | | | | | | | |
| 7 | 40 | 280 | 15 | 1.74 | | 10 | 1.98 | 0.5 | 277.2 | 243.6 | 277.2 | | | | | | | | |
| 20 | 20 | 400 | 6 | 0.39 | | | | 0.5 | 0 | 78 | 78 | | | | | | | | |
| Drum 1: | | | | | | | | | | | 70537 | | | | | | | | |

| | | | | | | | | | | |
|-----|-----|-----|-----|-------|----|------|------|--------|---------|---------|
| 10 | 30 | 300 | 15 | 1.74 | 15 | 2.98 | 0.5 | 447 | 261 | 447 |
| 10 | 30 | 300 | 120 | 17.49 | 40 | 7.98 | 0.5 | 1197 | 2623.5 | 2623.5 |
| 10 | 30 | 300 | 18 | 2.19 | 2 | 0.38 | 0.5 | 57 | 328.5 | 328.5 |
| 10 | 40 | 400 | 8 | 0.69 | | | 0.25 | 0 | 69 | 69 |
| 20 | 30 | 600 | 8 | 0.69 | | | 0.25 | 0 | 103.5 | 103.5 |
| 5.5 | 60 | 330 | 8 | 0.69 | 3 | 0.58 | 0.25 | 47.85 | 56.925 | 56.925 |
| 10 | 60 | 600 | 8 | 0.69 | 1 | 0.18 | 0.5 | 54 | 207 | 207 |
| 10 | 70 | 700 | 15 | 1.74 | 10 | 1.98 | 0.5 | 693 | 609 | 693 |
| 7 | 110 | 770 | 10 | 0.99 | 3 | 0.58 | 0.25 | 111.65 | 190.575 | 190.575 |
| 5.5 | 50 | 275 | 8 | 0.69 | | | 0.25 | 0 | 47.4375 | 47.4375 |
| 7 | 50 | 350 | 6 | 0.39 | | | 0.25 | 0 | 34.125 | 34.125 |
| 7 | 40 | 280 | 50 | 6.99 | 15 | 2.98 | 0.25 | 208.6 | 489.3 | 489.3 |
| 5.5 | 40 | 220 | 7 | 0.54 | | | 0.25 | 0 | 29.7 | 29.7 |
| 10 | 35 | 350 | 8 | 0.69 | | | 0.25 | 0 | 60.375 | 60.375 |
| 7 | 35 | 245 | 30 | 3.99 | 10 | 1.98 | 0.5 | 242.55 | 488.775 | 488.775 |
| 10 | 90 | 900 | 45 | 6.24 | 35 | 6.98 | 0.25 | 1570.5 | 1404 | 1570.5 |
| 10 | 80 | 800 | 15 | 1.74 | 2 | 0.38 | 0.5 | 152 | 696 | 696 |
| 7 | 65 | 455 | 20 | 2.49 | 3 | 0.58 | 0.5 | 131.95 | 566.475 | 566.475 |
| 10 | 80 | 800 | 20 | 2.49 | 1 | 0.18 | 0.5 | 72 | 996 | 996 |

| | | | | | | | | | | |
|-----|-----|-------|----|------|-----|------|------|--------|---------|---------|
| 10 | 70 | 700 | 15 | 1.74 | 6 | 1.18 | 0.5 | 413 | 609 | 609 |
| 10 | 40 | 400 | 50 | 6.99 | 5 | 0.98 | 1 | 392 | 2796 | 2796 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 0.5 | 632 | 1596 | 1596 |
| 10 | 65 | 650 | 10 | 0.99 | 0.5 | 0.08 | 0.5 | 26 | 321.75 | 321.75 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 0.5 | 632 | 1596 | 1596 |
| 7 | 50 | 350 | 15 | 1.74 | 1 | 0.18 | 0.5 | 31.5 | 304.5 | 304.5 |
| 10 | 70 | 700 | 15 | 1.74 | 7 | 1.38 | 1 | 966 | 1218 | 1218 |
| 5.5 | 80 | 440 | 7 | 0.54 | 2 | 0.38 | 0.25 | 41.8 | 59.4 | 59.4 |
| 7 | 85 | 595 | 7 | 0.54 | 3 | 0.58 | 0.25 | 86.275 | 80.325 | 86.275 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 1 | 0.18 | 1 | 74.25 | 1336.5 | 1336.5 |
| 7 | 70 | 490 | 15 | 1.74 | 4 | 0.78 | 0.5 | 191.1 | 426.3 | 426.3 |
| 5.5 | 50 | 275 | 35 | 4.74 | 5 | 0.98 | 1 | 269.5 | 1303.5 | 1303.5 |
| 5.5 | 50 | 275 | 8 | 0.69 | 1 | 0.18 | 0.5 | 24.75 | 94.875 | 94.875 |
| 7 | 70 | 490 | 7 | 0.54 | 5 | 0.98 | 0.5 | 240.1 | 132.3 | 240.1 |
| 7 | 75 | 525 | 7 | 0.54 | 1 | 0.18 | 0.5 | 47.25 | 141.75 | 141.75 |
| 10 | 60 | 600 | 25 | 3.24 | 1 | 0.18 | 0.5 | 54 | 972 | 972 |
| 5.5 | 50 | 275 | 25 | 3.24 | 8 | 1.58 | 0.5 | 217.25 | 445.5 | 445.5 |
| 10 | 60 | 600 | 25 | 3.24 | 3 | 0.58 | 0.5 | 174 | 972 | 972 |
| 5.5 | 70 | 385 | 12 | 1.29 | 2 | 0.38 | 0.5 | 73.15 | 248.325 | 248.325 |
| 5 | 60 | 300 | 7 | 0.54 | 0.5 | 0.08 | 0.5 | 12 | 81 | 81 |
| 5 | 70 | 350 | 7 | 0.54 | 1 | 0.18 | 0.5 | 31.5 | 94.5 | 94.5 |
| 10 | 60 | 600 | 15 | 1.74 | 2 | 0.38 | 0.5 | 114 | 522 | 522 |
| 10 | 60 | 600 | 8 | 0.69 | 3 | 0.58 | 1 | 348 | 414 | 414 |
| 7 | 80 | 560 | 8 | 0.69 | 1 | 0.18 | 1 | 100.8 | 386.4 | 386.4 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 4 | 0.78 | 1 | 321.75 | 1336.5 | 1336.5 |
| 5.5 | 70 | 385 | 40 | 5.49 | | | 0.5 | | 1056.83 | 1056.83 |
| 5.5 | 70 | 385 | 25 | 3.24 | 1 | 0.18 | 0.5 | | 623.7 | 623.7 |
| 5.5 | 65 | 357.5 | 20 | 2.49 | 1 | 0.18 | 1 | | 890.175 | 890.175 |
| 5 | 70 | 350 | 25 | 3.24 | 7 | 1.38 | 1 | | 1134 | 1134 |
| 5 | 65 | 325 | 40 | 5.49 | | | 0.25 | | 446.063 | 446.063 |
| 5 | 60 | 300 | 50 | 6.99 | | | 1 | | 2097 | 2097 |
| 5 | 50 | 250 | 8 | 0.69 | | | 0.5 | | 86.25 | 86.25 |
| 10 | 30 | 300 | 7 | 0.54 | | | 0.25 | | 40.5 | 40.5 |
| 13 | 40 | 520 | 30 | 3.99 | | | 0.5 | | 1037.4 | 1037.4 |
| 10 | 450 | 4500 | 12 | 1.29 | | | 1 | | 5805 | 5805 |
| 10 | 50 | 500 | 15 | 1.74 | 3 | 0.58 | 1 | | 870 | 870 |
| 10 | 65 | 650 | 10 | 0.99 | | | 0.5 | | 321.75 | 321.75 |
| 10 | 45 | 450 | 10 | 0.99 | 4 | 0.78 | 1 | | 445.5 | 445.5 |
| 70 | 40 | 2800 | 30 | 3.99 | 20 | 3.98 | 1 | | 11172 | 11172 |
| 70 | 60 | 4200 | 8 | 0.69 | 0.5 | 0.08 | 0.5 | | 1449 | 1449 |
| 70 | 60 | 4200 | 20 | 2.49 | 10 | 1.98 | 0.5 | | 5229 | 5229 |
| 10 | 40 | 400 | 15 | 1.74 | 8 | 1.58 | 1 | | 696 | 696 |
| 10 | 50 | 500 | 8 | 0.69 | 1 | 0.18 | 1 | | 345 | 345 |
| 7 | 30 | 210 | 15 | 1.74 | 2 | 0.38 | 1 | | 365.4 | 365.4 |
| 10 | 40 | 400 | 10 | 0.99 | 4 | 0.78 | 1 | | 396 | 396 |
| 7 | 35 | 245 | 10 | 0.99 | 0.5 | 0.08 | 1 | | 242.55 | 242.55 |
| 10 | 40 | 400 | 10 | 0.99 | 2 | 0.38 | 1 | | 396 | 396 |
| 7 | 25 | 175 | 8 | 0.69 | 1 | 0.18 | 1 | | 120.75 | 120.75 |
| 7 | 35 | 245 | 50 | 6.99 | 20 | 3.98 | 0.5 | | 856.275 | 856.275 |
| 7 | 45 | 315 | 10 | 0.99 | 3 | 0.58 | 1 | | 311.85 | 311.85 |
| 5.5 | 30 | 165 | 30 | 3.99 | | | 0.5 | | 329.175 | 329.175 |
| 7 | 30 | 210 | 8 | 0.69 | 1 | 0.18 | 0.5 | | 72.45 | 72.45 |
| 10 | 30 | 300 | 10 | 0.99 | 2 | 0.38 | 1 | | 297 | 297 |
| 10 | 25 | 250 | 15 | 1.74 | | | 0.5 | | 217.5 | 217.5 |
| 10 | 40 | 400 | 30 | 3.99 | 4 | 0.78 | 0.5 | | 798 | 798 |
| 4 | 40 | 160 | 15 | 1.74 | 2 | 0.38 | 1 | | 278.4 | 278.4 |
| 10 | 15 | 150 | 8 | 0.69 | 0.5 | 0.08 | 0.5 | | 51.75 | 51.75 |
| 8 | 36 | 288 | 10 | 0.99 | 3 | 0.58 | 1 | | 285.12 | 285.12 |
| 3 | 30 | 90 | 10 | 0.99 | 8 | 1.58 | 1 | | 89.1 | 89.1 |
| 3 | 13 | 39 | 10 | 0.99 | 5 | 0.98 | 0.5 | | 19.305 | 19.305 |
| 8 | 10 | 80 | 8 | 0.69 | 0 | | 0.5 | | 27.6 | 27.6 |
| 3 | 13 | 39 | 15 | 1.74 | 3 | 0.58 | 0.5 | | 33.93 | 33.93 |
| 10 | 10 | 100 | 8 | 0.69 | 2 | 0.38 | 0.5 | | 34.5 | 34.5 |
| 8 | 20 | 160 | 15 | 1.74 | 5 | 0.98 | 0.5 | | 139.2 | 139.2 |

Drum 2: **66407**Average activity per drum: **68472**

Broken tiles
Instrument MTE: 5527
Mostly fixed contamination on upper surfaces

DRUM 50

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|----------|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | | -0.51 | 1 | 0.196 | 0.5 | 94.08 | -244.8 | 94.08 |
| 2 | 40 | 24 | 960 | | -0.51 | 1.5 | 0.296 | 0.5 | 142.08 | -244.8 | 142.08 |
| 3 | 40 | 24 | 960 | | -0.51 | 0.67 | 0.13 | 0.5 | 62.4 | -244.8 | 62.4 |
| 4 | 40 | 24 | 960 | | -0.51 | 0.7 | 0.136 | 0.5 | 65.28 | -244.8 | 65.28 |
| 5 | 40 | 24 | 960 | | -0.51 | 0.5 | 0.096 | 0.5 | 46.08 | -244.8 | 46.08 |
| 6 | 40 | 24 | 960 | | -0.51 | 1 | 0.196 | 0.5 | 94.08 | -244.8 | 94.08 |
| 7 | 40 | 24 | 960 | | -0.51 | 2 | 0.396 | 0.5 | 190.08 | -244.8 | 190.08 |
| 8 | 40 | 24 | 960 | | -0.51 | 2 | 0.396 | 0.5 | 190.08 | -244.8 | 190.08 |
| 9 | 40 | 24 | 960 | | -0.51 | 0.5 | 0.096 | 0.5 | 46.08 | -244.8 | 46.08 |
| 10 | 40 | 24 | 960 | | -0.51 | 1 | 0.196 | 0.5 | 94.08 | -244.8 | 94.08 |
| 11 | 40 | 24 | 960 | 7.5 | 0.615 | 0 | -0.004 | 0.5 | -1.92 | 295.2 | 295.2 |
| 12 | 40 | 24 | 960 | 7 | 0.54 | 0.75 | 0.146 | 0.5 | 70.08 | 259.2 | 259.2 |
| 13 | 40 | 24 | 960 | 7 | 0.54 | 1.3 | 0.256 | 0.5 | 122.88 | 259.2 | 259.2 |
| 14 | 40 | 24 | 960 | 7 | 0.54 | 1.1 | 0.216 | 0.5 | 103.68 | 259.2 | 259.2 |
| 15 | 40 | 24 | 960 | 7 | 0.54 | 1.3 | 0.256 | 0.5 | 122.88 | 259.2 | 259.2 |
| 16 | 40 | 24 | 960 | 9 | 0.84 | 2 | 0.396 | 0.5 | 190.08 | 403.2 | 403.2 |
| 17 | 40 | 24 | 960 | 5 | 0.24 | 0.75 | 0.146 | 0.5 | 70.08 | 115.2 | 115.2 |
| 18 | 40 | 24 | 960 | 7 | 0.54 | 1 | 0.196 | 0.5 | 94.08 | 259.2 | 259.2 |
| 19 | 40 | 24 | 960 | 7 | 0.54 | 0.8 | 0.156 | 0.5 | 74.88 | 259.2 | 259.2 |
| 20 | 40 | 24 | 960 | 8 | 0.69 | 2.6 | 0.516 | 0.5 | 247.68 | 331.2 | 331.2 |
| 21 | 40 | 24 | 960 | 8 | 0.69 | 0.94 | 0.184 | 0.5 | 88.32 | 331.2 | 331.2 |
| 22 | 40 | 24 | 960 | 5 | 0.24 | 0.75 | 0.146 | 0.5 | 70.08 | 115.2 | 115.2 |
| 23 | 40 | 24 | 960 | 6 | 0.39 | 0.8 | 0.156 | 0.5 | 74.88 | 187.2 | 187.2 |
| 24 | 40 | 24 | 960 | 8 | 0.69 | 0.63 | 0.122 | 0.5 | 58.56 | 331.2 | 331.2 |
| 25 | 40 | 24 | 960 | 8 | 0.69 | 1.1 | 0.216 | 0.5 | 103.68 | 331.2 | 331.2 |
| 26 | 40 | 24 | 960 | 7 | 0.54 | 1 | 0.196 | 0.5 | 94.08 | 259.2 | 259.2 |
| 27 | 40 | 24 | 960 | 5 | 0.24 | 0.99 | 0.194 | 0.5 | 93.12 | 115.2 | 115.2 |
| 28 | 40 | 24 | 960 | 5 | 0.24 | 0.44 | 0.084 | 0.5 | 40.32 | 115.2 | 115.2 |
| 29 | 40 | 24 | 960 | 10 | 0.99 | 2 | 0.396 | 0.5 | 190.08 | 475.2 | 475.2 |
| 30 | 40 | 24 | 960 | 8 | 0.69 | 0.38 | 0.072 | 0.5 | 34.56 | 331.2 | 331.2 |
| 31 | 40 | 24 | 960 | 5 | 0.24 | 0.78 | 0.152 | 0.5 | 72.96 | 115.2 | 115.2 |
| 32 | 40 | 24 | 960 | 5 | 0.24 | 1 | 0.196 | 0.5 | 94.08 | 115.2 | 115.2 |
| 33 | 40 | 24 | 960 | 9 | 0.84 | 0.56 | 0.108 | 0.5 | 51.84 | 403.2 | 403.2 |
| 34 | 40 | 24 | 960 | 9 | 0.84 | 3.3 | 0.656 | 0.5 | 314.88 | 403.2 | 403.2 |
| 35 | 40 | 24 | 960 | 5 | 0.24 | 0.5 | 0.096 | 0.5 | 46.08 | 115.2 | 115.2 |
| 36 | 40 | 24 | 960 | 6 | 0.39 | 0.56 | 0.108 | 0.5 | 51.84 | 187.2 | 187.2 |
| 37 | 40 | 24 | 960 | 5 | 0.24 | 0.63 | 0.122 | 0.5 | 58.56 | 115.2 | 115.2 |
| 38 | 40 | 24 | 960 | 6 | 0.39 | 3 | 0.596 | 0.5 | 286.08 | 187.2 | 286.08 |
| 39 | 40 | 24 | 960 | 5 | 0.24 | 0.63 | 0.122 | 0.5 | 58.56 | 115.2 | 115.2 |
| 40 | 40 | 24 | 960 | 7 | 0.54 | 1.2 | 0.236 | 0.5 | 113.28 | 259.2 | 259.2 |
| 41 | 40 | 24 | 960 | 8 | 0.69 | 0.69 | 0.134 | 0.5 | 64.32 | 331.2 | 331.2 |
| 42 | 40 | 24 | 960 | 5 | 0.24 | 0.88 | 0.172 | 0.5 | 82.56 | 115.2 | 115.2 |
| 43 | 40 | 24 | 960 | 8 | 0.69 | 2.4 | 0.476 | 0.5 | 228.48 | 331.2 | 331.2 |
| 44 | 40 | 24 | 960 | 5 | 0.24 | 1.1 | 0.216 | 0.5 | 103.68 | 115.2 | 115.2 |
| 45 | 40 | 24 | 960 | 6 | 0.39 | 1 | 0.196 | 0.5 | 94.08 | 187.2 | 187.2 |
| 46 | 40 | 24 | 960 | 8 | 0.69 | 2 | 0.396 | 0.5 | 190.08 | 331.2 | 331.2 |
| 47 | 40 | 24 | 960 | 8 | 0.69 | 4 | 0.796 | 0.5 | 382.08 | 331.2 | 382.08 |
| 48 | 40 | 24 | 960 | 5 | 0.24 | 1.3 | 0.256 | 0.5 | 122.88 | 115.2 | 122.88 |
| 49 | 40 | 24 | 960 | 5 | 0.24 | 0.63 | 0.122 | 0.5 | 58.56 | 115.2 | 115.2 |
| 50 | 40 | 24 | 960 | 5 | 0.24 | 0.56 | 0.108 | 0.5 | 51.84 | 115.2 | 115.2 |
| 51 | 40 | 24 | 960 | 8 | 0.69 | 0.75 | 0.146 | 0.5 | 70.08 | 331.2 | 331.2 |
| 52 | 40 | 24 | 960 | 8 | 0.69 | 1.1 | 0.216 | 0.5 | 103.68 | 331.2 | 331.2 |
| 53 | 40 | 24 | 960 | 8 | 0.69 | 0.85 | 0.166 | 0.5 | 79.68 | 331.2 | 331.2 |
| 54 | 40 | 24 | 960 | 9 | 0.84 | 1.9 | 0.376 | 0.5 | 180.48 | 403.2 | 403.2 |
| 55 | 40 | 24 | 960 | 5 | 0.24 | 0.9 | 0.176 | 0.5 | 84.48 | 115.2 | 115.2 |
| 56 | 40 | 24 | 960 | ? | ? | <5 | ? | ? | ? | ? | ? |
| Drum 50: | | | | | | | | | 6012 | 8460 | 12090 |

| 1cps beta | | BckGrnd CPS | 1cps Alpha | | BckGrnd CPS |
|-----------|--------------------|-------------|------------|--------------------|-------------|
| 0.15 | Bq/cm ² | 3.4 | 0.2 | Bq/cm ² | 0.02 |

| | | | | |
|-------------------------------|----|------|----|--|
| Drum 50 count range | | | % | |
| Alpha low (0.3 to 1 cps) | 34 | 64.2 | | |
| Alpha mid (1 to 2 cps) | 14 | 26.4 | | |
| Alpha high (2 to 5cps) | 5 | 9.4 | | |
| Alpha very high (5 to 20 cps) | 0 | 0.0 | | |
| | | | 53 | |

This as a drum presented as it as < 5 cps alpha

DRUM 51

| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 11 | 1.14 | 0.9 | 0.176 | 0.5 | 84.48 | 547.2 | 547.2 |
| 2 | 40 | 24 | 960 | 9.3 | 0.885 | 4.7 | 0.936 | 0.5 | 449.28 | 424.8 | 449.28 |
| 3 | 40 | 24 | 960 | 8.9 | 0.825 | 0.56 | 0.108 | 0.5 | 51.84 | 396 | 396 |
| 4 | 40 | 24 | 960 | 6.2 | 0.42 | 0.54 | 0.108 | 0.5 | 51.84 | 201.6 | 201.6 |
| 5 | 40 | 24 | 960 | 7.3 | 0.585 | 0.61 | 0.104 | 0.5 | 49.92 | 280.8 | 280.8 |
| 6 | 40 | 24 | 960 | 7.8 | 0.66 | 0.92 | 0.118 | 0.5 | 56.64 | 316.8 | 316.8 |
| 7 | 40 | 24 | 960 | 6.8 | 0.51 | 0.52 | 0.18 | 0.5 | 86.4 | 244.8 | 244.8 |
| 8 | 40 | 24 | 960 | 8.2 | 0.72 | 1 | 0.1 | 0.5 | 48 | 345.6 | 345.6 |
| 9 | 40 | 24 | 960 | 11.3 | 1.185 | 4.4 | 0.196 | 0.5 | 94.08 | 568.8 | 568.8 |
| 10 | 40 | 24 | 960 | 7.2 | 0.57 | 0.61 | 0.876 | 0.5 | 420.48 | 273.6 | 420.48 |
| 11 | 40 | 24 | 960 | 7.7 | 0.645 | 1.1 | 0.118 | 0.5 | 56.64 | 309.6 | 309.6 |
| 12 | 40 | 24 | 960 | 9.3 | 0.885 | 1.4 | 0.216 | 0.5 | 103.68 | 424.8 | 424.8 |
| 13 | 40 | 24 | 960 | 8.2 | 0.72 | 0.69 | 0.276 | 0.5 | 132.48 | 345.6 | 345.6 |
| 14 | 40 | 24 | 960 | 6.9 | 0.525 | 0.75 | 0.134 | 0.5 | 64.32 | 252 | 252 |
| 15 | 40 | 24 | 960 | 7.7 | 0.645 | 0.63 | 0.146 | 0.5 | 70.08 | 309.6 | 309.6 |
| 16 | 40 | 24 | 960 | 6.6 | 0.48 | 0.94 | 0.122 | 0.5 | 58.56 | 230.4 | 230.4 |
| 17 | 40 | 24 | 960 | 8.1 | 0.705 | 0.88 | 0.172 | 0.5 | 82.56 | 338.4 | 338.4 |
| 18 | 40 | 24 | 960 | 6.75 | 0.5025 | 0.62 | 0.12 | 0.5 | 57.6 | 241.2 | 241.2 |
| 19 | 40 | 24 | 960 | 7.4 | 0.6 | 0.75 | 0.146 | 0.5 | 70.08 | 288 | 288 |
| 20 | 40 | 24 | 960 | 8.2 | 0.72 | 0.7 | 0.136 | 0.5 | 65.28 | 345.6 | 345.6 |
| 21 | 40 | 24 | 960 | 13 | 1.44 | 2.44 | 0.484 | 0.5 | 232.32 | 691.2 | 691.2 |

| | | | | |
|-------------------------------|----|------|----|--|
| Drum 51 count range | | | % | |
| Alpha low (0.3 to 1 cps) | 33 | 60 | | |
| Alpha mid (1 to 2 cps) | 14 | 25.5 | | |
| Alpha high (2 to 5cps) | 7 | 12.7 | | |
| Alpha very high (5 to 20 cps) | 1 | 1.8 | | |
| | | | 55 | |

| | | | | | | | | | | | |
|----------|----|----|-----|------|-------|------|-------|-----|---------|--------|--------|
| 22 | 40 | 24 | 960 | 11 | 1.14 | 2.38 | 0.472 | 0.5 | 226.56 | 547.2 | 547.2 |
| 23 | 40 | 24 | 960 | 7.9 | 0.675 | 1.1 | 0.216 | 0.5 | 103.68 | 324 | 324 |
| 24 | 40 | 24 | 960 | 10.8 | 1.11 | 1.6 | 0.316 | 0.5 | 151.68 | 532.8 | 532.8 |
| 25 | 40 | 24 | 960 | 13.8 | 1.56 | 4.4 | 0.876 | 0.5 | 420.48 | 748.8 | 748.8 |
| 26 | 40 | 24 | 960 | 8.9 | 0.825 | 1.2 | 0.236 | 0.5 | 113.28 | 396 | 396 |
| 27 | 40 | 24 | 960 | 7.9 | 0.675 | 1.8 | 0.356 | 0.5 | 170.88 | 324 | 324 |
| 28 | 40 | 24 | 960 | 20 | 2.49 | 6.4 | 1.276 | 0.5 | 612.48 | 1195.2 | 1195.2 |
| 29 | 40 | 24 | 960 | 11.8 | 1.26 | 2.2 | 0.436 | 0.5 | 209.28 | 604.8 | 604.8 |
| 30 | 40 | 24 | 960 | 7.8 | 0.66 | 1.2 | 0.236 | 0.5 | 113.28 | 316.8 | 316.8 |
| 31 | 40 | 24 | 960 | 9.3 | 0.885 | 1.5 | 0.296 | 0.5 | 142.08 | 424.8 | 424.8 |
| 32 | 40 | 24 | 960 | 80 | 11.49 | 26 | 5.196 | 0.5 | 2494.08 | 5515.2 | 5515.2 |
| 33 | 40 | 24 | 960 | 7.8 | 0.66 | 0.94 | 0.184 | 0.5 | 88.32 | 316.8 | 316.8 |
| 34 | 40 | 24 | 960 | 6.2 | 0.42 | 0.54 | 0.104 | 0.5 | 49.92 | 201.6 | 201.6 |
| 35 | 40 | 24 | 960 | 7.5 | 0.615 | 0.75 | 0.146 | 0.5 | 70.08 | 295.2 | 295.2 |
| 36 | 40 | 24 | 960 | 6.9 | 0.525 | 1.1 | 0.216 | 0.5 | 103.68 | 252 | 252 |
| 37 | 40 | 24 | 960 | 7.2 | 0.57 | 0.67 | 0.13 | 0.5 | 62.4 | 273.6 | 273.6 |
| 38 | 40 | 24 | 960 | 7.9 | 0.675 | 0.82 | 0.16 | 0.5 | 76.8 | 324 | 324 |
| 39 | 40 | 24 | 960 | 10.7 | 1.095 | 5.2 | 1.036 | 0.5 | 497.28 | 525.6 | 525.6 |
| 40 | 40 | 24 | 960 | 16 | 1.89 | 2 | 0.396 | 0.5 | 190.08 | 907.2 | 907.2 |
| 41 | 40 | 24 | 960 | 7.2 | 0.57 | 0.58 | 0.112 | 0.5 | 53.76 | 273.6 | 273.6 |
| 42 | 40 | 24 | 960 | 7.8 | 0.66 | 1.38 | 0.272 | 0.5 | 130.56 | 316.8 | 316.8 |
| 43 | 40 | 24 | 960 | 6.2 | 0.42 | 0.54 | 0.104 | 0.5 | 49.92 | 201.6 | 201.6 |
| 44 | 40 | 24 | 960 | 7.2 | 0.57 | 0.77 | 0.15 | 0.5 | 72 | 273.6 | 273.6 |
| 45 | 40 | 24 | 960 | 7.8 | 0.66 | 0.94 | 0.184 | 0.5 | 88.32 | 316.8 | 316.8 |
| 46 | 40 | 24 | 960 | 7.2 | 0.57 | 0.63 | 0.122 | 0.5 | 58.56 | 273.6 | 273.6 |
| 47 | 40 | 24 | 960 | 8.1 | 0.705 | 1.13 | 0.222 | 0.5 | 106.56 | 338.4 | 338.4 |
| 48 | 40 | 24 | 960 | 6.7 | 0.495 | 0.55 | 0.106 | 0.5 | 50.88 | 237.6 | 237.6 |
| 49 | 40 | 24 | 960 | 7.1 | 0.555 | 0.62 | 0.12 | 0.5 | 57.6 | 266.4 | 266.4 |
| 50 | 40 | 24 | 960 | 7.4 | 0.6 | 0.69 | 0.134 | 0.5 | 64.32 | 288 | 288 |
| 51 | 40 | 24 | 960 | 7.8 | 0.66 | 1.2 | 0.236 | 0.5 | 113.28 | 316.8 | 316.8 |
| 52 | 40 | 24 | 960 | 6.4 | 0.45 | 0.78 | 0.152 | 0.5 | 72.96 | 216 | 216 |
| 53 | 40 | 24 | 960 | 6.9 | 0.525 | 0.81 | 0.158 | 0.5 | 75.84 | 252 | 252 |
| 54 | 40 | 24 | 960 | 6.3 | 0.435 | 0.64 | 0.124 | 0.5 | 59.52 | 208.8 | 208.8 |
| 55 | 40 | 24 | 960 | 7.3 | 0.585 | 0.92 | 0.18 | 0.5 | 86.4 | 280.8 | 280.8 |
| Drum 51: | | | | | | | | | 9423 | 25463 | 25634 |

DRUM 52

| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 17 | 2.04 | 6.2 | 1.236 | 0.5 | 593.28 | 979.2 | 979.2 |
| 2 | 40 | 24 | 960 | 9 | 0.84 | 2.2 | 0.436 | 0.5 | 209.28 | 403.2 | 403.2 |
| 3 | 40 | 24 | 960 | 7.3 | 0.585 | 1.14 | 0.224 | 0.5 | 107.52 | 280.8 | 280.8 |
| 4 | 40 | 24 | 960 | 7.1 | 0.555 | 0.71 | 0.138 | 0.5 | 66.24 | 266.4 | 266.4 |
| 5 | 40 | 24 | 960 | 6.8 | 0.51 | 0.66 | 0.128 | 0.5 | 61.44 | 244.8 | 244.8 |
| 6 | 40 | 24 | 960 | 6.4 | 0.45 | 0.57 | 0.11 | 0.5 | 52.8 | 216 | 216 |
| 7 | 40 | 24 | 960 | 6.2 | 0.42 | 0.61 | 0.118 | 0.5 | 56.64 | 201.6 | 201.6 |
| 8 | 40 | 24 | 960 | 8.4 | 0.75 | 1.9 | 0.376 | 0.5 | 180.48 | 360 | 360 |
| 9 | 40 | 24 | 960 | 9.3 | 0.885 | 2.54 | 0.504 | 0.5 | 241.92 | 424.8 | 424.8 |
| 10 | 40 | 24 | 960 | 8.8 | 0.81 | 1.19 | 0.234 | 0.5 | 112.32 | 388.8 | 388.8 |
| 11 | 40 | 24 | 960 | 6.7 | 0.495 | 0.65 | 0.126 | 0.5 | 60.48 | 237.6 | 237.6 |
| 12 | 40 | 24 | 960 | 6.2 | 0.42 | 0.52 | 0.1 | 0.5 | 48 | 201.6 | 201.6 |
| 13 | 40 | 24 | 960 | 7.3 | 0.585 | 0.75 | 0.146 | 0.5 | 70.08 | 280.8 | 280.8 |
| 14 | 40 | 24 | 960 | 10.5 | 1.065 | 2.4 | 0.476 | 0.5 | 228.48 | 511.2 | 511.2 |
| 15 | 40 | 24 | 960 | 9 | 0.84 | 1.4 | 0.276 | 0.5 | 132.48 | 403.2 | 403.2 |
| 16 | 40 | 24 | 960 | 6.9 | 0.525 | 0.82 | 0.16 | 0.5 | 76.8 | 252 | 252 |
| 17 | 40 | 24 | 960 | 7.3 | 0.585 | 1.1 | 0.216 | 0.5 | 103.68 | 280.8 | 280.8 |
| 18 | 40 | 24 | 960 | 8 | 0.69 | 1.25 | 0.246 | 0.5 | 118.08 | 331.2 | 331.2 |
| 19 | 40 | 24 | 960 | 7.5 | 0.615 | 0.8 | 0.156 | 0.5 | 74.88 | 295.2 | 295.2 |
| 20 | 40 | 24 | 960 | 9 | 0.84 | 1.1 | 0.216 | 0.5 | 103.68 | 403.2 | 403.2 |
| 21 | 40 | 24 | 960 | 8.2 | 0.72 | 0.9 | 0.176 | 0.5 | 84.48 | 345.6 | 345.6 |
| 22 | 40 | 24 | 960 | 7.2 | 0.57 | 0.75 | 0.146 | 0.5 | 70.08 | 273.6 | 273.6 |
| 23 | 40 | 24 | 960 | 8 | 0.69 | 1.2 | 0.236 | 0.5 | 113.28 | 331.2 | 331.2 |
| 24 | 40 | 24 | 960 | 19 | 2.34 | 9 | 1.796 | 0.5 | 862.08 | 1123.2 | 1123.2 |
| 25 | 40 | 24 | 960 | 6.9 | 0.525 | 1.2 | 0.236 | 0.5 | 113.28 | 252 | 252 |
| 26 | 40 | 24 | 960 | 9.1 | 0.855 | 0.75 | 0.146 | 0.5 | 70.08 | 410.4 | 410.4 |
| 27 | 40 | 24 | 960 | 6.7 | 0.495 | 0.63 | 0.122 | 0.5 | 58.56 | 237.6 | 237.6 |
| 28 | 40 | 24 | 960 | 8.1 | 0.705 | 0.7 | 0.136 | 0.5 | 65.28 | 338.4 | 338.4 |
| 29 | 40 | 24 | 960 | 7.6 | 0.63 | 1.2 | 0.236 | 0.5 | 113.28 | 302.4 | 302.4 |
| 30 | 40 | 24 | 960 | 8.5 | 0.765 | 1.3 | 0.256 | 0.5 | 122.88 | 367.2 | 367.2 |
| 31 | 40 | 24 | 960 | 7.8 | 0.66 | 1.5 | 0.296 | 0.5 | 142.08 | 316.8 | 316.8 |
| 32 | 40 | 24 | 960 | 8.1 | 0.705 | 1.25 | 0.246 | 0.5 | 118.08 | 338.4 | 338.4 |
| 33 | 40 | 24 | 960 | 8.3 | 0.735 | 1.6 | 0.316 | 0.5 | 151.68 | 352.8 | 352.8 |
| 34 | 40 | 24 | 960 | 12.5 | 1.365 | 1.3 | 0.256 | 0.5 | 122.88 | 655.2 | 655.2 |
| 35 | 40 | 24 | 960 | 18.5 | 2.265 | 6.3 | 1.256 | 0.5 | 602.88 | 1087.2 | 1087.2 |
| 36 | 40 | 24 | 960 | 7.3 | 0.585 | 0.56 | 0.108 | 0.5 | 51.84 | 280.8 | 280.8 |
| 37 | 40 | 24 | 960 | 7.6 | 0.63 | 0.75 | 0.146 | 0.5 | 70.08 | 302.4 | 302.4 |
| 38 | 40 | 24 | 960 | 6 | 0.39 | 0.56 | 0.108 | 0.5 | 51.84 | 187.2 | 187.2 |
| 39 | 40 | 24 | 960 | 10.6 | 1.08 | 2.1 | 0.416 | 0.5 | 199.68 | 518.4 | 518.4 |
| 40 | 40 | 24 | 960 | 7.1 | 0.555 | 0.75 | 0.146 | 0.5 | 70.08 | 266.4 | 266.4 |
| 41 | 40 | 24 | 960 | 6.4 | 0.45 | 0.63 | 0.122 | 0.5 | 58.56 | 216 | 216 |
| 42 | 40 | 24 | 960 | 8.6 | 0.78 | 1.7 | 0.336 | 0.5 | 161.28 | 374.4 | 374.4 |
| 43 | 40 | 24 | 960 | 17.7 | 2.145 | 7.2 | 1.436 | 0.5 | 689.28 | 1029.6 | 1029.6 |
| 44 | 40 | 24 | 960 | 5.5 | 0.315 | 0.63 | 0.122 | 0.5 | 58.56 | 151.2 | 151.2 |
| 45 | 40 | 24 | 960 | 8.6 | 0.78 | 1.2 | 0.236 | 0.5 | 113.28 | 374.4 | 374.4 |
| 46 | 40 | 24 | 960 | 9.7 | 0.945 | 1.3 | 0.256 | 0.5 | 122.88 | 453.6 | 453.6 |
| 47 | 40 | 24 | 960 | 10.1 | 1.005 | 0.8 | 0.156 | 0.5 | 74.88 | 482.4 | 482.4 |
| 48 | 40 | 24 | 960 | 10.4 | 1.05 | 2.4 | 0.476 | 0.5 | 228.48 | 504 | 504 |
| 49 | 40 | 24 | 960 | 10 | 0.99 | 1 | 0.196 | 0.5 | 94.08 | 475.2 | 475.2 |
| 50 | 40 | 24 | 960 | 12 | 1.29 | 3 | 0.596 | 0.5 | 286.08 | 619.2 | 619.2 |
| 51 | 40 | 24 | 960 | 18.5 | 2.265 | 6.1 | 1.216 | 0.5 | 583.68 | 1087.2 | 1087.2 |
| 52 | 40 | 24 | 960 | 11.6 | 1.23 | 2.5 | 0.496 | 0.5 | 238.08 | 590.4 | 590.4 |
| 53 | 40 | 24 | 960 | 10.4 | 1.05 | 1.3 | 0.256 | 0.5 | 122.88 | 504 | 504 |
| 54 | 40 | 24 | 960 | 7.5 | 0.615 | 0.58 | 0.112 | 0.5 | 53.76 | 295.2 | 295.2 |

| | | |
|-------------------------------|-----------|------|
| Drum 52 count range | | % |
| Alpha low (0.3 to 1 cps) | 23 | 41.8 |
| Alpha mid (1 to 2 cps) | 20 | 36.4 |
| Alpha high (2 to 5cps) | 7 | 12.7 |
| Alpha very high (5 to 20 cps) | 5 | 9.1 |
| | <u>55</u> | |

| | | | | | | | | | | | |
|----------|----|----|-----|-----|-------|------|-------|-----|-------|-------|-------|
| 55 | 40 | 24 | 960 | 6.5 | 0.465 | 0.98 | 0.192 | 0.5 | 92.16 | 223.2 | 223.2 |
| Drum 52: | | | | | | | | | 8931 | 22630 | 22630 |

DRUM 53

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|----------|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 6.3 | 0.435 | 1.39 | 0.274 | 0.5 | 131.52 | 208.8 | 208.8 |
| 2 | 40 | 24 | 960 | 9.9 | 0.975 | 2.94 | 0.584 | 0.5 | 280.32 | 468 | 468 |
| 3 | 40 | 24 | 960 | 8.3 | 0.735 | 1.81 | 0.358 | 0.5 | 171.84 | 352.8 | 352.8 |
| 4 | 40 | 24 | 960 | 9.3 | 0.885 | 1.22 | 0.24 | 0.5 | 115.2 | 424.8 | 424.8 |
| 5 | 40 | 24 | 960 | 8.3 | 0.735 | 1.63 | 0.322 | 0.5 | 154.56 | 352.8 | 352.8 |
| 6 | 40 | 24 | 960 | 9.9 | 0.975 | 0.94 | 0.184 | 0.5 | 88.32 | 468 | 468 |
| 7 | 40 | 24 | 960 | 7 | 0.54 | 0.88 | 0.172 | 0.5 | 82.56 | 259.2 | 259.2 |
| 8 | 40 | 24 | 960 | 6.3 | 0.435 | 1.1 | 0.216 | 0.5 | 103.68 | 208.8 | 208.8 |
| 9 | 40 | 24 | 960 | 11.6 | 1.23 | 1.4 | 0.276 | 0.5 | 132.48 | 590.4 | 590.4 |
| 10 | 40 | 24 | 960 | 9.7 | 0.945 | 1.5 | 0.296 | 0.5 | 142.08 | 453.6 | 453.6 |
| 11 | 40 | 24 | 960 | 9.5 | 0.915 | 3 | 0.596 | 0.5 | 286.08 | 439.2 | 439.2 |
| 12 | 40 | 24 | 960 | 11.2 | 1.17 | 3.6 | 0.716 | 0.5 | 343.68 | 561.6 | 561.6 |
| 13 | 40 | 24 | 960 | 13.4 | 1.5 | 2.9 | 0.576 | 0.5 | 276.48 | 720 | 720 |
| 14 | 40 | 24 | 960 | 10.3 | 1.035 | 1.44 | 0.284 | 0.5 | 136.32 | 496.8 | 496.8 |
| 15 | 40 | 24 | 960 | 13.1 | 1.455 | 3.4 | 0.676 | 0.5 | 324.48 | 698.4 | 698.4 |
| 16 | 40 | 24 | 960 | 8.6 | 0.78 | 1.38 | 0.272 | 0.5 | 130.56 | 374.4 | 374.4 |
| 17 | 40 | 24 | 960 | 8.8 | 0.81 | 0.75 | 0.146 | 0.5 | 70.08 | 388.8 | 388.8 |
| 18 | 40 | 24 | 960 | 10.8 | 1.11 | 1.6 | 0.316 | 0.5 | 151.68 | 532.8 | 532.8 |
| 19 | 40 | 24 | 960 | 12.3 | 1.335 | 1.75 | 0.346 | 0.5 | 166.08 | 640.8 | 640.8 |
| 20 | 40 | 24 | 960 | 12.2 | 1.32 | 1.81 | 0.358 | 0.5 | 171.84 | 633.6 | 633.6 |
| 21 | 40 | 24 | 960 | 11.3 | 1.185 | 2.7 | 0.536 | 0.5 | 257.28 | 568.8 | 568.8 |
| 22 | 40 | 24 | 960 | 9.6 | 0.93 | 2.2 | 0.436 | 0.5 | 209.28 | 446.4 | 446.4 |
| 23 | 40 | 24 | 960 | 15.4 | 1.8 | 6.3 | 1.256 | 0.5 | 602.88 | 864 | 864 |
| 24 | 40 | 24 | 960 | 6.8 | 0.51 | 0.74 | 0.144 | 0.5 | 69.12 | 244.8 | 244.8 |
| 25 | 40 | 24 | 960 | 9 | 0.84 | 0.8 | 0.156 | 0.5 | 74.88 | 403.2 | 403.2 |
| 26 | 40 | 24 | 960 | 9.1 | 0.855 | 1.56 | 0.308 | 0.5 | 147.84 | 410.4 | 410.4 |
| 27 | 40 | 24 | 960 | 8.2 | 0.72 | 0.94 | 0.184 | 0.5 | 88.32 | 345.6 | 345.6 |
| 28 | 40 | 24 | 960 | 11.3 | 1.185 | 2.9 | 0.576 | 0.5 | 276.48 | 568.8 | 568.8 |
| 29 | 40 | 24 | 960 | 8.4 | 0.75 | 1.1 | 0.216 | 0.5 | 103.68 | 360 | 360 |
| 30 | 40 | 24 | 960 | 7.7 | 0.645 | 1.3 | 0.256 | 0.5 | 122.88 | 309.6 | 309.6 |
| 31 | 40 | 24 | 960 | 10.4 | 1.05 | 0.93 | 0.182 | 0.5 | 87.36 | 504 | 504 |
| 32 | 40 | 24 | 960 | 9.6 | 0.93 | 2.2 | 0.436 | 0.5 | 209.28 | 446.4 | 446.4 |
| 33 | 40 | 24 | 960 | 6.8 | 0.51 | 0.64 | 0.124 | 0.5 | 59.52 | 244.8 | 244.8 |
| 34 | 40 | 24 | 960 | 9.3 | 0.885 | 1.1 | 0.216 | 0.5 | 103.68 | 424.8 | 424.8 |
| 35 | 40 | 24 | 960 | 7.9 | 0.675 | 1 | 0.196 | 0.5 | 94.08 | 324 | 324 |
| 36 | 40 | 24 | 960 | 7.3 | 0.585 | 1.2 | 0.236 | 0.5 | 113.28 | 280.8 | 280.8 |
| 37 | 40 | 24 | 960 | 11.8 | 1.26 | 2.2 | 0.436 | 0.5 | 209.28 | 604.8 | 604.8 |
| 38 | 40 | 24 | 960 | 8.8 | 0.81 | 1.4 | 0.276 | 0.5 | 132.48 | 388.8 | 388.8 |
| 39 | 40 | 24 | 960 | 9.5 | 0.915 | 0.88 | 0.172 | 0.5 | 82.56 | 439.2 | 439.2 |
| 40 | 40 | 24 | 960 | 6.7 | 0.495 | 0.69 | 0.134 | 0.5 | 64.32 | 237.6 | 237.6 |
| 41 | 40 | 24 | 960 | 6.4 | 0.45 | 0.81 | 0.158 | 0.5 | 75.84 | 216 | 216 |
| 42 | 40 | 24 | 960 | 6 | 0.39 | 1.25 | 0.246 | 0.5 | 118.08 | 187.2 | 187.2 |
| 43 | 40 | 24 | 960 | 6.6 | 0.48 | 0.72 | 0.14 | 0.5 | 67.2 | 230.4 | 230.4 |
| 44 | 40 | 24 | 960 | 7.6 | 0.63 | 1.1 | 0.216 | 0.5 | 103.68 | 302.4 | 302.4 |
| 45 | 40 | 24 | 960 | 6.3 | 0.435 | 0.8 | 0.156 | 0.5 | 74.88 | 208.8 | 208.8 |
| 46 | 40 | 24 | 960 | 8 | 0.69 | 1.1 | 0.216 | 0.5 | 103.68 | 331.2 | 331.2 |
| 47 | 40 | 24 | 960 | 6.6 | 0.48 | 0.94 | 0.184 | 0.5 | 88.32 | 230.4 | 230.4 |
| 48 | 40 | 24 | 960 | 6.4 | 0.45 | 0.81 | 0.158 | 0.5 | 75.84 | 216 | 216 |
| 49 | 40 | 24 | 960 | 7.1 | 0.555 | 0.63 | 0.122 | 0.5 | 58.56 | 266.4 | 266.4 |
| 50 | 40 | 24 | 960 | 8.2 | 0.72 | 1.2 | 0.236 | 0.5 | 113.28 | 345.6 | 345.6 |
| 51 | 40 | 24 | 960 | 9.1 | 0.855 | 0.94 | 0.184 | 0.5 | 88.32 | 410.4 | 410.4 |
| 52 | 40 | 24 | 960 | 8.2 | 0.72 | 0.6 | 0.116 | 0.5 | 55.68 | 345.6 | 345.6 |
| 53 | 40 | 24 | 960 | 6.1 | 0.405 | 0.56 | 0.108 | 0.5 | 51.84 | 194.4 | 194.4 |
| 54 | 40 | 24 | 960 | 15.4 | 1.8 | 5.2 | 1.036 | 0.5 | 497.28 | 864 | 864 |
| 55 | 40 | 24 | 960 | 9.8 | 0.96 | 1.2 | 0.236 | 0.5 | 113.28 | 460.8 | 460.8 |
| Drum 53: | | | | | | | | | 8254 | 22500 | 22500 |

DRUM 54

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 7.3 | 0.585 | 10.8 | 2.156 | 0.5 | 1034.88 | 280.8 | 1034.88 |
| 2 | 40 | 24 | 960 | 7.5 | 0.615 | 0.6 | 0.116 | 0.5 | 55.68 | 295.2 | 295.2 |
| 3 | 40 | 24 | 960 | 7.3 | 0.585 | 0.62 | 0.12 | 0.5 | 57.6 | 280.8 | 280.8 |
| 4 | 40 | 24 | 960 | 21 | 2.64 | 4.8 | 0.956 | 0.5 | 458.88 | 1267.2 | 1267.2 |
| 5 | 40 | 24 | 960 | 7.5 | 0.615 | 1.2 | 0.236 | 0.5 | 113.28 | 295.2 | 295.2 |
| 6 | 40 | 24 | 960 | 7.1 | 0.555 | 0.94 | 0.184 | 0.5 | 88.32 | 266.4 | 266.4 |
| 7 | 40 | 24 | 960 | 6.7 | 0.495 | 0.65 | 0.126 | 0.5 | 60.48 | 237.6 | 237.6 |
| 8 | 40 | 24 | 960 | 6.5 | 0.465 | 0.56 | 0.108 | 0.5 | 51.84 | 223.2 | 223.2 |
| 9 | 40 | 24 | 960 | 14.2 | 1.62 | 3.3 | 0.656 | 0.5 | 314.88 | 777.6 | 777.6 |
| 10 | 40 | 24 | 960 | 14.1 | 1.605 | 4.1 | 0.816 | 0.5 | 391.68 | 770.4 | 770.4 |
| 11 | 40 | 24 | 960 | 8.3 | 0.735 | 1.63 | 0.322 | 0.5 | 154.56 | 352.8 | 352.8 |
| 12 | 40 | 24 | 960 | 7.8 | 0.66 | 1.75 | 0.346 | 0.5 | 166.08 | 316.8 | 316.8 |
| 13 | 40 | 24 | 960 | 22 | 2.79 | 3.8 | 0.756 | 0.5 | 362.88 | 1339.2 | 1339.2 |
| 14 | 40 | 24 | 960 | 10.2 | 1.02 | 2.2 | 0.436 | 0.5 | 209.28 | 489.6 | 489.6 |
| 15 | 40 | 24 | 960 | 8.1 | 0.705 | 1.63 | 0.322 | 0.5 | 154.56 | 338.4 | 338.4 |
| 16 | 40 | 24 | 960 | 6.7 | 0.495 | 1.1 | 0.216 | 0.5 | 103.68 | 237.6 | 237.6 |
| 17 | 40 | 24 | 960 | 7.2 | 0.57 | 1.3 | 0.256 | 0.5 | 122.88 | 273.6 | 273.6 |
| 18 | 40 | 24 | 960 | 6.2 | 0.42 | 0.81 | 0.158 | 0.5 | 75.84 | 201.6 | 201.6 |
| 19 | 40 | 24 | 960 | 6.4 | 0.45 | 0.93 | 0.182 | 0.5 | 87.36 | 216 | 216 |
| 20 | 40 | 24 | 960 | 6.3 | 0.435 | 0.75 | 0.146 | 0.5 | 70.08 | 208.8 | 208.8 |
| 21 | 40 | 24 | 960 | 6.6 | 0.48 | 0.88 | 0.172 | 0.5 | 82.56 | 230.4 | 230.4 |

| | | |
|-------------------------------|----|------|
| Drum 53 count range | | % |
| Alpha low (0.3 to 1 cps) | 19 | 34.5 |
| Alpha mid (1 to 2 cps) | 24 | 43.6 |
| Alpha high (2 to 5cps) | 10 | 18.2 |
| Alpha very high (5 to 20 cps) | 2 | 3.6 |
| | | 55 |

| | | |
|-------------------------------|----|------|
| Drum 54 count range | | % |
| Alpha low (0.3 to 1 cps) | 23 | 41.8 |
| Alpha mid (1 to 2 cps) | 19 | 34.5 |
| Alpha high (2 to 5cps) | 12 | 21.8 |
| Alpha very high (5 to 20 cps) | 1 | 1.8 |
| | | 55 |

| | | | | | | | | | | | |
|----------|----|----|-----|------|-------|------|-------|-----|--------|-------|-------|
| 22 | 40 | 24 | 960 | 9 | 0.84 | 1.3 | 0.256 | 0.5 | 122.88 | 403.2 | 403.2 |
| 23 | 40 | 24 | 960 | 7.4 | 0.6 | 1.1 | 0.216 | 0.5 | 103.68 | 288 | 288 |
| 24 | 40 | 24 | 960 | 7.5 | 0.615 | 1 | 0.196 | 0.5 | 94.08 | 295.2 | 295.2 |
| 25 | 40 | 24 | 960 | 7.7 | 0.645 | 2.4 | 0.476 | 0.5 | 228.48 | 309.6 | 309.6 |
| 26 | 40 | 24 | 960 | 8.7 | 0.795 | 1.3 | 0.256 | 0.5 | 122.88 | 381.6 | 381.6 |
| 27 | 40 | 24 | 960 | 12.4 | 1.35 | 3.8 | 0.756 | 0.5 | 362.88 | 648 | 648 |
| 28 | 40 | 24 | 960 | 7.1 | 0.555 | 1.4 | 0.276 | 0.5 | 132.48 | 266.4 | 266.4 |
| 29 | 40 | 24 | 960 | 13.4 | 1.5 | 3.6 | 0.716 | 0.5 | 343.68 | 720 | 720 |
| 30 | 40 | 24 | 960 | 6.3 | 0.435 | 0.9 | 0.176 | 0.5 | 84.48 | 208.8 | 208.8 |
| 31 | 40 | 24 | 960 | 5.9 | 0.375 | 0.63 | 0.122 | 0.5 | 58.56 | 180 | 180 |
| 32 | 40 | 24 | 960 | 6.9 | 0.525 | 1.8 | 0.356 | 0.5 | 170.88 | 252 | 252 |
| 33 | 40 | 24 | 960 | 7.9 | 0.675 | 2.2 | 0.436 | 0.5 | 209.28 | 324 | 324 |
| 34 | 40 | 24 | 960 | 6.6 | 0.48 | 0.69 | 0.134 | 0.5 | 64.32 | 230.4 | 230.4 |
| 35 | 40 | 24 | 960 | 11.6 | 1.23 | 3.3 | 0.656 | 0.5 | 314.88 | 590.4 | 590.4 |
| 36 | 40 | 24 | 960 | 8.6 | 0.78 | 1.91 | 0.378 | 0.5 | 181.44 | 374.4 | 374.4 |
| 37 | 40 | 24 | 960 | 8.9 | 0.825 | 2.61 | 0.518 | 0.5 | 248.64 | 396 | 396 |
| 38 | 40 | 24 | 960 | 5.4 | 0.3 | 0.72 | 0.14 | 0.5 | 67.2 | 144 | 144 |
| 39 | 40 | 24 | 960 | 6.4 | 0.45 | 1.75 | 0.346 | 0.5 | 166.08 | 216 | 216 |
| 40 | 40 | 24 | 960 | 5.6 | 0.33 | 0.59 | 0.114 | 0.5 | 54.72 | 158.4 | 158.4 |
| 41 | 40 | 24 | 960 | 7.8 | 0.66 | 2.2 | 0.436 | 0.5 | 209.28 | 316.8 | 316.8 |
| 42 | 40 | 24 | 960 | 7.1 | 0.555 | 0.88 | 0.172 | 0.5 | 82.56 | 266.4 | 266.4 |
| 43 | 40 | 24 | 960 | 5.8 | 0.36 | 0.69 | 0.134 | 0.5 | 64.32 | 172.8 | 172.8 |
| 44 | 40 | 24 | 960 | 5.6 | 0.33 | 0.62 | 0.12 | 0.5 | 57.6 | 158.4 | 158.4 |
| 45 | 40 | 24 | 960 | 7.1 | 0.555 | 0.94 | 0.184 | 0.5 | 88.32 | 266.4 | 266.4 |
| 46 | 40 | 24 | 960 | 7.9 | 0.675 | 1.19 | 0.234 | 0.5 | 112.32 | 324 | 324 |
| 47 | 40 | 24 | 960 | 6.2 | 0.42 | 0.58 | 0.112 | 0.5 | 53.76 | 201.6 | 201.6 |
| 48 | 40 | 24 | 960 | 8.4 | 0.75 | 1.38 | 0.272 | 0.5 | 130.56 | 360 | 360 |
| 49 | 40 | 24 | 960 | 6.1 | 0.405 | 0.61 | 0.118 | 0.5 | 56.64 | 194.4 | 194.4 |
| 50 | 40 | 24 | 960 | 6.2 | 0.42 | 0.66 | 0.128 | 0.5 | 61.44 | 201.6 | 201.6 |
| 51 | 40 | 24 | 960 | 6.9 | 0.525 | 1.13 | 0.222 | 0.5 | 106.56 | 252 | 252 |
| 52 | 40 | 24 | 960 | 12.6 | 1.38 | 1.32 | 0.26 | 0.5 | 124.8 | 662.4 | 662.4 |
| 53 | 40 | 24 | 960 | 7.9 | 0.675 | 1.25 | 0.246 | 0.5 | 118.08 | 324 | 324 |
| 54 | 40 | 24 | 960 | 6.4 | 0.45 | 0.73 | 0.142 | 0.5 | 68.16 | 216 | 216 |
| 55 | 40 | 24 | 960 | 8.3 | 0.735 | 0.78 | 0.152 | 0.5 | 72.96 | 352.8 | 352.8 |
| Drum 54: | | | | | | | | | 8756 | 19555 | 20309 |

| | Alpha | Beta/gamma | Highest |
|--------------------------------|-------|------------|---------|
| Average of D51, D52, D53, D54: | 8841 | 22537 | 22768 |

DRUM 57

| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 52.2 | 7.32 | 15.9 | 3.176 | 0.5 | 1524.48 | 3513.6 | 3513.6 |
| 2 | 40 | 24 | 960 | 50.6 | 7.08 | 11.8 | 2.356 | 0.5 | 1130.88 | 3398.4 | 3398.4 |
| 3 | 40 | 24 | 960 | 92 | 13.29 | 10.7 | 2.136 | 0.5 | 1025.28 | 6379.2 | 6379.2 |
| 4 | 40 | 24 | 960 | 71 | 10.14 | 15.6 | 3.116 | 0.5 | 1495.68 | 4867.2 | 4867.2 |
| 5 | 40 | 24 | 960 | 24 | 3.09 | 6.7 | 1.336 | 0.5 | 641.28 | 1483.2 | 1483.2 |
| 6 | 40 | 24 | 960 | 31 | 4.14 | 7.3 | 1.456 | 0.5 | 698.88 | 1987.2 | 1987.2 |
| 7 | 40 | 24 | 960 | 34 | 4.59 | 10.8 | 2.156 | 0.5 | 1034.88 | 2203.2 | 2203.2 |
| 8 | 40 | 24 | 960 | 16.6 | 1.98 | 5.8 | 1.156 | 0.5 | 554.88 | 950.4 | 950.4 |
| 9 | 40 | 24 | 960 | 25 | 3.24 | 7.25 | 1.446 | 0.5 | 694.08 | 1555.2 | 1555.2 |
| 10 | 40 | 24 | 960 | 24.3 | 3.135 | 5.9 | 1.176 | 0.5 | 564.48 | 1504.8 | 1504.8 |
| 11 | 40 | 24 | 960 | 27 | 3.54 | 7.4 | 1.476 | 0.5 | 708.48 | 1699.2 | 1699.2 |
| 12 | 40 | 24 | 960 | 31 | 4.14 | 6.3 | 1.256 | 0.5 | 602.88 | 1987.2 | 1987.2 |
| 13 | 40 | 24 | 960 | 32 | 4.29 | 7.9 | 1.576 | 0.5 | 756.48 | 2059.2 | 2059.2 |
| 14 | 40 | 24 | 960 | 22 | 2.79 | 7.4 | 1.476 | 0.5 | 708.48 | 1339.2 | 1339.2 |
| 15 | 40 | 24 | 960 | 18.1 | 2.205 | 6.8 | 1.356 | 0.5 | 650.88 | 1058.4 | 1058.4 |
| 16 | 40 | 24 | 960 | 44 | 6.09 | 13.4 | 2.676 | 0.5 | 1284.48 | 2923.2 | 2923.2 |
| 17 | 40 | 24 | 960 | 51 | 7.14 | 9.3 | 1.856 | 0.5 | 890.88 | 3427.2 | 3427.2 |
| 18 | 40 | 24 | 960 | 22 | 2.79 | 5.7 | 1.136 | 0.5 | 545.28 | 1339.2 | 1339.2 |
| 19 | 40 | 24 | 960 | 52 | 7.29 | 12.3 | 2.456 | 0.5 | 1178.88 | 3499.2 | 3499.2 |
| 20 | 40 | 24 | 960 | 46 | 6.39 | 13.6 | 2.716 | 0.5 | 1303.68 | 3067.2 | 3067.2 |
| 21 | 40 | 24 | 960 | 40 | 5.49 | 12.8 | 2.556 | 0.5 | 1226.88 | 2635.2 | 2635.2 |
| 22 | 40 | 24 | 960 | 44 | 6.09 | 16.4 | 3.276 | 0.5 | 1572.48 | 2923.2 | 2923.2 |
| 23 | 40 | 24 | 960 | 43 | 5.94 | 11.8 | 2.356 | 0.5 | 1130.88 | 2851.2 | 2851.2 |
| 24 | 40 | 24 | 960 | 122 | 17.79 | 18.7 | 3.736 | 0.5 | 1793.28 | 8539.2 | 8539.2 |
| 25 | 40 | 24 | 960 | 190 | 27.99 | 12.3 | 2.456 | 0.5 | 1178.88 | 13435.2 | 13435.2 |
| 26 | 40 | 24 | 960 | 37 | 5.04 | 8.5 | 1.696 | 0.5 | 814.08 | 2419.2 | 2419.2 |
| 27 | 40 | 24 | 960 | 50 | 6.99 | 15 | 2.996 | 0.5 | 1438.08 | 3355.2 | 3355.2 |
| 28 | 40 | 24 | 960 | 50 | 6.99 | 5 | 0.996 | 0.5 | 478.08 | 3355.2 | 3355.2 |
| 29 | 40 | 24 | 960 | 30 | 3.99 | 6 | 1.196 | 0.5 | 574.08 | 1915.2 | 1915.2 |
| 30 | 40 | 24 | 960 | 40 | 5.49 | 10 | 1.996 | 0.5 | 958.08 | 2635.2 | 2635.2 |
| 31 | 40 | 24 | 960 | 40 | 5.49 | 15 | 2.996 | 0.5 | 1438.08 | 2635.2 | 2635.2 |
| 32 | 40 | 24 | 960 | 50 | 6.99 | 10 | 1.996 | 0.5 | 958.08 | 3355.2 | 3355.2 |
| 33 | 40 | 24 | 960 | 40 | 5.49 | 7 | 1.396 | 0.5 | 670.08 | 2635.2 | 2635.2 |
| 34 | 40 | 24 | 960 | 40 | 5.49 | 10 | 1.996 | 0.5 | 958.08 | 2635.2 | 2635.2 |
| 35 | 40 | 24 | 960 | 40 | 5.49 | 15 | 2.996 | 0.5 | 1438.08 | 2635.2 | 2635.2 |
| 36 | 40 | 24 | 960 | 30 | 3.99 | 15 | 2.996 | 0.5 | 1438.08 | 1915.2 | 1915.2 |
| 37 | 40 | 24 | 960 | 10 | 0.99 | 5 | 0.996 | 0.5 | 478.08 | 475.2 | 478.08 |
| 38 | 40 | 24 | 960 | 54 | 7.59 | 9.3 | 1.856 | 0.5 | 890.88 | 3643.2 | 3643.2 |
| 39 | 40 | 24 | 960 | 34 | 4.59 | 14.7 | 2.936 | 0.5 | 1409.28 | 2203.2 | 2203.2 |
| 40 | 40 | 24 | 960 | 64 | 9.09 | 18.7 | 3.736 | 0.5 | 1793.28 | 4363.2 | 4363.2 |
| 41 | 40 | 24 | 960 | 36 | 4.89 | 9.6 | 1.916 | 0.5 | 919.68 | 2347.2 | 2347.2 |
| 42 | 40 | 24 | 960 | 41 | 5.64 | 12.3 | 2.456 | 0.5 | 1178.88 | 2707.2 | 2707.2 |
| 43 | 40 | 24 | 960 | 20 | 2.49 | 6.8 | 1.356 | 0.5 | 650.88 | 1195.2 | 1195.2 |
| 44 | 40 | 24 | 960 | 23 | 2.94 | 8.2 | 1.636 | 0.5 | 785.28 | 1411.2 | 1411.2 |
| 45 | 40 | 24 | 960 | 26 | 3.39 | 10.4 | 2.076 | 0.5 | 996.48 | 1627.2 | 1627.2 |
| 46 | 40 | 24 | 960 | 14 | 1.59 | 8.83 | 1.762 | 0.5 | 845.76 | 763.2 | 845.76 |
| 47 | 40 | 24 | 960 | 17 | 2.04 | 5.7 | 1.136 | 0.5 | 545.28 | 979.2 | 979.2 |
| 48 | 40 | 24 | 960 | 27 | 3.54 | 7.3 | 1.456 | 0.5 | 698.88 | 1699.2 | 1699.2 |
| 49 | 40 | 24 | 960 | 28 | 3.69 | 9.6 | 1.916 | 0.5 | 919.68 | 1771.2 | 1771.2 |
| 50 | 40 | 24 | 960 | 19 | 2.34 | 5.4 | 1.076 | 0.5 | 516.48 | 1123.2 | 1123.2 |
| 51 | 40 | 24 | 960 | 22 | 2.79 | 6.3 | 1.256 | 0.5 | 602.88 | 1339.2 | 1339.2 |

| | | |
|-------------------------------|-----------|------|
| Drum 57 count range | | % |
| Alpha low (0.3 to 1 cps) | 0 | 0.0 |
| Alpha mid (1 to 2 cps) | 0 | 0.0 |
| Alpha high (2 to 5cps) | 2 | 3.6 |
| Alpha very high (5 to 20 cps) | 53 | 96.4 |
| | <u>55</u> | |

| | | | | | | | | | | | |
|----------|----|----|-----|----|------|-----|-------|-----|--------|------------|---------|
| 52 | 40 | 24 | 960 | 33 | 4.44 | 7.7 | 1.536 | 0.5 | 737.28 | 2131.2 | 2131.2 |
| 53 | 40 | 24 | 960 | 17 | 2.04 | 5.9 | 1.176 | 0.5 | 564.48 | 979.2 | 979.2 |
| 54 | 40 | 24 | 960 | 22 | 2.79 | 6.6 | 1.316 | 0.5 | 631.68 | 1339.2 | 1339.2 |
| 55 | 40 | 24 | 960 | 16 | 1.89 | 5.3 | 1.056 | 0.5 | 506.88 | 907.2 | 907.2 |
| | | | | | | | | | Alpha | Beta/gamma | Highest |
| Drum 57: | | | | | | | | | 51732 | 143122 | 143207 |

DRUM 58

| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|----------|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 80.2 | 11.52 | 42.1 | 8.416 | 0.5 | 4039.68 | 5529.6 | 5529.6 |
| 2 | 40 | 24 | 960 | 124 | 18.09 | 44.2 | 8.836 | 0.5 | 4241.28 | 8683.2 | 8683.2 |
| 3 | 40 | 24 | 960 | 92.6 | 13.38 | 41 | 8.196 | 0.5 | 3934.08 | 6422.4 | 6422.4 |
| 4 | 40 | 24 | 960 | 104 | 15.09 | 23.6 | 4.716 | 0.5 | 2263.68 | 7243.2 | 7243.2 |
| 5 | 40 | 24 | 960 | 167 | 24.54 | 64.5 | 12.896 | 0.5 | 6190.08 | 11779.2 | 11779.2 |
| 6 | 40 | 24 | 960 | 202 | 29.79 | 47.2 | 9.436 | 0.5 | 4529.28 | 14299.2 | 14299.2 |
| 7 | 40 | 24 | 960 | 92 | 13.29 | 28.8 | 5.756 | 0.5 | 2762.88 | 6379.2 | 6379.2 |
| 8 | 40 | 24 | 960 | 129 | 18.84 | 49.5 | 9.896 | 0.5 | 4750.08 | 9043.2 | 9043.2 |
| 9 | 40 | 24 | 960 | 188 | 27.69 | 34.2 | 6.836 | 0.5 | 3281.28 | 13291.2 | 13291.2 |
| 10 | 40 | 24 | 960 | 93 | 13.44 | 29.6 | 5.916 | 0.5 | 2839.68 | 6451.2 | 6451.2 |
| 11 | 40 | 24 | 960 | 170 | 24.99 | 49.8 | 9.956 | 0.5 | 4778.88 | 11995.2 | 11995.2 |
| 12 | 40 | 24 | 960 | 115 | 16.74 | 41.4 | 8.276 | 0.5 | 3972.48 | 8035.2 | 8035.2 |
| 13 | 40 | 24 | 960 | 81 | 11.64 | 26.5 | 5.296 | 0.5 | 2542.08 | 5587.2 | 5587.2 |
| 14 | 40 | 24 | 960 | 88 | 12.69 | 39.2 | 7.836 | 0.5 | 3761.28 | 6091.2 | 6091.2 |
| 15 | 40 | 24 | 960 | 175 | 25.74 | 33.3 | 6.656 | 0.5 | 3194.88 | 12355.2 | 12355.2 |
| 16 | 40 | 24 | 960 | 297 | 44.04 | 29.7 | 5.936 | 0.5 | 2849.28 | 21139.2 | 21139.2 |
| 17 | 40 | 24 | 960 | 57 | 8.04 | 21.6 | 4.316 | 0.5 | 2071.68 | 3859.2 | 3859.2 |
| 18 | 40 | 24 | 960 | 34 | 4.59 | 24.6 | 4.916 | 0.5 | 2359.68 | 2203.2 | 2359.68 |
| 19 | 40 | 24 | 960 | 48 | 6.69 | 21.7 | 4.336 | 0.5 | 2081.28 | 3211.2 | 3211.2 |
| 20 | 40 | 24 | 960 | 83 | 11.94 | 33.2 | 6.636 | 0.5 | 3185.28 | 5731.2 | 5731.2 |
| 21 | 40 | 24 | 960 | 96 | 13.89 | 22.6 | 4.516 | 0.5 | 2167.68 | 6667.2 | 6667.2 |
| 22 | 40 | 24 | 960 | 155 | 22.74 | 24.9 | 4.976 | 0.5 | 2388.48 | 10915.2 | 10915.2 |
| 23 | 40 | 24 | 960 | 65 | 9.24 | 28.2 | 5.636 | 0.5 | 2705.28 | 4435.2 | 4435.2 |
| 24 | 40 | 24 | 960 | 51 | 7.14 | 22.6 | 4.516 | 0.5 | 2167.68 | 3427.2 | 3427.2 |
| 25 | 40 | 24 | 960 | 81 | 11.64 | 33.7 | 6.736 | 0.5 | 3233.28 | 5587.2 | 5587.2 |
| 26 | 40 | 24 | 960 | 100 | 14.49 | 32.2 | 6.436 | 0.5 | 3089.28 | 6955.2 | 6955.2 |
| 27 | 40 | 24 | 960 | 68 | 9.69 | 23.4 | 4.676 | 0.5 | 2244.48 | 4651.2 | 4651.2 |
| 28 | 40 | 24 | 960 | 75 | 10.74 | 25 | 4.996 | 0.5 | 2398.08 | 5155.2 | 5155.2 |
| 29 | 40 | 24 | 960 | 375 | 55.74 | 45 | 8.996 | 0.5 | 4318.08 | 26755.2 | 26755.2 |
| 30 | 40 | 24 | 960 | 60 | 8.49 | 20 | 3.996 | 0.5 | 1918.08 | 4075.2 | 4075.2 |
| 31 | 40 | 24 | 960 | 350 | 51.99 | 70 | 13.996 | 0.5 | 6718.08 | 24955.2 | 24955.2 |
| 32 | 40 | 24 | 960 | 500 | 74.49 | 50 | 9.996 | 0.5 | 4798.08 | 35755.2 | 35755.2 |
| 33 | 40 | 24 | 960 | 75 | 10.74 | 20 | 3.996 | 0.5 | 1918.08 | 5155.2 | 5155.2 |
| 34 | 40 | 24 | 960 | 100 | 14.49 | 40 | 7.996 | 0.5 | 3838.08 | 6955.2 | 6955.2 |
| 35 | 40 | 24 | 960 | 70 | 9.99 | 30 | 5.996 | 0.5 | 2878.08 | 4795.2 | 4795.2 |
| 36 | 40 | 24 | 960 | 150 | 21.99 | 25 | 4.996 | 0.5 | 2398.08 | 10555.2 | 10555.2 |
| 37 | 40 | 24 | 960 | 80 | 11.49 | 25 | 4.996 | 0.5 | 2398.08 | 5515.2 | 5515.2 |
| 38 | 40 | 24 | 960 | 70 | 9.99 | 25 | 4.996 | 0.5 | 2398.08 | 4795.2 | 4795.2 |
| 39 | 40 | 24 | 960 | 150 | 21.99 | 60 | 11.996 | 0.5 | 5758.08 | 10555.2 | 10555.2 |
| 40 | 40 | 24 | 960 | 150 | 21.99 | 60 | 11.996 | 0.5 | 5758.08 | 10555.2 | 10555.2 |
| 41 | 40 | 24 | 960 | 150 | 21.99 | 70 | 13.996 | 0.5 | 6718.08 | 10555.2 | 10555.2 |
| 42 | 40 | 24 | 960 | 220 | 32.49 | 120 | 23.996 | 0.5 | 11518.08 | 15595.2 | 15595.2 |
| 43 | 40 | 24 | 960 | 85 | 12.24 | 25 | 4.996 | 0.5 | 2398.08 | 5875.2 | 5875.2 |
| 44 | 40 | 24 | 960 | 70 | 9.99 | 30 | 5.996 | 0.5 | 2878.08 | 4795.2 | 4795.2 |
| 45 | 40 | 24 | 960 | 300 | 44.49 | 90 | 17.996 | 0.5 | 8638.08 | 21355.2 | 21355.2 |
| 46 | 40 | 24 | 960 | 1000 | 149.49 | 35 | 6.996 | 0.5 | 3358.08 | 71755.2 | 71755.2 |
| 47 | 40 | 24 | 960 | 800 | 119.49 | 150 | 29.996 | 0.5 | 14398.08 | 57355.2 | 57355.2 |
| 48 | 40 | 24 | 960 | 272 | 40.29 | 91.4 | 18.276 | 0.5 | 8772.48 | 19339.2 | 19339.2 |
| 49 | 40 | 24 | 960 | 78 | 11.19 | 26.3 | 5.256 | 0.5 | 2522.88 | 5371.2 | 5371.2 |
| 50 | 40 | 24 | 960 | 123 | 17.94 | 38.4 | 7.676 | 0.5 | 3684.48 | 8611.2 | 8611.2 |
| 51 | 40 | 24 | 960 | 53 | 7.44 | 29.2 | 5.836 | 0.5 | 2801.28 | 3571.2 | 3571.2 |
| 52 | 40 | 24 | 960 | 86 | 12.39 | 21.2 | 4.236 | 0.5 | 2033.28 | 5947.2 | 5947.2 |
| 53 | 40 | 24 | 960 | 49 | 6.84 | 22.4 | 4.476 | 0.5 | 2148.48 | 3283.2 | 3283.2 |
| 54 | 40 | 24 | 960 | 66 | 9.39 | 27.1 | 5.416 | 0.5 | 2599.68 | 4507.2 | 4507.2 |
| 55 | 40 | 24 | 960 | 1600 | 239.49 | 300 | 59.996 | 0.5 | 28798.08 | 114955.2 | 114955.2 |
| | | | | | | | | | Alpha | Beta/gamma | Highest |
| Drum 58: | | | | | | | | | 238387 | 720418 | 720574 |

Drum 58 count range %

Alpha low (0.3 to 1 cps) 0 0.0

Alpha mid (1 to 2 cps) 0 0.0

Alpha high (2 to 5cps) 0 0.0

Alpha very high (5 to 20 cps) 1 1.8

Alpha bloody high (> 20 cps) 54 98.2

55

Observation: First 5 drums contain tiles removed from North Western Cnr of lower floor building (above G11), moving from roof pitch to gutter from North to South. Drums 56 - 60 reflect those removed from middle to Southern end (above G13). Incidence of numbers of tiles with higher activity increased towards the Southern end (above G11-G13). Tiles above category 1 will be subject to individual calculation assessment to determine drum activity.

Drum activity categories:

| Category | Alpha count range | Activity range | Drum activity | Comment |
|------------|--------------------|---------------------------|---------------|---|
| Category 1 | <5cps alpha | <1 Bq/cm ² | 22.8 kBq | Activity based on average of drums 51 - 54 which have similar activities; and also higher worse case scenario to account for masking of alpha |
| Category 2 | 5 - 20 cps alpha | 1 - 4 Bq/cm ² | 143.2 kBq | Activity based on drum 57 |
| Category 3 | 20 - 100 cps alpha | 4 - 20 Bq/cm ² | 720.5 kBq | Activity based on drum 58 |

Summary of drum activities:

| | | | Net Mass (kg) |
|-----|------------------|-----------|---------------|
| D50 | 1-2 cps alpha | 12.1 kBq | 180.5 |
| D51 | <5cps alpha | 25.6 kBq | 178 |
| D52 | <5cps alpha | 22.6 kBq | 175.5 |
| D53 | <5cps alpha | 22.5 kBq | 178 |
| D54 | <5cps alpha | 20.3 kBq | 175.5 |
| D55 | <5cps alpha | 22.8 kBq | 173.5 |
| D56 | <5cps alpha | 22.8 kBq | 179.5 |
| D57 | 5 - 20 cps alpha | 143.2 kBq | 174.5 |
| D58 | >20 cps alpha | 720.5 kBq | 169.5 |
| D59 | <5cps alpha | 22.8 kBq | 182.5 |
| D60 | <5cps alpha | 22.8 kBq | 183 |
| D69 | <5cps alpha | 22.8 kBq | 180.5 |
| D70 | <5cps alpha | 22.8 kBq | 184.5 |

| | | | | |
|---------------|--------------------|-----------|----------|-------------|
| D71 | 5 - 20 cps alpha | 143.2 kBq | | 184.5 |
| D72 | 20 - 100 cps alpha | 720.5 kBq | hot one! | 185 |
| D73 | <5cps alpha | 22.8 kBq | | 173.5 |
| D74 | <5cps alpha | 22.8 kBq | | 202 |
| D75 | <5cps alpha | 22.8 kBq | | 204.5 |
| D76 | <5cps alpha | 22.8 kBq | | 207.5 |
| D77 | 5 - 20 cps alpha | 143.2 kBq | | 201 |
| D78 | 5 - 20 cps alpha | 143.2 kBq | | 184 |
| D79 | 5 - 20 cps alpha | 143.2 kBq | | 190 |
| D80 | <5cps alpha | 22.8 kBq | | 175 |
| D81 | <5cps alpha | 22.8 kBq | | 186 |
| D82 | >20 cps alpha | 720.5 kBq | hot one! | 189 |
| D83 | <5cps alpha | 22.8 kBq | | 180 |
| D84 | <5cps alpha | 22.8 kBq | | 184.5 |
| D85 | <5cps alpha | 22.8 kBq | | 176 |
| D86 | <5cps alpha | 22.8 kBq | | 184 |
| D87 | <5cps alpha | 22.8 kBq | | 176 |
| D88 | <5cps alpha | 22.8 kBq | | 176.5 |
| D89 | <5cps alpha | 22.8 kBq | | 187 |
| D90 | >20 cps alpha | 720.5 kBq | hot one! | 173.5 |
| D147 | <5cps alpha | 22.8 kBq | | 206.5 |
| C <5cps alpha | | | | |
| | | | | <u>6241</u> |

Roof battens and other timber material**Instrument MTE: 5527, 5506****Higher area of contamination than ceiling material wood**

During processing of this material it was observed that *after vacuuming*, the count rate range was similar to that measured when processing the "wood and ceiling material" previously removed from ceilings, however the area of each piece of batten wood that was contaminated was found to be greater. In consideration of the similar typical count rate range, the activity determination derived for the "wood and ceiling material" has been applied to this "roof batten and timbers" material with the exception the fraction of the area factor has been increased to "1" (as in the case adopted for the ventilation duct plasterboard material). The resulting activity therefore has been determined as **116314 Bq** per drum.

The above activity level has been applied to the following drums:

D65**D66****D67****D68****D91****D92****D93****D97****D98****D99**

Pieces of guttering measurements and assumptions:

| Measured spots | Beta CPS | Typical alpha response assumed (CPS) (based on known comparative measurements from wood/skirting board etc) | Average assumed α cps of spots | Bq/cm ² α | 1cps /Bq/cm ² Alpha |
|----------------|----------|---|---------------------------------------|-----------------------------|--------------------------------|
| 1 | 170 | 60 | 47.5 | 9.5 | 0.2 |
| 2 | 120 | 40 | | | |
| 3 | 100 | 35 | | | |
| 4 | 60 | 25 | | | |
| 5 | 50 | 20 | | | |
| 6 | 30 | 10 | | | |

Assumptions

Each piece of gutter is approximately 100 cm x 10 cm (length and bottom surface of U shaped gutter only)

Surface area: 1000 cm²

Assume approximately 50% of each gutter piece is contaminated

Assumed contaminated surface area: 500 cm²

Total activity per piece of gutter: 4750 Bq

2 pieces of guttering per bag 9500 Bq

5 bags per drum 47500 Bq

Total assumed drum activity: 47.5 kBq

Nb: The above assumptions and calculations are estimates based on comparative readings between instrument responses to different radiations observed on other similar materials. This method of calculating activity was necessary as it was not possible to assess directly the alpha readings (used for quantification) as the items contained asbestos and had already been sealed by asbestos specialists, and the risk of potential release exceeded the value of getting better, more accurate radiation measurements when the items will ultimately still be considered as radioactive and hazardous material.

INVENTORY OF DRUMS OF MATERIAL REMOVED FROM BUILDING 164 - UNIVERSITY OF MELBOURNE 2017

| Drum No. | Description of contents | Photo No.s | Radionuclide | Dose rate (µSv/hr) at contact | Activity (kBq) | Gross Drum Mass (kg) | Net Drum (contents) Mass (kg) | Bq/g | A/D Ratio | Security Category | Drum classification |
|----------|--|----------------|--------------|-------------------------------|----------------|----------------------|-------------------------------|-------|-----------|-------------------|---------------------|
| D1 | Contaminated asbestos guttering removed from building | 1904 1906 | Ra226 | | 47.5 | 75 | 55.5 | 856 | 0.0000012 | 5 | IW SCO-I |
| D2 | Contaminated asbestos guttering removed from building | 1903 1907 | Ra226 | | 47.5 | 77.5 | 58 | 819 | 0.0000012 | 5 | IW SCO-I |
| D3 | Contaminated asbestos guttering removed from building | 1905 1908 | Ra226 | | 47.5 | 84 | 64.5 | 736 | 0.0000012 | 5 | IW SCO-I |
| D4 | Roof insulation bats | 1830 1831 | Ra226 | | 65.2 | 29 | 9.5 | 6863 | 0.0000016 | 5 | IW SCO-I |
| D5 | Roof insulation bats | 1832 1833 | Ra226 | | 114.2 | 28 | 8.5 | 13435 | 0.0000029 | 5 | IW SCO-I |
| D6 | Roof insulation bats | 1834 1835 | Ra226 | | 215.5 | 29.5 | 10 | 21550 | 0.0000054 | 5 | IW SCO-I |
| D7 | Roof insulation bats | 1836 1837 | Ra226 | | 56.1 | 34.5 | 15 | 3740 | 0.0000014 | 5 | IW SCO-I |
| D8 | Roof insulation bats | 1838 1839 | Ra226 | | 210.4 | 31.5 | 12 | 17533 | 0.0000053 | 5 | IW SCO-I |
| D9 | Roof insulation bats | 1840 1841 | Ra226 | | 248.1 | 29 | 9.5 | 26116 | 0.0000062 | 5 | IW SCO-I |
| D10 | Roof insulation bats | 1842 1843 | Ra226 | | 50.3 | 33 | 13.5 | 3726 | 0.0000013 | 5 | IW SCO-I |
| D11 | Roof insulation bats | 1844 1845 | Ra226 | | 28.2 | 32.5 | 13 | 2169 | 0.0000007 | 5 | IW SCO-I |
| D12 | Wood skirting, flooring, and ceiling bits, plaster etc | 1846 1847 | Ra226 | | 68.5 | 127 | 107.5 | 637 | 0.0000017 | 5 | IW SCO-I |
| D13 | Wood skirting, flooring, and ceiling bits, plaster etc | 1848 1849 | Ra226 | | 68.5 | 144.5 | 125 | 548 | 0.0000017 | 5 | IW SCO-I |
| D14 | Wood skirting, flooring, and ceiling bits, plaster etc | 1850 1851 | Ra226 | | 68.5 | 72 | 52.5 | 1304 | 0.0000017 | 5 | IW SCO-I |
| D15 | Wood skirting, flooring, and ceiling bits, plaster etc | 1852 1853 | Ra226 | | 68.5 | 81 | 61.5 | 1113 | 0.0000017 | 5 | IW SCO-I |
| D16 | Wood skirting, flooring, and ceiling bits, plaster etc | 1854 1855 | Ra226 | | 68.5 | 74.5 | 55 | 1245 | 0.0000017 | 5 | IW SCO-I |
| D17 | Wood skirting, flooring, and ceiling bits, plaster etc | 1856 1857 | Ra226 | | 68.5 | 138.5 | 119 | 575 | 0.0000017 | 5 | IW SCO-I |
| D18 | Wood skirting, flooring, and ceiling bits, plaster etc | 1858 1859 | Ra226 | | 68.5 | 82.5 | 63 | 1087 | 0.0000017 | 5 | IW SCO-I |
| D19 | Wood skirting, flooring, and ceiling bits, plaster etc | 1860 1861 | Ra226 | | 68.5 | 112.5 | 93 | 736 | 0.0000017 | 5 | IW SCO-I |
| D20 | Wood skirting, flooring, and ceiling bits, plaster etc | 1862 1863 | Ra226 | | 68.5 | 117.5 | 98 | 699 | 0.0000017 | 5 | IW SCO-I |
| D21 | Wood skirting, flooring, and ceiling bits, plaster etc | 1864 1865 | Ra226 | | 68.5 | 122.5 | 103 | 665 | 0.0000017 | 5 | IW SCO-I |
| D22 | Wood skirting, flooring, and ceiling bits, plaster etc | 1866 1867 | Ra226 | | 68.5 | 107 | 87.5 | 783 | 0.0000017 | 5 | IW SCO-I |
| D23 | Wood skirting, flooring, and ceiling bits, plaster etc | 1868 1869 | Ra226 | | 68.5 | 87 | 67.5 | 1014 | 0.0000017 | 5 | IW SCO-I |
| D24 | Wood skirting, flooring, and ceiling bits, plaster etc | 1870 1871 | Ra226 | | 68.5 | 69 | 49.5 | 1383 | 0.0000017 | 5 | IW SCO-I |
| D25 | Wood skirting, flooring, and ceiling bits, plaster etc | 1872 1873 | Ra226 | | 68.5 | 71.5 | 52 | 1317 | 0.0000017 | 5 | IW SCO-I |
| D26 | Wood skirting, flooring, and ceiling bits, plaster etc | 1874 1875 | Ra226 | | 68.5 | 67.5 | 48 | 1427 | 0.0000017 | 5 | IW SCO-I |
| D27 | Wood skirting, flooring, and ceiling bits, plaster etc | 1876 1877 | Ra226 | | 68.5 | 80.5 | 61 | 1122 | 0.0000017 | 5 | IW SCO-I |
| D28 | Wood skirting, flooring, and ceiling bits, plaster etc | 1878 1879 | Ra226 | | 68.5 | 117 | 97.5 | 702 | 0.0000017 | 5 | IW SCO-I |
| D29 | Wood skirting, flooring, and ceiling bits, plaster etc | 1880 1881 | Ra226 | | 68.5 | 64 | 44.5 | 1539 | 0.0000017 | 5 | IW SCO-I |
| D30 | Wood skirting, flooring, and ceiling bits, plaster etc | 1882 1883 | Ra226 | | 68.5 | 63 | 43.5 | 1574 | 0.0000017 | 5 | IW SCO-I |
| D31 | Wood skirting, flooring, and ceiling bits, plaster etc | 1884 1885 | Ra226 | | 68.5 | 67.5 | 48 | 1427 | 0.0000017 | 5 | IW SCO-I |
| D32 | Wood skirting, flooring, and ceiling bits, plaster etc | 1886 1887 | Ra226 | | 68.5 | 65.5 | 46 | 1489 | 0.0000017 | 5 | IW SCO-I |
| D33 | Wood skirting, flooring, and ceiling bits, plaster etc | 1888 1889 | Ra226 | | 68.5 | 66.5 | 47 | 1457 | 0.0000017 | 5 | IW SCO-I |
| D34 | Wall render rubble from G12 | 1890 1891 | Ra226 | | 448.5 | 150.5 | 131 | 3423 | 0.0000112 | 5 | IW SCO-I |
| D35 | Wall render rubble from G12 | 1892 1893 | Ra226 | | 205.3 | 137.5 | 118 | 1740 | 0.0000051 | 5 | IW SCO-I |
| D36 | Floor render rubble from room 108 and G12 | 1894 1895 | Ra226 | | 290.4 | 172.5 | 153 | 1898 | 0.0000073 | 5 | IW SCO-I |
| D37 | Rubble and bits and pieces | 1896 1897 | Ra226 | | 141.3 | 131 | 111.5 | 1267 | 0.0000035 | 5 | IW SCO-I |
| D38 | Rubble and bits and pieces | 1898 1899 | Ra226 | | 313.0 | 93 | 73.5 | 4259 | 0.0000078 | 5 | IW SCO-I |
| D39 | Rubble and bits and pieces | 1900 1901 1902 | Ra226 | | 520.8 | 88.5 | 69 | 7548 | 0.0000130 | 5 | IW SCO-I |
| D40 | Vacuum cleaner bags | 1909 1910 | Ra226 | | 968.0 | 98.5 | 79 | 12253 | 0.0000242 | 5 | IW SCO-I |
| D41 | Vacuum cleaner bags | | Ra226 | | 0.0 | | -19.5 | 0 | 0.0000000 | 5 | IW SCO-I |
| D42 | Rubble and bits and pieces | | Ra226 | | 0.0 | | -19.5 | 0 | 0.0000000 | 5 | IW SCO-I |
| D43 | Wood skirting, flooring, and ceiling bits, plaster etc | | Ra226 | | 68.5 | 108 | 88.5 | 774 | 0.0000017 | 5 | IW SCO-I |
| D44 | Wood skirting, flooring, and ceiling bits, plaster etc | | Ra226 | | 68.5 | 88.5 | 69 | 993 | 0.0000017 | 5 | IW SCO-I |
| D45 | Wood skirting, flooring, and ceiling bits, plaster etc | | Ra226 | | 68.5 | 81.5 | 62 | 1105 | 0.0000017 | 5 | IW SCO-I |
| D46 | Wood skirting, flooring, and ceiling bits, plaster etc | | Ra226 | | 68.5 | 121 | 101.5 | 675 | 0.0000017 | 5 | IW SCO-I |
| D47 | Wood skirting, flooring, and ceiling bits, plaster etc | | Ra226 | | 68.5 | 80.5 | 61 | 1123 | 0.0000017 | 5 | IW SCO-I |
| D48 | Wood skirting, flooring, and ceiling bits, plaster etc | | Ra226 | | 68.5 | 77.5 | 58 | 1181 | 0.0000017 | 5 | IW SCO-I |
| D49 | Wood skirting, flooring, and ceiling bits, plaster etc | | Ra226 | | 68.5 | 92.5 | 73 | 938 | 0.0000017 | 5 | IW SCO-I |
| D50 | | | Ra226 | | | | -19.5 | 0 | 0.0000000 | 5 | |
| D51 | | | Ra226 | | | | -19.5 | 0 | 0.0000000 | 5 | |
| D52 | | | Ra226 | | | | -19.5 | 0 | 0.0000000 | 5 | |
| D53 | | | Ra226 | | | | -19.5 | 0 | 0.0000000 | 5 | |
| D54 | | | Ra226 | | | | -19.5 | 0 | 0.0000000 | 5 | |
| D55 | | | Ra226 | | | | -19.5 | 0 | 0.0000000 | 5 | |
| D56 | | | Ra226 | | | | -19.5 | 0 | 0.0000000 | 5 | |
| D57 | | | Ra226 | | | | -19.5 | 0 | 0.0000000 | 5 | |
| D58 | | | Ra226 | | | | -19.5 | 0 | 0.0000000 | 5 | |
| D59 | | | Ra226 | | | | -19.5 | 0 | 0.0000000 | 5 | |
| D60 | | | Ra226 | | | | -19.5 | 0 | 0.0000000 | 5 | |
| D61 | | | | | | | | | | | |
| D62 | | | | | | | | | | | |
| D63 | | | | | | | | | | | |
| D64 | | | | | | | | | | | |
| D65 | | | | | | | | | | | |
| D66 | | | | | | | | | | | |
| D67 | | | | | | | | | | | |
| D68 | | | | | | | | | | | |
| D69 | | | | | | | | | | | |
| D70 | | | | | | | | | | | |

| | | |
|--------------|--------|--------|
| Total of all | KBq | kg |
| Drums: | 6003.7 | 3047.5 |

0.0001501 5 Security category (of total of drums)

D value (GBq) 40
Ra-226

| Security Category Levels DO NOT DELETE THIS TABLE! | | |
|---|-----------------------|---------|
| Security Category Level Based on A/D | | |
| Category | A/D ratio value range | |
| 1 | 1000 | 1000000 |
| 2 | 10 | 1000 |
| 3 | 1 | 10 |
| 4 | 0.01 | 1 |
| 5 | 0 | 0.01 |

A/D≥1000
1000>A/D≥10
10>A/D≥1
1>A/D≥0.01
0.01>A/D≥exempt/D

Bags containing insulation bats
Dusts and particles from building ceiling
Instrument MTE: 2904

| Drum | B/g ($\mu\text{Sv/hr}$) | Dose rate ($\mu\text{Sv/hr}$) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ | Drum Activity (kBq) |
|------|------------------------------|--|-----------------|--------------------------------------|---|------------------------|
| 4 | 0.06 | 0.067 | 0.7 | 223 | 15.38 | 65.2 |
| 4 | 0.06 | 0.065 | 1 | 223 | 22.42 | |
| 4 | 0.06 | 0.066 | 0.8 | 223 | 17.22 | |
| 4 | 0.06 | 0.065 | 0.6 | 223 | 8.07 | |
| 4 | 0.06 | 0.064 | 0.3 | 223 | 1.61 | |
| 4 | 0.06 | 0.063 | 0.2 | 223 | 0.54 | |
| 5 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | 114.2 |
| 5 | 0.06 | 0.067 | 1.5 | 223 | 70.63 | |
| 5 | 0.06 | 0.066 | 1.1 | 223 | 32.56 | |
| 6 | 0.06 | 0.065 | 0.4 | 223 | 3.59 | 215.5 |
| 6 | 0.06 | 0.074 | 1.5 | 223 | 141.26 | |
| 6 | 0.06 | 0.067 | 1.5 | 223 | 70.63 | |
| 7 | 0.06 | 0.065 | 1 | 223 | 22.42 | 56.1 |
| 7 | 0.06 | 0.064 | 0.6 | 223 | 6.46 | |
| 7 | 0.06 | 0.064 | 0.5 | 223 | 4.48 | |
| 7 | 0.06 | 0.063 | 1.3 | 223 | 22.74 | |
| 8 | 0.06 | 0.073 | 1.6 | 223 | 149.24 | 210.4 |
| 8 | 0.06 | 0.065 | 1.2 | 223 | 32.29 | |
| 8 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | |
| 8 | 0.06 | 0.064 | 1 | 223 | 17.94 | |
| 9 | 0.06 | 0.066 | 1.1 | 223 | 32.56 | 248.1 |
| 9 | 0.06 | 0.073 | 1.5 | 223 | 131.17 | |
| 9 | 0.06 | 0.068 | 1.5 | 223 | 80.72 | |
| 9 | 0.06 | 0.0651 | 0.4 | 223 | 3.66 | |
| 10 | 0.06 | 0.065 | 0.9 | 223 | 18.16 | 50.3 |
| 10 | 0.06 | 0.065 | 1 | 223 | 22.42 | |
| 10 | 0.06 | 0.066 | 0.6 | 223 | 9.69 | |
| 11 | 0.06 | 0.064 | 0.4 | 223 | 2.87 | 28.2 |
| 11 | 0.06 | 0.065 | 0.8 | 223 | 14.35 | |
| 11 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |

Surface Contamination measured on contents of 2 drums to determine "typical" average activity per drum

Wood skirting, flooring, and ceiling bits, plaster etc

Instrument MTE: 5527

Painted or laquered surface masking alpha, mostly soaked into material

| | | | | | | | | | | | | 1cps beta | | BckGrnd CPS | | 1cps Alpha | | BckGrnd CPS | |
|---------|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|-----------|--------|-------------|-----|------------|-----|-------------|--|
| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.15 | Bq/cm2 | 3.4 | 0.2 | Bq/cm2 | 0.1 | | |
| 1 | 80 | 30 | 2400 | 15 | 1.74 | 15 | 2.98 | 0.5 | 3576 | 2088 | 3576 | | | | | | | | |
| 2 | 14 | 80 | 1120 | 15 | 1.74 | 10 | 1.98 | 1 | 2217.6 | 1948.8 | 2217.6 | | | | | | | | |
| 3 | 80 | 18 | 1440 | 60 | 8.49 | | | 0.5 | 0 | 6112.8 | 6112.8 | | | | | | | | |
| 4 | 30 | 25 | 750 | 7 | 0.54 | | | 1 | 0 | 405 | 405 | | | | | | | | |
| 5 | 25 | 20 | 500 | 7 | 0.54 | | | 1 | 0 | 270 | 270 | | | | | | | | |
| 6 | 25 | 7 | 175 | 7 | 0.54 | | | 0.5 | 0 | 47.25 | 47.25 | | | | | | | | |
| 7 | 18 | 65 | 1170 | 25 | 3.24 | | | 0.25 | 0 | 947.7 | 947.7 | | | | | | | | |
| 8 | 28 | 35 | 980 | 7 | 0.54 | | | 0.5 | 0 | 264.6 | 264.6 | | | | | | | | |
| 9 | 10 | 45 | 450 | 40 | 5.49 | | | 0.25 | 0 | 617.625 | 617.625 | | | | | | | | |
| | 10 | 40 | 400 | 15 | 1.74 | | | 1 | 0 | 696 | 696 | | | | | | | | |
| | 105 | 7 | 735 | 15 | 1.74 | | | 1 | 0 | 1278.9 | 1278.9 | | | | | | | | |
| | 18 | 80 | 1440 | 170 | 24.99 | | | 0.5 | 0 | 17992.8 | 17992.8 | | | | | | | | |
| | 180 | 7 | 1260 | 15 | 1.74 | | | 0.25 | 0 | 548.1 | 548.1 | | | | | | | | |
| | 18 | 80 | 1440 | 7 | 0.54 | | | 0.25 | 0 | 194.4 | 194.4 | | | | | | | | |
| | 18 | 60 | 1080 | 15 | 1.74 | | | 0.125 | 0 | 234.9 | 234.9 | | | | | | | | |
| | 18 | 70 | 1260 | 40 | 5.49 | | | 1 | 0 | 6917.4 | 6917.4 | | | | | | | | |
| | 18 | 75 | 1350 | 7 | 0.54 | | | 0.25 | 0 | 182.25 | 182.25 | | | | | | | | |
| | 70 | 30 | 2100 | 7 | 0.54 | | | 0.5 | 0 | 567 | 567 | | | | | | | | |
| | 70 | 30 | 2100 | 20 | 2.49 | | | 0.125 | 0 | 653.625 | 653.625 | | | | | | | | |
| | 60 | 30 | 1800 | 7 | 0.54 | | | 1 | 0 | 972 | 972 | | | | | | | | |
| | 18 | 80 | 1440 | 50 | 6.99 | | | 1 | 0 | 10065.6 | 10065.6 | | | | | | | | |
| | 60 | 30 | 1800 | 8 | 0.69 | | | 0.125 | 0 | 155.25 | 155.25 | | | | | | | | |
| | 7 | 180 | 1260 | 20 | 2.49 | | | 1 | 0 | 3137.4 | 3137.4 | | | | | | | | |
| | 75 | 5.5 | 412.5 | 7 | 0.54 | | | 1 | 0 | 222.75 | 222.75 | | | | | | | | |
| | 70 | 10 | 700 | 8 | 0.69 | | | 0.5 | 0 | 241.5 | 241.5 | | | | | | | | |
| | 10 | 70 | 700 | 10 | 0.99 | | | 0.5 | 0 | 346.5 | 346.5 | | | | | | | | |
| | 10 | 50 | 500 | 7 | 0.54 | | | 0.5 | 0 | 135 | 135 | | | | | | | | |
| | 65 | 7 | 455 | 8 | 0.69 | | | 0.25 | 0 | 78.4875 | 78.4875 | | | | | | | | |
| | 20 | 60 | 1200 | 10 | 0.99 | | | 0.5 | 0 | 594 | 594 | | | | | | | | |
| | 10 | 60 | 600 | 7 | 0.54 | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| | 7 | 130 | 910 | 25 | 3.24 | 7 | 1.38 | 0.5 | 627.9 | 1474.2 | 1474.2 | | | | | | | | |
| | 7 | 75 | 525 | 25 | 3.24 | 20 | 3.98 | 0.5 | 1044.75 | 850.5 | 1044.75 | | | | | | | | |
| | 10 | 70 | 700 | 7 | 0.54 | | | 0.5 | 0 | 189 | 189 | | | | | | | | |
| | 5.5 | 60 | 330 | 7 | 0.54 | | | 0.5 | 0 | 89.1 | 89.1 | | | | | | | | |
| | 7 | 50 | 350 | 7 | 0.54 | | | 0.5 | 0 | 94.5 | 94.5 | | | | | | | | |
| | 7 | 50 | 350 | 15 | 1.74 | 8 | 1.58 | 1 | 553 | 609 | 609 | | | | | | | | |
| | 30 | 30 | 900 | 30 | 3.99 | 20 | 3.98 | 0.5 | 1791 | 1795.5 | 1795.5 | | | | | | | | |
| | 20 | 30 | 600 | 7 | 0.54 | | | 1 | 0 | 324 | 324 | | | | | | | | |
| | 20 | 30 | 600 | 15 | 1.74 | 10 | 1.98 | 0.5 | 594 | 522 | 594 | | | | | | | | |
| | 10 | 50 | 500 | 10 | 0.99 | 1 | 0.18 | 1 | 90 | 495 | 495 | | | | | | | | |
| | 10 | 50 | 500 | 15 | 1.74 | 1 | 0.18 | 0.5 | 45 | 435 | 435 | | | | | | | | |
| | 7 | 30 | 210 | 5 | 0.24 | 1 | 0.18 | 1 | 37.8 | 50.4 | 50.4 | | | | | | | | |
| | 20 | 30 | 600 | 5 | 0.24 | 1 | 0.18 | 1 | 108 | 144 | 144 | | | | | | | | |
| | 20 | 30 | 600 | 7 | 0.54 | 0.5 | 0.08 | 1 | 48 | 324 | 324 | | | | | | | | |
| | 20 | 30 | 600 | 7 | 0.54 | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| | 20 | 30 | 600 | 7 | 0.54 | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| | 30 | 30 | 900 | 60 | 8.49 | 25 | 4.98 | 0.25 | 1120.5 | 1910.25 | 1910.25 | | | | | | | | |
| | 10 | 40 | 400 | 7 | 0.54 | 1 | 0.18 | 0.25 | 18 | 54 | 54 | | | | | | | | |
| | 7 | 30 | 210 | 25 | 3.24 | 7 | 1.38 | 0.5 | 144.9 | 340.2 | 340.2 | | | | | | | | |
| | 7 | 30 | 210 | 7 | 0.54 | | | 0.5 | 0 | 56.7 | 56.7 | | | | | | | | |
| | 7 | 40 | 280 | 15 | 1.74 | 10 | 1.98 | 0.5 | 277.2 | 243.6 | 277.2 | | | | | | | | |
| | 20 | 20 | 400 | 6 | 0.39 | | | 0.5 | 0 | 78 | 78 | | | | | | | | |
| Drum 1: | | | | | | | | | | | | 70537 | | | | | | | |

| | | | | | | | | | | |
|-----|-----|-----|-----|-------|----|------|------|--------|---------|---------|
| 10 | 30 | 300 | 15 | 1.74 | 15 | 2.98 | 0.5 | 447 | 261 | 447 |
| 10 | 30 | 300 | 120 | 17.49 | 40 | 7.98 | 0.5 | 1197 | 2623.5 | 2623.5 |
| 10 | 30 | 300 | 18 | 2.19 | 2 | 0.38 | 0.5 | 57 | 328.5 | 328.5 |
| 10 | 40 | 400 | 8 | 0.69 | | | 0.25 | 0 | 69 | 69 |
| 20 | 30 | 600 | 8 | 0.69 | | | 0.25 | 0 | 103.5 | 103.5 |
| 5.5 | 60 | 330 | 8 | 0.69 | 3 | 0.58 | 0.25 | 47.85 | 56.925 | 56.925 |
| 10 | 60 | 600 | 8 | 0.69 | 1 | 0.18 | 0.5 | 54 | 207 | 207 |
| 10 | 70 | 700 | 15 | 1.74 | 10 | 1.98 | 0.5 | 693 | 609 | 693 |
| 7 | 110 | 770 | 10 | 0.99 | 3 | 0.58 | 0.25 | 111.65 | 190.575 | 190.575 |
| 5.5 | 50 | 275 | 8 | 0.69 | | | 0.25 | 0 | 47.4375 | 47.4375 |
| 7 | 50 | 350 | 6 | 0.39 | | | 0.25 | 0 | 34.125 | 34.125 |
| 7 | 40 | 280 | 50 | 6.99 | 15 | 2.98 | 0.25 | 208.6 | 489.3 | 489.3 |
| 5.5 | 40 | 220 | 7 | 0.54 | | | 0.25 | 0 | 29.7 | 29.7 |
| 10 | 35 | 350 | 8 | 0.69 | | | 0.25 | 0 | 60.375 | 60.375 |
| 7 | 35 | 245 | 30 | 3.99 | 10 | 1.98 | 0.5 | 242.55 | 488.775 | 488.775 |
| 10 | 90 | 900 | 45 | 6.24 | 35 | 6.98 | 0.25 | 1570.5 | 1404 | 1570.5 |
| 10 | 80 | 800 | 15 | 1.74 | 2 | 0.38 | 0.5 | 152 | 696 | 696 |
| 7 | 65 | 455 | 20 | 2.49 | 3 | 0.58 | 0.5 | 131.95 | 566.475 | 566.475 |
| 10 | 80 | 800 | 20 | 2.49 | 1 | 0.18 | 0.5 | 72 | 996 | 996 |

| | | | | | | | | | | |
|-----|-----|-------|----|------|-----|------|------|--------|---------|---------|
| 10 | 70 | 700 | 15 | 1.74 | 6 | 1.18 | 0.5 | 413 | 609 | 609 |
| 10 | 40 | 400 | 50 | 6.99 | 5 | 0.98 | 1 | 392 | 2796 | 2796 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 0.5 | 632 | 1596 | 1596 |
| 10 | 65 | 650 | 10 | 0.99 | 0.5 | 0.08 | 0.5 | 26 | 321.75 | 321.75 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 0.5 | 632 | 1596 | 1596 |
| 7 | 50 | 350 | 15 | 1.74 | 1 | 0.18 | 0.5 | 31.5 | 304.5 | 304.5 |
| 10 | 70 | 700 | 15 | 1.74 | 7 | 1.38 | 1 | 966 | 1218 | 1218 |
| 5.5 | 80 | 440 | 7 | 0.54 | 2 | 0.38 | 0.25 | 41.8 | 59.4 | 59.4 |
| 7 | 85 | 595 | 7 | 0.54 | 3 | 0.58 | 0.25 | 86.275 | 80.325 | 86.275 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 1 | 0.18 | 1 | 74.25 | 1336.5 | 1336.5 |
| 7 | 70 | 490 | 15 | 1.74 | 4 | 0.78 | 0.5 | 191.1 | 426.3 | 426.3 |
| 5.5 | 50 | 275 | 35 | 4.74 | 5 | 0.98 | 1 | 269.5 | 1303.5 | 1303.5 |
| 5.5 | 50 | 275 | 8 | 0.69 | 1 | 0.18 | 0.5 | 24.75 | 94.875 | 94.875 |
| 7 | 70 | 490 | 7 | 0.54 | 5 | 0.98 | 0.5 | 240.1 | 132.3 | 240.1 |
| 7 | 75 | 525 | 7 | 0.54 | 1 | 0.18 | 0.5 | 47.25 | 141.75 | 141.75 |
| 10 | 60 | 600 | 25 | 3.24 | 1 | 0.18 | 0.5 | 54 | 972 | 972 |
| 5.5 | 50 | 275 | 25 | 3.24 | 8 | 1.58 | 0.5 | 217.25 | 445.5 | 445.5 |
| 10 | 60 | 600 | 25 | 3.24 | 3 | 0.58 | 0.5 | 174 | 972 | 972 |
| 5.5 | 70 | 385 | 12 | 1.29 | 2 | 0.38 | 0.5 | 73.15 | 248.325 | 248.325 |
| 5 | 60 | 300 | 7 | 0.54 | 0.5 | 0.08 | 0.5 | 12 | 81 | 81 |
| 5 | 70 | 350 | 7 | 0.54 | 1 | 0.18 | 0.5 | 31.5 | 94.5 | 94.5 |
| 10 | 60 | 600 | 15 | 1.74 | 2 | 0.38 | 0.5 | 114 | 522 | 522 |
| 10 | 60 | 600 | 8 | 0.69 | 3 | 0.58 | 1 | 348 | 414 | 414 |
| 7 | 80 | 560 | 8 | 0.69 | 1 | 0.18 | 1 | 100.8 | 386.4 | 386.4 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 4 | 0.78 | 1 | 321.75 | 1336.5 | 1336.5 |
| 5.5 | 70 | 385 | 40 | 5.49 | | | 0.5 | | 1056.83 | 1056.83 |
| 5.5 | 70 | 385 | 25 | 3.24 | 1 | 0.18 | 0.5 | | 623.7 | 623.7 |
| 5.5 | 65 | 357.5 | 20 | 2.49 | 1 | 0.18 | 1 | | 890.175 | 890.175 |
| 5 | 70 | 350 | 25 | 3.24 | 7 | 1.38 | 1 | | 1134 | 1134 |
| 5 | 65 | 325 | 40 | 5.49 | | | 0.25 | | 446.063 | 446.063 |
| 5 | 60 | 300 | 50 | 6.99 | | | 1 | | 2097 | 2097 |
| 5 | 50 | 250 | 8 | 0.69 | | | 0.5 | | 86.25 | 86.25 |
| 10 | 30 | 300 | 7 | 0.54 | | | 0.25 | | 40.5 | 40.5 |
| 13 | 40 | 520 | 30 | 3.99 | | | 0.5 | | 1037.4 | 1037.4 |
| 10 | 450 | 4500 | 12 | 1.29 | | | 1 | | 5805 | 5805 |
| 10 | 50 | 500 | 15 | 1.74 | 3 | 0.58 | 1 | | 870 | 870 |
| 10 | 65 | 650 | 10 | 0.99 | | | 0.5 | | 321.75 | 321.75 |
| 10 | 45 | 450 | 10 | 0.99 | 4 | 0.78 | 1 | | 445.5 | 445.5 |
| 70 | 40 | 2800 | 30 | 3.99 | 20 | 3.98 | 1 | | 11172 | 11172 |
| 70 | 60 | 4200 | 8 | 0.69 | 0.5 | 0.08 | 0.5 | | 1449 | 1449 |
| 70 | 60 | 4200 | 20 | 2.49 | 10 | 1.98 | 0.5 | | 5229 | 5229 |
| 10 | 40 | 400 | 15 | 1.74 | 8 | 1.58 | 1 | | 696 | 696 |
| 10 | 50 | 500 | 8 | 0.69 | 1 | 0.18 | 1 | | 345 | 345 |
| 7 | 30 | 210 | 15 | 1.74 | 2 | 0.38 | 1 | | 365.4 | 365.4 |
| 10 | 40 | 400 | 10 | 0.99 | 4 | 0.78 | 1 | | 396 | 396 |
| 7 | 35 | 245 | 10 | 0.99 | 0.5 | 0.08 | 1 | | 242.55 | 242.55 |
| 10 | 40 | 400 | 10 | 0.99 | 2 | 0.38 | 1 | | 396 | 396 |
| 7 | 25 | 175 | 8 | 0.69 | 1 | 0.18 | 1 | | 120.75 | 120.75 |
| 7 | 35 | 245 | 50 | 6.99 | 20 | 3.98 | 0.5 | | 856.275 | 856.275 |
| 7 | 45 | 315 | 10 | 0.99 | 3 | 0.58 | 1 | | 311.85 | 311.85 |
| 5.5 | 30 | 165 | 30 | 3.99 | | | 0.5 | | 329.175 | 329.175 |
| 7 | 30 | 210 | 8 | 0.69 | 1 | 0.18 | 0.5 | | 72.45 | 72.45 |
| 10 | 30 | 300 | 10 | 0.99 | 2 | 0.38 | 1 | | 297 | 297 |
| 10 | 25 | 250 | 15 | 1.74 | | | 0.5 | | 217.5 | 217.5 |
| 10 | 40 | 400 | 30 | 3.99 | 4 | 0.78 | 0.5 | | 798 | 798 |
| 4 | 40 | 160 | 15 | 1.74 | 2 | 0.38 | 1 | | 278.4 | 278.4 |
| 10 | 15 | 150 | 8 | 0.69 | 0.5 | 0.08 | 0.5 | | 51.75 | 51.75 |
| 8 | 36 | 288 | 10 | 0.99 | 3 | 0.58 | 1 | | 285.12 | 285.12 |
| 3 | 30 | 90 | 10 | 0.99 | 8 | 1.58 | 1 | | 89.1 | 89.1 |
| 3 | 13 | 39 | 10 | 0.99 | 5 | 0.98 | 0.5 | | 19.305 | 19.305 |
| 8 | 10 | 80 | 8 | 0.69 | 0 | | 0.5 | | 27.6 | 27.6 |
| 3 | 13 | 39 | 15 | 1.74 | 3 | 0.58 | 0.5 | | 33.93 | 33.93 |
| 10 | 10 | 100 | 8 | 0.69 | 2 | 0.38 | 0.5 | | 34.5 | 34.5 |
| 8 | 20 | 160 | 15 | 1.74 | 5 | 0.98 | 0.5 | | 139.2 | 139.2 |

Drum 2: **66407**Average activity per drum: **68472**

Surface Contamination measured on given areas of rendered wall to determine "typical" average activity per bag of removed render
Render and rubble

Instrument MTE: 5527

Painted surface masking alpha. Beta/gamma response likely from radium

| Area 1 (bag of render rubble) | | Area 2 (bag of render rubble) | |
|-------------------------------|-----------------------|-------------------------------|-----------------------|
| No. | cps beta | No. | cps beta |
| 1 | 150 | 1 | 45 |
| 2 | 100 | 2 | 25 |
| 3 | 50 | 3 | 40 |
| 4 | 75 | 4 | 40 |
| 5 | 50 | 5 | 60 |
| 6 | 110 | 6 | 30 |
| 7 | 175 | 7 | 60 |
| 8 | 35 | 8 | 30 |
| 9 | 40 | 9 | 220 |
| 10 | 150 | 10 | 90 |
| 11 | 60 | 11 | 70 |
| 12 | 110 | 12 | 50 |
| 13 | 45 | 13 | 100 |
| 14 | 45 | 14 | 30 |
| 15 | 30 | 15 | 90 |
| 16 | 50 | 16 | 60 |
| 17 | 110 | 17 | 25 |
| 18 | 30 | 18 | 20 |
| 19 | 90 | 19 | 100 |
| 20 | 40 | 20 | 40 |
| 21 | 25 | 21 | 60 |
| 22 | 100 | 22 | 60 |
| 23 | 70 | 23 | 45 |
| 24 | 90 | 24 | 50 |
| 25 | 40 | 25 | 50 |
| 26 | 130 | 26 | 40 |
| 27 | 100 | 27 | 60 |
| 28 | 45 | 28 | 50 |
| 29 | 50 | 29 | 50 |
| 30 | 60 | | |
| 31 | 50 | | |
| 32 | 200 | | |
| 33 | 200 | | |
| 34 | 90 | | |
| 35 | 40 | | |
| 36 | 25 | | |
| 37 | 60 | | |
| 38 | 45 | | |
| 39 | 80 | | |
| 40 | 25 | | |
| 41 | 20 | | |
| 42 | 40 | | |
| 43 | 30 | | |
| 44 | 40 | | |
| 45 | 60 | | |
| 46 | 60 | | |
| 47 | 45 | | |
| 48 | 45 | | |
| 49 | 70 | | |
| 50 | 30 | | |
| 51 | 30 | | |
| 52 | 25 | | |
| 53 | 25 | | |
| 54 | 20 | | |
| 55 | 40 | | |
| 56 | 50 | | |
| | <u>3700</u> | | <u>1690</u> |
| Ave cps: | 66.1 | Ave cps: | 58.3 |
| | cm² | | cm² |
| Area for bag 1: | 49 | Points | 56 |
| | | | 2744 |

| | | | |
|------------------------------------|------|--------------------|------|
| Area of bag 2: | 49 | 29 | 1421 |
| Average of bag 1 + bag 2 contents: | 62.2 | cps | |
| Instrument beta response 1cps = | 0.13 | Bq/cm ² | |
| Average activity concentration = | 8.1 | Bq/cm ² | |
| Total activity of Bag 1: | 22 | kBq | |
| Total activity of Bag 2: | 11 | kBq | |

| Drum No. | Area of detector x No. of poi | cm ² | Points | cm ² | Ave Conc. | kBq |
|-----------------------|----------------------------------|-----------------|--------|-----------------|-----------|---------------|
| D34 | Total activity of Bag 1: | 49 | 56 | 2744 | 8.1 | 22.23 |
| D34 | Total activity of Bag 2: | 49 | 29 | 1421 | 8.1 | 11.51 |
| | Dim. of area removed | cm | cm | cm ² | Ave Conc. | kBq |
| D34 | Total activity of Bag 3: | 80 | 40 | 3200 | 8.1 | 31.61 |
| | | 26 | 27 | 702 | | |
| D34 | Total activity of Bag 4: | 100 | 115 | 11500 | 8.1 | 93.15 |
| D34 | Total activity of Bag 5: | 80 | 130 | 10400 | 8.1 | 84.24 |
| D34 | Total activity of Bag 6: | 25 | 130 | 3250 | 8.1 | 47.39 |
| | | 20 | 130 | 2600 | | |
| D34 | Total activity of Bag 7: | 50 | 85 | 4250 | 8.1 | 48.20 |
| | | 20 | 85 | 1700 | | |
| D34 | Total activity of Bag 8: | 80 | 85 | 6800 | 8.1 | 55.08 |
| D34 | Total activity of Bag 9: | 80 | 85 | 6800 | 8.1 | 55.08 |
| Total activity (kBq): | | | | | | 448.47 |
| D35 | Total activity of Bag 10: | 50 | 60 | 3000 | 8.1 | 24.30 |
| D35 | Total activity of Bag 11: | 30 | 40 | 1200 | 8.1 | 9.72 |
| D35 | Total activity of Bag 12: | 60 | 80 | 4800 | 8.1 | 53.46 |
| | | 20 | 90 | 1800 | | |
| D35 | Total activity of Bag 13: | 80 | 100 | 8000 | 8.1 | 64.80 |
| D35 | Total activity of Bag 14: | 470 | 10 | 4700 | 8.1 | 38.07 |
| D35 | Total activity of Bag 15: | 20 | 10 | 200 | 8.1 | 1.62 |
| D35 | Total activity of Bag 16: | 10 | 35 | 350 | 8.1 | 2.84 |
| D35 | Total activity of Bag 17: | 30 | 30 | 900 | 8.1 | 7.29 |
| D35 | Total activity of Bag 18: | 40 | 10 | 400 | 8.1 | 3.24 |
| Total activity (kBq): | | | | | | 205.34 |
| D36 | Total activity of Bag 19: | 110 | 40 | 4400 | 8.1 | 35.64 |
| D36 | Total activity of Bag 20: | 40 | 55 | 2200 | 8.1 | 17.82 |

| | | | | | | |
|-----------------------|---------------------------|----|----|------|-----|--------------|
| D36 | Total activity of Bag 21: | 40 | 40 | 1600 | 8.1 | 12.96 |
| D36 | Total activity of Bag 22: | 30 | 75 | 2250 | 8.1 | 18.23 |
| D36 | Total activity of Bag 23: | 20 | 10 | 200 | 8.1 | 1.62 |
| Total activity (kBq): | | | | | | 86.27 |

Surface contaminated floor render and rubble removed from room 108 (upstairs) and drummed with wall render material from room G12
Activity determined by applying typical range of counts converted to Bq/cm² as previously determined for wall render on lower floor G12
Average activity as applied to floor contamination is 8.1 Bq/cm²
Instrument MTE: 5527
Alpha/Beta/gamma response likley from radium
Area of removed floor rubble averaged for each bag as each has similar weights

| Drum No. | Dim. of area removed | | cm | cm | cm ² | Ave Conc. | kBq |
|----------|-----------------------|---|----|----|-----------------|--------------|-------------------|
| D36 | Total activity of Bag | 1 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag | 2 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag | 3 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag | 4 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag | 5 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag | 6 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag | 7 | 60 | 60 | 3600 | 8.1 | 29.16 |
| | | | | | | Total | 204.12 kBq |

Bags containing general rubble and bits and pieces from ceiling collapses

Dusts and particles from building including ceiling, wood skirting, plaster, and floor areas, PVC plastic and electrical cable etc

Instrument MTE: 2904

* Bag weight estimated at 10kg per bag (average)

| Drum No. | Bag No. | Dose rate at contact (μSv/hr) | B/g (μSv/hr) | Dose rate (μSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ ray constant | Gross Drum Mass (kg) * | Net Drum Mass (kg) * | Activity (kBq) | Est. Bq/g |
|----------|---------|-------------------------------|--------------|------------------------|--------------|-------------------------|---|------------------------|----------------------|----------------|-----------|
| D37 | 1 | | 0.062 | 0.071 | 0.7 | 223 | 19.78 | | | | |
| D37 | 2 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | | | | |
| D37 | 3 | | 0.062 | 0.072 | 0.6 | 223 | 16.14 | | | | |
| D37 | 4 | | 0.062 | 0.076 | 0.5 | 223 | 15.70 | | | | |
| D37 | 5 | | 0.062 | 0.077 | 0.3 | 223 | 6.05 | | | | |
| D37 | 6 | | 0.062 | 0.072 | 0.3 | 223 | 4.04 | | | | |
| D37 | 7 | | 0.062 | 0.07 | 0.5 | 223 | 8.97 | | | | |
| D37 | 8 | | 0.062 | 0.085 | 0.5 | 223 | 25.78 | | | | |
| D37 | 9 | | 0.062 | 0.07 | 0.4 | 223 | 5.74 | | | | |
| D37 | 10 | | 0.062 | 0.08 | 0.4 | 223 | 12.91 | | | | |
| D37 | 11 | | 0.062 | 0.07 | 0.4 | 223 | 5.74 | | | | |
| D37 | 12 | | 0.062 | 0.071 | 0.4 | 223 | 6.46 | | | | |
| D37 | 13 | | 0.062 | 0.077 | 0.4 | 223 | 10.76 | | | | |
| D38 | 14 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | 130 | | ##### | #DIV/0! |
| D38 | 15 | | 0.062 | 0.078 | 1.3 | 223 | 121.26 | | | | |
| D38 | 16 | | 0.062 | 0.073 | 0.6 | 223 | 17.76 | | | | |
| D38 | 17 | | 0.062 | 0.074 | 1.1 | 223 | 65.11 | | | | |
| D38 | 18 | | 0.062 | 0.079 | 1.1 | 223 | 92.24 | | | | |
| D38 | 19 | | 0.062 | 0.074 | 0.5 | 223 | 13.45 | | | | |
| D39 | 20 | | 0.062 | 0.077 | 1.3 | 223 | 113.68 | 60 | | ##### | #DIV/0! |
| D39 | 21 | | 0.062 | 0.078 | 1 | 223 | 71.75 | | | | |
| D39 | 22 | | 0.062 | 0.078 | 0.8 | 223 | 45.92 | | | | |
| D39 | 23 | | 0.062 | 0.08 | 1.4 | 223 | 158.21 | | | | |
| D39 | 24 | | 0.062 | 0.071 | 0.3 | 223 | 3.63 | | | | |
| D39 | 25 | | 0.062 | 0.076 | 1.4 | 223 | 123.05 | | | | |
| D39 | 26 | | 0.062 | 0.064 | 0.2 | 223 | 0.36 | | | | |
| D39 | 27 | | 0.062 | 0.068 | 0.3 | 223 | 2.42 | | | | |
| D39 | 28 | | 0.062 | 0.066 | 0.3 | 223 | 1.61 | | | | |
| D39 | 29 | | 0.062 | 0.063 | 0.2 | 223 | 0.18 | | | | |
| D42 | 30 | | 0.062 | 0.067 | 0.5 | 223 | 5.61 | 100 | | ##### | #DIV/0! |
| D42 | 31 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | | | | |
| D42 | 32 | | 0.062 | 0.068 | 0.2 | 223 | 1.08 | | | | |
| D42 | 33 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 34 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 35 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 36 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 37 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 38 | | 0.062 | 0.068 | 0.2 | 223 | 1.08 | | | | |
| D42 | 39 | | 0.062 | 0.072 | 0.3 | 223 | 4.04 | | | | |
| D42 | 40 | | 0.062 | | | 223 | 0.00 | | | | |
| | 41 | | 0.062 | | | 223 | 0.00 | | | | |
| | 42 | | 0.062 | | | 223 | 0.00 | | | | |
| | 43 | | 0.062 | | | 223 | 0.00 | | | | |
| | 44 | | 0.062 | | | 223 | 0.00 | | | | |
| | 45 | | 0.062 | | | 223 | 0.00 | | | | |
| | 46 | | 0.062 | | | 223 | 0.00 | | | | |
| | 47 | | 0.062 | | | 223 | 0.00 | | | | |
| | 48 | | 0.062 | | | 223 | 0.00 | | | | |
| | 49 | | 0.062 | | | 223 | 0.00 | | | | |
| | 50 | | 0.062 | | | 223 | 0.00 | | | | |

Surface Contamination

Window sill terrazzo stone material

Instrument MTE: 5527

Painted surface masking alpha, mostly soaked into material

| | | | | | | | | | | | | 1cps beta = | | BckGrnd CPS | | 1cps Alpha = | | BckGrnd CPS | |
|-----|----------------|---------------|--------------------------|---------------|------------------|----------------|-------------------|---|---|---|---|-------------|--------|----------------|-----|--------------|-----|----------------|--|
| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contamina ted | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.13 | Bq/cm2 | 3.4 | 0.2 | Bq/cm2 | 0.1 | | |
| 1 | 120 | 12 | 1440 | 45 | 5.408 | 0.3 | 0.04 | 0.9 | 51.84 | 7008.768 | 7008.77 | | | | | | | | |
| 2 | 110 | 12 | 1320 | 15 | 1.508 | 0.5 | 0.08 | 1 | 105.6 | 1990.56 | 1990.56 | | | | | | | | |
| 3 | 120 | 12 | 1440 | 100 | 12.558 | 20 | 3.98 | 0.8 | 4584.96 | 14466.82 | 14466.8 | | | | | | | | |
| 4 | 120 | 12 | 1440 | 110 | 13.858 | 5 | 0.98 | 0.8 | 1128.96 | 15964.42 | 15964.4 | | | | | | | | |
| 5 | 120 | 12 | 1440 | 20 | 2.158 | 2 | 0.38 | 0.9 | 492.48 | 2796.768 | 2796.77 | | | | | | | | |
| 6 | 74 | 12 | 888 | 200 | 25.558 | 20 | 3.98 | 1 | 3534.24 | 22695.5 | 22695.5 | | | | | | | | |
| 7 | 120 | 12 | 1440 | 20 | 2.158 | 3 | 0.58 | 1 | 835.2 | 3107.52 | 3107.52 | | | | | | | | |
| 8 | 120 | 12 | 1440 | 35 | 4.108 | 10 | 1.98 | 0.6 | 1710.72 | 3549.312 | 3549.31 | | | | | | | | |
| 9 | 120 | 12 | 1440 | 35 | 4.108 | 0.5 | 0.08 | 0.7 | 80.64 | 4140.864 | 4140.86 | | | | | | | | |
| | | | | | | | | | 12524.64 | 75720.53 | 75720.5 | | | | | | | | |

Vacuum cleaner bags

Instrument MTE: 2904

| Drum No. | Bag No. | B/g (μSv/hr) | Dose rate (μSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ | kg | g | Est. Bq/g |
|----------|---------|--------------|------------------------|--------------|-------------------------|--|------|------|-----------|
| D40 | 1 | 0.064 | 0.07 | 0.5 | 223 | 6.7 | 2 | 2000 | 3.4 |
| D40 | 2 | 0.064 | 0.08 | 0.5 | 223 | 17.9 | 2.4 | 2400 | 7.5 |
| D40 | 3 | 0.064 | 0.07 | 0.3 | 223 | 2.4 | 1.1 | 1100 | 2.2 |
| D40 | 4 | 0.064 | 0.083 | 0.7 | 223 | 41.7 | 2.5 | 2500 | 16.7 |
| D40 | 5 | 0.064 | 0.087 | 0.7 | 223 | 50.5 | 1.5 | 1500 | 33.7 |
| D40 | 6 | 0.064 | 0.071 | 0.7 | 223 | 15.4 | 2.3 | 2300 | 6.7 |
| D40 | 7 | 0.064 | 0.072 | 0.7 | 223 | 17.6 | 1.8 | 1800 | 9.8 |
| D40 | 8 | 0.064 | 0.072 | 0.6 | 223 | 12.9 | 1.8 | 1800 | 7.2 |
| D40 | 9 | 0.064 | 0.078 | 0.7 | 223 | 30.8 | 3.1 | 3100 | 9.9 |
| D40 | 10 | 0.064 | 0.07 | 0.7 | 223 | 13.2 | 2.3 | 2300 | 5.7 |
| D40 | 11 | 0.064 | 0.075 | 0.7 | 223 | 24.2 | 0.75 | 750 | 32.2 |
| D40 | 12 | 0.064 | 0.079 | 0.9 | 223 | 54.5 | 1.6 | 1600 | 34.1 |
| D40 | 13 | 0.064 | 0.082 | 0.9 | 223 | 65.4 | 1.7 | 1700 | 38.5 |
| D40 | 14 | 0.064 | 0.072 | 0.7 | 223 | 17.6 | 1.2 | 1200 | 14.6 |
| D40 | 15 | 0.062 | 0.083 | 1.3 | 223 | 159.1 | 2.1 | 2100 | 75.8 |
| D40 | 16 | 0.062 | 0.076 | 1 | 223 | 62.8 | 1.5 | 1500 | 41.9 |
| D40 | 17 | 0.062 | 0.076 | 0.9 | 223 | 50.9 | 1.2 | 1200 | 42.4 |
| D40 | 18 | 0.062 | 0.083 | 0.7 | 223 | 46.1 | 1.7 | 1700 | 27.1 |
| D40 | 19 | 0.062 | 0.063 | 0.2 | 223 | 0.2 | 2.9 | 2900 | 0.1 |
| D40 | 20 | 0.062 | 0.072 | 0.7 | 223 | 22.0 | 1.6 | 1600 | 13.7 |
| D40 | 21 | 0.062 | 0.071 | 0.7 | 223 | 19.8 | 1.6 | 1600 | 12.4 |
| D40 | 22 | 0.062 | 0.070 | 0.7 | 223 | 17.6 | 1.5 | 1500 | 11.7 |
| D40 | 23 | 0.062 | 0.067 | 0.6 | 223 | 8.1 | 0.9 | 900 | 9.0 |
| D40 | 24 | 0.062 | 0.070 | 0.6 | 223 | 12.9 | 2.5 | 2500 | 5.2 |
| D40 | 25 | 0.062 | 0.080 | 0.8 | 223 | 51.7 | 3.7 | 3700 | 14.0 |
| D40 | 26 | 0.062 | 0.071 | 0.8 | 223 | 25.8 | 1.4 | 1400 | 18.4 |
| D40 | 27 | 0.062 | 0.068 | 0.6 | 223 | 9.7 | 2.8 | 2800 | 3.5 |
| D40 | 28 | 0.062 | 0.074 | 0.4 | 223 | 8.6 | 3.2 | 3200 | 2.7 |
| D40 | 29 | 0.062 | 0.075 | 0.4 | 223 | 9.3 | 3.9 | 3900 | 2.4 |
| D40 | 30 | 0.062 | 0.073 | 0.5 | 223 | 12.3 | 1.4 | 1400 | 8.8 |
| D40 | 31 | 0.062 | 0.075 | 0.4 | 223 | 9.3 | 1.5 | 1500 | 6.2 |
| D40 | 32 | 0.062 | 0.069 | 0.7 | 223 | 15.4 | 2.2 | 2200 | 7.0 |
| D40 | 33 | 0.062 | 0.072 | 1 | 223 | 44.8 | 4 | 4000 | 11.2 |
| D40 | 34 | 0.062 | 0.072 | 0.5 | 223 | 11.2 | 3 | 3000 | 3.7 |
| D41 | 35 | 0.062 | 0.071 | 0.8 | 223 | 25.8 | 3 | 3000 | 8.6 |
| D41 | 36 | 0.062 | 0.071 | 0.3 | 223 | 3.6 | 1.9 | 1900 | 1.9 |
| D41 | 37 | 0.062 | 0.073 | 0.8 | 223 | 31.6 | 2.9 | 2900 | 10.9 |
| D41 | 38 | 0.062 | 0.069 | 0.7 | 223 | 15.4 | 4.5 | 4500 | 3.4 |
| D41 | 39 | 0.062 | 0.071 | 0.9 | 223 | 32.7 | 3.2 | 3200 | 10.2 |
| D41 | 40 | 0.062 | 0.071 | 0.6 | 223 | 14.5 | 3 | 3000 | 4.8 |
| D41 | 41 | 0.062 | 0.072 | 0.6 | 223 | 16.1 | 2.9 | 2900 | 5.6 |
| D41 | 42 | 0.062 | 0.071 | 0.6 | 223 | 14.5 | 3 | 3000 | 4.8 |
| D41 | 43 | 0.062 | 0.074 | 0.7 | 223 | 26.4 | 2.3 | 2300 | 11.5 |
| D41 | 44 | 0.062 | 0.074 | 0.8 | 223 | 34.4 | 2.2 | 2200 | 15.7 |
| D41 | 45 | 0.062 | 0.068 | 0.4 | 223 | 4.3 | 1.7 | 1700 | 2.5 |
| D41 | 46 | 0.062 | 0.07 | 0.9 | 223 | 29.1 | 3.8 | 3800 | 7.6 |
| D41 | 47 | 0.062 | 0.068 | 0.3 | 223 | 2.4 | 3.6 | 3600 | 0.7 |
| D41 | 48 | 0.062 | 0.068 | 0.9 | 223 | 21.8 | 2.8 | 2800 | 7.8 |
| D41 | 49 | 0.062 | 0.069 | 0.6 | 223 | 11.3 | 4.5 | 4500 | 2.5 |
| D41 | 50 | 0.062 | 0.07 | 0.6 | 223 | 12.9 | 3 | 3000 | 4.3 |
| D41 | 51 | 0.062 | 0.068 | 0.4 | 223 | 4.3 | 3 | 3000 | 1.4 |
| D41 | 52 | 0.062 | 0.07 | 0.9 | 223 | 29.1 | 2.2 | 2200 | 13.2 |
| D41 | 53 | 0.062 | 0.069 | 0.9 | 223 | 25.4 | 1.7 | 1700 | 15.0 |
| D41 | 54 | 0.062 | 0.069 | 0.4 | 223 | 5.0 | 1.5 | 1500 | 3.3 |
| | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | 223 | 0.0 | | 0 | #DIV/0! |

| | | |
|---|-------|---------|
| Total weight Drum D40 (Kg) No's. 1 to 34: | 70.7 | |
| Total activity (kBq) No.s 1 to 34: | 968 | |
| Average activity (kBq) per bag: | 28 | >10kBq |
| Average Bq/g: | 13.71 | >10Bq/g |

| | | |
|--|------|---------|
| Total weight Drum (Kg) No's. 35 to 54: | 56.7 | |
| Total activity (kBq) No.s 35 to 45: | 219 | |
| Average activity (kBq) per bag: | 20 | >10kBq |
| Average Bq/g: | 3.87 | <10Bq/g |

| | | | | | | |
|-----------|--------|-------|-------|---------------------------------|------|---------|
| Total of | KBq | kg | Bq/g | Average activity (kBq) per bag: | 25 | >10kBq |
| all bags: | 1329.1 | 127.4 | 10.44 | Average Bq/g: | 12.5 | >10Bq/g |

Pieces of guttering measurements and assumptions:

| Measured spots | Beta CPS | Typical alpha response assumed (CPS) (based on known comparative measurements from wood/skirting board etc) | Average assumed α cps of spots | Bq/cm ² α | 1cps /Bq/cm ² Alpha |
|----------------|----------|---|---------------------------------------|-----------------------------|--------------------------------|
| 1 | 170 | 60 | 47.5 | 9.5 | 0.2 |
| 2 | 120 | 40 | | | |
| 3 | 100 | 35 | | | |
| 4 | 60 | 25 | | | |
| 5 | 50 | 20 | | | |
| 6 | 30 | 10 | | | |

Assumptions

Each piece of gutter is approximately 100 cm x 10 cm (length and bottom surface of U shaped gutter only)

Surface area: 1000 cm²

Assume approximately 50% of each gutter piece is contaminated

Assumed contaminated surface area: 500 cm²

Total activity per piece of gutter: 4750 Bq

2 pieces of guttering per bag 9500 Bq

5 bags per drum 47500 Bq

Total assumed drum activity: 47.5 kBq

Nb: The above assumptions and calculations are estimates based on comparative readings between instrument responses to different radiations observed on other similar materials. This method of calculating activity was necessary as it was not possible to assess directly the alpha readings (used for quantification) as the items contained asbestos and had already been sealed by asbestos specialists, and the risk of potential release exceeded the value of getting better, more accurate radiation measurements when the items will ultimately still be considered as radioactive and hazardous material.

INVENTORY OF DRUMS OF MATERIAL REMOVED FROM BUILDING 164 - UNIVERSITY OF MELBOURNE 2017-18

| Drum No. | Shipping Date | Description of contents | Photo No.s | Radionuclide | Dose rate (µSv/hr) at contact | Activity (kBq) | Gross Drum Mass (kg) | Net Drum (contents) Mass (kg) | Ba/g | A/D Ratio | Security Category | Drum classification | |
|----------|---------------|--|------------|--------------|-------------------------------|----------------|----------------------|-------------------------------|-------|-----------|-------------------|---------------------|----------|
| D1 | | Contaminated asbestos guttering removed from building | 1904 | 1906 | | Ra226 | 47.5 | 75 | 55.5 | 0.86 | 0.0000012 | 5 | IW SCO-1 |
| D2 | | Contaminated asbestos guttering removed from building | 1903 | 1907 | | Ra226 | 47.5 | 77.5 | 58 | 0.82 | 0.0000012 | 5 | IW SCO-1 |
| D3 | | Contaminated asbestos guttering removed from building | 1905 | 1908 | | Ra226 | 47.5 | 84 | 64.5 | 0.74 | 0.0000012 | 5 | IW SCO-1 |
| D4 | 24/10/2018 | Roof insulation bats | 1830 | 1831 | | Ra226 | 65.2 | 29 | 9.5 | 6.86 | 0.0000016 | 5 | IW SCO-1 |
| D5 | 24/10/2018 | Roof insulation bats | 1832 | 1833 | | Ra226 | 114.2 | 28 | 8.5 | 13.4 | 0.0000029 | 5 | IW SCO-1 |
| D6 | 24/10/2018 | Roof insulation bats | 1834 | 1835 | | Ra226 | 215.5 | 29.5 | 10 | 21.6 | 0.0000054 | 5 | IW SCO-1 |
| D7 | 24/10/2018 | Roof insulation bats | 1836 | 1837 | | Ra226 | 56.1 | 34.5 | 15 | 3.74 | 0.0000014 | 5 | IW SCO-1 |
| D8 | 24/10/2018 | Roof insulation bats | 1838 | 1839 | | Ra226 | 210.4 | 31.5 | 12 | 17.5 | 0.0000053 | 5 | IW SCO-1 |
| D9 | 24/10/2018 | Roof insulation bats | 1840 | 1841 | | Ra226 | 248.1 | 29 | 9.5 | 26.1 | 0.0000062 | 5 | IW SCO-1 |
| D10 | 24/10/2018 | Roof insulation bats | 1842 | 1843 | | Ra226 | 50.3 | 33 | 13.5 | 3.73 | 0.0000013 | 5 | IW SCO-1 |
| D11 | 24/10/2018 | Roof insulation bats | 1844 | 1845 | | Ra226 | 28.2 | 32.5 | 13 | 2.17 | 0.0000007 | 5 | IW SCO-1 |
| D12 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1846 | 1847 | | Ra226 | 68.5 | 127 | 107.5 | 0.64 | 0.0000017 | 5 | IW SCO-1 |
| D13 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1848 | 1849 | | Ra226 | 68.5 | 144.5 | 125 | 0.55 | 0.0000017 | 5 | IW SCO-1 |
| D14 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1850 | 1851 | | Ra226 | 68.5 | 72 | 52.5 | 1.30 | 0.0000017 | 5 | IW SCO-1 |
| D15 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1852 | 1853 | | Ra226 | 68.5 | 81 | 61.5 | 1.11 | 0.0000017 | 5 | IW SCO-1 |
| D16 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1854 | 1855 | | Ra226 | 68.5 | 74.5 | 55 | 1.24 | 0.0000017 | 5 | IW SCO-1 |
| D17 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1856 | 1857 | | Ra226 | 68.5 | 138.5 | 119 | 0.58 | 0.0000017 | 5 | IW SCO-1 |
| D18 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1858 | 1859 | | Ra226 | 68.5 | 82.5 | 63 | 1.09 | 0.0000017 | 5 | IW SCO-1 |
| D19 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1860 | 1861 | | Ra226 | 68.5 | 112.5 | 93 | 0.74 | 0.0000017 | 5 | IW SCO-1 |
| D20 | 1/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1862 | 1863 | | Ra226 | 68.5 | 117.5 | 98 | 0.70 | 0.0000017 | 5 | IW SCO-1 |
| D21 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1864 | 1865 | | Ra226 | 68.5 | 122.5 | 103 | 0.66 | 0.0000017 | 5 | IW SCO-1 |
| D22 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1866 | 1867 | | Ra226 | 68.5 | 107 | 87.5 | 0.78 | 0.0000017 | 5 | IW SCO-1 |
| D23 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1868 | 1869 | | Ra226 | 68.5 | 87 | 67.5 | 1.01 | 0.0000017 | 5 | IW SCO-1 |
| D24 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1870 | 1871 | | Ra226 | 68.5 | 69 | 49.5 | 1.38 | 0.0000017 | 5 | IW SCO-1 |
| D25 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1872 | 1873 | | Ra226 | 68.5 | 71.5 | 52 | 1.32 | 0.0000017 | 5 | IW SCO-1 |
| D26 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1874 | 1875 | | Ra226 | 68.5 | 67.5 | 48 | 1.43 | 0.0000017 | 5 | IW SCO-1 |
| D27 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1876 | 1877 | | Ra226 | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW SCO-1 |
| D28 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1878 | 1879 | | Ra226 | 68.5 | 117 | 97.5 | 0.70 | 0.0000017 | 5 | IW SCO-1 |
| D29 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1880 | 1881 | | Ra226 | 68.5 | 64 | 44.5 | 1.54 | 0.0000017 | 5 | IW SCO-1 |
| D30 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1882 | 1883 | | Ra226 | 68.5 | 63 | 43.5 | 1.57 | 0.0000017 | 5 | IW SCO-1 |
| D31 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1884 | 1885 | | Ra226 | 68.5 | 67.5 | 48 | 1.43 | 0.0000017 | 5 | IW SCO-1 |
| D32 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1886 | 1887 | | Ra226 | 68.5 | 65.5 | 46 | 1.49 | 0.0000017 | 5 | IW SCO-1 |
| D33 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1888 | 1889 | | Ra226 | 68.5 | 66.5 | 47 | 1.46 | 0.0000017 | 5 | IW SCO-1 |
| D34 | 24/10/2018 | Wall render rubble from G12 | 1890 | 1891 | | Ra226 | 448.5 | 150.5 | 131 | 3.42 | 0.0000012 | 5 | IW SCO-1 |
| D35 | 24/10/2018 | Wall render rubble from G12 | 1892 | 1893 | | Ra226 | 205.3 | 137.5 | 118 | 1.74 | 0.0000051 | 5 | IW SCO-1 |
| D36 | 24/10/2018 | Floor render rubble from room 108 and G12 | 1894 | 1895 | | Ra226 | 290.4 | 172.5 | 153 | 1.90 | 0.0000073 | 5 | IW SCO-1 |
| D37 | 24/10/2018 | Rubble and bits and pieces | 1896 | 1897 | | Ra226 | 141.3 | 131 | 111.5 | 1.27 | 0.0000035 | 5 | IW |
| D38 | 24/10/2018 | Rubble and bits and pieces | 1898 | 1899 | | Ra226 | 313.0 | 93 | 73.5 | 4.26 | 0.0000078 | 5 | IW |
| D39 | 24/10/2018 | Rubble and bits and pieces | 1900 | 1901 | 1902 | Ra226 | 520.8 | 88.5 | 69 | 7.55 | 0.0000130 | 5 | IW |
| D40 | 24/10/2018 | Vacuum cleaner bags | 1909 | 1910 | | Ra226 | 968.0 | 98.5 | 79 | 12.3 | 0.0000242 | 5 | IW |
| D41 | 24/10/2018 | Vacuum cleaner bags | 1971 | 1972 | | Ra226 | 479.0 | 95 | 75.5 | 6.3 | 0.0000120 | 5 | IW |
| D42 | 24/10/2018 | Rubble and bits and pieces | 1966 | 1967 | | Ra226 | 43.0 | 112 | 92.5 | 0.46 | 0.0000011 | 5 | IW |
| D43 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1911 | 1912 | | Ra226 | 68.5 | 108 | 88.5 | 0.77 | 0.0000017 | 5 | IW SCO-1 |
| D44 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1913 | 1914 | | Ra226 | 68.5 | 88.5 | 69 | 0.99 | 0.0000017 | 5 | IW SCO-1 |
| D45 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1915 | 1916 | | Ra226 | 68.5 | 81.5 | 62 | 1.10 | 0.0000017 | 5 | IW SCO-1 |
| D46 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1917 | 1918 | | Ra226 | 68.5 | 121 | 101.5 | 0.67 | 0.0000017 | 5 | IW SCO-1 |
| D47 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1919 | 1920 | | Ra226 | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW SCO-1 |
| D48 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1921 | 1922 | | Ra226 | 68.5 | 77.5 | 58 | 1.18 | 0.0000017 | 5 | IW SCO-1 |
| D49 | 2/05/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1923 | 1924 | | Ra226 | 68.5 | 92.5 | 73 | 0.94 | 0.0000017 | 5 | IW SCO-1 |
| D50 | 2/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1930 | 1931 | | Ra226 | 12.1 | 200 | 180.5 | 0.07 | 0.0000003 | 5 | IW SCO-1 |
| D51 | 2/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1932 | 1933 | | Ra226 | 25.6 | 197.5 | 178 | 0.14 | 0.0000006 | 5 | IW SCO-1 |
| D52 | 2/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1934 | 1935 | | Ra226 | 22.6 | 195 | 175.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D53 | 1/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1936 | 1937 | | Ra226 | 22.5 | 197.5 | 178 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D54 | 1/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1941 | 1942 | | Ra226 | 20.3 | 195 | 175.5 | 0.12 | 0.0000005 | 5 | IW SCO-1 |
| D55 | 1/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1943 | 1944 | | Ra226 | 22.8 | 193 | 173.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D56 | 1/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1945 | 1946 | | Ra226 | 22.8 | 199 | 179.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D57 | 24/10/2018 | Roof tiles - category 2 (1 to 4 Ba/cm² alpha) | 1947 | 1948 | | Ra226 | 143.2 | 194 | 174.5 | 0.82 | 0.0000036 | 5 | IW SCO-1 |
| D58 | 24/10/2018 | Roof tiles - category 3 (4 to 20 Ba/cm² alpha) | 1949 | 1950 | | Ra226 | 720.5 | 189 | 169.5 | 4.25 | 0.0000180 | 5 | IW SCO-1 |
| D59 | 24/10/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1951 | 1952 | | Ra226 | 22.8 | 202 | 182.5 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| D60 | 24/10/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1973 | 1974 | | Ra226 | 22.8 | 202.5 | 183 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| D61 | 24/10/2018 | Ventilation duct material (plasterboard) | 1955 | 1956 | | Ra226 | 116.3 | 106 | 86.5 | 1.34 | 0.0000029 | 5 | IW SCO-1 |
| D62 | 24/10/2018 | Ventilation duct material (metal) | 1953 | 1954 | | Ra226 | 125.3 | 71 | 51.5 | 2.43 | 0.0000031 | 5 | IW SCO-1 |
| D63 | 24/10/2018 | Ventilation duct material (metal and lead) | 1957 | 1958 | | Ra226 | 125.3 | 88 | 68.5 | 1.83 | 0.0000031 | 5 | IW SCO-1 |
| D64 | 24/10/2018 | Wood skirting, flooring, and ceiling bits, plaster etc | 1959 | 1960 | | Ra226 | 68.5 | 80.5 | 61 | 1.12 | 0.0000017 | 5 | IW SCO-1 |
| D65 | 1/05/2018 | Roof battens and timbers | 1961 | 1962 | | Ra226 | 116.3 | 70 | 50.5 | 2.30 | 0.0000029 | 5 | IW SCO-1 |
| D66 | 1/05/2018 | Roof battens and timbers | 1963 | 1968 | | Ra226 | 116.3 | 80.5 | 61 | 1.91 | 0.0000029 | 5 | IW SCO-1 |
| D67 | 1/05/2018 | Roof battens and timbers | 1964 | 1965 | | Ra226 | 116.3 | 82.5 | 63 | 1.85 | 0.0000029 | 5 | IW SCO-1 |
| D68 | 1/05/2018 | Roof battens and timbers | 1969 | 1970 | | Ra226 | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW SCO-1 |
| D69 | 1/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1975 | 1976 | | Ra226 | 22.8 | 200 | 180.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D70 | 1/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1977 | 1978 | | Ra226 | 22.8 | 204 | 184.5 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| D71 | 1/05/2018 | Roof tiles - category 2 (1 to 4 Ba/cm² alpha) | 1979 | 1980 | | Ra226 | 143.2 | 204 | 184.5 | 0.78 | 0.0000036 | 5 | IW SCO-1 |
| D72 | 1/05/2018 | Roof tiles - category 3 (4 to 20 Ba/cm² alpha) | 1981 | 1982 | | Ra226 | 720.5 | 204.5 | 185 | 3.89 | 0.0000180 | 5 | IW SCO-1 |
| D73 | 2/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1983 | 1984 | | Ra226 | 22.8 | 193 | 173.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D74 | 2/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1985 | 1986 | | Ra226 | 22.8 | 221.5 | 202 | 0.11 | 0.0000006 | 5 | IW SCO-1 |
| D75 | 2/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1987 | 1988 | | Ra226 | 22.8 | 224 | 204.5 | 0.11 | 0.0000006 | 5 | IW SCO-1 |
| D76 | 2/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 1989 | 1990 | | Ra226 | 22.8 | 227 | 207.5 | 0.11 | 0.0000006 | 5 | IW SCO-1 |
| D77 | 1/05/2018 | Roof tiles - category 2 (1 to 4 Ba/cm² alpha) | 1991 | 1992 | | Ra226 | 143.2 | 220.5 | 201 | 0.71 | 0.0000036 | 5 | IW SCO-1 |
| D78 | 24/10/2018 | Roof tiles - category 2 (1 to 4 Ba/cm² alpha) | 2092 | 2093 | | Ra226 | 143.2 | 203.5 | 184 | 0.78 | 0.0000036 | 5 | IW SCO-1 |
| D79 | 24/10/2018 | Roof tiles - category 2 (1 to 4 Ba/cm² alpha) | 2094 | 2095 | | Ra226 | 143.2 | 209.5 | 190 | 0.75 | 0.0000036 | 5 | IW SCO-1 |
| D80 | 24/10/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 2096 | 2097 | | Ra226 | 22.8 | 194.5 | 175 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D81 | 24/10/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 2098 | 2099 | | Ra226 | 22.8 | 205.5 | 186 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| D82 | 24/10/2018 | Roof tiles - category 3 (4 to 20 Ba/cm² alpha) | 2100 | 2101 | | Ra226 | 720.5 | 208.5 | 189 | 3.81 | 0.0000180 | 5 | IW SCO-1 |
| D83 | 24/10/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 2102 | 2103 | | Ra226 | 22.8 | 199.5 | 180 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D84 | 24/10/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 2104 | 2105 | | Ra226 | 22.8 | 204 | 184.5 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| D85 | 24/10/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 2106 | 2107 | | Ra226 | 22.8 | 195.5 | 176 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D86 | 2/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 2123 | 2124 | | Ra226 | 22.8 | 203.5 | 184 | 0.12 | 0.0000006 | 5 | IW SCO-1 |
| D87 | 2/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 2125 | 2126 | | Ra226 | 22.8 | 195.5 | 176 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D88 | 2/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 2127 | 2128 | | Ra226 | 22.8 | 196 | 176.5 | 0.13 | 0.0000006 | 5 | IW SCO-1 |
| D89 | 2/05/2018 | Roof tiles - category | | | | | | | | | | | |

| | | | | | | | | | | | | | | | |
|-----|------|------------|---|------|------|--|-------|--|-------|-------|-------|--------|-----------|---|----------|
| 39 | D112 | 1/05/2018 | Roof bearers and timbers from room G11, G12, G13 | 2161 | 2162 | | Ra226 | | 116.3 | 74.5 | 55 | 2.11 | 0.0000029 | 5 | IW SCO-1 |
| 40 | D113 | 1/05/2018 | Roof bearers and timbers from room G11, G12, G13 | 2163 | 2164 | | Ra226 | | 116.3 | 75 | 55.5 | 2.10 | 0.0000029 | 5 | IW SCO-1 |
| 41 | D114 | 1/05/2018 | Roof bearers and timbers from room G11 | 2165 | 2166 | | Ra226 | | 116.3 | 83.5 | 64 | 1.82 | 0.0000029 | 5 | IW SCO-1 |
| 42 | D115 | 1/05/2018 | Roof bearers and timbers from room G11 | 2167 | 2168 | | Ra226 | | 116.3 | 81 | 61.5 | 1.89 | 0.0000029 | 5 | IW SCO-1 |
| 43 | D116 | 1/05/2018 | Roof bearers and timbers from room G11 | 2169 | 2170 | | Ra226 | | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW SCO-1 |
| 44 | D117 | 2/05/2018 | Roof bearers and timbers from room G11 | 2171 | 2172 | | Ra226 | | 116.3 | 76 | 56.5 | 2.06 | 0.0000029 | 5 | IW SCO-1 |
| 71 | D118 | 24/10/2018 | Roof bearers and timbers from room G11 | 2173 | 2174 | | Ra226 | | 116.3 | 84 | 64.5 | 1.80 | 0.0000029 | 5 | IW SCO-1 |
| 45 | D119 | 1/05/2018 | Roof bearers and timbers from room G11 | 2175 | 2176 | | Ra226 | | 116.3 | 86 | 66.5 | 1.75 | 0.0000029 | 5 | IW SCO-1 |
| 46 | D120 | 1/05/2018 | Roof bearers and timbers from room G-08, G11 | 2177 | 2178 | | Ra226 | | 116.3 | 66.5 | 47 | 2.47 | 0.0000029 | 5 | IW SCO-1 |
| 72 | D121 | 24/10/2018 | Roof bearers and timbers Room G-08 | 2179 | 2180 | | Ra226 | | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW SCO-1 |
| 73 | D122 | 24/10/2018 | Roof bearers and timbers Room G-08 | 2181 | 2182 | | Ra226 | | 116.3 | 94.5 | 75 | 1.55 | 0.0000029 | 5 | IW SCO-1 |
| 47 | D123 | 1/05/2018 | Roof bearers and timbers Room G-11 | 2183 | 2184 | | Ra226 | | 116.3 | 96.5 | 77 | 1.51 | 0.0000029 | 5 | IW SCO-1 |
| 48 | D124 | 2/05/2018 | Roof bearers and timbers Room G-08, G11 | 2185 | 2186 | | Ra226 | | 116.3 | 90.5 | 71 | 1.64 | 0.0000029 | 5 | IW SCO-1 |
| 49 | D125 | 2/05/2018 | Roof bearers and timbers Room G-11 | 2187 | 2188 | | Ra226 | | 116.3 | 87.5 | 68 | 1.71 | 0.0000029 | 5 | IW SCO-1 |
| 74 | D126 | 24/10/2018 | Roof bearers and timbers Room G-11 | 2189 | 2190 | | Ra226 | | 116.3 | 90 | 70.5 | 1.65 | 0.0000029 | 5 | IW SCO-1 |
| 50 | D127 | 2/05/2018 | Roof bearers and timbers Room G-11 | 2191 | 2192 | | Ra226 | | 116.3 | 91 | 71.5 | 1.63 | 0.0000029 | 5 | IW SCO-1 |
| 75 | D128 | 24/10/2018 | Roof bearers and timbers Room G-11 | 2193 | 2194 | | Ra226 | | 116.3 | 92 | 72.5 | 1.60 | 0.0000029 | 5 | IW SCO-1 |
| 76 | D129 | 24/10/2018 | Roof bearers and timbers Room G-11 | 2195 | 2196 | | Ra226 | | 116.3 | 78.5 | 59 | 1.97 | 0.0000029 | 5 | IW SCO-1 |
| 51 | D130 | 1/05/2018 | Roof bearers and timbers Room G-11 | 2197 | 2198 | | Ra226 | | 116.3 | 97 | 77.5 | 1.50 | 0.0000029 | 5 | IW SCO-1 |
| 52 | D131 | 2/05/2018 | Roof bearers and timbers Room G-08, G11 | 2201 | 2202 | | Ra226 | | 116.3 | 89 | 69.5 | 1.67 | 0.0000029 | 5 | IW SCO-1 |
| 77 | D132 | 24/10/2018 | Roof bearers and timbers Room G-08, G11 | 2199 | 2200 | | Ra226 | | 116.3 | 91.5 | 72 | 1.62 | 0.0000029 | 5 | IW SCO-1 |
| 78 | D133 | 24/10/2018 | Roof bearers and timbers Room G-08, G11 | 2203 | 2204 | | Ra226 | | 116.3 | 89.5 | 70 | 1.66 | 0.0000029 | 5 | IW SCO-1 |
| 79 | D134 | 24/10/2018 | Roof bearers and timbers Room G-08, G11 | 2205 | 2206 | | Ra226 | | 116.3 | 90.5 | 71 | 1.64 | 0.0000029 | 5 | IW SCO-1 |
| 80 | D135 | 24/10/2018 | Roof bearers and timbers Room G-08, G11 | 2207 | 2208 | | Ra226 | | 116.3 | 84.5 | 65 | 1.79 | 0.0000029 | 5 | IW SCO-1 |
| 53 | D136 | 2/05/2018 | Roof bearers and timbers Room G08, G11, G12, G14 | 2209 | 2210 | | Ra226 | | 116.3 | 87 | 67.5 | 1.72 | 0.0000029 | 5 | IW SCO-1 |
| 54 | D137 | 1/05/2018 | Roof bearers and timbers Room G08, G11, G12, G15 | 2211 | 2212 | | Ra226 | | 116.3 | 83.5 | 64 | 1.82 | 0.0000029 | 5 | IW SCO-1 |
| 55 | D138 | 2/05/2018 | Roof bearers and timbers Room G08, G11, G12, G16 | 2213 | 2214 | | Ra226 | | 116.3 | 76 | 56.5 | 2.06 | 0.0000029 | 5 | IW SCO-1 |
| 56 | D139 | 1/05/2018 | Roof bearers and timbers Room G08, G11, G12, G17 | 2215 | 2216 | | Ra226 | | 116.3 | 81 | 61.5 | 1.89 | 0.0000029 | 5 | IW SCO-1 |
| 57 | D140 | 1/05/2018 | Roof bearers and timbers Room G08, G11, G12, G18 | 2217 | 2218 | | Ra226 | | 116.3 | 76.5 | 57 | 2.04 | 0.0000029 | 5 | IW SCO-1 |
| 58 | D141 | 1/05/2018 | Roof bearers and timbers Room G08, G11, G12, G19 | 2219 | 2220 | | Ra226 | | 116.3 | 78.5 | 59 | 1.97 | 0.0000029 | 5 | IW SCO-1 |
| 59 | D142 | 2/05/2018 | Rubble and bits and pieces | 2221 | 2222 | | Ra226 | | 27.7 | 114.5 | 95 | 0.29 | 0.0000007 | 5 | IW |
| 60 | D143 | 1/05/2018 | Ventilation duct material (metal) | 2223 | 2224 | | Ra226 | | 125.3 | 84.5 | 65 | 1.93 | 0.0000031 | 5 | IW SCO-1 |
| 61 | D144 | 1/05/2018 | Ventilation duct material (metal) | 2225 | 2226 | | Ra226 | | 125.3 | 51.5 | 32 | 3.92 | 0.0000031 | 5 | IW SCO-1 |
| 62 | D145 | 1/05/2018 | Soft waste | 2227 | 2228 | | Ra226 | | 23.8 | 82 | 62.5 | 0.38 | 0.0000006 | 5 | IW |
| 63 | D146 | 1/05/2018 | Ventilation duct material (metal) | 2229 | 2230 | | Ra226 | | 125.3 | 143.5 | 124 | 1.01 | 0.0000031 | 5 | IW SCO-1 |
| 64 | D147 | 1/05/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 2231 | 2232 | | Ra226 | | 22.8 | 226 | 206.5 | 0.11 | 0.0000006 | 5 | IW SCO-1 |
| 65 | D148 | 2/05/2018 | Rubble and bits and pieces | 2233 | 2234 | | Ra226 | | 312.5 | 118 | 98.5 | 3.17 | 0.0000078 | 5 | IW |
| 66 | D149 | 2/05/2018 | Rubble and bits and pieces | 2235 | 2236 | | Ra226 | | 394.3 | 118 | 98.5 | 4.00 | 0.0000099 | 5 | IW |
| 67 | D150 | 2/05/2018 | Bricks Ex room G12/G13 | 2237 | 2238 | | Ra226 | | 49.6 | 239 | 219.5 | 0.23 | 0.0000012 | 5 | IW SCO-1 |
| 68 | D151 | 1/05/2018 | Bricks Ex room G12/G13 | 2239 | 2240 | | Ra226 | | 49.6 | 199 | 179.5 | 0.28 | 0.0000012 | 5 | IW SCO-1 |
| 69 | D152 | 1/05/2018 | Floor bearers and timbers ex G12 | 2247 | 2248 | | Ra226 | | 116.3 | 101.5 | 82 | 1.42 | 0.0000029 | 5 | IW SCO-1 |
| 70 | D153 | 1/05/2018 | Floor bearers and timbers ex G13 | 2249 | 2250 | | Ra226 | | 116.3 | 105.5 | 86 | 1.35 | 0.0000029 | 5 | IW SCO-1 |
| 71 | D154 | 1/2 full | Large bits of surface contaminated concrete ex G12/G13 | | | | Ra226 | | 430.0 | | -19.5 | -22.05 | 0.0000108 | 5 | IW SCO-1 |
| 72 | D155 | 2/05/2018 | Insulation bats and lagging etc | 2253 | 2254 | | Ra226 | | 57.7 | 30.5 | 11 | 5.25 | 0.0000014 | 5 | IW |
| 73 | D156 | 1/05/2018 | Rubble and bits and pieces | 2362 | 2363 | | Ra226 | | 26.4 | 145 | 125.5 | 0.21 | 0.0000007 | 5 | IW |
| 81 | D157 | 24/10/2018 | Floor bearers and timbers ex G11 | 2366 | 2367 | | Ra226 | | 116.3 | 68 | 48.5 | 2.40 | 0.0000029 | 5 | IW SCO-1 |
| 82 | D158 | 24/10/2018 | Floor bearers and timbers ex G11 | 2368 | 2369 | | Ra226 | | 116.3 | 78.5 | 59 | 1.97 | 0.0000029 | 5 | IW SCO-1 |
| 83 | D159 | 24/10/2018 | Floor bearers and timbers ex G11 | 2370 | 2371 | | Ra226 | | 116.3 | 86.5 | 67 | 1.74 | 0.0000029 | 5 | IW SCO-1 |
| 84 | D160 | 24/10/2018 | Floor bearers and timbers ex G11 | 2372 | 2373 | | Ra226 | | 116.3 | 81 | 61.5 | 1.89 | 0.0000029 | 5 | IW SCO-1 |
| 85 | D161 | 24/10/2018 | Floor bearers and timbers ex G11 | 2374 | 2375 | | Ra226 | | 116.3 | 66.5 | 47 | 2.47 | 0.0000029 | 5 | IW SCO-1 |
| 86 | D162 | 24/10/2018 | Floor bearers and timbers ex G11 | 2376 | 2377 | | Ra226 | | 116.3 | 90 | 70.5 | 1.65 | 0.0000029 | 5 | IW SCO-1 |
| 87 | D163 | 24/10/2018 | Floor bearers and timbers ex G11 | 2378 | 2379 | | Ra226 | | 116.3 | 77.5 | 58 | 2.01 | 0.0000029 | 5 | IW SCO-1 |
| 88 | D164 | 24/10/2018 | Floor bearers and timbers ex G11 | 2380 | 2381 | | Ra226 | | 116.3 | 100 | 80.5 | 1.44 | 0.0000029 | 5 | IW SCO-1 |
| 89 | D165 | 24/10/2018 | Floor bearers and timbers ex G11 | 2382 | 2383 | | Ra226 | | 116.3 | 110 | 90 | 1.29 | 0.0000029 | 5 | IW SCO-1 |
| 90 | D166 | 24/10/2018 | Floor bearers and timbers ex G11 | 2384 | 2385 | | Ra226 | | 116.3 | 78.5 | 59 | 1.97 | 0.0000029 | 5 | IW SCO-1 |
| 91 | D167 | 24/10/2018 | Metal duct, G13 door frame & pipes from under G12 & G11 | 2419 | 2420 | | Ra226 | | 125.3 | 212 | 192.5 | 0.65 | 0.0000031 | 5 | IW SCO-1 |
| 92 | D168 | 24/10/2018 | Ventilation duct material (metal) | 2431 | 2432 | | Ra226 | | 125.3 | 83 | 63.5 | 1.97 | 0.0000031 | 5 | IW SCO-1 |
| 93 | D169 | 24/10/2018 | Metal pipes etc from under G01, G02, G08 & G09 | 2403 | 2404 | | Ra226 | | 116.3 | 131 | 111.5 | 1.04 | 0.0000029 | 5 | 1W SCO-1 |
| 94 | D170 | 24/10/2018 | Floor bearers and timbers ex G09 | 2407 | 2408 | | Ra226 | | 116.3 | 70 | 50.5 | 2.30 | 0.0000029 | 5 | IW SCO-1 |
| 95 | D171 | 24/10/2018 | Floor bearers and timbers ex G09 | 2411 | 2412 | | Ra226 | | 116.3 | 91 | 71.5 | 1.63 | 0.0000029 | 5 | IW SCO-1 |
| 96 | D172 | 24/10/2018 | Floor bearers and timbers ex G09 | 2394 | 2395 | | Ra226 | | 116.3 | 90 | 70.5 | 1.65 | 0.0000029 | 5 | IW SCO-1 |
| 97 | D173 | 24/10/2018 | Floor bearers and timbers ex G09 | 2396 | 2398 | | Ra226 | | 116.3 | 77 | 57.5 | 2.02 | 0.0000029 | 5 | IW SCO-1 |
| 98 | D174 | 24/10/2018 | Floor bearers and timbers ex G09 | 2415 | 2416 | | Ra226 | | 116.3 | 61 | 41.5 | 2.80 | 0.0000029 | 5 | IW SCO-1 |
| 99 | D175 | 24/10/2018 | Floor bearers and timbers ex G09 | 2392 | 2393 | | Ra226 | | 116.3 | 77 | 57.5 | 2.02 | 0.0000029 | 5 | IW SCO-1 |
| 100 | D176 | 24/10/2018 | Floor bearers and timbers ex G09 | 2413 | 2414 | | Ra226 | | 116.3 | 90 | 70.5 | 1.65 | 0.0000029 | 5 | IW SCO-1 |
| 101 | D177 | 24/10/2018 | Floor bearers and timbers ex G01 & G02 | 2401 | 2402 | | Ra226 | | 116.3 | 82 | 62.5 | 1.86 | 0.0000029 | 5 | IW SCO-1 |
| 102 | D178 | 24/10/2018 | Floor bearers and timbers ex G01 & G02 | 2390 | 2391 | | Ra226 | | 116.3 | 89 | 69.5 | 1.67 | 0.0000029 | 5 | IW SCO-1 |
| 103 | D179 | 24/10/2018 | Floor bearers and timbers ex G01 & G02 | 2405 | 2406 | | Ra226 | | 116.3 | 76 | 56.5 | 2.06 | 0.0000029 | 5 | IW SCO-1 |
| 104 | D180 | 24/10/2018 | Floor bearers and timbers ex G08 & G11 | 2409 | 2410 | | Ra226 | | 116.3 | 92.5 | 73 | 1.59 | 0.0000029 | 5 | IW SCO-1 |
| 105 | D181 | 24/10/2018 | Floor bearers and timbers ex G08 & G11 | 2388 | 2389 | | Ra226 | | 116.3 | 116 | 96.5 | 1.21 | 0.0000029 | 5 | IW SCO-1 |
| 106 | D182 | 24/10/2018 | Floor bearers and timbers ex G08 & G11 | 2399 | 2400 | | Ra226 | | 116.3 | 115 | 95.5 | 1.22 | 0.0000029 | 5 | IW SCO-1 |
| 107 | D183 | 24/10/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 2423 | 2424 | | Ra226 | | 22.8 | 178 | 158.5 | 0.14 | 0.0000006 | 5 | IW |
| 108 | D184 | 24/10/2018 | Roof tiles - category 1 (<1 Ba/cm² alpha) | 2425 | 2426 | | Ra226 | | 22.8 | 179 | 159.5 | 0.14 | 0.0000006 | 5 | IW |
| 109 | D185 | 24/10/2018 | Roof tiles - category 2 (1 to 4 Ba/cm² alpha) | 2421 | 2422 | | Ra226 | | 143.2 | 170 | 150.5 | 0.95 | 0.0000036 | 5 | IW |
| 110 | D186 | 24/10/2018 | Roof tiles - category 2 (1 to 4 Ba/cm² alpha) | 2427 | 2428 | | Ra226 | | 143.2 | 173 | 153.5 | 0.93 | 0.0000036 | 5 | IW |
| 111 | D187 | 24/10/2018 | Roof tiles - category 3 (4 to 20 Ba/cm² alpha) | 2429 | 2430 | | Ra226 | | 720.5 | 136.5 | 117 | 6.16 | 0.0000180 | 5 | IW |
| 112 | D188 | 5/6 full | Rubble and bits and pieces bags 93 - 100 | | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| 113 | D189 | 3/4 full | Rubble and bits & pieces (inc wood etc from under G11, G08) | | | | Ra226 | | | | -19.5 | 0.00 | 0.0000000 | 5 | |
| 112 | D190 | 24/10/2018 | Contaminated brick & rubble from G12/G13 | 2448 | 2449 | | Ra226 | | 45.8 | 186.5 | 167 | 0.27 | 0.0000011 | 5 | IW SCO-1 |
| 113 | D191 | 24/10/2018 | Floor bearers and timbers ex G04 | 2423 | 2424 | | Ra226 | | 116.3 | 64 | 44.5 | 2.61 | 0.0000029 | 5 | IW SCO-1 |
| 114 | D192 | 24/10/2018 | Floor bearers and timbers ex G04 | 2435 | 2436 | | Ra226 | | 116.3 | 103.5 | 84 | 1.38 | 0.0000029 | 5 | IW SCO-1 |
| 115 | D193 | 24/10/2018 | Vacuum cleaner bags | 2437 | 2439 | | Ra226 | | 591.0 | 123 | 103.5 | 5.71 | | | |

| Security Category Level Based on A/D Values | | | |
|---|-----------------------|---------|-----------------------|
| Category | A/D ratio value range | | |
| 1 | 1000 | 1000000 | $A/D \geq 1000$ |
| 2 | 10 | 1000 | $1000 > A/D \geq 10$ |
| 3 | 1 | 10 | $10 > A/D \geq 1$ |
| 4 | 0.01 | 1 | $1 > A/D \geq 0.01$ |
| 5 | 0 | 0.01 | $0.01 > A/D$ exempt/D |

Surface Contamination measured on surfaces of 70.45 bricks to determine "typical" average activity per brick within a count range

Bricks (mostly intact)

Instrument MTE: 5506

Mostly fixed contamination on surfaces

DRUM 150

| | | | | | | | | | | | | 1cps beta | | BckGrnd CPS | 1cps Alpha | | BckGrnd CPS |
|---|-------------------------|------------------------------------|-------------|-------------------------------|---------------|------------------------------|---|---|--|--|----------------------|--|-----|---------------------------|------------|-----|----------------|
| No. | Brick size factor | Surface area (cm ²) | cps (alpha) | Bq/cm ² (alpha) | cps (beta) | Bq/cm ² (beta) | Est. fraction of area contamin ated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | Brick weight (kg) | 0.15 Bq/cm ² | 3.4 | 0.2 Bq/cm ² | 0.02 | | |
| 1 | 1 | 968 | 12 | 2.396 | 22.4 | 2.85 | 0.2 | 463.626 | 551.475 | 551.475 | 4.2 | All surface measurements Surface areas of different brick faces 22.5 10.5 236.25 22.5 10.5 236.25 22.5 7.5 168.75 22.5 7.5 168.75 10.5 7.5 78.75 10.5 7.5 78.75 cm2 <u>967.5</u> Total surface area of a brick Brick weight: 4.2 kg | | | | | |
| 2 | 1 | 968 | 1.5 | 0.296 | 7.4 | 0.6 | 0.2 | 57.276 | 116.1 | 116.1 | 4.2 | | | | | | |
| 3 | 0.5 | 484 | 0.5 | 0.096 | 5.4 | 0.3 | 0.2 | 9.288 | 29.025 | 29.025 | 2.1 | | | | | | |
| 4 | 1 | 968 | 1.3 | 0.256 | 4.4 | 0.15 | 0.2 | 49.536 | 29.025 | 49.536 | 4.2 | | | | | | |
| 5 | 0.5 | 484 | 2 | 0.396 | 23.4 | 3 | 0.2 | 38.313 | 290.25 | 290.25 | 2.1 | | | | | | |
| 6 | 1 | 968 | 1 | 0.196 | 3.9 | 0.075 | 0.2 | 37.926 | 14.5125 | 37.926 | 4.2 | | | | | | |
| 7 | 0.25 | 242 | 38 | 7.596 | 58.4 | 8.25 | 0.2 | 367.4565 | 399.0938 | 399.09375 | 1.05 | | | | | | |
| 8 | 1 | 968 | 0.4 | 0.076 | 4.4 | 0.15 | 0.2 | 14.706 | 29.025 | 29.025 | 4.2 | | | | | | |
| 9 | 0.5 | 484 | 80 | 15.996 | 163.4 | 24 | 0.2 | 1547.613 | 2322 | 2322 | 2.1 | | | | | | |
| 10 | 0.5 | 484 | 1 | 0.196 | 3.4 | 0 | 0.2 | 18.963 | 0 | 18.963 | 2.1 | | | | | | |
| 11 | 0.5 | 484 | 0.5 | 0.096 | 3.4 | 0 | 0.2 | 9.288 | 0 | 9.288 | 2.1 | | | | | | |
| 12 | 0.5 | 484 | 0.4 | 0.076 | 3.4 | 0 | 0.2 | 7.353 | 0 | 7.353 | 2.1 | | | | | | |
| 13 | 1 | 968 | 10 | 1.996 | 97.4 | 14.1 | 0.2 | 386.226 | 2728.35 | 2728.35 | 4.2 | | | | | | |
| 14 | 0.5 | 484 | 0.8 | 0.156 | 3.4 | 0 | 0.2 | 15.093 | 0 | 15.093 | 2.1 | | | | | | |
| 15 | 1 | 968 | 2 | 0.396 | 20.4 | 2.55 | 0.2 | 76.626 | 493.425 | 493.425 | 4.2 | | | | | | |
| 16 | 1 | 968 | 1 | 0.196 | 11.4 | 1.2 | 0.5 | 94.815 | 580.5 | 580.5 | 4.2 | | | | | | |
| 17 | 1 | 968 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 46.44 | 0 | 46.44 | 4.2 | | | | | | |
| 18 | 1 | 968 | 1 | 0.196 | 9.4 | 0 | 0.5 | 94.815 | 0 | 94.815 | 4.2 | | | | | | |
| 19 | 1 | 968 | 4 | 0.796 | 63.4 | 9 | 0.5 | 385.065 | 4353.75 | 4353.75 | 4.2 | | | | | | |
| 20 | 1 | 968 | 15 | 2.996 | 19.4 | 2.4 | 0.5 | 1449.315 | 1161 | 1449.315 | 4.2 | | | | | | |
| 21 | 1 | 968 | 1.5 | 0.296 | 27.4 | 3.6 | 0.5 | 143.19 | 1741.5 | 1741.5 | 4.2 | | | | | | |
| 22 | 1 | 968 | 2.7 | 0.536 | 50.4 | 7.05 | 0.5 | 259.29 | 3410.438 | 3410.4375 | 4.2 | | | | | | |
| 23 | 1 | 968 | 0.4 | 0.076 | 4.4 | 0.15 | 0.5 | 36.765 | 72.5625 | 72.5625 | 4.2 | | | | | | |
| 24 | 0.5 | 484 | 0.6 | 0.116 | 43.4 | 6 | 0.5 | 28.0575 | 1451.25 | 1451.25 | 2.1 | | | | | | |
| 25 | 1 | 968 | 0.6 | 0.116 | 7.4 | 0.6 | 0.5 | 56.115 | 290.25 | 290.25 | 4.2 | | | | | | |
| 26 | 1 | 968 | 0.4 | 0.076 | 3.4 | 0 | 0.5 | 36.765 | 0 | 36.765 | 4.2 | | | | | | |
| 27 | 1 | 968 | 18 | 3.596 | 6.4 | 0.45 | 0.5 | 1739.565 | 217.6875 | 1739.565 | 4.2 | | | | | | |
| 28 | 1 | 968 | 0.4 | 0.076 | 3.4 | 0 | 0.5 | 36.765 | 0 | 36.765 | 4.2 | | | | | | |
| 29 | 1 | 968 | 4 | 0.796 | 47.4 | 6.6 | 0.5 | 385.065 | 3192.75 | 3192.75 | 4.2 | | | | | | |
| 30 | 1 | 968 | 4 | 0.796 | 12.4 | 1.35 | 0.5 | 385.065 | 653.0625 | 653.0625 | 4.2 | | | | | | |
| 31 | 1 | 968 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 46.44 | 0 | 46.44 | 4.2 | | | | | | |
| 32 | 1 | 968 | 1.5 | 0.296 | 15.4 | 1.8 | 0.5 | 143.19 | 870.75 | 870.75 | 4.2 | | | | | | |
| 33 | 0.5 | 484 | 0.5 | 0.096 | 5.4 | 0.3 | 0.5 | 23.22 | 72.5625 | 72.5625 | 2.1 | | | | | | |
| 34 | 1 | 968 | 0.5 | 0.096 | 6.4 | 0.45 | 0.5 | 46.44 | 217.6875 | 217.6875 | 4.2 | | | | | | |
| 35 | 1 | 968 | 1 | 0.196 | 30.4 | 4.05 | 0.5 | 94.815 | 1959.188 | 1959.1875 | 4.2 | | | | | | |
| 36 | 1 | 968 | 2.1 | 0.416 | 14.5 | 1.665 | 0.2 | 80.496 | 322.1775 | 322.1775 | 4.2 | | | | | | |
| 37 | 1 | 968 | 10 | 1.996 | 37 | 5.04 | 0.2 | 386.226 | 975.24 | 975.24 | 4.2 | | | | | | |
| 38 | 1 | 968 | 19 | 3.796 | 30 | 3.99 | 0.2 | 734.526 | 772.065 | 772.065 | 4.2 | | | | | | |
| 39 | 1 | 968 | 1.7 | 0.336 | 13 | 1.44 | 0.5 | 162.54 | 696.6 | 696.6 | 4.2 | | | | | | |
| 40 | 1 | 968 | 2 | 0.396 | 10 | 0.99 | 0.5 | 191.565 | 478.9125 | 478.9125 | 4.2 | | | | | | |
| 41 | 1 | 968 | 6 | 1.196 | 10 | 0.99 | 0.5 | 578.565 | 478.9125 | 578.565 | 4.2 | | | | | | |
| 42 | 1 | 968 | 10 | 1.996 | 32 | 4.29 | 0.5 | 965.565 | 2075.288 | 2075.2875 | 4.2 | | | | | | |
| 43 | 1 | 968 | 0.5 | 0.096 | 7 | 0.54 | 0.5 | 46.44 | 261.225 | 261.225 | 4.2 | | | | | | |
| 44 | 1 | 968 | 7 | 1.396 | 23 | 2.94 | 0.5 | 675.315 | 1422.225 | 1422.225 | 4.2 | | | | | | |
| 45 | 0.5 | 484 | 9 | 1.796 | 120 | 17.49 | 0.5 | 434.4075 | 4230.394 | 4230.39375 | 2.1 | | | | | | |
| 46 | 0.2 | 194 | 1 | 0.196 | 4 | 0.09 | 0.5 | 18.963 | 8.7075 | 18.963 | 0.84 | | | | | | |
| 39.45 | | | | | | | | | | | | 12905 | | 38969 | 41245 | 166 | 248.9 Bq/kg |
| Bag of contaminated brick/render rubble 1 | | | | | | | | | | | | | | 4232 | 17 | | |
| Bag of contaminated brick/render rubble 2 | | | | | | | | | | | | | | 2987 | 12 | | |
| Loose pieces of render rubble | | | | | | | | | | | | | | 1742 | 7 | | |
| | | | | | | | | | | | | | | 0 | | | |
| Total Activity: | | | | | | | | | | | | | | 50206 | 202 | | |
| Drum 151: | | | | | | | | | | | | | | | | | |
| | | | cps (alpha) | Bq/cm ² (alpha) | cps (beta) | Bq/cm ² (beta) | | | | | | | | | | | |
| 1 | 1 | 968 | 0.7 | 0.136 | 23.4 | 3 | 0.5 | 65.79 | 1451.25 | 1451.25 | 4.2 | | | | | | |
| 2 | 1 | 968 | 1 | 0.196 | 11.4 | 1.2 | 0.5 | 94.815 | 580.5 | 580.5 | 4.2 | | | | | | |
| 3 | 1 | 968 | 0 | -0.004 | 8.4 | 0.75 | 0.5 | -1.935 | 362.8125 | 362.8125 | 4.2 | | | | | | |
| 4 | 1 | 968 | 2.8 | 0.556 | 13.4 | 1.5 | 0.5 | 268.965 | 725.625 | 725.625 | 4.2 | | | | | | |
| 5 | 1 | 968 | 0.5 | 0.096 | 13.4 | 1.5 | 0.5 | 46.44 | 725.625 | 725.625 | 4.2 | | | | | | |
| 6 | 1 | 968 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 46.44 | 0 | 46.44 | 4.2 | | | | | | |
| 7 | 1 | 968 | 0.7 | 0.136 | 6.4 | 0.45 | 0.5 | 65.79 | 217.6875 | 217.6875 | 4.2 | | | | | | |
| 8 | 1 | 968 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 46.44 | 0 | 46.44 | 4.2 | | | | | | |
| 9 | 1 | 968 | 22 | 4.396 | 35.4 | 4.8 | 0.5 | 2126.565 | 2322 | 2322 | 4.2 | | | | | | |
| 10 | 1 | 968 | 17 | 3.396 | 14.4 | 1.65 | 0.5 | 1642.815 | 798.1875 | 1642.815 | 4.2 | | | | | | |
| 11 | 1 | 968 | 9 | 1.796 | 17.4 | 2.1 | 0.5 | 868.815 | 1015.875 | 1015.875 | 4.2 | | | | | | |
| 12 | 1 | 968 | 10 | 1.996 | 37.4 | 5.1 | 0.5 | 965.565 | 2467.125 | 2467.125 | 4.2 | | | | | | |
| 13 | 1 | 968 | 1.2 | 0.236 | 5.4 | 0.3 | 0.5 | 114.165 | 145.125 | 145.125 | 4.2 | | | | | | |
| 14 | 1 | 968 | 1 | 0.196 | 13.4 | 1.5 | 0.5 | 94.815 | 725.625 | 725.625 | 4.2 | | | | | | |
| 15 | 1 | 968 | 3 | 0.596 | 7.4 | 0.6 | 0.5 | 288.315 | 290.25 | 290.25 | 4.2 | | | | | | |
| 16 | 1 | 968 | 4 | 0.796 | 13.4 | 1.5 | 0.5 | 385.065 | 725.625 | 725.625 | 4.2 | | | | | | |
| 17 | 1 | 968 | 15 | 2.996 | 7.4 | 0.6 | 0.5 | 1449.315 | 290.25 | 1449.315 | 4.2 | | | | | | |
| 18 | 1 | 968 | 2 | 0.396 | 8.4 | 0.75 | 0.5 | 191.565 | 362.8125 | 362.8125 | 4.2 | | | | | | |
| 19 | 1 | 968 | 3 | 0.596 | 12.4 | 1.35 | 0.5 | 288.315 | 653.0625 | 653.0625 | 4.2 | | | | | | |
| 20 | 0.5 | 484 | 23 | 4.596 | 33.4 | 4.5 | 0.5 | 1111.658 | 1088.438 | 1111.6575 | 2.1 | | | | | | |
| 21 | 0.5 | 484 | 23 | 4.596 | 42.4 | 5.85 | 0.5 | 1111.658 | 1414.969 | 1414.96875 | 2.1 | | | | | | |
| 22 | 1 | 968 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 46.44 | 0 | 46.44 | 4.2 | | | | | | |
| 23 | 1 | 968 | 1.3 | 0.256 | 7.4 | 0.6 | 0.5 | 123.84 | 290.25 | 290.25 | 4.2 | | | | | | |
| 24 | 1 | 968 | 7 | 1.396 | 53.4 | 7.5 | 0.5 | 675.315 | 3628.125 | 3628.125 | 4.2 | | | | | | |

| | | | | | | | | | | | |
|----|-----|-----|-----|--------|------|------|-----|----------|----------|----------|-----|
| 25 | 1 | 968 | 3 | 0.596 | 9.4 | 0.9 | 0.5 | 288.315 | 435.375 | 435.375 | 4.2 |
| 26 | 0.5 | 484 | 1 | 0.196 | 4.4 | 0.15 | 0.5 | 47.4075 | 36.28125 | 47.4075 | 2.1 |
| 27 | 0.5 | 484 | 7 | 1.396 | 10.4 | 1.05 | 0.5 | 337.6575 | 253.9688 | 337.6575 | 2.1 |
| 28 | 1 | 968 | 1.5 | 0.296 | 12.4 | 1.35 | 0.5 | 143.19 | 653.0625 | 653.0625 | 4.2 |
| 29 | 1 | 968 | 1.6 | 0.316 | 12.4 | 1.35 | 0.5 | 152.865 | 653.0625 | 653.0625 | 4.2 |
| 30 | 1 | 968 | 1 | 0.196 | 9.4 | 0.9 | 0.5 | 94.815 | 435.375 | 435.375 | 4.2 |
| 31 | 0.5 | 484 | 0.5 | 0.096 | 3.4 | 0 | 0.5 | 23.22 | 0 | 23.22 | 2.1 |
| 32 | 0.5 | 484 | 0.8 | 0.156 | 5.4 | 0.3 | 0.5 | 37.7325 | 72.5625 | 72.5625 | 2.1 |
| 33 | 1 | 968 | 80 | 15.996 | 23.4 | 3 | 0.5 | 7738.065 | 1451.25 | 7738.065 | 4.2 |
| 34 | 1 | 968 | 20 | 3.996 | 6.4 | 0.45 | 0.5 | 1933.065 | 217.6875 | 1933.065 | 4.2 |

31

| | | | | |
|---|--------------|--------------|--------------|--------------|
| Drum 151: | 22913 | 24490 | 34776 | 130.2 |
| Bag of contaminated brick/render rubble 3 | | | 3236.06649 | 13 |
| Bag of contaminated brick/render rubble 4 | | | 3484.99468 | 14 |
| Bag of contaminated brick/render rubble 5 | | | 3733.92287 | 15 |
| Bag of contaminated brick/render rubble 6 | | | 3858.38696 | 15.5 |
| | | | 0 | |
| | | | 0 | |
| Total Activity: | 49090 | 187.7 | | |

267.1 Bq/kg

Average of D150/D151 Drum Activity (Bq):
(for all brick drum classifications)

49.6 kBq**258.0 Bq/kg****Drum 154:****Drum containing large pieces of surface contaminated concrete from under G12/13**

| | |
|-------------|-----------|
| kBq | kg |
| 67.8 | 141.5 |

Consider
deleting
this section

**** Method of determining activity**

Drum activity determined by assuming 80% of each piece of concrete was contaminated (as observed). The 80% figure was then applied to the average activity concentration that was applied to the bricks from G12/13 in drums 150 and 151 to arrive at a modified concentration level of 479.2Bq/kg. This methodology (used to determine total drum activity) was used due to the difficulties in determining the total surface area of the peices of concrete.

479.2 Bq/kg

| alpha cps | *** (Bq/cm2) | items | factor | L (cm) | W (cm) | H (cm) | Area (cm2) | Total activity (Bq) | Total No. of similar sized items | Total drum activity (kBq) |
|-----------|--------------|-------|--------|--------|--------|--------|------------|---------------------|----------------------------------|---------------------------|
| 5 | 0.996 | 1 | 0.8 | 40 | 30 | 30 | 36000 | 28684.8 | 15 | 430 |

****** Highest (most conservative) activity used to determine drum activity****Drum 190:**

| | Bq | kg |
|--|--------------|-----------|
| Bag of contaminated brick/rubble from G12/13 7 | 6450 | 25 |
| Bag of contaminated brick/rubble from G12/13 8 | 1290 | 5 |
| Bag of contaminated brick/rubble from G12/13 9 | 2064 | 8 |
| Bag of contaminated brick/rubble from G12/13 10 | 387 | 1.5 |
| Bag of contaminated brick/rubble from G12/13 11 | 2967 | 11.5 |
| Bag of contaminated brick/rubble from G12/13 12 | 2709 | 10.5 |
| Bag of contaminated brick/rubble from G12/13 13 | 2322 | 9 |
| Bag of contaminated brick/rubble from G12/13 14 | 2322 | 9 |
| Bag of contaminated brick/rubble from G12/13 15 | 12901 | 50 |
| Bag of contaminated brick/rubble from G04 16 | 1729 | 6.7 |
| Bag of contaminated brick/rubble from G12 | 2580 | 10 |
| Bag of contaminated brick/rubble from main entrance | 1419 | 5.5 |
| Bag of contaminated brick/rubble from G12 window frame | 1935 | 7.5 |
| Bag of contaminated brick/rubble from G12 | 4773 | 18.5 |
| Total (kBq) | 45.85 | 178 |

167 kg!

Drum 188:

| | Bq | kg |
|----------------------------------|--------------|-----------|
| Bag of contaminated brick/rubble | 2580 | 10 |
| Bag of contaminated brick/rubble | 5160 | 20 |
| Bag of contaminated brick/rubble | 3483 | 13.5 |
| Bag of contaminated brick/rubble | 4386 | 17 |
| Bag of contaminated brick/rubble | 4257 | 16.5 |
| Bag of contaminated brick/rubble | 3483 | 13.5 |
| Bag of contaminated brick/rubble | 2838 | 11 |
| Bag of contaminated brick/rubble | 2967 | 11.5 |
| Bag of contaminated brick/rubble | 5934 | 23 |
| Bag of contaminated brick/rubble | 645 | 2.5 |
| Bag of contaminated brick/rubble | 1161 | 4.5 |
| Total (kBq) | 36.90 | 143 |

Drum 189:

| | Bq | kg |
|---|--------------|-----------|
| Bags of contaminated brick/rubble from under G08, G11 | 21931 | 85 |
| Block of wood from G12 wall | 516 | 2 |
| Bag of contaminated brick/rubble | 0 | |
| Bag of contaminated brick/rubble | 0 | |
| Bag of contaminated brick/rubble | 0 | |
| Bag of contaminated brick/rubble | 0 | |
| Bag of contaminated brick/rubble | 0 | |
| Bag of contaminated brick/rubble | 0 | |
| Total (kBq) | 22.45 | 87 |

Typical contents of drums includes:

Bags containing general rubble and bits and pieces from ceiling collapses (D37, D38, D39, D42)

Dusts and particles from building including contaminated ceiling, wood skirting, plaster, and floor areas, PVC plastic and electrical cable etc (D142, D148, D149, D156, D??)

Bags containing general rubble, wood, rocks, concrete bits and pieces from under floors G11 and G08 (D189)

Instrument MTE: 2904

| Drum No. | Bag No. | Dose rate at contact (µSv/hr) | B/g (µSv/hr) | Dose rate (µSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ ray constant | Gross Drum Mass (kg) * | Net Drum Mass (kg) * | Activity (kBq) | Est. Bq/g |
|----------|---------|-------------------------------|--------------|------------------------|--------------|-------------------------|---|------------------------|----------------------|----------------|-----------|
| D37 | 1 | | 0.062 | 0.071 | 0.7 | 223 | 19.78 | | | | |
| D37 | 2 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | | | | |
| D37 | 3 | | 0.062 | 0.072 | 0.6 | 223 | 16.14 | | | | |
| D37 | 4 | | 0.062 | 0.076 | 0.5 | 223 | 15.70 | | | | |
| D37 | 5 | | 0.062 | 0.077 | 0.3 | 223 | 6.05 | | | | |
| D37 | 6 | | 0.062 | 0.072 | 0.3 | 223 | 4.04 | | | | |
| D37 | 7 | | 0.062 | 0.07 | 0.5 | 223 | 8.97 | | | | |
| D37 | 8 | | 0.062 | 0.085 | 0.5 | 223 | 25.78 | | | | |
| D37 | 9 | | 0.062 | 0.07 | 0.4 | 223 | 5.74 | | | | |
| D37 | 10 | | 0.062 | 0.08 | 0.4 | 223 | 12.91 | | | | |
| D37 | 11 | | 0.062 | 0.07 | 0.4 | 223 | 5.74 | | | | |
| D37 | 12 | | 0.062 | 0.071 | 0.4 | 223 | 6.46 | | | | |
| D37 | 13 | | 0.062 | 0.077 | 0.4 | 223 | 10.76 | 131 | 111.5 | 141.3 | 1267 |
| D38 | 14 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | | | | |
| D38 | 15 | | 0.062 | 0.078 | 1.3 | 223 | 121.26 | | | | |
| D38 | 16 | | 0.062 | 0.073 | 0.6 | 223 | 17.76 | | | | |
| D38 | 17 | | 0.062 | 0.074 | 1.1 | 223 | 65.11 | | | | |
| D38 | 18 | | 0.062 | 0.079 | 1.1 | 223 | 92.24 | | | | |
| D38 | 19 | | 0.062 | 0.074 | 0.5 | 223 | 13.45 | 93 | 73.5 | 313.0 | 4259 |
| D39 | 20 | | 0.062 | 0.077 | 1.3 | 223 | 113.68 | | | | |
| D39 | 21 | | 0.062 | 0.078 | 1 | 223 | 71.75 | | | | |
| D39 | 22 | | 0.062 | 0.078 | 0.8 | 223 | 45.92 | | | | |
| D39 | 23 | | 0.062 | 0.08 | 1.4 | 223 | 158.21 | | | | |
| D39 | 24 | | 0.062 | 0.071 | 0.3 | 223 | 3.63 | | | | |
| D39 | 25 | | 0.062 | 0.076 | 1.4 | 223 | 123.05 | | | | |
| D39 | 26 | | 0.062 | 0.064 | 0.2 | 223 | 0.36 | | | | |
| D39 | 27 | | 0.062 | 0.068 | 0.3 | 223 | 2.42 | | | | |
| D39 | 28 | | 0.062 | 0.066 | 0.3 | 223 | 1.61 | | | | |
| D39 | 29 | | 0.062 | 0.063 | 0.2 | 223 | 0.18 | 88.5 | 69 | 520.8 | 7548 |
| D42 | 30 | | 0.062 | 0.067 | 0.5 | 223 | 5.61 | | | | |
| D42 | 31 | | 0.062 | 0.07 | 0.3 | 223 | 3.23 | | | | |
| D42 | 32 | | 0.062 | 0.068 | 0.2 | 223 | 1.08 | | | | |
| D42 | 33 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 34 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 35 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 36 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 37 | | 0.062 | 0.065 | 0.2 | 223 | 0.54 | | | | |
| D42 | 38 | | 0.062 | 0.068 | 0.2 | 223 | 1.08 | | | | |
| D42 | 39 | | 0.062 | 0.072 | 0.3 | 223 | 4.04 | | | | |
| D42 | 40 | | 0.058 | 0.065 | 0.2 | 223 | 1.26 | | | | |
| D42 | 41 | | 0.058 | 0.088 | 0.2 | 223 | 5.38 | | | | |
| D42 | 42 | | 0.058 | 0.065 | 0.2 | 223 | 1.26 | | | | |
| D42 | 43 | | 0.058 | 0.066 | 0.2 | 223 | 1.43 | | | | |
| D42 | 44 | | 0.058 | 0.075 | 0.2 | 223 | 3.05 | | | | |
| D42 | 45 | | 0.058 | 0.13 | 0.2 | 223 | 12.91 | | -19.5 | 43.0 | -2205 |
| D142 | 46 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D142 | 47 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D142 | 48 | | 0.056 | 0.062 | 0.6 | 223 | 9.69 | | | | |
| D142 | 49 | | 0.056 | 0.062 | 0.2 | 223 | 1.08 | | | | |
| D142 | 50 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D142 | 51 | | 0.056 | 0.063 | 0.2 | 223 | 1.26 | | | | |
| D142 | 52 | | 0.081 | 0.09 | 0.1 | 223 | 0.40 | | | | |
| D142 | 53 | | 0.081 | 0.091 | 0.5 | 223 | 11.21 | | | | |
| D142 | 54 | | 0.081 | 0.092 | 0.1 | 223 | 0.49 | | | | |
| D142 | 55 | | 0.081 | 0.089 | 0.1 | 223 | 0.36 | | | | |
| D142 | 56 | | 0.081 | 0.086 | 0.2 | 223 | 0.90 | | | | |
| D142 | 57 | | 0.081 | 0.085 | 0.2 | 223 | 0.72 | | | | |
| D142 | 58 | | 0.081 | 0.087 | 0.2 | 223 | 1.08 | | -19.5 | 27.71 | -1421 |
| D148 | 59 | | 0.081 | 0.086 | 0.1 | 223 | 0.22 | | | | |
| D148 | 60 | | 0.081 | 0.093 | 1.5 | 223 | 121.08 | | | | |
| D148 | 61 | | 0.081 | 0.088 | 1 | 223 | 31.39 | | | | |
| D148 | 62 | | 0.081 | 0.086 | 0.5 | 223 | 5.61 | | | | |
| D148 | 63 | | 0.081 | 0.09 | 0.5 | 223 | 10.09 | | | | |
| D148 | 64 | | 0.081 | 0.086 | 0.7 | 223 | 10.99 | | | | |
| D148 | 65 | | 0.081 | 0.085 | 0.2 | 223 | 0.72 | | | | |
| D148 | 66 | | 0.081 | 0.096 | 1.4 | 223 | 131.84 | | | | |
| D148 | 67 | | 0.058 | 0.068 | 0.1 | 223 | 0.45 | | | | |
| D148 | 68 | | 0.058 | 0.06 | 0.1 | 223 | 0.09 | | -19.5 | 312.47 | -16024 |
| D149 | 69 | | 0.081 | 0.087 | 0.1 | 223 | 0.27 | | | | |
| D149 | 70 | | 0.081 | 0.095 | 0.8 | 223 | 40.18 | | | | |
| D149 | 71 | | 0.081 | 0.086 | 0.3 | 223 | 2.02 | | | | |
| D149 | 72 | | 0.081 | 0.088 | 1.1 | 223 | 37.98 | | | | |
| D149 | 73 | | 0.081 | 0.087 | 0.7 | 223 | 13.18 | | | | |
| D149 | 74 | | 0.058 | 0.061 | 0.1 | 223 | 0.13 | | | | |
| D149 | 75 | | 0.081 | 0.085 | 1 | 223 | 17.94 | | | | |
| D149 | 76 | | 0.081 | 0.09 | 0.9 | 223 | 32.69 | | | | |
| D149 | 77 | | 0.058 | 0.062 | 0.3 | 223 | 1.61 | | | | |
| D149 | 78 | | 0.058 | 0.065 | 0.4 | 223 | 5.02 | | | | |
| D149 | 79 | | 0.058 | 0.064 | 0.4 | 223 | 4.30 | | | | |

Roof bearers and timber material**Instrument MTE: 5527, 5506, 6907****Higher area of contamination than ceiling material wood**

During processing of this material it was observed that *after vacuuming*, the count rate range was similar to that measured when processing the "wood and ceiling material" previously removed from ceilings, however the area of each piece of *bearer* wood that was contaminated was found to be greater. In consideration of the similar typical count rate range, the activity determination derived for the "wood and ceiling material" has been applied to this "roof bearer and timber" material with the exception the fraction of the area factor has been increased to "1" (as in the case adopted for the ventilation duct plasterboard material). The resulting activity therefore has been determined as **116314 Bq** per drum. This is the same classification as that applied to "roof battens and timber" material. The main distinction is that the bearer material is heavier and consists of larger pieces

The above activity level has been applied to the following drums:

| | |
|-------------|---|
| D104 | Originated from G12/G13 |
| D105 | Originated from G12/G13 |
| D106 | Originated from G12/G13 |
| D107 | Originated from G12/G13 |
| D108 | Originated from G12/G13 |
| D109 | Originated from G12/G13 |
| D110 | Originated from G12/G13 |
| D111 | Originated from G12/G13 |
| D112 | Originated from G11/G12/G13 |
| D113 | Originated from G11/G12/G13 |
| D114 | Originated from G11 |
| D115 | Originated from G11 |
| D116 | Originated from G11 |
| D117 | Originated from G11 |
| D118 | Originated from G11 |
| D119 | Originated from G11 |
| D120 | Originated from G08 + G11 |
| D121 | Originated from G08 |
| D122 | Originated from G08 |
| D123 | Originated from G11 |
| D124 | Originated from G08 + G11 |
| D125 | Originated from G11 |
| D126 | Originated from G11 |
| D127 | Originated from G11 |
| D128 | Originated from G11 |
| D129 | Originated from G11 |
| D130 | Originated from G11 |
| D131 | Originated from G08 + G11 |
| D132 | Originated from G08 + G11 |
| D133 | Originated from G08 + G11 |
| D134 | Originated from G08 + G11 |
| D135 | Originated from G08 + G11 |
| D136 | From all areas of G08, G11, G12, and G13 |
| D137 | From all areas of G08, G11, G12, and G14 |
| D138 | From all areas of G08, G11, G12, and G15 |
| D139 | From all areas of G08, G11, G12, and G16 |
| D140 | From all areas of G08, G11, G12, and G17 |
| D141 | From all areas of G08, G11, G12, and G18 |
| D194 | Wood, plasterboard etc from main entrance etc |

| | | | | | | | | | | | | 1cps beta = | | BckGrnd CPS | | 1cps Alpha = | | BckGrnd CPS | |
|-----|----------------|---------------|--------------------------|---------------|------------------|----------------|-------------------|---|---|---|---|-------------|--------|----------------|-----|--------------|-----|----------------|--|
| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of contamina ted | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.13 | Bq/cm2 | 3.4 | 0.2 | Bq/cm2 | 0.1 | | |
| 1 | 120 | 12 | 1440 | 45 | 5.408 | 0.3 | 0.04 | 0.9 | 51.84 | 7008.768 | 7008.77 | Slate | | | | | | | |
| 2 | 110 | 12 | 1320 | 15 | 1.508 | 0.5 | 0.08 | 1 | 105.6 | 1990.56 | 1990.56 | | | | | | | | |
| 3 | 120 | 12 | 1440 | 100 | 12.558 | 20 | 3.98 | 0.8 | 4584.96 | 14466.82 | 14466.8 | | | | | | | | |
| 4 | 120 | 12 | 1440 | 110 | 13.858 | 5 | 0.98 | 0.8 | 1128.96 | 15964.42 | 15964.4 | | | | | | | | |
| 5 | 120 | 12 | 1440 | 20 | 2.158 | 2 | 0.38 | 0.9 | 492.48 | 2796.768 | 2796.77 | | | | | | | | |
| 6 | 74 | 12 | 888 | 200 | 25.558 | 20 | 3.98 | 1 | 3534.24 | 22695.5 | 22695.5 | | | | | | | | |
| 7 | 120 | 12 | 1440 | 20 | 2.158 | 3 | 0.58 | 1 | 835.2 | 3107.52 | 3107.52 | | | | | | | | |
| 8 | 120 | 12 | 1440 | 35 | 4.108 | 10 | 1.98 | 0.6 | 1710.72 | 3549.312 | 3549.31 | | | | | | | | |
| 9 | 120 | 12 | 1440 | 35 | 4.108 | 0.5 | 0.08 | 0.7 | 80.64 | 4140.864 | 4140.86 | | | | | | | | |
| 10 | 74 | 12 | 888 | 11 | 0.988 | 1.3 | 0.24 | 0.5 | 106.56 | 438.672 | 438.672 | | | | | | | | |
| 11 | 20 | 8 | 160 | 7.3 | 0.507 | 0.8 | 0.14 | 0.5 | 11.2 | 40.56 | 40.56 | | | | | | | | |
| 1 | 26.5 | 42 | 1113 | 15 | 1.508 | 3 | 0.58 | 0.5 | 322.77 | 839.202 | 839.202 | | | | | | | | |
| 2 | 35 | 33 | 1155 | 9 | 0.728 | 0.75 | 0.13 | 0.25 | 37.5375 | 210.21 | 210.21 | | | | | | | | |
| 3 | 26 | 29 | 754 | 9 | 0.728 | 1 | 0.18 | 0.25 | 33.93 | 137.228 | 137.228 | | | | | | | | |
| 4 | 13 | 18 | 234 | 11 | 0.988 | 3 | 0.58 | 0.25 | 33.93 | 57.798 | 57.798 | | | | | | | | |
| 5 | 10 | 18 | 180 | 9 | 0.728 | 0.8 | 0.14 | 0.25 | 6.3 | 32.76 | 32.76 | | | | | | | | |
| 6 | 27 | 24 | 648 | 7 | 0.468 | 0.8 | 0.14 | 0.125 | 11.34 | 37.908 | 37.908 | | | | | | | | |
| 7 | 20 | 10 | 200 | 18 | 1.898 | 8.2 | 1.62 | 0.5 | 162 | 189.8 | 189.8 | | | | | | | | |
| 8 | 36.5 | 40 | 1460 | 12.5 | 1.183 | 3.5 | 0.68 | 0.125 | 124.1 | 215.8975 | 215.898 | | | | | | | | |
| | | | | | | | | | | 13374.31 | 77920.56 | 77921 | | | | | | | |

Surface contaminated floor render and rubble removed from room 108 (upstairs) and drummed with wall render material from room G12

Activity determined by applying typical range of counts converted to Bq/cm² as previously determined for wall render on lower floor G12

Average activity as applied to floor contamination is 8.1 Bq/cm²

Instrument MTE: 5527

Alpha/Beta/gamma response likely from radium

Area of removed floor rubble averaged for each bag as each has similar weights

| Drum No. | Dim. of area removed | cm | cm | cm ² | Ave Conc. | kBq |
|--------------|-------------------------|----|----|-----------------|-----------|-------------------|
| D36 | Total activity of Bag 1 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 2 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 3 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 4 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 5 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 6 | 60 | 60 | 3600 | 8.1 | 29.16 |
| D36 | Total activity of Bag 7 | 60 | 60 | 3600 | 8.1 | 29.16 |
| Total | | | | | | 204.12 kBq |

Old freezer room floor

Activity determined by average count rate (alpha) MTE 5506 Count rate ranged from 2cps to 15 cps, typical average 3 cps = 6 Bq/cm²

Floor render rubble (screed on top of concrete) removed and bagged prior to placement into a single drum

| | cm | cm | cm ² | Bq/cm ² | | |
|------|-----|-----|-----------------|--------------------|---------------|------------|
| D200 | 250 | 150 | 37500 | 6 | 225.00 | kBq |
| D201 | 250 | 150 | 37500 | 6 | 225.00 | kBq |

Bags containing insulation bats

Dusts and particles from building ceiling

Instrument MTE: 2904

Nb: These items are contaminated, due to their varying size, composition, and material it is not possible to apply surface contamination factors. The material is largely in two forms, roof insulation bats (which are like sponge blocks), and lagging (a cloth type material used to wrap around pipes). Consequently activity measurement is subject to large error

| Drum | B/g ($\mu\text{Sv/hr}$) | Dose rate ($\mu\text{Sv/hr}$) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ ray constant | Drum Activity (kBq) |
|------|------------------------------|--|-----------------|--------------------------------------|---|------------------------|
| D4 | 0.06 | 0.067 | 0.7 | 223 | 15.38 | 65.2 |
| D4 | 0.06 | 0.065 | 1 | 223 | 22.42 | |
| D4 | 0.06 | 0.066 | 0.8 | 223 | 17.22 | |
| D4 | 0.06 | 0.065 | 0.6 | 223 | 8.07 | |
| D4 | 0.06 | 0.064 | 0.3 | 223 | 1.61 | |
| D4 | 0.06 | 0.063 | 0.2 | 223 | 0.54 | 114.2 |
| D5 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | |
| D5 | 0.06 | 0.067 | 1.5 | 223 | 70.63 | |
| D5 | 0.06 | 0.066 | 1.1 | 223 | 32.56 | 215.5 |
| D6 | 0.06 | 0.065 | 0.4 | 223 | 3.59 | |
| D6 | 0.06 | 0.074 | 1.5 | 223 | 141.26 | |
| D6 | 0.06 | 0.067 | 1.5 | 223 | 70.63 | 56.1 |
| D7 | 0.06 | 0.065 | 1 | 223 | 22.42 | |
| D7 | 0.06 | 0.064 | 0.6 | 223 | 6.46 | |
| D7 | 0.06 | 0.064 | 0.5 | 223 | 4.48 | |
| D7 | 0.06 | 0.063 | 1.3 | 223 | 22.74 | 210.4 |
| D8 | 0.06 | 0.073 | 1.6 | 223 | 149.24 | |
| D8 | 0.06 | 0.065 | 1.2 | 223 | 32.29 | |
| D8 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | |
| D8 | 0.06 | 0.064 | 1 | 223 | 17.94 | 248.1 |
| D9 | 0.06 | 0.066 | 1.1 | 223 | 32.56 | |
| D9 | 0.06 | 0.073 | 1.5 | 223 | 131.17 | |
| D9 | 0.06 | 0.068 | 1.5 | 223 | 80.72 | |
| D9 | 0.06 | 0.0651 | 0.4 | 223 | 3.66 | 50.3 |
| D10 | 0.06 | 0.065 | 0.9 | 223 | 18.16 | |
| D10 | 0.06 | 0.065 | 1 | 223 | 22.42 | |
| D10 | 0.06 | 0.066 | 0.6 | 223 | 9.69 | 28.2 |
| D11 | 0.06 | 0.064 | 0.4 | 223 | 2.87 | |
| D11 | 0.06 | 0.065 | 0.8 | 223 | 14.35 | |
| D11 | 0.06 | 0.065 | 0.7 | 223 | 10.99 | 57.7 |
| D155 | 0.056 | 0.06 | 0.1 | 223 | 0.18 | |
| D155 | 0.081 | 0.09 | 0.3 | 223 | 3.63 | |
| D155 | 0.081 | 0.086 | 0.6 | 223 | 8.07 | |
| D155 | 0.081 | 0.088 | 0.4 | 223 | 5.02 | |
| D155 | 0.081 | 0.09 | 0.7 | 223 | 19.78 | 81.4 |
| D155 | 0.081 | 0.094 | 0.6 | 223 | 20.99 | |
| D194 | 0.081 | 0.086 | 0.1 | 223 | 0.22 | |
| D194 | 0.081 | 0.09 | 0.8 | 223 | 25.83 | |
| D194 | 0.081 | 0.09 | 0.4 | 223 | 6.46 | |
| D194 | 0.066 | 0.069 | 0.05 | 223 | 0.03 | |
| D194 | 0.066 | 0.072 | 0.5 | 223 | 6.73 | |
| D194 | 0.079 | 0.0863 | 0.5 | 223 | 8.18 | 175.0 |
| D194 | 0.079 | 0.835 | 0.1 | 223 | 33.90 | |
| D199 | 0.0075 | 0.08 | 0.4 | 223 | 52.02 | |
| D199 | 0.0075 | 0.089 | 0.3 | 223 | 32.89 | |
| D199 | 0.0075 | 0.085 | 0.4 | 223 | 55.61 | 0.0 |
| D199 | 0.0075 | 0.093 | 0.3 | 223 | 34.51 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | 0.0 |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |
| | | | | 223 | 0.00 | |

Packaged 14/11/17 - no numbers on bags, only 5-6 per drum

1/2 full as of 5/9/18

Drum contents: Metal duct material, plasterboard, dead rats, rat droppings, black dusts

Nb1 Initial assessment of lower floor ventilation duct material indicated a higher range of activity than ceiling material and greater area of contamination

Nb2 Metal duct material was monitored in several spots to determine an average count rate for both alpha and beta. Large duct items were cut up to manageable sizes of approximately 40 cm x 30 cm x 15 cm. Calculation of activity determined by applying average count rate for 10 items representative of total drum contents. The Estimated fraction of the area (i.e. 4 sides of a square shaped "box" of the duct material, inside and outside surfaces) contaminated has been determine as "1". Consequently this activity level **125280 Bq** will be applied to all drums containing **metal** duct material.

Nb3 Contaminated **duct plasterboard material** originating from the area where ducts have been removed was found to be over a larger area than when compared with similar material removed from the roof. Consequently the 'contaminated area' factor assigned is "1" for the purposes of determining duct drum activity.

Nb4 As the average activity for similar (ceiling) material was determined at 68472 Bq per drum with the fraction of contaminated area factors ranging from 0.25 to 1, in consideration that the majority of the "duct related material" surface area was more contaminated resulting in the estimated fraction of area contaminated being "1", the resulting activity per drum when this level is applied to the original "ceiling material calculation" data is **116314 Bq**. Consequently this activity level will be applied to all drums containing **duct plasterboard** and associated material.

Nb5 Drum D167 contains metal door frame ex G13, pipes etc from under G12 and G11 determined to be of similar activity as that described in Note 2. above

Nb6 Drum D168 contains metal ventilation material removed from upper floor areas, similar activity as that described in Note 2. above

Nb7 Drum D169 contains contaminated metal pipes etc from under floors G08, G09; and from G01 and G02. The contamination levels were found to be more consistent with the contaminated wood that was also removed from these areas, therefore the activities were deemed to be similar (i.e. 116314 Bq) to the wood.

Nb: Below calculation for metal duct material adopted and modified (estimated fraction of contaminated area) from "Drum calcs wood and ceiling material"

| | | | | | | | | | | | | | 1cps beta | | BckGrnd CPS | | 1cps Alpha | | BckGrnd CPS | |
|-----|-------------|------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|-----------|--------------------|-------------|-----|--------------------|-----|-------------|--|
| No. | Length (cm) | Width (cm) | Depth (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.15 | Bq/cm ² | 3.4 | 0.2 | Bq/cm ² | 0.1 | | |
| 1 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 2 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 3 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 4 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 5 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 6 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 7 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 8 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 9 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |
| 10 | 40 | 30 | 15 | 7200 | 15 | 1.74 | 3 | 0.58 | 1 | 4176 | 12528 | 12528 | | | | | | | | |

D62: **125280**

Nb: The below calculation used for the duct related plasterboard was adopted and modified from the "Drum calcs wood and ceiling material" calculations as the typical count rates were similar, only the estimated fraction of contaminated area factor was increased as the area of contamination on duct related material was greater.

| | | | | | | | | | | | | 1cps beta | | BckGrnd CPS | | 1cps Alpha | | BckGrnd CPS | |
|-----|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|-----------|--------------------|-------------|-----|--------------------|-----|-------------|--|
| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.15 | Bq/cm ² | 3.4 | 0.2 | Bq/cm ² | 0.1 | | |
| 1 | 80 | 30 | 2400 | 15 | 1.74 | 15 | 2.98 | 1 | 7152 | 4176 | 7152 | | | | | | | | |
| 2 | 14 | 80 | 1120 | 15 | 1.74 | 10 | 1.98 | 1 | 2217.6 | 1948.8 | 2217.6 | | | | | | | | |
| 3 | 80 | 18 | 1440 | 60 | 8.49 | | | 1 | 0 | 12225.6 | 12225.6 | | | | | | | | |
| 4 | 30 | 25 | 750 | 7 | 0.54 | | | 1 | 0 | 405 | 405 | | | | | | | | |
| 5 | 25 | 20 | 500 | 7 | 0.54 | | | 1 | 0 | 270 | 270 | | | | | | | | |
| 6 | 25 | 7 | 175 | 7 | 0.54 | | | 1 | 0 | 94.5 | 94.5 | | | | | | | | |
| 7 | 18 | 65 | 1170 | 25 | 3.24 | | | 1 | 0 | 3790.8 | 3790.8 | | | | | | | | |
| 8 | 28 | 35 | 980 | 7 | 0.54 | | | 1 | 0 | 529.2 | 529.2 | | | | | | | | |
| 9 | 10 | 45 | 450 | 40 | 5.49 | | | 1 | 0 | 2470.5 | 2470.5 | | | | | | | | |
| | 10 | 40 | 400 | 15 | 1.74 | | | 1 | 0 | 696 | 696 | | | | | | | | |
| 105 | 7 | 735 | 15 | 1.74 | | | | 1 | 0 | 1278.9 | 1278.9 | | | | | | | | |
| 18 | 80 | 1440 | 170 | 24.99 | | | | 1 | 0 | 35985.6 | 35985.6 | | | | | | | | |
| 180 | 7 | 1260 | 15 | 1.74 | | | | 1 | 0 | 2192.4 | 2192.4 | | | | | | | | |
| 18 | 80 | 1440 | 7 | 0.54 | | | | 1 | 0 | 777.6 | 777.6 | | | | | | | | |
| 18 | 60 | 1080 | 15 | 1.74 | | | | 1 | 0 | 1879.2 | 1879.2 | | | | | | | | |
| 18 | 70 | 1260 | 40 | 5.49 | | | | 1 | 0 | 6917.4 | 6917.4 | | | | | | | | |
| 18 | 75 | 1350 | 7 | 0.54 | | | | 1 | 0 | 729 | 729 | | | | | | | | |
| 70 | 30 | 2100 | 7 | 0.54 | | | | 1 | 0 | 1134 | 1134 | | | | | | | | |
| 70 | 30 | 2100 | 20 | 2.49 | | | | 1 | 0 | 5229 | 5229 | | | | | | | | |
| 60 | 30 | 1800 | 7 | 0.54 | | | | 1 | 0 | 972 | 972 | | | | | | | | |
| 18 | 80 | 1440 | 50 | 6.99 | | | | 1 | 0 | 10065.6 | 10065.6 | | | | | | | | |
| 60 | 30 | 1800 | 8 | 0.69 | | | | 1 | 0 | 1242 | 1242 | | | | | | | | |
| 7 | 180 | 1260 | 20 | 2.49 | | | | 1 | 0 | 3137.4 | 3137.4 | | | | | | | | |
| 75 | 5.5 | 412.5 | 7 | 0.54 | | | | 1 | 0 | 222.75 | 222.75 | | | | | | | | |
| 70 | 10 | 700 | 8 | 0.69 | | | | 1 | 0 | 483 | 483 | | | | | | | | |
| 10 | 70 | 700 | 10 | 0.99 | | | | 1 | 0 | 693 | 693 | | | | | | | | |
| 10 | 50 | 500 | 7 | 0.54 | | | | 1 | 0 | 270 | 270 | | | | | | | | |
| 65 | 7 | 455 | 8 | 0.69 | | | | 1 | 0 | 313.95 | 313.95 | | | | | | | | |
| 20 | 60 | 1200 | 10 | 0.99 | | | | 1 | 0 | 1188 | 1188 | | | | | | | | |
| 10 | 60 | 600 | 7 | 0.54 | | | | 1 | 0 | 324 | 324 | | | | | | | | |
| 7 | 130 | 910 | 25 | 3.24 | | 7 | 1.38 | 1 | 1255.8 | 2948.4 | 2948.4 | | | | | | | | |
| 7 | 75 | 525 | 25 | 3.24 | | 20 | 3.98 | 1 | 2089.5 | 1701 | 2089.5 | | | | | | | | |
| 10 | 70 | 700 | 7 | 0.54 | | | | 1 | 0 | 378 | 378 | | | | | | | | |
| 5.5 | 60 | 330 | 7 | 0.54 | | | | 1 | 0 | 178.2 | 178.2 | | | | | | | | |
| 7 | 50 | 350 | 7 | 0.54 | | | | 1 | 0 | 189 | 189 | | | | | | | | |
| 7 | 50 | 350 | 15 | 1.74 | | 8 | 1.58 | 1 | 553 | 609 | 609 | | | | | | | | |
| 30 | 30 | 900 | 30 | 3.99 | | 20 | 3.98 | 1 | 3582 | 3591 | 3591 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 1 | 0 | 324 | 324 | | | | | | | | |
| 20 | 30 | 600 | 15 | 1.74 | | 10 | 1.98 | 1 | 1188 | 1044 | 1188 | | | | | | | | |
| 10 | 50 | 500 | 10 | 0.99 | | 1 | 0.18 | 1 | 90 | 495 | 495 | | | | | | | | |
| 10 | 50 | 500 | 15 | 1.74 | | 1 | 0.18 | 1 | 90 | 870 | 870 | | | | | | | | |
| 7 | 30 | 210 | 5 | 0.24 | | 1 | 0.18 | 1 | 37.8 | 50.4 | 50.4 | | | | | | | | |
| 20 | 30 | 600 | 5 | 0.24 | | 1 | 0.18 | 1 | 108 | 144 | 144 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | 0.5 | 0.08 | 1 | 48 | 324 | 324 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 1 | 0 | 324 | 324 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 1 | 0 | 324 | 324 | | | | | | | | |
| 30 | 30 | 900 | 60 | 8.49 | | 25 | 4.98 | 1 | 4482 | 7641 | 7641 | | | | | | | | |
| 10 | 40 | 400 | 7 | 0.54 | | 1 | 0.18 | 1 | 72 | 216 | 216 | | | | | | | | |

| | | | | | | | | | | |
|----|----|-----|----|------|----|------|---|-------|-------|-------|
| 7 | 30 | 210 | 25 | 3.24 | 7 | 1.38 | 1 | 289.8 | 680.4 | 680.4 |
| 7 | 30 | 210 | 7 | 0.54 | | | 1 | 0 | 113.4 | 113.4 |
| 7 | 40 | 280 | 15 | 1.74 | 10 | 1.98 | 1 | 554.4 | 487.2 | 554.4 |
| 20 | 20 | 400 | 6 | 0.39 | | | 1 | 0 | 156 | 156 |

Drum X: 128274

| | | | | | | | | | | |
|-----|-----|-------|-----|-------|-----|------|---|--------|---------|---------|
| 10 | 30 | 300 | 15 | 1.74 | 15 | 2.98 | 1 | 894 | 522 | 894 |
| 10 | 30 | 300 | 120 | 17.49 | 40 | 7.98 | 1 | 2394 | 5247 | 5247 |
| 10 | 30 | 300 | 18 | 2.19 | 2 | 0.38 | 1 | 114 | 657 | 657 |
| 10 | 40 | 400 | 8 | 0.69 | | | 1 | 0 | 276 | 276 |
| 20 | 30 | 600 | 8 | 0.69 | | | 1 | 0 | 414 | 414 |
| 5.5 | 60 | 330 | 8 | 0.69 | 3 | 0.58 | 1 | 191.4 | 227.7 | 227.7 |
| 10 | 60 | 600 | 8 | 0.69 | 1 | 0.18 | 1 | 108 | 414 | 414 |
| 10 | 70 | 700 | 15 | 1.74 | 10 | 1.98 | 1 | 1386 | 1218 | 1386 |
| 7 | 110 | 770 | 10 | 0.99 | 3 | 0.58 | 1 | 446.6 | 762.3 | 762.3 |
| 5.5 | 50 | 275 | 8 | 0.69 | | | 1 | 0 | 189.75 | 189.75 |
| 7 | 50 | 350 | 6 | 0.39 | | | 1 | 0 | 136.5 | 136.5 |
| 7 | 40 | 280 | 50 | 6.99 | 15 | 2.98 | 1 | 834.4 | 1957.2 | 1957.2 |
| 5.5 | 40 | 220 | 7 | 0.54 | | | 1 | 0 | 118.8 | 118.8 |
| 10 | 35 | 350 | 8 | 0.69 | | | 1 | 0 | 241.5 | 241.5 |
| 7 | 35 | 245 | 30 | 3.99 | 10 | 1.98 | 1 | 485.1 | 977.55 | 977.55 |
| 10 | 90 | 900 | 45 | 6.24 | 35 | 6.98 | 1 | 6282 | 5616 | 6282 |
| 10 | 80 | 800 | 15 | 1.74 | 2 | 0.38 | 1 | 304 | 1392 | 1392 |
| 7 | 65 | 455 | 20 | 2.49 | 3 | 0.58 | 1 | 263.9 | 1132.95 | 1132.95 |
| 10 | 80 | 800 | 20 | 2.49 | 1 | 0.18 | 1 | 144 | 1992 | 1992 |
| 10 | 70 | 700 | 15 | 1.74 | 6 | 1.18 | 1 | 826 | 1218 | 1218 |
| 10 | 40 | 400 | 50 | 6.99 | 5 | 0.98 | 1 | 392 | 2796 | 2796 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 1 | 1264 | 3192 | 3192 |
| 10 | 65 | 650 | 10 | 0.99 | 0.5 | 0.08 | 1 | 52 | 643.5 | 643.5 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 1 | 1264 | 3192 | 3192 |
| 7 | 50 | 350 | 15 | 1.74 | 1 | 0.18 | 1 | 63 | 609 | 609 |
| 10 | 70 | 700 | 15 | 1.74 | 7 | 1.38 | 1 | 966 | 1218 | 1218 |
| 5.5 | 80 | 440 | 7 | 0.54 | 2 | 0.38 | 1 | 167.2 | 237.6 | 237.6 |
| 7 | 85 | 595 | 7 | 0.54 | 3 | 0.58 | 1 | 345.1 | 321.3 | 345.1 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 1 | 0.18 | 1 | 74.25 | 1336.5 | 1336.5 |
| 7 | 70 | 490 | 15 | 1.74 | 4 | 0.78 | 1 | 382.2 | 852.6 | 852.6 |
| 5.5 | 50 | 275 | 35 | 4.74 | 5 | 0.98 | 1 | 269.5 | 1303.5 | 1303.5 |
| 5.5 | 50 | 275 | 8 | 0.69 | 1 | 0.18 | 1 | 49.5 | 189.75 | 189.75 |
| 7 | 70 | 490 | 7 | 0.54 | 5 | 0.98 | 1 | 480.2 | 264.6 | 480.2 |
| 7 | 75 | 525 | 7 | 0.54 | 1 | 0.18 | 1 | 94.5 | 283.5 | 283.5 |
| 10 | 60 | 600 | 25 | 3.24 | 1 | 0.18 | 1 | 108 | 1944 | 1944 |
| 5.5 | 50 | 275 | 25 | 3.24 | 8 | 1.58 | 1 | 434.5 | 891 | 891 |
| 10 | 60 | 600 | 25 | 3.24 | 3 | 0.58 | 1 | 348 | 1944 | 1944 |
| 5.5 | 70 | 385 | 12 | 1.29 | 2 | 0.38 | 1 | 146.3 | 496.65 | 496.65 |
| 5 | 60 | 300 | 7 | 0.54 | 0.5 | 0.08 | 1 | 24 | 162 | 162 |
| 5 | 70 | 350 | 7 | 0.54 | 1 | 0.18 | 1 | 63 | 189 | 189 |
| 10 | 60 | 600 | 15 | 1.74 | 2 | 0.38 | 1 | 228 | 1044 | 1044 |
| 10 | 60 | 600 | 8 | 0.69 | 3 | 0.58 | 1 | 348 | 414 | 414 |
| 7 | 80 | 560 | 8 | 0.69 | 1 | 0.18 | 1 | 100.8 | 386.4 | 386.4 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 4 | 0.78 | 1 | 321.75 | 1336.5 | 1336.5 |
| 5.5 | 70 | 385 | 40 | 5.49 | | | 1 | | 2113.65 | 2113.65 |
| 5.5 | 70 | 385 | 25 | 3.24 | 1 | 0.18 | 1 | | 1247.4 | 1247.4 |
| 5.5 | 65 | 357.5 | 20 | 2.49 | 1 | 0.18 | 1 | | 890.175 | 890.175 |
| 5 | 70 | 350 | 25 | 3.24 | 7 | 1.38 | 1 | | 1134 | 1134 |
| 5 | 65 | 325 | 40 | 5.49 | | | 1 | | 1784.25 | 1784.25 |
| 5 | 60 | 300 | 50 | 6.99 | | | 1 | | 2097 | 2097 |
| 5 | 50 | 250 | 8 | 0.69 | | | 1 | | 172.5 | 172.5 |
| 10 | 30 | 300 | 7 | 0.54 | | | 1 | | 162 | 162 |
| 13 | 40 | 520 | 30 | 3.99 | | | 1 | | 2074.8 | 2074.8 |
| 10 | 450 | 4500 | 12 | 1.29 | | | 1 | | 5805 | 5805 |
| 10 | 50 | 500 | 15 | 1.74 | 3 | 0.58 | 1 | | 870 | 870 |
| 10 | 65 | 650 | 10 | 0.99 | | | 1 | | 643.5 | 643.5 |
| 10 | 45 | 450 | 10 | 0.99 | 4 | 0.78 | 1 | | 445.5 | 445.5 |
| 70 | 40 | 2800 | 30 | 3.99 | 20 | 3.98 | 1 | | 11172 | 11172 |
| 70 | 60 | 4200 | 8 | 0.69 | 0.5 | 0.08 | 1 | | 2898 | 2898 |
| 70 | 60 | 4200 | 20 | 2.49 | 10 | 1.98 | 1 | | 10458 | 10458 |
| 10 | 40 | 400 | 15 | 1.74 | 8 | 1.58 | 1 | | 696 | 696 |
| 10 | 50 | 500 | 8 | 0.69 | 1 | 0.18 | 1 | | 345 | 345 |
| 7 | 30 | 210 | 15 | 1.74 | 2 | 0.38 | 1 | | 365.4 | 365.4 |
| 10 | 40 | 400 | 10 | 0.99 | 4 | 0.78 | 1 | | 396 | 396 |
| 7 | 35 | 245 | 10 | 0.99 | 0.5 | 0.08 | 1 | | 242.55 | 242.55 |
| 10 | 40 | 400 | 10 | 0.99 | 2 | 0.38 | 1 | | 396 | 396 |
| 7 | 25 | 175 | 8 | 0.69 | 1 | 0.18 | 1 | | 120.75 | 120.75 |
| 7 | 35 | 245 | 50 | 6.99 | 20 | 3.98 | 1 | | 1712.55 | 1712.55 |
| 7 | 45 | 315 | 10 | 0.99 | 3 | 0.58 | 1 | | 311.85 | 311.85 |
| 5.5 | 30 | 165 | 30 | 3.99 | | | 1 | | 658.35 | 658.35 |
| 7 | 30 | 210 | 8 | 0.69 | 1 | 0.18 | 1 | | 144.9 | 144.9 |
| 10 | 30 | 300 | 10 | 0.99 | 2 | 0.38 | 1 | | 297 | 297 |
| 10 | 25 | 250 | 15 | 1.74 | | | 1 | | 435 | 435 |
| 10 | 40 | 400 | 30 | 3.99 | 4 | 0.78 | 1 | | 1596 | 1596 |
| 4 | 40 | 160 | 15 | 1.74 | 2 | 0.38 | 1 | | 278.4 | 278.4 |
| 10 | 15 | 150 | 8 | 0.69 | 0.5 | 0.08 | 1 | | 103.5 | 103.5 |
| 8 | 36 | 288 | 10 | 0.99 | 3 | 0.58 | 1 | | 285.12 | 285.12 |
| 3 | 30 | 90 | 10 | 0.99 | 8 | 1.58 | 1 | | 89.1 | 89.1 |
| 3 | 13 | 39 | 10 | 0.99 | 5 | 0.98 | 1 | | 38.61 | 38.61 |
| 8 | 10 | 80 | 8 | 0.69 | 0 | | 1 | | 55.2 | 55.2 |
| 3 | 13 | 39 | 15 | 1.74 | 3 | 0.58 | 1 | | 67.86 | 67.86 |
| 10 | 10 | 100 | 8 | 0.69 | 2 | 0.38 | 1 | | 69 | 69 |
| 8 | 20 | 160 | 15 | 1.74 | 5 | 0.98 | 1 | | 278.4 | 278.4 |

Drum Y: 104353

Average activity per drum: 116314 applied to D61

Drums containing metal where
activity of 125.3 kBq has been
assigned:

D62
D63
D94
D95
D96
D101
D102
D103
D143
D144
D146
D167
D168

Drums containing plasterboard etc where
activity of 116.3 kBq has been assigned:

D61
D194

Drums containing metal pipes etc where
activity of 116.3 kBq has been assigned:

D204
D169

1/2 filled

Metal pipes etc from under G04, G05 etc
Metal pipes etc from under G01, G02, G08 & G09

Surface Contamination measured on given areas of rendered wall to determine "typical" average activity per bag of removed render
Render and rubble

Instrument MTE: 5527

Painted surface masking alpha. Beta/gamma response likely from radium

| Area 1 (bag of render rubble) | | Area 2 (bag of render rubble) | |
|-------------------------------|-----------------------|-------------------------------|-----------------------|
| No. | cps beta | No. | cps beta |
| 1 | 150 | 1 | 45 |
| 2 | 100 | 2 | 25 |
| 3 | 50 | 3 | 40 |
| 4 | 75 | 4 | 40 |
| 5 | 50 | 5 | 60 |
| 6 | 110 | 6 | 30 |
| 7 | 175 | 7 | 60 |
| 8 | 35 | 8 | 30 |
| 9 | 40 | 9 | 220 |
| 10 | 150 | 10 | 90 |
| 11 | 60 | 11 | 70 |
| 12 | 110 | 12 | 50 |
| 13 | 45 | 13 | 100 |
| 14 | 45 | 14 | 30 |
| 15 | 30 | 15 | 90 |
| 16 | 50 | 16 | 60 |
| 17 | 110 | 17 | 25 |
| 18 | 30 | 18 | 20 |
| 19 | 90 | 19 | 100 |
| 20 | 40 | 20 | 40 |
| 21 | 25 | 21 | 60 |
| 22 | 100 | 22 | 60 |
| 23 | 70 | 23 | 45 |
| 24 | 90 | 24 | 50 |
| 25 | 40 | 25 | 50 |
| 26 | 130 | 26 | 40 |
| 27 | 100 | 27 | 60 |
| 28 | 45 | 28 | 50 |
| 29 | 50 | 29 | 50 |
| 30 | 60 | | |
| 31 | 50 | | |
| 32 | 200 | | |
| 33 | 200 | | |
| 34 | 90 | | |
| 35 | 40 | | |
| 36 | 25 | | |
| 37 | 60 | | |
| 38 | 45 | | |
| 39 | 80 | | |
| 40 | 25 | | |
| 41 | 20 | | |
| 42 | 40 | | |
| 43 | 30 | | |
| 44 | 40 | | |
| 45 | 60 | | |
| 46 | 60 | | |
| 47 | 45 | | |
| 48 | 45 | | |
| 49 | 70 | | |
| 50 | 30 | | |
| 51 | 30 | | |
| 52 | 25 | | |
| 53 | 25 | | |
| 54 | 20 | | |
| 55 | 40 | | |
| 56 | 50 | | |
| | <u>3700</u> | | <u>1690</u> |
| Ave cps: | 66.1 | Ave cps: | 58.3 |
| | cm² | | cm² |
| Area for bag 1: | 49 | Points | 56 |
| | | | 2744 |

| | | | |
|------------------------------------|------|--------------------|------|
| Area of bag 2: | 49 | 29 | 1421 |
| Average of bag 1 + bag 2 contents: | 62.2 | cps | |
| Instrument beta response 1cps = | 0.13 | Bq/cm ² | |
| Average activity concentration = | 8.1 | Bq/cm ² | |
| Total activity of Bag 1: | 22 | kBq | |
| Total activity of Bag 2: | 11 | kBq | |

| Drum No. | Area of detector x No. of poi | cm ² | Points | cm ² | Ave Conc. | kBq |
|-----------------------|----------------------------------|-----------------|--------|-----------------|-----------|---------------|
| D34 | Total activity of Bag 1: | 49 | 56 | 2744 | 8.1 | 22.23 |
| D34 | Total activity of Bag 2: | 49 | 29 | 1421 | 8.1 | 11.51 |
| Dim. of area removed | | cm | cm | cm ² | Ave Conc. | kBq |
| D34 | Total activity of Bag 3: | 80 | 40 | 3200 | 8.1 | 31.61 |
| | | 26 | 27 | 702 | | |
| D34 | Total activity of Bag 4: | 100 | 115 | 11500 | 8.1 | 93.15 |
| D34 | Total activity of Bag 5: | 80 | 130 | 10400 | 8.1 | 84.24 |
| D34 | Total activity of Bag 6: | 25 | 130 | 3250 | 8.1 | 47.39 |
| | | 20 | 130 | 2600 | | |
| D34 | Total activity of Bag 7: | 50 | 85 | 4250 | 8.1 | 48.20 |
| | | 20 | 85 | 1700 | | |
| D34 | Total activity of Bag 8: | 80 | 85 | 6800 | 8.1 | 55.08 |
| D34 | Total activity of Bag 9: | 80 | 85 | 6800 | 8.1 | 55.08 |
| Total activity (kBq): | | | | | | 448.47 |
| D35 | Total activity of Bag 10: | 50 | 60 | 3000 | 8.1 | 24.30 |
| D35 | Total activity of Bag 11: | 30 | 40 | 1200 | 8.1 | 9.72 |
| D35 | Total activity of Bag 12: | 60 | 80 | 4800 | 8.1 | 53.46 |
| | | 20 | 90 | 1800 | | |
| D35 | Total activity of Bag 13: | 80 | 100 | 8000 | 8.1 | 64.80 |
| D35 | Total activity of Bag 14: | 470 | 10 | 4700 | 8.1 | 38.07 |
| D35 | Total activity of Bag 15: | 20 | 10 | 200 | 8.1 | 1.62 |
| D35 | Total activity of Bag 16: | 10 | 35 | 350 | 8.1 | 2.84 |
| D35 | Total activity of Bag 17: | 30 | 30 | 900 | 8.1 | 7.29 |
| D35 | Total activity of Bag 18: | 40 | 10 | 400 | 8.1 | 3.24 |
| Total activity (kBq): | | | | | | 205.34 |
| D36 | Total activity of Bag 19: | 110 | 40 | 4400 | 8.1 | 35.64 |
| D36 | Total activity of Bag 20: | 40 | 55 | 2200 | 8.1 | 17.82 |

| | | | | | | |
|-----------------------|---------------------------|----|----|------|-----|--------------|
| D36 | Total activity of Bag 21: | 40 | 40 | 1600 | 8.1 | 12.96 |
| D36 | Total activity of Bag 22: | 30 | 75 | 2250 | 8.1 | 18.23 |
| D36 | Total activity of Bag 23: | 20 | 10 | 200 | 8.1 | 1.62 |
| Total activity (kBq): | | | | | | 86.27 |

Bags containing general spoft waste

Tyvek suits, gloves, clothes, tape, plastic sheeting etc

Instrument MTE: 2904

| Drum No. | Bag No. | Dose rate at contact (μSv/hr) | B/g (μSv/hr) | Dose rate (μSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ ray constant | Gross Drum Mass (kg) * | Net Drum Mass (kg) * | Activity (kBq) | Est. Bq/g |
|----------|---------|-------------------------------|--------------|------------------------|--------------|-------------------------|---|------------------------|----------------------|----------------|-----------|
| D145 | 1 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D145 | 2 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D145 | 3 | | 0.056 | 0.063 | 0.3 | 223 | 2.83 | | | | |
| D145 | 4 | | 0.056 | 0.062 | 0.7 | 223 | 13.18 | | | | |
| D145 | 5 | | 0.056 | 0.062 | 0.5 | 223 | 6.73 | | | | |
| D145 | 6 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D145 | 7 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D145 | 8 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | | | |
| D145 | 9 | | 0.056 | 0.06 | 0.1 | 223 | 0.18 | | -19.5 | 23.8 | -1221 |
| | 10 | | 0.081 | 0.086 | 0.1 | 223 | 0.22 | | | | |
| | 11 | | 0.081 | 0.087 | 0.5 | 223 | 6.73 | | | | |
| | 12 | | 0.081 | 0.088 | 0.5 | 223 | 7.85 | | | | |
| | 13 | | 0.081 | 0.087 | 0.3 | 223 | 2.42 | | | | |
| | 14 | | 0.081 | 0.088 | 0.2 | 223 | 1.26 | | | | |
| | 15 | | | | | 223 | 0.00 | | | | |
| | 16 | | | | | 223 | 0.00 | | | | |
| | 17 | | | | | 223 | 0.00 | | | | |
| | 18 | | | | | 223 | 0.00 | | | | |
| | 19 | | | | | 223 | 0.00 | | | | |
| | 20 | | | | | 223 | 0.00 | | | | |
| | 21 | | | | | 223 | 0.00 | | | | |
| | 22 | | | | | 223 | 0.00 | | | | |
| | 23 | | | | | 223 | 0.00 | | | | |
| | 24 | | | | | 223 | 0.00 | | | | |
| | 25 | | | | | 223 | 0.00 | | | | |
| | 26 | | | | | 223 | 0.00 | | -19.5 | 18.5 | -947 |
| | 27 | | | | | 223 | 0.00 | | | | |
| | 28 | | | | | 223 | 0.00 | | | | |
| | 29 | | | | | 223 | 0.00 | | | | |
| | 30 | | | | | 223 | 0.00 | | | | |
| | 31 | | | | | 223 | 0.00 | | | | |
| | 32 | | | | | 223 | 0.00 | | | | |
| | 33 | | | | | 223 | 0.00 | | | | |
| | 34 | | | | | 223 | 0.00 | | | | |
| | 35 | | | | | 223 | 0.00 | | | | |
| | 36 | | | | | 223 | 0.00 | | | | |
| | 37 | | | | | 223 | 0.00 | | | | |
| | 38 | | | | | 223 | 0.00 | | | | |
| | 39 | | | | | 223 | 0.00 | | | | |
| | 40 | | | | | 223 | 0.00 | | | | |
| | 41 | | | | | 223 | 0.00 | | | | |
| | 42 | | | | | 223 | 0.00 | | | | |
| | 43 | | | | | 223 | 0.00 | | | | |
| | 44 | | | | | 223 | 0.00 | | | | |
| | 45 | | | | | 223 | 0.00 | | | | |
| | 46 | | | | | 223 | 0.00 | | | | |
| | 47 | | | | | 223 | 0.00 | | | | |
| | 48 | | | | | 223 | 0.00 | | | | |
| | 49 | | | | | 223 | 0.00 | | | | |
| | 50 | | | | | 223 | 0.00 | | | | |
| | 51 | | | | | 223 | 0.00 | | | | |
| | 52 | | | | | 223 | 0.00 | | | | |
| | 53 | | | | | 223 | 0.00 | | | | |
| | 54 | | | | | 223 | 0.00 | | | | |

14/11/2017

Bags containing general contaminated rubble mixed with soil etc from under floor G12
Instrument MTE: 2904

*Measurements conducted to determine typical estimated activity range per drum for application on future similar material from under floors to enable bulk excavation and drumming.
Calibration factor derived from instrument response against several known specific activity samples of radium scale used to obtain a response graph in terms of cps/kBq.

10 Bq/g 10000 Bq
10000 Bq/kg 10 kBq
10 kBq/kg 10 kBq

* 400 cps net = 10000 Bq (10kBq) 1 25 0.025
600 cps Gross = 10000 Bq

Background with Na-I: 200 cps (SQRT 200 = 14.14 * 2.33 = 32.6, therefore critical limit = 200 + 33 = 232 cps)

Drums graded by count rate into categories of:

| Drum Prefix | Count rate range | Category |
|-------------|------------------|---------------------------------|
| DW | 232 > 300cps | Low level |
| DX | 300 > 600 cps | Low level up to 10 000 Bq |
| DY | 600 > 1200 cps | Medium level 10 000 - 25 000 Bq |
| DZ | > 1200 cps | High level > 25 000 Bq |

Drum Description

DW1 Rubble, top soil and initial scrapings from under G12
DW2 Rubble, top soil and initial scrapings from under G12
DW3 Soil from under G12 ("hot spots" down to 500 mm)

| Dru m No. | Contents Description | Bag No. | Bag Mass (kg) * | cps 2" Na I | B/g (µSv/hr) | Big cps 2" NaI | Dose rate (µSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ ray constant | Calculated activity (kBq) using radium scale cps/Bq calc with Big of "x" cps | Gross Drum Mass (kg) * | Net Drum Mass (kg) * | Activity (kBq) | Est. Bq/g |
|--|--|---------|--------------------|----------------|-----------------|-------------------|------------------------------|-----------------|-------------------------------|--|--|---------------------------|-------------------------|----------------|-----------|
| DW1 | Rubble, top soil and initial scrapings from under G12 | 1 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 2 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 3 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 4 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 5 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 6 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 7 | | 300 | 0.058 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 8 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 9 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 10 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 11 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 12 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 13 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 14 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 15 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 16 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 17 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 18 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 19 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 20 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 21 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 22 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 23 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 24 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 25 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 26 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 27 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 28 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 29 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 30 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 31 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 32 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 33 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 34 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 35 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 36 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 37 | | 300 | 0.057 | 200 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW1 | | 38 | | 200 | 0.057 | 200 | | | 223 | 0.00 | 0.00 | | | | |
| No DW1 has about 570 cps inside the drum with a range of 370 – 440 cps against a background of 270 cps | | | | | | | | | | | | 188.50 | 169 | 92.5 | 547 |

Drum DW1

| | | |
|----------|------------------------|------------|
| Location | cps | BG 169 cps |
| Top drum | @ contact (using SPA3) | |
| Side 1 | 210 | |
| Side 2 | 210 | |
| Side 3 | 192 | |
| Side 4 | 200 | |
| Total | 1092 | |
| Average | 218.4 | |

cps @ 50 cm
230 cps ???

| | | | | | | | | | | | | | | | |
|-----|--|----|--|-----|-------|-----|--|--|-----|------|------|--------|-----|------|---------|
| | Rubble, top soil and initial scrapings from under G12 | 1 | | 200 | 0.058 | 169 | | | 223 | 0.00 | 0.78 | | | | #DIV/0! |
| DW2 | | 2 | | 232 | 0.058 | 169 | | | 223 | 0.00 | 1.58 | | | | #DIV/0! |
| DW2 | | 3 | | 212 | 0.058 | 169 | | | 223 | 0.00 | 1.08 | | | | #DIV/0! |
| DW2 | | 4 | | 244 | 0.058 | 169 | | | 223 | 0.00 | 1.88 | | | | #DIV/0! |
| DW2 | | 5 | | 235 | 0.058 | 169 | | | 223 | 0.00 | 1.65 | | | | #DIV/0! |
| DW2 | | 6 | | 223 | 0.058 | 169 | | | 223 | 0.00 | 1.35 | | | | #DIV/0! |
| DW2 | | 7 | | 224 | 0.058 | 169 | | | 223 | 0.00 | 1.38 | | | | #DIV/0! |
| DW2 | | 8 | | 230 | 0.057 | 169 | | | 223 | 0.00 | 1.53 | | | | #DIV/0! |
| DW2 | | 9 | | 253 | 0.057 | 169 | | | 223 | 0.00 | 2.10 | | | | #DIV/0! |
| DW2 | | 10 | | 241 | 0.057 | 169 | | | 223 | 0.00 | 1.80 | | | | #DIV/0! |
| DW2 | | 11 | | 217 | 0.057 | 169 | | | 223 | 0.00 | 1.20 | | | | #DIV/0! |
| DW2 | | 12 | | 213 | 0.057 | 169 | | | 223 | 0.00 | 1.10 | | | | #DIV/0! |
| DW2 | | 13 | | 225 | 0.057 | 169 | | | 223 | 0.00 | 1.40 | | | | #DIV/0! |
| DW2 | | 14 | | 269 | 0.057 | 169 | | | 223 | 0.00 | 2.50 | | | | #DIV/0! |
| DW2 | | 15 | | 243 | 0.057 | 169 | | | 223 | 0.00 | 1.85 | | | | #DIV/0! |
| DW2 | | 16 | | 258 | 0.057 | 169 | | | 223 | 0.00 | 2.23 | | | | #DIV/0! |
| DW2 | | 17 | | 219 | 0.057 | 169 | | | 223 | 0.00 | 1.25 | | | | #DIV/0! |
| DW2 | | 18 | | 240 | 0.057 | 169 | | | 223 | 0.00 | 1.78 | | | | #DIV/0! |
| DW2 | | 19 | | 229 | 0.057 | 169 | | | 223 | 0.00 | 1.50 | | | | #DIV/0! |
| DW2 | | 20 | | 212 | 0.057 | 169 | | | 223 | 0.00 | 1.08 | | | | #DIV/0! |
| DW2 | | 21 | | 216 | 0.057 | 169 | | | 223 | 0.00 | 1.18 | | | | #DIV/0! |
| DW2 | | 22 | | 217 | 0.057 | 169 | | | 223 | 0.00 | 1.20 | | | | #DIV/0! |
| DW2 | | 23 | | 252 | 0.057 | 169 | | | 223 | 0.00 | 2.08 | | | | #DIV/0! |
| DW2 | | 24 | | 223 | 0.057 | 169 | | | 223 | 0.00 | 1.35 | | | | #DIV/0! |
| DW2 | | 25 | | 227 | 0.057 | 169 | | | 223 | 0.00 | 1.45 | | | | #DIV/0! |
| DW2 | | 26 | | 253 | 0.057 | 169 | | | 223 | 0.00 | 2.10 | | | | #DIV/0! |
| DW2 | | 27 | | 265 | 0.057 | 169 | | | 223 | 0.00 | 2.40 | | | | #DIV/0! |
| DW2 | | 28 | | 261 | 0.057 | 169 | | | 223 | 0.00 | 2.30 | | | | #DIV/0! |
| DW2 | | 29 | | 253 | 0.057 | 169 | | | 223 | 0.00 | 2.10 | | | | #DIV/0! |
| DW2 | | 30 | | 271 | 0.057 | 169 | | | 223 | 0.00 | 2.55 | | | | #DIV/0! |
| DW2 | | 31 | | 234 | 0.057 | 169 | | | 223 | 0.00 | 1.63 | | | | #DIV/0! |
| DW2 | | 32 | | 300 | 0.057 | 169 | | | 223 | 0.00 | 3.28 | | | | #DIV/0! |
| DW2 | | 33 | | 280 | 0.057 | 169 | | | 223 | 0.00 | 2.78 | | | | #DIV/0! |
| | | | | | | | | | | | | 184.50 | 165 | 57.4 | 348 |

Drum DW2

| | |
|----------|------------------------|
| Location | BG 169 cps |
| Top drum | cps |
| Side 1 | @ contact (using SPA3) |
| Side 2 | 245 |
| Side 3 | 209 |
| Side 4 | 212 |
| Side 5 | 220 |
| Total | 1116 |
| Average | 223.2 |

Average cps @ 50 cm
200 cps ???

| | | | | | | | | | | | | | | | |
|-----|--|----|--|-----|-------|-----|--|--|-----|------|-------|--|--|--|---------|
| DW3 | Soil from under G12 ("hot spots" down to 500 mm) | 1 | | 190 | 0.058 | 169 | | | 223 | 0.00 | 0.53 | | | | #DIV/0! |
| DW3 | | 2 | | 264 | 0.058 | 169 | | | 223 | 0.00 | 2.38 | | | | #DIV/0! |
| DW3 | | 3 | | 200 | 0.058 | 169 | | | 223 | 0.00 | 0.78 | | | | #DIV/0! |
| DW3 | | 4 | | 175 | 0.058 | 169 | | | 223 | 0.00 | 0.15 | | | | #DIV/0! |
| DW3 | | 5 | | 255 | 0.058 | 169 | | | 223 | 0.00 | 2.15 | | | | #DIV/0! |
| DW3 | | 6 | | 280 | 0.058 | 169 | | | 223 | 0.00 | 2.78 | | | | #DIV/0! |
| DW3 | | 7 | | 204 | 0.058 | 169 | | | 223 | 0.00 | 0.88 | | | | #DIV/0! |
| DW3 | | 8 | | 255 | 0.057 | 169 | | | 223 | 0.00 | 2.15 | | | | #DIV/0! |
| DW3 | | 9 | | 230 | 0.057 | 169 | | | 223 | 0.00 | 1.53 | | | | #DIV/0! |
| DW3 | | 10 | | 170 | 0.057 | 169 | | | 223 | 0.00 | 0.03 | | | | #DIV/0! |
| DW3 | | 11 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 12 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 13 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 14 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 15 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 16 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 17 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 18 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |
| DW3 | | 19 | | | 0.057 | 169 | | | 223 | 0.00 | -4.23 | | | | #DIV/0! |

| | | | | | | | | | | | | |
|-----|--|--|--|--|--|--|--|--|-----|------|------|--|
| DZ1 | | | | | | | | | 223 | 0.00 | 0.00 | |
| DZ1 | | | | | | | | | 223 | 0.00 | 0.00 | |
| DZ1 | | | | | | | | | 223 | 0.00 | 0.00 | |
| DZ1 | | | | | | | | | 223 | 0.00 | 0.00 | |

Vacuum cleaner bags

Instrument MTE: 2904

| | Drum No. | Bag No. | B/g (μSv/hr) | Dose rate (μSv/hr) at: | Distance (m) | Specific γ ray constant | Calculated activity (kBq) using specific γ | kg | g | Est. Bq/g |
|---|----------|---------|--------------|------------------------|--------------|-------------------------|--|------|------|-----------|
| 1 | D40 | 1 | 0.064 | 0.07 | 0.5 | 223 | 6.7 | 2 | 2000 | 3.4 |
| | D40 | 2 | 0.064 | 0.08 | 0.5 | 223 | 17.9 | 2.4 | 2400 | 7.5 |
| | D40 | 3 | 0.064 | 0.07 | 0.3 | 223 | 2.4 | 1.1 | 1100 | 2.2 |
| | D40 | 4 | 0.064 | 0.083 | 0.7 | 223 | 41.7 | 2.5 | 2500 | 16.7 |
| | D40 | 5 | 0.064 | 0.087 | 0.7 | 223 | 50.5 | 1.5 | 1500 | 33.7 |
| | D40 | 6 | 0.064 | 0.071 | 0.7 | 223 | 15.4 | 2.3 | 2300 | 6.7 |
| | D40 | 7 | 0.064 | 0.072 | 0.7 | 223 | 17.6 | 1.8 | 1800 | 9.8 |
| | D40 | 8 | 0.064 | 0.072 | 0.6 | 223 | 12.9 | 1.8 | 1800 | 7.2 |
| | D40 | 9 | 0.064 | 0.078 | 0.7 | 223 | 30.8 | 3.1 | 3100 | 9.9 |
| | D40 | 10 | 0.064 | 0.07 | 0.7 | 223 | 13.2 | 2.3 | 2300 | 5.7 |
| | D40 | 11 | 0.064 | 0.075 | 0.7 | 223 | 24.2 | 0.75 | 750 | 32.2 |
| | D40 | 12 | 0.064 | 0.079 | 0.9 | 223 | 54.5 | 1.6 | 1600 | 34.1 |
| | D40 | 13 | 0.064 | 0.082 | 0.9 | 223 | 65.4 | 1.7 | 1700 | 38.5 |
| | D40 | 14 | 0.064 | 0.072 | 0.7 | 223 | 17.6 | 1.2 | 1200 | 14.6 |
| | D40 | 15 | 0.062 | 0.083 | 1.3 | 223 | 159.1 | 2.1 | 2100 | 75.8 |
| | D40 | 16 | 0.062 | 0.076 | 1 | 223 | 62.8 | 1.5 | 1500 | 41.9 |
| | D40 | 17 | 0.062 | 0.076 | 0.9 | 223 | 50.9 | 1.2 | 1200 | 42.4 |
| | D40 | 18 | 0.062 | 0.083 | 0.7 | 223 | 46.1 | 1.7 | 1700 | 27.1 |
| | D40 | 19 | 0.062 | 0.063 | 0.2 | 223 | 0.2 | 2.9 | 2900 | 0.1 |
| | D40 | 20 | 0.062 | 0.072 | 0.7 | 223 | 22.0 | 1.6 | 1600 | 13.7 |
| | D40 | 21 | 0.062 | 0.071 | 0.7 | 223 | 19.8 | 1.6 | 1600 | 12.4 |
| | D40 | 22 | 0.062 | 0.070 | 0.7 | 223 | 17.6 | 1.5 | 1500 | 11.7 |
| | D40 | 23 | 0.062 | 0.067 | 0.6 | 223 | 8.1 | 0.9 | 900 | 9.0 |
| | D40 | 24 | 0.062 | 0.070 | 0.6 | 223 | 12.9 | 2.5 | 2500 | 5.2 |
| | D40 | 25 | 0.062 | 0.080 | 0.8 | 223 | 51.7 | 3.7 | 3700 | 14.0 |
| | D40 | 26 | 0.062 | 0.071 | 0.8 | 223 | 25.8 | 1.4 | 1400 | 18.4 |
| | D40 | 27 | 0.062 | 0.068 | 0.6 | 223 | 9.7 | 2.8 | 2800 | 3.5 |
| | D40 | 28 | 0.062 | 0.074 | 0.4 | 223 | 8.6 | 3.2 | 3200 | 2.7 |
| | D40 | 29 | 0.062 | 0.075 | 0.4 | 223 | 9.3 | 3.9 | 3900 | 2.4 |
| | D40 | 30 | 0.062 | 0.073 | 0.5 | 223 | 12.3 | 1.4 | 1400 | 8.8 |
| | D40 | 31 | 0.062 | 0.075 | 0.4 | 223 | 9.3 | 1.5 | 1500 | 6.2 |
| | D40 | 32 | 0.062 | 0.069 | 0.7 | 223 | 15.4 | 2.2 | 2200 | 7.0 |
| | D40 | 33 | 0.062 | 0.072 | 1 | 223 | 44.8 | 4 | 4000 | 11.2 |
| | D40 | 34 | 0.062 | 0.072 | 0.5 | 223 | 11.2 | 3 | 3000 | 3.7 |
| 2 | D41 | 35 | 0.062 | 0.071 | 0.8 | 223 | 25.8 | 3 | 3000 | 8.6 |
| | D41 | 36 | 0.062 | 0.071 | 0.3 | 223 | 3.6 | 1.9 | 1900 | 1.9 |
| | D41 | 37 | 0.062 | 0.073 | 0.8 | 223 | 31.6 | 2.9 | 2900 | 10.9 |
| | D41 | 38 | 0.062 | 0.069 | 0.7 | 223 | 15.4 | 4.5 | 4500 | 3.4 |
| | D41 | 39 | 0.062 | 0.071 | 0.9 | 223 | 32.7 | 3.2 | 3200 | 10.2 |
| | D41 | 40 | 0.062 | 0.071 | 0.6 | 223 | 14.5 | 3 | 3000 | 4.8 |
| | D41 | 41 | 0.062 | 0.072 | 0.6 | 223 | 16.1 | 2.9 | 2900 | 5.6 |
| | D41 | 42 | 0.062 | 0.071 | 0.6 | 223 | 14.5 | 3 | 3000 | 4.8 |
| | D41 | 43 | 0.062 | 0.074 | 0.7 | 223 | 26.4 | 2.3 | 2300 | 11.5 |
| | D41 | 44 | 0.062 | 0.074 | 0.8 | 223 | 34.4 | 2.2 | 2200 | 15.7 |
| | D41 | 45 | 0.062 | 0.068 | 0.4 | 223 | 4.3 | 1.7 | 1700 | 2.5 |
| | D41 | 46 | 0.062 | 0.07 | 0.9 | 223 | 29.1 | 3.8 | 3800 | 7.6 |
| | D41 | 47 | 0.062 | 0.068 | 0.3 | 223 | 2.4 | 3.6 | 3600 | 0.7 |
| | D41 | 48 | 0.062 | 0.068 | 0.9 | 223 | 21.8 | 2.8 | 2800 | 7.8 |
| | D41 | 49 | 0.062 | 0.069 | 0.6 | 223 | 11.3 | 4.5 | 4500 | 2.5 |
| | D41 | 50 | 0.062 | 0.07 | 0.6 | 223 | 12.9 | 3 | 3000 | 4.3 |
| | D41 | 51 | 0.062 | 0.068 | 0.4 | 223 | 4.3 | 3 | 3000 | 1.4 |
| | D41 | 52 | 0.062 | 0.07 | 0.9 | 223 | 29.1 | 2.2 | 2200 | 13.2 |
| | D41 | 53 | 0.062 | 0.069 | 0.9 | 223 | 25.4 | 1.7 | 1700 | 15.0 |
| | D41 | 54 | 0.062 | 0.069 | 0.4 | 223 | 5.0 | 1.5 | 1500 | 3.3 |
| | D41 | 55 | 0.058 | 0.067 | 0.2 | 223 | 1.6 | 3.1 | 3100 | 0.5 |
| | D41 | 56 | 0.058 | 0.072 | 1 | 223 | 62.8 | 2.1 | 2100 | 29.9 |
| | D41 | 57 | 0.058 | 0.067 | 0.4 | 223 | 6.5 | 2 | 2000 | 3.2 |
| | D41 | 58 | 0.058 | 0.067 | 0.5 | 223 | 10.1 | 2.5 | 2500 | 4.0 |
| | D41 | 59 | 0.058 | 0.071 | 0.2 | 223 | 2.3 | 1.1 | 1100 | 2.1 |
| | D41 | 60 | 0.058 | 0.071 | 0.3 | 223 | 5.2 | 3.5 | 3500 | 1.5 |
| | D41 | 61 | 0.058 | 0.068 | 0.3 | 223 | 4.0 | 1.3 | 1300 | 3.1 |
| | D41 | 62 | 0.058 | 0.064 | 0.2 | 223 | 1.1 | 1.5 | 1500 | 0.7 |
| | D41 | 63 | 0.058 | 0.072 | 0.4 | 223 | 10.0 | 2.9 | 2900 | 3.5 |
| | D41 | 64 | 0.058 | 0.07 | 0.1 | 223 | 0.5 | 1.8 | 1800 | 0.3 |
| | D41 | 65 | 0.058 | 0.065 | 0.2 | 223 | 1.3 | 1.6 | 1600 | 0.8 |
| | D41 | 66 | 0.058 | 0.072 | 0.3 | 223 | 5.7 | 0.6 | 600 | 9.4 |
| | D41 | 67 | 0.058 | 0.065 | 0.2 | 223 | 1.3 | 3.1 | 3100 | 0.4 |
| | D41 | 68 | 0.058 | 0.072 | 0.3 | 223 | 5.7 | 2.4 | 2400 | 2.4 |
| 3 | D100 | 69 | 0.056 | 0.061 | 0.6 | 223 | 8.1 | 3.1 | 3100 | 2.6 |
| | D100 | 70 | 0.056 | 0.061 | 0.6 | 223 | 8.1 | 1.5 | 1500 | 5.4 |
| | D100 | 71 | 0.056 | 0.06 | 1.1 | 223 | 21.7 | 2.1 | 2100 | 10.3 |
| | D100 | 72 | 0.056 | 0.062 | 0.3 | 223 | 2.4 | 2.6 | 2600 | 0.9 |
| | D100 | 73 | 0.056 | 0.063 | 1 | 223 | 31.4 | 1.5 | 1500 | 20.9 |
| | D100 | 74 | 0.056 | 0.063 | 0.6 | 223 | 11.3 | 1.7 | 1700 | 6.6 |
| | D100 | 75 | 0.056 | 0.063 | 0.5 | 223 | 7.8 | 0.78 | 780 | 10.1 |
| | D100 | 76 | 0.056 | 0.063 | 0.6 | 223 | 11.3 | 0.8 | 800 | 14.1 |
| | D100 | 77 | 0.056 | 0.06 | 0.2 | 223 | 0.7 | 0.6 | 600 | 1.2 |
| | D100 | 78 | 0.056 | 0.06 | 0.8 | 223 | 11.5 | 1.1 | 1100 | 10.4 |
| | D100 | 79 | 0.056 | 0.062 | 0.5 | 223 | 6.7 | 1.3 | 1300 | 5.2 |
| | D100 | 80 | 0.056 | 0.071 | 1.6 | 223 | 172.2 | 1.8 | 1800 | 95.7 |
| | D100 | 81 | 0.056 | 0.063 | 0.8 | 223 | 20.1 | 2.8 | 2800 | 7.2 |
| | D100 | 82 | 0.056 | 0.061 | 1.2 | 223 | 32.3 | 1.4 | 1400 | 23.1 |
| | D100 | 83 | 0.056 | 0.06 | 1.1 | 223 | 21.7 | 1 | 1000 | 21.7 |
| | D100 | 84 | 0.056 | 0.062 | 0.6 | 223 | 9.7 | 1.2 | 1200 | 8.1 |
| | D100 | 85 | 0.056 | 0.063 | 0.6 | 223 | 11.3 | 1.1 | 1100 | 10.3 |
| | D100 | 86 | 0.056 | 0.06 | 0.8 | 223 | 11.5 | 1.9 | 1900 | 6.0 |
| | D100 | 87 | 0.056 | 0.065 | 1.6 | 223 | 103.3 | 2 | 2000 | 51.7 |

70.65 kg

| | |
|---|-------|
| Total weight Drum D40 (Kg) No's. 1 to 34: | 70.7 |
| Total activity (kBq) No.s 1 to 34: | 968 |
| Average activity (kBq) per bag: | 28 |
| Average Bq/g: | 13.71 |

>10kBq
>10Bq/g

86.2 kg

| | |
|--|------|
| Total weight Drum D41 (Kg) No's. 35 to 68: | 86.2 |
| Total activity (kBq) No.s 35 to 68: | 479 |
| Average activity (kBq) per bag: | 14 |
| Average Bq/g: | 5.55 |

>10kBq
<10Bq/g

| | | | | | | | | | | |
|----|------|-----|-------|-------|------|-----|-------|------|------|---------|
| 20 | D100 | 88 | 0.056 | 0.064 | 1.6 | 223 | 91.8 | 1.6 | 1600 | 57.4 |
| 21 | D100 | 89 | 0.056 | 0.06 | 1.4 | 223 | 35.2 | 2.2 | 2200 | 16.0 |
| 22 | D100 | 90 | 0.056 | 0.061 | 1.3 | 223 | 37.9 | 1.4 | 1400 | 27.1 |
| 23 | D100 | 91 | 0.056 | 0.063 | 0.8 | 223 | 20.1 | 1.7 | 1700 | 11.8 |
| 24 | D100 | 92 | 0.056 | 0.063 | 0.6 | 223 | 11.3 | 1.1 | 1100 | 10.3 |
| 25 | D100 | 93 | 0.056 | 0.061 | 1 | 223 | 22.4 | 1.6 | 1600 | 14.0 |
| 26 | D100 | 94 | 0.056 | 0.07 | 1.6 | 223 | 160.7 | 1.4 | 1400 | 114.8 |
| 27 | D100 | 95 | 0.056 | 0.061 | 0.6 | 223 | 8.1 | 2 | 2000 | 4.0 |
| 28 | D100 | 96 | 0.056 | 0.062 | 0.4 | 223 | 4.3 | 1.5 | 1500 | 2.9 |
| 29 | D100 | 97 | 0.056 | 0.062 | 0.6 | 223 | 9.7 | 3.1 | 3100 | 3.1 |
| 30 | D100 | 98 | 0.056 | 0.063 | 0.5 | 223 | 7.8 | 2.4 | 2400 | 3.3 |
| 31 | D100 | 99 | 0.056 | 0.061 | 0.7 | 223 | 11.0 | 1.2 | 1200 | 9.2 |
| 32 | D100 | 100 | 0.056 | 0.062 | 0.8 | 223 | 17.2 | 1.6 | 1600 | 10.8 |
| 33 | D100 | 101 | 0.056 | 0.063 | 0.1 | 223 | 0.3 | 1.9 | 1900 | 0.2 |
| 34 | D100 | 102 | 0.056 | 0.075 | 1.6 | 223 | 218.1 | 1.3 | 1300 | 167.8 |
| 35 | D100 | 103 | 0.056 | 0.062 | 0.3 | 223 | 2.4 | 2 | 2000 | 1.2 |
| 36 | D100 | 104 | 0.056 | 0.062 | 0.4 | 223 | 4.3 | 1.3 | 1300 | 3.3 |
| 37 | D100 | 105 | 0.056 | 0.065 | 1.6 | 223 | 103.3 | 1.7 | 1700 | 60.8 |
| 1 | D193 | 106 | 0.056 | 0.061 | 0.6 | 223 | 8.1 | 2.5 | 2500 | 3.2 |
| 2 | D193 | 107 | 0.056 | 0.062 | 0.5 | 223 | 6.7 | 0.9 | 900 | 7.5 |
| 3 | D193 | 108 | 0.081 | 0.085 | 0.4 | 223 | 2.9 | 1.1 | 1100 | 2.6 |
| 4 | D193 | 109 | 0.081 | 0.094 | 0.4 | 223 | 9.3 | 2.4 | 2400 | 3.9 |
| 5 | D193 | 110 | 0.081 | 0.089 | 0.7 | 223 | 17.6 | 3.5 | 3500 | 5.0 |
| 6 | D193 | 111 | 0.081 | 0.09 | 0.7 | 223 | 19.8 | 3.5 | 3500 | 5.7 |
| 7 | D193 | 112 | 0.081 | 0.091 | 0.8 | 223 | 28.7 | 1.3 | 1300 | 22.1 |
| 8 | D193 | 113 | 0.081 | 0.086 | 0.2 | 223 | 0.9 | 0.65 | 650 | 1.4 |
| 9 | D193 | 114 | 0.081 | 0.086 | 0.7 | 223 | 11.0 | 0.75 | 750 | 14.6 |
| 10 | D193 | 115 | 0.081 | 0.105 | 1.1 | 223 | 130.2 | 1.2 | 1200 | 108.5 |
| 11 | D193 | 116 | 0.081 | 0.089 | 0.7 | 223 | 17.6 | 1.2 | 1200 | 14.6 |
| 12 | D193 | 117 | 0.081 | 0.095 | 1.1 | 223 | 76.0 | 1.4 | 1400 | 54.3 |
| 13 | D193 | 118 | 0.081 | 0.09 | 1.1 | 223 | 48.8 | 1.3 | 1300 | 37.6 |
| 14 | D193 | 119 | 0.081 | 0.087 | 1 | 223 | 26.9 | 3 | 3000 | 9.0 |
| 15 | D193 | 120 | 0.06 | 0.065 | 0.9 | 223 | 18.2 | 2 | 2000 | 9.1 |
| 16 | D193 | 121 | 0.06 | 0.065 | 0.6 | 223 | 8.1 | 2 | 2000 | 4.0 |
| 17 | D193 | 122 | 0.06 | 0.065 | 0.2 | 223 | 0.9 | 2 | 2000 | 0.4 |
| 18 | D193 | 123 | 0.06 | 0.064 | 0.4 | 223 | 2.9 | 2 | 2000 | 1.4 |
| 19 | D193 | 124 | 0.06 | 0.064 | 0.4 | 223 | 2.9 | 1 | 1000 | 2.9 |
| 20 | D193 | 125 | 0.079 | 0.084 | 0.5 | 223 | 5.6 | 2.4 | 2400 | 2.3 |
| 21 | D193 | 126 | 0.079 | 0.087 | 0.2 | 223 | 1.4 | 2.6 | 2600 | 0.6 |
| 22 | D193 | 127 | 0.079 | 0.087 | 0.3 | 223 | 3.2 | 4.1 | 4100 | 0.8 |
| 23 | D193 | 128 | 0.079 | 0.088 | 0.3 | 223 | 3.6 | 2.3 | 2300 | 1.6 |
| 24 | D193 | 129 | 0.07 | 0.088 | 0.2 | 223 | 3.2 | 3.9 | 3900 | 0.8 |
| 25 | D193 | 130 | 0.07 | 0.124 | 0.2 | 223 | 9.7 | 3.4 | 3400 | 2.8 |
| 26 | D193 | 131 | 0.07 | 0.097 | 0.7 | 223 | 59.3 | 4.2 | 4200 | 14.1 |
| 27 | D193 | 132 | 0.07 | 0.088 | 0.45 | 223 | 16.3 | 3 | 3000 | 5.4 |
| 28 | D193 | 133 | 0.07 | 0.086 | 0.4 | 223 | 11.5 | 4.5 | 4500 | 2.6 |
| 29 | D193 | 134 | 0.07 | 0.097 | 0.5 | 223 | 30.3 | 5 | 5000 | 6.1 |
| 30 | D193 | 135 | 0.07 | 0.08 | 0.2 | 223 | 1.8 | 3.8 | 3800 | 0.5 |
| 31 | D193 | 136 | 0.07 | 0.08 | 0.2 | 223 | 1.8 | 3.8 | 3800 | 0.5 |
| 32 | D193 | 137 | 0.07 | 0.08 | 0.2 | 223 | 1.8 | 5 | 5000 | 0.4 |
| 33 | D193 | 138 | 0.07 | 0.08 | 0.2 | 223 | 1.8 | 5 | 5000 | 0.4 |
| 34 | D193 | 139 | 0.07 | 0.08 | 0.2 | 223 | 1.8 | 2.8 | 2800 | 0.6 |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |
| | | | | | | 223 | 0.0 | | 0 | #DIV/0! |

61.28 kg

| | |
|--|-------|
| Total weight Drum D100 (Kg) No's. 69 to 105: | 61.3 |
| Total activity (kBq) No.s 69 to 105: | 1269 |
| Average activity (kBq) per bag: | 34 |
| Average Bq/g: | 20.71 |

>10kBq
>108q/g

45.1 kg

| | |
|---|------|
| Total weight Drum D193 (Kg) No's. 106 to 139: | 89.5 |
| Total activity (kBq) No.s 106 to 128: | 540 |
| Average activity (kBq) per bag: | 23 |
| Average Bq/g: | 6.03 |

89.5 kg

| | |
|---|------|
| Total weight Drum D100 (Kg) No's. 106 to 139: | 89.5 |
| Total activity (kBq) No.s 106 to 139: | 591 |
| Average activity (kBq) per bag: | 17 |
| Average Bq/g: | 6.60 |

>10kBq
>108q/g

Surface Contamination measured on contents of 2 drums to determine "typical" average activity per drum
Wood skirting, flooring, and ceiling bits, plaster etc
Instrument MTE: 5527
Painted or laquered surface masking alpha, mostly soaked into material

| | | | | | | | | | | | | 1cps beta | | BckGrnd CPS | | 1cps Alpha | | BckGrnd CPS | |
|---------|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|-----------|--------|-------------|-----|------------|-----|-------------|--|
| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) | 0.15 | Bq/cm2 | 3.4 | 0.2 | Bq/cm2 | 0.1 | | |
| 1 | 80 | 30 | 2400 | 15 | 1.74 | 15 | 2.98 | 0.5 | 3576 | 2088 | 3576 | | | | | | | | |
| 2 | 14 | 80 | 1120 | 15 | 1.74 | 10 | 1.98 | 1 | 2217.6 | 1948.8 | 2217.6 | | | | | | | | |
| 3 | 80 | 18 | 1440 | 60 | 8.49 | | | 0.5 | 0 | 6112.8 | 6112.8 | | | | | | | | |
| 4 | 30 | 25 | 750 | 7 | 0.54 | | | 1 | 0 | 405 | 405 | | | | | | | | |
| 5 | 25 | 20 | 500 | 7 | 0.54 | | | 1 | 0 | 270 | 270 | | | | | | | | |
| 6 | 25 | 7 | 175 | 7 | 0.54 | | | 0.5 | 0 | 47.25 | 47.25 | | | | | | | | |
| 7 | 18 | 65 | 1170 | 25 | 3.24 | | | 0.25 | 0 | 947.7 | 947.7 | | | | | | | | |
| 8 | 28 | 35 | 980 | 7 | 0.54 | | | 0.5 | 0 | 264.6 | 264.6 | | | | | | | | |
| 9 | 10 | 45 | 450 | 40 | 5.49 | | | 0.25 | 0 | 617.625 | 617.625 | | | | | | | | |
| | 10 | 40 | 400 | 15 | 1.74 | | | 1 | 0 | 696 | 696 | | | | | | | | |
| 105 | 7 | 735 | 15 | 1.74 | | | | 1 | 0 | 1278.9 | 1278.9 | | | | | | | | |
| 18 | 80 | 1440 | 170 | 24.99 | | | | 0.5 | 0 | 17992.8 | 17992.8 | | | | | | | | |
| 180 | 7 | 1260 | 15 | 1.74 | | | | 0.25 | 0 | 548.1 | 548.1 | | | | | | | | |
| 18 | 80 | 1440 | 7 | 0.54 | | | | 0.25 | 0 | 194.4 | 194.4 | | | | | | | | |
| 18 | 60 | 1080 | 15 | 1.74 | | | | 0.125 | 0 | 234.9 | 234.9 | | | | | | | | |
| 18 | 70 | 1260 | 40 | 5.49 | | | | 1 | 0 | 6917.4 | 6917.4 | | | | | | | | |
| 18 | 75 | 1350 | 7 | 0.54 | | | | 0.25 | 0 | 182.25 | 182.25 | | | | | | | | |
| 70 | 30 | 2100 | 7 | 0.54 | | | | 0.5 | 0 | 567 | 567 | | | | | | | | |
| 70 | 30 | 2100 | 20 | 2.49 | | | | 0.125 | 0 | 653.625 | 653.625 | | | | | | | | |
| 60 | 30 | 1800 | 7 | 0.54 | | | | 1 | 0 | 972 | 972 | | | | | | | | |
| 18 | 80 | 1440 | 50 | 6.99 | | | | 1 | 0 | 10065.6 | 10065.6 | | | | | | | | |
| 60 | 30 | 1800 | 8 | 0.69 | | | | 0.125 | 0 | 155.25 | 155.25 | | | | | | | | |
| 7 | 180 | 1260 | 20 | 2.49 | | | | 1 | 0 | 3137.4 | 3137.4 | | | | | | | | |
| 75 | 5.5 | 412.5 | 7 | 0.54 | | | | 1 | 0 | 222.75 | 222.75 | | | | | | | | |
| 70 | 10 | 700 | 8 | 0.69 | | | | 0.5 | 0 | 241.5 | 241.5 | | | | | | | | |
| 10 | 70 | 700 | 10 | 0.99 | | | | 0.5 | 0 | 346.5 | 346.5 | | | | | | | | |
| 10 | 50 | 500 | 7 | 0.54 | | | | 0.5 | 0 | 135 | 135 | | | | | | | | |
| 65 | 7 | 455 | 8 | 0.69 | | | | 0.25 | 0 | 78.4875 | 78.4875 | | | | | | | | |
| 20 | 60 | 1200 | 10 | 0.99 | | | | 0.5 | 0 | 594 | 594 | | | | | | | | |
| 10 | 60 | 600 | 7 | 0.54 | | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| 7 | 130 | 910 | 25 | 3.24 | | 7 | 1.38 | 0.5 | 627.9 | 1474.2 | 1474.2 | | | | | | | | |
| 7 | 75 | 525 | 25 | 3.24 | | 20 | 3.98 | 0.5 | 1044.75 | 850.5 | 1044.75 | | | | | | | | |
| 10 | 70 | 700 | 7 | 0.54 | | | | 0.5 | 0 | 189 | 189 | | | | | | | | |
| 5.5 | 60 | 330 | 7 | 0.54 | | | | 0.5 | 0 | 89.1 | 89.1 | | | | | | | | |
| 7 | 50 | 350 | 7 | 0.54 | | | | 0.5 | 0 | 94.5 | 94.5 | | | | | | | | |
| 7 | 50 | 350 | 15 | 1.74 | | 8 | 1.58 | 1 | 553 | 609 | 609 | | | | | | | | |
| 30 | 30 | 900 | 30 | 3.99 | | 20 | 3.98 | 0.5 | 1791 | 1795.5 | 1795.5 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 1 | 0 | 324 | 324 | | | | | | | | |
| 20 | 30 | 600 | 15 | 1.74 | | 10 | 1.98 | 0.5 | 594 | 522 | 594 | | | | | | | | |
| 10 | 50 | 500 | 10 | 0.99 | | 1 | 0.18 | 1 | 90 | 495 | 495 | | | | | | | | |
| 10 | 50 | 500 | 15 | 1.74 | | 1 | 0.18 | 0.5 | 45 | 435 | 435 | | | | | | | | |
| 7 | 30 | 210 | 5 | 0.24 | | 1 | 0.18 | 1 | 37.8 | 50.4 | 50.4 | | | | | | | | |
| 20 | 30 | 600 | 5 | 0.24 | | 1 | 0.18 | 1 | 108 | 144 | 144 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | 0.5 | 0.08 | 1 | 48 | 324 | 324 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| 20 | 30 | 600 | 7 | 0.54 | | | | 0.5 | 0 | 162 | 162 | | | | | | | | |
| 30 | 30 | 900 | 60 | 8.49 | | 25 | 4.98 | 0.25 | 1120.5 | 1910.25 | 1910.25 | | | | | | | | |
| 10 | 40 | 400 | 7 | 0.54 | | 1 | 0.18 | 0.25 | 18 | 54 | 54 | | | | | | | | |
| 7 | 30 | 210 | 25 | 3.24 | | 7 | 1.38 | 0.5 | 144.9 | 340.2 | 340.2 | | | | | | | | |
| 7 | 30 | 210 | 7 | 0.54 | | | | 0.5 | 0 | 56.7 | 56.7 | | | | | | | | |
| 7 | 40 | 280 | 15 | 1.74 | | 10 | 1.98 | 0.5 | 277.2 | 243.6 | 277.2 | | | | | | | | |
| 20 | 20 | 400 | 6 | 0.39 | | | | 0.5 | 0 | 78 | 78 | | | | | | | | |
| Drum 1: | | | | | | | | | | | | 70537 | | | | | | | |

| | | | | | | | | | | |
|-----|-----|-------|----|------|-----|------|------|--------|---------|---------|
| 10 | 70 | 700 | 15 | 1.74 | 6 | 1.18 | 0.5 | 413 | 609 | 609 |
| 10 | 40 | 400 | 50 | 6.99 | 5 | 0.98 | 1 | 392 | 2796 | 2796 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 0.5 | 632 | 1596 | 1596 |
| 10 | 65 | 650 | 10 | 0.99 | 0.5 | 0.08 | 0.5 | 26 | 321.75 | 321.75 |
| 10 | 80 | 800 | 30 | 3.99 | 8 | 1.58 | 0.5 | 632 | 1596 | 1596 |
| 7 | 50 | 350 | 15 | 1.74 | 1 | 0.18 | 0.5 | 31.5 | 304.5 | 304.5 |
| 10 | 70 | 700 | 15 | 1.74 | 7 | 1.38 | 1 | 966 | 1218 | 1218 |
| 5.5 | 80 | 440 | 7 | 0.54 | 2 | 0.38 | 0.25 | 41.8 | 59.4 | 59.4 |
| 7 | 85 | 595 | 7 | 0.54 | 3 | 0.58 | 0.25 | 86.275 | 80.325 | 86.275 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 1 | 0.18 | 1 | 74.25 | 1336.5 | 1336.5 |
| 7 | 70 | 490 | 15 | 1.74 | 4 | 0.78 | 0.5 | 191.1 | 426.3 | 426.3 |
| 5.5 | 50 | 275 | 35 | 4.74 | 5 | 0.98 | 1 | 269.5 | 1303.5 | 1303.5 |
| 5.5 | 50 | 275 | 8 | 0.69 | 1 | 0.18 | 0.5 | 24.75 | 94.875 | 94.875 |
| 7 | 70 | 490 | 7 | 0.54 | 5 | 0.98 | 0.5 | 240.1 | 132.3 | 240.1 |
| 7 | 75 | 525 | 7 | 0.54 | 1 | 0.18 | 0.5 | 47.25 | 141.75 | 141.75 |
| 10 | 60 | 600 | 25 | 3.24 | 1 | 0.18 | 0.5 | 54 | 972 | 972 |
| 5.5 | 50 | 275 | 25 | 3.24 | 8 | 1.58 | 0.5 | 217.25 | 445.5 | 445.5 |
| 10 | 60 | 600 | 25 | 3.24 | 3 | 0.58 | 0.5 | 174 | 972 | 972 |
| 5.5 | 70 | 385 | 12 | 1.29 | 2 | 0.38 | 0.5 | 73.15 | 248.325 | 248.325 |
| 5 | 60 | 300 | 7 | 0.54 | 0.5 | 0.08 | 0.5 | 12 | 81 | 81 |
| 5 | 70 | 350 | 7 | 0.54 | 1 | 0.18 | 0.5 | 31.5 | 94.5 | 94.5 |
| 10 | 60 | 600 | 15 | 1.74 | 2 | 0.38 | 0.5 | 114 | 522 | 522 |
| 10 | 60 | 600 | 8 | 0.69 | 3 | 0.58 | 1 | 348 | 414 | 414 |
| 7 | 80 | 560 | 8 | 0.69 | 1 | 0.18 | 1 | 100.8 | 386.4 | 386.4 |
| 5.5 | 75 | 412.5 | 25 | 3.24 | 4 | 0.78 | 1 | 321.75 | 1336.5 | 1336.5 |
| 5.5 | 70 | 385 | 40 | 5.49 | | | 0.5 | | 1056.83 | 1056.83 |
| 5.5 | 70 | 385 | 25 | 3.24 | 1 | 0.18 | 0.5 | | 623.7 | 623.7 |
| 5.5 | 65 | 357.5 | 20 | 2.49 | 1 | 0.18 | 1 | | 890.175 | 890.175 |
| 5 | 70 | 350 | 25 | 3.24 | 7 | 1.38 | 1 | | 1134 | 1134 |
| 5 | 65 | 325 | 40 | 5.49 | | | 0.25 | | 446.063 | 446.063 |
| 5 | 60 | 300 | 50 | 6.99 | | | 1 | | 2097 | 2097 |
| 5 | 50 | 250 | 8 | 0.69 | | | 0.5 | | 86.25 | 86.25 |
| 10 | 30 | 300 | 7 | 0.54 | | | 0.25 | | 40.5 | 40.5 |
| 13 | 40 | 520 | 30 | 3.99 | | | 0.5 | | 1037.4 | 1037.4 |
| 10 | 450 | 4500 | 12 | 1.29 | | | 1 | | 5805 | 5805 |
| 10 | 50 | 500 | 15 | 1.74 | 3 | 0.58 | 1 | | 870 | 870 |
| 10 | 65 | 650 | 10 | 0.99 | | | 0.5 | | 321.75 | 321.75 |
| 10 | 45 | 450 | 10 | 0.99 | 4 | 0.78 | 1 | | 445.5 | 445.5 |
| 70 | 40 | 2800 | 30 | 3.99 | 20 | 3.98 | 1 | | 11172 | 11172 |
| 70 | 60 | 4200 | 8 | 0.69 | 0.5 | 0.08 | 0.5 | | 1449 | 1449 |
| 70 | 60 | 4200 | 20 | 2.49 | 10 | 1.98 | 0.5 | | 5229 | 5229 |
| 10 | 40 | 400 | 15 | 1.74 | 8 | 1.58 | 1 | | 696 | 696 |
| 10 | 50 | 500 | 8 | 0.69 | 1 | 0.18 | 1 | | 345 | 345 |
| 7 | 30 | 210 | 15 | 1.74 | 2 | 0.38 | 1 | | 365.4 | 365.4 |
| 10 | 40 | 400 | 10 | 0.99 | 4 | 0.78 | 1 | | 396 | 396 |
| 7 | 35 | 245 | 10 | 0.99 | 0.5 | 0.08 | 1 | | 242.55 | 242.55 |
| 10 | 40 | 400 | 10 | 0.99 | 2 | 0.38 | 1 | | 396 | 396 |
| 7 | 25 | 175 | 8 | 0.69 | 1 | 0.18 | 1 | | 120.75 | 120.75 |
| 7 | 35 | 245 | 50 | 6.99 | 20 | 3.98 | 0.5 | | 856.275 | 856.275 |
| 7 | 45 | 315 | 10 | 0.99 | 3 | 0.58 | 1 | | 311.85 | 311.85 |
| 5.5 | 30 | 165 | 30 | 3.99 | | | 0.5 | | 329.175 | 329.175 |
| 7 | 30 | 210 | 8 | 0.69 | 1 | 0.18 | 0.5 | | 72.45 | 72.45 |
| 10 | 30 | 300 | 10 | 0.99 | 2 | 0.38 | 1 | | 297 | 297 |
| 10 | 25 | 250 | 15 | 1.74 | | | 0.5 | | 217.5 | 217.5 |
| 10 | 40 | 400 | 30 | 3.99 | 4 | 0.78 | 0.5 | | 798 | 798 |
| 4 | 40 | 160 | 15 | 1.74 | 2 | 0.38 | 1 | | 278.4 | 278.4 |
| 10 | 15 | 150 | 8 | 0.69 | 0.5 | 0.08 | 0.5 | | 51.75 | 51.75 |
| 8 | 36 | 288 | 10 | 0.99 | 3 | 0.58 | 1 | | 285.12 | 285.12 |
| 3 | 30 | 90 | 10 | 0.99 | 8 | 1.58 | 1 | | 89.1 | 89.1 |
| 3 | 13 | 39 | 10 | 0.99 | 5 | 0.98 | 0.5 | | 19.305 | 19.305 |
| 8 | 10 | 80 | 8 | 0.69 | 0 | | 0.5 | | 27.6 | 27.6 |
| 3 | 13 | 39 | 15 | 1.74 | 3 | 0.58 | 0.5 | | 33.93 | 33.93 |
| 10 | 10 | 100 | 8 | 0.69 | 2 | 0.38 | 0.5 | | 34.5 | 34.5 |
| 8 | 20 | 160 | 15 | 1.74 | 5 | 0.98 | 0.5 | | 139.2 | 139.2 |

Drum 2: **66407**Average activity per drum: **68472**

Broken tiles
Instrument MTE: 5527
Mostly fixed contamination on upper surfaces

DRUM 50

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|----------|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | | -0.51 | 1 | 0.196 | 0.5 | 94.08 | -244.8 | 94.08 |
| 2 | 40 | 24 | 960 | | -0.51 | 1.5 | 0.296 | 0.5 | 142.08 | -244.8 | 142.08 |
| 3 | 40 | 24 | 960 | | -0.51 | 0.67 | 0.13 | 0.5 | 62.4 | -244.8 | 62.4 |
| 4 | 40 | 24 | 960 | | -0.51 | 0.7 | 0.136 | 0.5 | 65.28 | -244.8 | 65.28 |
| 5 | 40 | 24 | 960 | | -0.51 | 0.5 | 0.096 | 0.5 | 46.08 | -244.8 | 46.08 |
| 6 | 40 | 24 | 960 | | -0.51 | 1 | 0.196 | 0.5 | 94.08 | -244.8 | 94.08 |
| 7 | 40 | 24 | 960 | | -0.51 | 2 | 0.396 | 0.5 | 190.08 | -244.8 | 190.08 |
| 8 | 40 | 24 | 960 | | -0.51 | 2 | 0.396 | 0.5 | 190.08 | -244.8 | 190.08 |
| 9 | 40 | 24 | 960 | | -0.51 | 0.5 | 0.096 | 0.5 | 46.08 | -244.8 | 46.08 |
| 10 | 40 | 24 | 960 | | -0.51 | 1 | 0.196 | 0.5 | 94.08 | -244.8 | 94.08 |
| 11 | 40 | 24 | 960 | 7.5 | 0.615 | 0 | -0.004 | 0.5 | -1.92 | 295.2 | 295.2 |
| 12 | 40 | 24 | 960 | 7 | 0.54 | 0.75 | 0.146 | 0.5 | 70.08 | 259.2 | 259.2 |
| 13 | 40 | 24 | 960 | 7 | 0.54 | 1.3 | 0.256 | 0.5 | 122.88 | 259.2 | 259.2 |
| 14 | 40 | 24 | 960 | 7 | 0.54 | 1.1 | 0.216 | 0.5 | 103.68 | 259.2 | 259.2 |
| 15 | 40 | 24 | 960 | 7 | 0.54 | 1.3 | 0.256 | 0.5 | 122.88 | 259.2 | 259.2 |
| 16 | 40 | 24 | 960 | 9 | 0.84 | 2 | 0.396 | 0.5 | 190.08 | 403.2 | 403.2 |
| 17 | 40 | 24 | 960 | 5 | 0.24 | 0.75 | 0.146 | 0.5 | 70.08 | 115.2 | 115.2 |
| 18 | 40 | 24 | 960 | 7 | 0.54 | 1 | 0.196 | 0.5 | 94.08 | 259.2 | 259.2 |
| 19 | 40 | 24 | 960 | 7 | 0.54 | 0.8 | 0.156 | 0.5 | 74.88 | 259.2 | 259.2 |
| 20 | 40 | 24 | 960 | 8 | 0.69 | 2.6 | 0.516 | 0.5 | 247.68 | 331.2 | 331.2 |
| 21 | 40 | 24 | 960 | 8 | 0.69 | 0.94 | 0.184 | 0.5 | 88.32 | 331.2 | 331.2 |
| 22 | 40 | 24 | 960 | 5 | 0.24 | 0.75 | 0.146 | 0.5 | 70.08 | 115.2 | 115.2 |
| 23 | 40 | 24 | 960 | 6 | 0.39 | 0.8 | 0.156 | 0.5 | 74.88 | 187.2 | 187.2 |
| 24 | 40 | 24 | 960 | 8 | 0.69 | 0.63 | 0.122 | 0.5 | 58.56 | 331.2 | 331.2 |
| 25 | 40 | 24 | 960 | 8 | 0.69 | 1.1 | 0.216 | 0.5 | 103.68 | 331.2 | 331.2 |
| 26 | 40 | 24 | 960 | 7 | 0.54 | 1 | 0.196 | 0.5 | 94.08 | 259.2 | 259.2 |
| 27 | 40 | 24 | 960 | 5 | 0.24 | 0.99 | 0.194 | 0.5 | 93.12 | 115.2 | 115.2 |
| 28 | 40 | 24 | 960 | 5 | 0.24 | 0.44 | 0.084 | 0.5 | 40.32 | 115.2 | 115.2 |
| 29 | 40 | 24 | 960 | 10 | 0.99 | 2 | 0.396 | 0.5 | 190.08 | 475.2 | 475.2 |
| 30 | 40 | 24 | 960 | 8 | 0.69 | 0.38 | 0.072 | 0.5 | 34.56 | 331.2 | 331.2 |
| 31 | 40 | 24 | 960 | 5 | 0.24 | 0.78 | 0.152 | 0.5 | 72.96 | 115.2 | 115.2 |
| 32 | 40 | 24 | 960 | 5 | 0.24 | 1 | 0.196 | 0.5 | 94.08 | 115.2 | 115.2 |
| 33 | 40 | 24 | 960 | 9 | 0.84 | 0.56 | 0.108 | 0.5 | 51.84 | 403.2 | 403.2 |
| 34 | 40 | 24 | 960 | 9 | 0.84 | 3.3 | 0.656 | 0.5 | 314.88 | 403.2 | 403.2 |
| 35 | 40 | 24 | 960 | 5 | 0.24 | 0.5 | 0.096 | 0.5 | 46.08 | 115.2 | 115.2 |
| 36 | 40 | 24 | 960 | 6 | 0.39 | 0.56 | 0.108 | 0.5 | 51.84 | 187.2 | 187.2 |
| 37 | 40 | 24 | 960 | 5 | 0.24 | 0.63 | 0.122 | 0.5 | 58.56 | 115.2 | 115.2 |
| 38 | 40 | 24 | 960 | 6 | 0.39 | 3 | 0.596 | 0.5 | 286.08 | 187.2 | 286.08 |
| 39 | 40 | 24 | 960 | 5 | 0.24 | 0.63 | 0.122 | 0.5 | 58.56 | 115.2 | 115.2 |
| 40 | 40 | 24 | 960 | 7 | 0.54 | 1.2 | 0.236 | 0.5 | 113.28 | 259.2 | 259.2 |
| 41 | 40 | 24 | 960 | 8 | 0.69 | 0.69 | 0.134 | 0.5 | 64.32 | 331.2 | 331.2 |
| 42 | 40 | 24 | 960 | 5 | 0.24 | 0.88 | 0.172 | 0.5 | 82.56 | 115.2 | 115.2 |
| 43 | 40 | 24 | 960 | 8 | 0.69 | 2.4 | 0.476 | 0.5 | 228.48 | 331.2 | 331.2 |
| 44 | 40 | 24 | 960 | 5 | 0.24 | 1.1 | 0.216 | 0.5 | 103.68 | 115.2 | 115.2 |
| 45 | 40 | 24 | 960 | 6 | 0.39 | 1 | 0.196 | 0.5 | 94.08 | 187.2 | 187.2 |
| 46 | 40 | 24 | 960 | 8 | 0.69 | 2 | 0.396 | 0.5 | 190.08 | 331.2 | 331.2 |
| 47 | 40 | 24 | 960 | 8 | 0.69 | 4 | 0.796 | 0.5 | 382.08 | 331.2 | 382.08 |
| 48 | 40 | 24 | 960 | 5 | 0.24 | 1.3 | 0.256 | 0.5 | 122.88 | 115.2 | 122.88 |
| 49 | 40 | 24 | 960 | 5 | 0.24 | 0.63 | 0.122 | 0.5 | 58.56 | 115.2 | 115.2 |
| 50 | 40 | 24 | 960 | 5 | 0.24 | 0.56 | 0.108 | 0.5 | 51.84 | 115.2 | 115.2 |
| 51 | 40 | 24 | 960 | 8 | 0.69 | 0.75 | 0.146 | 0.5 | 70.08 | 331.2 | 331.2 |
| 52 | 40 | 24 | 960 | 8 | 0.69 | 1.1 | 0.216 | 0.5 | 103.68 | 331.2 | 331.2 |
| 53 | 40 | 24 | 960 | 8 | 0.69 | 0.85 | 0.166 | 0.5 | 79.68 | 331.2 | 331.2 |
| 54 | 40 | 24 | 960 | 9 | 0.84 | 1.9 | 0.376 | 0.5 | 180.48 | 403.2 | 403.2 |
| 55 | 40 | 24 | 960 | 5 | 0.24 | 0.9 | 0.176 | 0.5 | 84.48 | 115.2 | 115.2 |
| 56 | 40 | 24 | 960 | ? | ? | <5 | ? | ? | ? | ? | ? |
| Drum 50: | | | | | | | | | 6012 | 8460 | 12090 |

| 1cps beta | | BckGrnd CPS | 1cps Alpha | BckGrnd CPS |
|-----------|--------|-------------|------------|-------------|
| 0.15 | Bq/cm2 | 3.4 | 0.2 | 0.02 |

| | | |
|-------------------------------|-----------|------|
| Drum 50 count range | | % |
| Alpha low (0.3 to 1 cps) | 34 | 64.2 |
| Alpha mid (1 to 2 cps) | 14 | 26.4 |
| Alpha high (2 to 5cps) | 5 | 9.4 |
| Alpha very high (5 to 20 cps) | 0 | 0.0 |
| | <u>53</u> | |

This as a drum presented as it as < 5 cps alpha

DRUM 51

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 11 | 1.14 | 0.9 | 0.176 | 0.5 | 84.48 | 547.2 | 547.2 |
| 2 | 40 | 24 | 960 | 9.3 | 0.885 | 4.7 | 0.936 | 0.5 | 449.28 | 424.8 | 449.28 |
| 3 | 40 | 24 | 960 | 8.9 | 0.825 | 0.56 | 0.108 | 0.5 | 51.84 | 396 | 396 |
| 4 | 40 | 24 | 960 | 6.2 | 0.42 | 0.54 | 0.108 | 0.5 | 51.84 | 201.6 | 201.6 |
| 5 | 40 | 24 | 960 | 7.3 | 0.585 | 0.61 | 0.104 | 0.5 | 49.92 | 280.8 | 280.8 |
| 6 | 40 | 24 | 960 | 7.8 | 0.66 | 0.92 | 0.118 | 0.5 | 56.64 | 316.8 | 316.8 |
| 7 | 40 | 24 | 960 | 6.8 | 0.51 | 0.52 | 0.18 | 0.5 | 86.4 | 244.8 | 244.8 |
| 8 | 40 | 24 | 960 | 8.2 | 0.72 | 1 | 0.1 | 0.5 | 48 | 345.6 | 345.6 |
| 9 | 40 | 24 | 960 | 11.3 | 1.185 | 4.4 | 0.196 | 0.5 | 94.08 | 568.8 | 568.8 |
| 10 | 40 | 24 | 960 | 7.2 | 0.57 | 0.61 | 0.876 | 0.5 | 420.48 | 273.6 | 420.48 |
| 11 | 40 | 24 | 960 | 7.7 | 0.645 | 1.1 | 0.118 | 0.5 | 56.64 | 309.6 | 309.6 |
| 12 | 40 | 24 | 960 | 9.3 | 0.885 | 1.4 | 0.216 | 0.5 | 103.68 | 424.8 | 424.8 |
| 13 | 40 | 24 | 960 | 8.2 | 0.72 | 0.69 | 0.276 | 0.5 | 132.48 | 345.6 | 345.6 |
| 14 | 40 | 24 | 960 | 6.9 | 0.525 | 0.75 | 0.134 | 0.5 | 64.32 | 252 | 252 |
| 15 | 40 | 24 | 960 | 7.7 | 0.645 | 0.63 | 0.146 | 0.5 | 70.08 | 309.6 | 309.6 |
| 16 | 40 | 24 | 960 | 6.6 | 0.48 | 0.94 | 0.122 | 0.5 | 58.56 | 230.4 | 230.4 |
| 17 | 40 | 24 | 960 | 8.1 | 0.705 | 0.88 | 0.172 | 0.5 | 82.56 | 338.4 | 338.4 |
| 18 | 40 | 24 | 960 | 6.75 | 0.5025 | 0.62 | 0.12 | 0.5 | 57.6 | 241.2 | 241.2 |
| 19 | 40 | 24 | 960 | 7.4 | 0.6 | 0.75 | 0.146 | 0.5 | 70.08 | 288 | 288 |
| 20 | 40 | 24 | 960 | 8.2 | 0.72 | 0.7 | 0.136 | 0.5 | 65.28 | 345.6 | 345.6 |
| 21 | 40 | 24 | 960 | 13 | 1.44 | 2.44 | 0.484 | 0.5 | 232.32 | 691.2 | 691.2 |

| | | |
|-------------------------------|-----------|------|
| Drum 51 count range | | % |
| Alpha low (0.3 to 1 cps) | 33 | 60 |
| Alpha mid (1 to 2 cps) | 14 | 25.5 |
| Alpha high (2 to 5cps) | 7 | 12.7 |
| Alpha very high (5 to 20 cps) | 1 | 1.8 |
| | <u>55</u> | |

| | | | | | | | | | | | |
|----------|----|----|-----|------|-------|------|-------|-----|---------|--------|--------|
| 22 | 40 | 24 | 960 | 11 | 1.14 | 2.38 | 0.472 | 0.5 | 226.56 | 547.2 | 547.2 |
| 23 | 40 | 24 | 960 | 7.9 | 0.675 | 1.1 | 0.216 | 0.5 | 103.68 | 324 | 324 |
| 24 | 40 | 24 | 960 | 10.8 | 1.11 | 1.6 | 0.316 | 0.5 | 151.68 | 532.8 | 532.8 |
| 25 | 40 | 24 | 960 | 13.8 | 1.56 | 4.4 | 0.876 | 0.5 | 420.48 | 748.8 | 748.8 |
| 26 | 40 | 24 | 960 | 8.9 | 0.825 | 1.2 | 0.236 | 0.5 | 113.28 | 396 | 396 |
| 27 | 40 | 24 | 960 | 7.9 | 0.675 | 1.8 | 0.356 | 0.5 | 170.88 | 324 | 324 |
| 28 | 40 | 24 | 960 | 20 | 2.49 | 6.4 | 1.276 | 0.5 | 612.48 | 1195.2 | 1195.2 |
| 29 | 40 | 24 | 960 | 11.8 | 1.26 | 2.2 | 0.436 | 0.5 | 209.28 | 604.8 | 604.8 |
| 30 | 40 | 24 | 960 | 7.8 | 0.66 | 1.2 | 0.236 | 0.5 | 113.28 | 316.8 | 316.8 |
| 31 | 40 | 24 | 960 | 9.3 | 0.885 | 1.5 | 0.296 | 0.5 | 142.08 | 424.8 | 424.8 |
| 32 | 40 | 24 | 960 | 80 | 11.49 | 26 | 5.196 | 0.5 | 2494.08 | 5515.2 | 5515.2 |
| 33 | 40 | 24 | 960 | 7.8 | 0.66 | 0.94 | 0.184 | 0.5 | 88.32 | 316.8 | 316.8 |
| 34 | 40 | 24 | 960 | 6.2 | 0.42 | 0.54 | 0.104 | 0.5 | 49.92 | 201.6 | 201.6 |
| 35 | 40 | 24 | 960 | 7.5 | 0.615 | 0.75 | 0.146 | 0.5 | 70.08 | 295.2 | 295.2 |
| 36 | 40 | 24 | 960 | 6.9 | 0.525 | 1.1 | 0.216 | 0.5 | 103.68 | 252 | 252 |
| 37 | 40 | 24 | 960 | 7.2 | 0.57 | 0.67 | 0.13 | 0.5 | 62.4 | 273.6 | 273.6 |
| 38 | 40 | 24 | 960 | 7.9 | 0.675 | 0.82 | 0.16 | 0.5 | 76.8 | 324 | 324 |
| 39 | 40 | 24 | 960 | 10.7 | 1.095 | 5.2 | 1.036 | 0.5 | 497.28 | 525.6 | 525.6 |
| 40 | 40 | 24 | 960 | 16 | 1.89 | 2 | 0.396 | 0.5 | 190.08 | 907.2 | 907.2 |
| 41 | 40 | 24 | 960 | 7.2 | 0.57 | 0.58 | 0.112 | 0.5 | 53.76 | 273.6 | 273.6 |
| 42 | 40 | 24 | 960 | 7.8 | 0.66 | 1.38 | 0.272 | 0.5 | 130.56 | 316.8 | 316.8 |
| 43 | 40 | 24 | 960 | 6.2 | 0.42 | 0.54 | 0.104 | 0.5 | 49.92 | 201.6 | 201.6 |
| 44 | 40 | 24 | 960 | 7.2 | 0.57 | 0.77 | 0.15 | 0.5 | 72 | 273.6 | 273.6 |
| 45 | 40 | 24 | 960 | 7.8 | 0.66 | 0.94 | 0.184 | 0.5 | 88.32 | 316.8 | 316.8 |
| 46 | 40 | 24 | 960 | 7.2 | 0.57 | 0.63 | 0.122 | 0.5 | 58.56 | 273.6 | 273.6 |
| 47 | 40 | 24 | 960 | 8.1 | 0.705 | 1.13 | 0.222 | 0.5 | 106.56 | 338.4 | 338.4 |
| 48 | 40 | 24 | 960 | 6.7 | 0.495 | 0.55 | 0.106 | 0.5 | 50.88 | 237.6 | 237.6 |
| 49 | 40 | 24 | 960 | 7.1 | 0.555 | 0.62 | 0.12 | 0.5 | 57.6 | 266.4 | 266.4 |
| 50 | 40 | 24 | 960 | 7.4 | 0.6 | 0.69 | 0.134 | 0.5 | 64.32 | 288 | 288 |
| 51 | 40 | 24 | 960 | 7.8 | 0.66 | 1.2 | 0.236 | 0.5 | 113.28 | 316.8 | 316.8 |
| 52 | 40 | 24 | 960 | 6.4 | 0.45 | 0.78 | 0.152 | 0.5 | 72.96 | 216 | 216 |
| 53 | 40 | 24 | 960 | 6.9 | 0.525 | 0.81 | 0.158 | 0.5 | 75.84 | 252 | 252 |
| 54 | 40 | 24 | 960 | 6.3 | 0.435 | 0.64 | 0.124 | 0.5 | 59.52 | 208.8 | 208.8 |
| 55 | 40 | 24 | 960 | 7.3 | 0.585 | 0.92 | 0.18 | 0.5 | 86.4 | 280.8 | 280.8 |
| Drum 51: | | | | | | | | | 9423 | 25463 | 25634 |

DRUM 52

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 17 | 2.04 | 6.2 | 1.236 | 0.5 | 593.28 | 979.2 | 979.2 |
| 2 | 40 | 24 | 960 | 9 | 0.84 | 2.2 | 0.436 | 0.5 | 209.28 | 403.2 | 403.2 |
| 3 | 40 | 24 | 960 | 7.3 | 0.585 | 1.14 | 0.224 | 0.5 | 107.52 | 280.8 | 280.8 |
| 4 | 40 | 24 | 960 | 7.1 | 0.555 | 0.71 | 0.138 | 0.5 | 66.24 | 266.4 | 266.4 |
| 5 | 40 | 24 | 960 | 6.8 | 0.51 | 0.66 | 0.128 | 0.5 | 61.44 | 244.8 | 244.8 |
| 6 | 40 | 24 | 960 | 6.4 | 0.45 | 0.57 | 0.11 | 0.5 | 52.8 | 216 | 216 |
| 7 | 40 | 24 | 960 | 6.2 | 0.42 | 0.61 | 0.118 | 0.5 | 56.64 | 201.6 | 201.6 |
| 8 | 40 | 24 | 960 | 8.4 | 0.75 | 1.9 | 0.376 | 0.5 | 180.48 | 360 | 360 |
| 9 | 40 | 24 | 960 | 9.3 | 0.885 | 2.54 | 0.504 | 0.5 | 241.92 | 424.8 | 424.8 |
| 10 | 40 | 24 | 960 | 8.8 | 0.81 | 1.19 | 0.234 | 0.5 | 112.32 | 388.8 | 388.8 |
| 11 | 40 | 24 | 960 | 6.7 | 0.495 | 0.65 | 0.126 | 0.5 | 60.48 | 237.6 | 237.6 |
| 12 | 40 | 24 | 960 | 6.2 | 0.42 | 0.52 | 0.1 | 0.5 | 48 | 201.6 | 201.6 |
| 13 | 40 | 24 | 960 | 7.3 | 0.585 | 0.75 | 0.146 | 0.5 | 70.08 | 280.8 | 280.8 |
| 14 | 40 | 24 | 960 | 10.5 | 1.065 | 2.4 | 0.476 | 0.5 | 228.48 | 511.2 | 511.2 |
| 15 | 40 | 24 | 960 | 9 | 0.84 | 1.4 | 0.276 | 0.5 | 132.48 | 403.2 | 403.2 |
| 16 | 40 | 24 | 960 | 6.9 | 0.525 | 0.82 | 0.16 | 0.5 | 76.8 | 252 | 252 |
| 17 | 40 | 24 | 960 | 7.3 | 0.585 | 1.1 | 0.216 | 0.5 | 103.68 | 280.8 | 280.8 |
| 18 | 40 | 24 | 960 | 8 | 0.69 | 1.25 | 0.246 | 0.5 | 118.08 | 331.2 | 331.2 |
| 19 | 40 | 24 | 960 | 7.5 | 0.615 | 0.8 | 0.156 | 0.5 | 74.88 | 295.2 | 295.2 |
| 20 | 40 | 24 | 960 | 9 | 0.84 | 1.1 | 0.216 | 0.5 | 103.68 | 403.2 | 403.2 |
| 21 | 40 | 24 | 960 | 8.2 | 0.72 | 0.9 | 0.176 | 0.5 | 84.48 | 345.6 | 345.6 |
| 22 | 40 | 24 | 960 | 7.2 | 0.57 | 0.75 | 0.146 | 0.5 | 70.08 | 273.6 | 273.6 |
| 23 | 40 | 24 | 960 | 8 | 0.69 | 1.2 | 0.236 | 0.5 | 113.28 | 331.2 | 331.2 |
| 24 | 40 | 24 | 960 | 19 | 2.34 | 9 | 1.796 | 0.5 | 862.08 | 1123.2 | 1123.2 |
| 25 | 40 | 24 | 960 | 6.9 | 0.525 | 1.2 | 0.236 | 0.5 | 113.28 | 252 | 252 |
| 26 | 40 | 24 | 960 | 9.1 | 0.855 | 0.75 | 0.146 | 0.5 | 70.08 | 410.4 | 410.4 |
| 27 | 40 | 24 | 960 | 6.7 | 0.495 | 0.63 | 0.122 | 0.5 | 58.56 | 237.6 | 237.6 |
| 28 | 40 | 24 | 960 | 8.1 | 0.705 | 0.7 | 0.136 | 0.5 | 65.28 | 338.4 | 338.4 |
| 29 | 40 | 24 | 960 | 7.6 | 0.63 | 1.2 | 0.236 | 0.5 | 113.28 | 302.4 | 302.4 |
| 30 | 40 | 24 | 960 | 8.5 | 0.765 | 1.3 | 0.256 | 0.5 | 122.88 | 367.2 | 367.2 |
| 31 | 40 | 24 | 960 | 7.8 | 0.66 | 1.5 | 0.296 | 0.5 | 142.08 | 316.8 | 316.8 |
| 32 | 40 | 24 | 960 | 8.1 | 0.705 | 1.25 | 0.246 | 0.5 | 118.08 | 338.4 | 338.4 |
| 33 | 40 | 24 | 960 | 8.3 | 0.735 | 1.6 | 0.316 | 0.5 | 151.68 | 352.8 | 352.8 |
| 34 | 40 | 24 | 960 | 12.5 | 1.365 | 1.3 | 0.256 | 0.5 | 122.88 | 655.2 | 655.2 |
| 35 | 40 | 24 | 960 | 18.5 | 2.265 | 6.3 | 1.256 | 0.5 | 602.88 | 1087.2 | 1087.2 |
| 36 | 40 | 24 | 960 | 7.3 | 0.585 | 0.56 | 0.108 | 0.5 | 51.84 | 280.8 | 280.8 |
| 37 | 40 | 24 | 960 | 7.6 | 0.63 | 0.75 | 0.146 | 0.5 | 70.08 | 302.4 | 302.4 |
| 38 | 40 | 24 | 960 | 6 | 0.39 | 0.56 | 0.108 | 0.5 | 51.84 | 187.2 | 187.2 |
| 39 | 40 | 24 | 960 | 10.6 | 1.08 | 2.1 | 0.416 | 0.5 | 199.68 | 518.4 | 518.4 |
| 40 | 40 | 24 | 960 | 7.1 | 0.555 | 0.75 | 0.146 | 0.5 | 70.08 | 266.4 | 266.4 |
| 41 | 40 | 24 | 960 | 6.4 | 0.45 | 0.63 | 0.122 | 0.5 | 58.56 | 216 | 216 |
| 42 | 40 | 24 | 960 | 8.6 | 0.78 | 1.7 | 0.336 | 0.5 | 161.28 | 374.4 | 374.4 |
| 43 | 40 | 24 | 960 | 17.7 | 2.145 | 7.2 | 1.436 | 0.5 | 689.28 | 1029.6 | 1029.6 |
| 44 | 40 | 24 | 960 | 5.5 | 0.315 | 0.63 | 0.122 | 0.5 | 58.56 | 151.2 | 151.2 |
| 45 | 40 | 24 | 960 | 8.6 | 0.78 | 1.2 | 0.236 | 0.5 | 113.28 | 374.4 | 374.4 |
| 46 | 40 | 24 | 960 | 9.7 | 0.945 | 1.3 | 0.256 | 0.5 | 122.88 | 453.6 | 453.6 |
| 47 | 40 | 24 | 960 | 10.1 | 1.005 | 0.8 | 0.156 | 0.5 | 74.88 | 482.4 | 482.4 |
| 48 | 40 | 24 | 960 | 10.4 | 1.05 | 2.4 | 0.476 | 0.5 | 228.48 | 504 | 504 |
| 49 | 40 | 24 | 960 | 10 | 0.99 | 1 | 0.196 | 0.5 | 94.08 | 475.2 | 475.2 |
| 50 | 40 | 24 | 960 | 12 | 1.29 | 3 | 0.596 | 0.5 | 286.08 | 619.2 | 619.2 |
| 51 | 40 | 24 | 960 | 18.5 | 2.265 | 6.1 | 1.216 | 0.5 | 583.68 | 1087.2 | 1087.2 |
| 52 | 40 | 24 | 960 | 11.6 | 1.23 | 2.5 | 0.496 | 0.5 | 238.08 | 590.4 | 590.4 |
| 53 | 40 | 24 | 960 | 10.4 | 1.05 | 1.3 | 0.256 | 0.5 | 122.88 | 504 | 504 |
| 54 | 40 | 24 | 960 | 7.5 | 0.615 | 0.58 | 0.112 | 0.5 | 53.76 | 295.2 | 295.2 |

| | | |
|-------------------------------|----|------|
| Drum 52 count range | | % |
| Alpha low (0.3 to 1 cps) | 23 | 41.8 |
| Alpha mid (1 to 2 cps) | 20 | 36.4 |
| Alpha high (2 to 5cps) | 7 | 12.7 |
| Alpha very high (5 to 20 cps) | 5 | 9.1 |
| | 55 | |

| | | | | | | | | | | | |
|----------|----|----|-----|-----|-------|------|-------|-----|-------|-------|-------|
| 55 | 40 | 24 | 960 | 6.5 | 0.465 | 0.98 | 0.192 | 0.5 | 92.16 | 223.2 | 223.2 |
| Drum 52: | | | | | | | | | 8931 | 22630 | 22630 |

DRUM 53

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|----------|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 6.3 | 0.435 | 1.39 | 0.274 | 0.5 | 131.52 | 208.8 | 208.8 |
| 2 | 40 | 24 | 960 | 9.9 | 0.975 | 2.94 | 0.584 | 0.5 | 280.32 | 468 | 468 |
| 3 | 40 | 24 | 960 | 8.3 | 0.735 | 1.81 | 0.358 | 0.5 | 171.84 | 352.8 | 352.8 |
| 4 | 40 | 24 | 960 | 9.3 | 0.885 | 1.22 | 0.24 | 0.5 | 115.2 | 424.8 | 424.8 |
| 5 | 40 | 24 | 960 | 8.3 | 0.735 | 1.63 | 0.322 | 0.5 | 154.56 | 352.8 | 352.8 |
| 6 | 40 | 24 | 960 | 9.9 | 0.975 | 0.94 | 0.184 | 0.5 | 88.32 | 468 | 468 |
| 7 | 40 | 24 | 960 | 7 | 0.54 | 0.88 | 0.172 | 0.5 | 82.56 | 259.2 | 259.2 |
| 8 | 40 | 24 | 960 | 6.3 | 0.435 | 1.1 | 0.216 | 0.5 | 103.68 | 208.8 | 208.8 |
| 9 | 40 | 24 | 960 | 11.6 | 1.23 | 1.4 | 0.276 | 0.5 | 132.48 | 590.4 | 590.4 |
| 10 | 40 | 24 | 960 | 9.7 | 0.945 | 1.5 | 0.296 | 0.5 | 142.08 | 453.6 | 453.6 |
| 11 | 40 | 24 | 960 | 9.5 | 0.915 | 3 | 0.596 | 0.5 | 286.08 | 439.2 | 439.2 |
| 12 | 40 | 24 | 960 | 11.2 | 1.17 | 3.6 | 0.716 | 0.5 | 343.68 | 561.6 | 561.6 |
| 13 | 40 | 24 | 960 | 13.4 | 1.5 | 2.9 | 0.576 | 0.5 | 276.48 | 720 | 720 |
| 14 | 40 | 24 | 960 | 10.3 | 1.035 | 1.44 | 0.284 | 0.5 | 136.32 | 496.8 | 496.8 |
| 15 | 40 | 24 | 960 | 13.1 | 1.455 | 3.4 | 0.676 | 0.5 | 324.48 | 698.4 | 698.4 |
| 16 | 40 | 24 | 960 | 8.6 | 0.78 | 1.38 | 0.272 | 0.5 | 130.56 | 374.4 | 374.4 |
| 17 | 40 | 24 | 960 | 8.8 | 0.81 | 0.75 | 0.146 | 0.5 | 70.08 | 388.8 | 388.8 |
| 18 | 40 | 24 | 960 | 10.8 | 1.11 | 1.6 | 0.316 | 0.5 | 151.68 | 532.8 | 532.8 |
| 19 | 40 | 24 | 960 | 12.3 | 1.335 | 1.75 | 0.346 | 0.5 | 166.08 | 640.8 | 640.8 |
| 20 | 40 | 24 | 960 | 12.2 | 1.32 | 1.81 | 0.358 | 0.5 | 171.84 | 633.6 | 633.6 |
| 21 | 40 | 24 | 960 | 11.3 | 1.185 | 2.7 | 0.536 | 0.5 | 257.28 | 568.8 | 568.8 |
| 22 | 40 | 24 | 960 | 9.6 | 0.93 | 2.2 | 0.436 | 0.5 | 209.28 | 446.4 | 446.4 |
| 23 | 40 | 24 | 960 | 15.4 | 1.8 | 6.3 | 1.256 | 0.5 | 602.88 | 864 | 864 |
| 24 | 40 | 24 | 960 | 6.8 | 0.51 | 0.74 | 0.144 | 0.5 | 69.12 | 244.8 | 244.8 |
| 25 | 40 | 24 | 960 | 9 | 0.84 | 0.8 | 0.156 | 0.5 | 74.88 | 403.2 | 403.2 |
| 26 | 40 | 24 | 960 | 9.1 | 0.855 | 1.56 | 0.308 | 0.5 | 147.84 | 410.4 | 410.4 |
| 27 | 40 | 24 | 960 | 8.2 | 0.72 | 0.94 | 0.184 | 0.5 | 88.32 | 345.6 | 345.6 |
| 28 | 40 | 24 | 960 | 11.3 | 1.185 | 2.9 | 0.576 | 0.5 | 276.48 | 568.8 | 568.8 |
| 29 | 40 | 24 | 960 | 8.4 | 0.75 | 1.1 | 0.216 | 0.5 | 103.68 | 360 | 360 |
| 30 | 40 | 24 | 960 | 7.7 | 0.645 | 1.3 | 0.256 | 0.5 | 122.88 | 309.6 | 309.6 |
| 31 | 40 | 24 | 960 | 10.4 | 1.05 | 0.93 | 0.182 | 0.5 | 87.36 | 504 | 504 |
| 32 | 40 | 24 | 960 | 9.6 | 0.93 | 2.2 | 0.436 | 0.5 | 209.28 | 446.4 | 446.4 |
| 33 | 40 | 24 | 960 | 6.8 | 0.51 | 0.64 | 0.124 | 0.5 | 59.52 | 244.8 | 244.8 |
| 34 | 40 | 24 | 960 | 9.3 | 0.885 | 1.1 | 0.216 | 0.5 | 103.68 | 424.8 | 424.8 |
| 35 | 40 | 24 | 960 | 7.9 | 0.675 | 1 | 0.196 | 0.5 | 94.08 | 324 | 324 |
| 36 | 40 | 24 | 960 | 7.3 | 0.585 | 1.2 | 0.236 | 0.5 | 113.28 | 280.8 | 280.8 |
| 37 | 40 | 24 | 960 | 11.8 | 1.26 | 2.2 | 0.436 | 0.5 | 209.28 | 604.8 | 604.8 |
| 38 | 40 | 24 | 960 | 8.8 | 0.81 | 1.4 | 0.276 | 0.5 | 132.48 | 388.8 | 388.8 |
| 39 | 40 | 24 | 960 | 9.5 | 0.915 | 0.88 | 0.172 | 0.5 | 82.56 | 439.2 | 439.2 |
| 40 | 40 | 24 | 960 | 6.7 | 0.495 | 0.69 | 0.134 | 0.5 | 64.32 | 237.6 | 237.6 |
| 41 | 40 | 24 | 960 | 6.4 | 0.45 | 0.81 | 0.158 | 0.5 | 75.84 | 216 | 216 |
| 42 | 40 | 24 | 960 | 6 | 0.39 | 1.25 | 0.246 | 0.5 | 118.08 | 187.2 | 187.2 |
| 43 | 40 | 24 | 960 | 6.6 | 0.48 | 0.72 | 0.14 | 0.5 | 67.2 | 230.4 | 230.4 |
| 44 | 40 | 24 | 960 | 7.6 | 0.63 | 1.1 | 0.216 | 0.5 | 103.68 | 302.4 | 302.4 |
| 45 | 40 | 24 | 960 | 6.3 | 0.435 | 0.8 | 0.156 | 0.5 | 74.88 | 208.8 | 208.8 |
| 46 | 40 | 24 | 960 | 8 | 0.69 | 1.1 | 0.216 | 0.5 | 103.68 | 331.2 | 331.2 |
| 47 | 40 | 24 | 960 | 6.6 | 0.48 | 0.94 | 0.184 | 0.5 | 88.32 | 230.4 | 230.4 |
| 48 | 40 | 24 | 960 | 6.4 | 0.45 | 0.81 | 0.158 | 0.5 | 75.84 | 216 | 216 |
| 49 | 40 | 24 | 960 | 7.1 | 0.555 | 0.63 | 0.122 | 0.5 | 58.56 | 266.4 | 266.4 |
| 50 | 40 | 24 | 960 | 8.2 | 0.72 | 1.2 | 0.236 | 0.5 | 113.28 | 345.6 | 345.6 |
| 51 | 40 | 24 | 960 | 9.1 | 0.855 | 0.94 | 0.184 | 0.5 | 88.32 | 410.4 | 410.4 |
| 52 | 40 | 24 | 960 | 8.2 | 0.72 | 0.6 | 0.116 | 0.5 | 55.68 | 345.6 | 345.6 |
| 53 | 40 | 24 | 960 | 6.1 | 0.405 | 0.56 | 0.108 | 0.5 | 51.84 | 194.4 | 194.4 |
| 54 | 40 | 24 | 960 | 15.4 | 1.8 | 5.2 | 1.036 | 0.5 | 497.28 | 864 | 864 |
| 55 | 40 | 24 | 960 | 9.8 | 0.96 | 1.2 | 0.236 | 0.5 | 113.28 | 460.8 | 460.8 |
| Drum 53: | | | | | | | | | 8254 | 22500 | 22500 |

DRUM 54

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 7.3 | 0.585 | 10.8 | 2.156 | 0.5 | 1034.88 | 280.8 | 1034.88 |
| 2 | 40 | 24 | 960 | 7.5 | 0.615 | 0.6 | 0.116 | 0.5 | 55.68 | 295.2 | 295.2 |
| 3 | 40 | 24 | 960 | 7.3 | 0.585 | 0.62 | 0.12 | 0.5 | 57.6 | 280.8 | 280.8 |
| 4 | 40 | 24 | 960 | 21 | 2.64 | 4.8 | 0.956 | 0.5 | 458.88 | 1267.2 | 1267.2 |
| 5 | 40 | 24 | 960 | 7.5 | 0.615 | 1.2 | 0.236 | 0.5 | 113.28 | 295.2 | 295.2 |
| 6 | 40 | 24 | 960 | 7.1 | 0.555 | 0.94 | 0.184 | 0.5 | 88.32 | 266.4 | 266.4 |
| 7 | 40 | 24 | 960 | 6.7 | 0.495 | 0.65 | 0.126 | 0.5 | 60.48 | 237.6 | 237.6 |
| 8 | 40 | 24 | 960 | 6.5 | 0.465 | 0.56 | 0.108 | 0.5 | 51.84 | 223.2 | 223.2 |
| 9 | 40 | 24 | 960 | 14.2 | 1.62 | 3.3 | 0.656 | 0.5 | 314.88 | 777.6 | 777.6 |
| 10 | 40 | 24 | 960 | 14.1 | 1.605 | 4.1 | 0.816 | 0.5 | 391.68 | 770.4 | 770.4 |
| 11 | 40 | 24 | 960 | 8.3 | 0.735 | 1.63 | 0.322 | 0.5 | 154.56 | 352.8 | 352.8 |
| 12 | 40 | 24 | 960 | 7.8 | 0.66 | 1.75 | 0.346 | 0.5 | 166.08 | 316.8 | 316.8 |
| 13 | 40 | 24 | 960 | 22 | 2.79 | 3.8 | 0.756 | 0.5 | 362.88 | 1339.2 | 1339.2 |
| 14 | 40 | 24 | 960 | 10.2 | 1.02 | 2.2 | 0.436 | 0.5 | 209.28 | 489.6 | 489.6 |
| 15 | 40 | 24 | 960 | 8.1 | 0.705 | 1.63 | 0.322 | 0.5 | 154.56 | 338.4 | 338.4 |
| 16 | 40 | 24 | 960 | 6.7 | 0.495 | 1.1 | 0.216 | 0.5 | 103.68 | 237.6 | 237.6 |
| 17 | 40 | 24 | 960 | 7.2 | 0.57 | 1.3 | 0.256 | 0.5 | 122.88 | 273.6 | 273.6 |
| 18 | 40 | 24 | 960 | 6.2 | 0.42 | 0.81 | 0.158 | 0.5 | 75.84 | 201.6 | 201.6 |
| 19 | 40 | 24 | 960 | 6.4 | 0.45 | 0.93 | 0.182 | 0.5 | 87.36 | 216 | 216 |
| 20 | 40 | 24 | 960 | 6.3 | 0.435 | 0.75 | 0.146 | 0.5 | 70.08 | 208.8 | 208.8 |
| 21 | 40 | 24 | 960 | 6.6 | 0.48 | 0.88 | 0.172 | 0.5 | 82.56 | 230.4 | 230.4 |

| | | | |
|-------------------------------|----|------|----|
| Drum 53 count range | | | % |
| Alpha low (0.3 to 1 cps) | 19 | 34.5 | |
| Alpha mid (1 to 2 cps) | 24 | 43.6 | |
| Alpha high (2 to 5cps) | 10 | 18.2 | |
| Alpha very high (5 to 20 cps) | 2 | 3.6 | |
| | | | 55 |

| | | | |
|-------------------------------|----|------|----|
| Drum 54 count range | | | % |
| Alpha low (0.3 to 1 cps) | 23 | 41.8 | |
| Alpha mid (1 to 2 cps) | 19 | 34.5 | |
| Alpha high (2 to 5cps) | 12 | 21.8 | |
| Alpha very high (5 to 20 cps) | 1 | 1.8 | |
| | | | 55 |

| | | | | | | | | | | | |
|--------------------------------|----|----|-----|------|-------|------|-------|-----|--------|------------|---------|
| 22 | 40 | 24 | 960 | 9 | 0.84 | 1.3 | 0.256 | 0.5 | 122.88 | 403.2 | 403.2 |
| 23 | 40 | 24 | 960 | 7.4 | 0.6 | 1.1 | 0.216 | 0.5 | 103.68 | 288 | 288 |
| 24 | 40 | 24 | 960 | 7.5 | 0.615 | 1 | 0.196 | 0.5 | 94.08 | 295.2 | 295.2 |
| 25 | 40 | 24 | 960 | 7.7 | 0.645 | 2.4 | 0.476 | 0.5 | 228.48 | 309.6 | 309.6 |
| 26 | 40 | 24 | 960 | 8.7 | 0.795 | 1.3 | 0.256 | 0.5 | 122.88 | 381.6 | 381.6 |
| 27 | 40 | 24 | 960 | 12.4 | 1.35 | 3.8 | 0.756 | 0.5 | 362.88 | 648 | 648 |
| 28 | 40 | 24 | 960 | 7.1 | 0.555 | 1.4 | 0.276 | 0.5 | 132.48 | 266.4 | 266.4 |
| 29 | 40 | 24 | 960 | 13.4 | 1.5 | 3.6 | 0.716 | 0.5 | 343.68 | 720 | 720 |
| 30 | 40 | 24 | 960 | 6.3 | 0.435 | 0.9 | 0.176 | 0.5 | 84.48 | 208.8 | 208.8 |
| 31 | 40 | 24 | 960 | 5.9 | 0.375 | 0.63 | 0.122 | 0.5 | 58.56 | 180 | 180 |
| 32 | 40 | 24 | 960 | 6.9 | 0.525 | 1.8 | 0.356 | 0.5 | 170.88 | 252 | 252 |
| 33 | 40 | 24 | 960 | 7.9 | 0.675 | 2.2 | 0.436 | 0.5 | 209.28 | 324 | 324 |
| 34 | 40 | 24 | 960 | 6.6 | 0.48 | 0.69 | 0.134 | 0.5 | 64.32 | 230.4 | 230.4 |
| 35 | 40 | 24 | 960 | 11.6 | 1.23 | 3.3 | 0.656 | 0.5 | 314.88 | 590.4 | 590.4 |
| 36 | 40 | 24 | 960 | 8.6 | 0.78 | 1.91 | 0.378 | 0.5 | 181.44 | 374.4 | 374.4 |
| 37 | 40 | 24 | 960 | 8.9 | 0.825 | 2.61 | 0.518 | 0.5 | 248.64 | 396 | 396 |
| 38 | 40 | 24 | 960 | 5.4 | 0.3 | 0.72 | 0.14 | 0.5 | 67.2 | 144 | 144 |
| 39 | 40 | 24 | 960 | 6.4 | 0.45 | 1.75 | 0.346 | 0.5 | 166.08 | 216 | 216 |
| 40 | 40 | 24 | 960 | 5.6 | 0.33 | 0.59 | 0.114 | 0.5 | 54.72 | 158.4 | 158.4 |
| 41 | 40 | 24 | 960 | 7.8 | 0.66 | 2.2 | 0.436 | 0.5 | 209.28 | 316.8 | 316.8 |
| 42 | 40 | 24 | 960 | 7.1 | 0.555 | 0.88 | 0.172 | 0.5 | 82.56 | 266.4 | 266.4 |
| 43 | 40 | 24 | 960 | 5.8 | 0.36 | 0.69 | 0.134 | 0.5 | 64.32 | 172.8 | 172.8 |
| 44 | 40 | 24 | 960 | 5.6 | 0.33 | 0.62 | 0.12 | 0.5 | 57.6 | 158.4 | 158.4 |
| 45 | 40 | 24 | 960 | 7.1 | 0.555 | 0.94 | 0.184 | 0.5 | 88.32 | 266.4 | 266.4 |
| 46 | 40 | 24 | 960 | 7.9 | 0.675 | 1.19 | 0.234 | 0.5 | 112.32 | 324 | 324 |
| 47 | 40 | 24 | 960 | 6.2 | 0.42 | 0.58 | 0.112 | 0.5 | 53.76 | 201.6 | 201.6 |
| 48 | 40 | 24 | 960 | 8.4 | 0.75 | 1.38 | 0.272 | 0.5 | 130.56 | 360 | 360 |
| 49 | 40 | 24 | 960 | 6.1 | 0.405 | 0.61 | 0.118 | 0.5 | 56.64 | 194.4 | 194.4 |
| 50 | 40 | 24 | 960 | 6.2 | 0.42 | 0.66 | 0.128 | 0.5 | 61.44 | 201.6 | 201.6 |
| 51 | 40 | 24 | 960 | 6.9 | 0.525 | 1.13 | 0.222 | 0.5 | 106.56 | 252 | 252 |
| 52 | 40 | 24 | 960 | 12.6 | 1.38 | 1.32 | 0.26 | 0.5 | 124.8 | 662.4 | 662.4 |
| 53 | 40 | 24 | 960 | 7.9 | 0.675 | 1.25 | 0.246 | 0.5 | 118.08 | 324 | 324 |
| 54 | 40 | 24 | 960 | 6.4 | 0.45 | 0.73 | 0.142 | 0.5 | 68.16 | 216 | 216 |
| 55 | 40 | 24 | 960 | 8.3 | 0.735 | 0.78 | 0.152 | 0.5 | 72.96 | 352.8 | 352.8 |
| Drum 54: | | | | | | | | | 8756 | 19555 | 20309 |
| | | | | | | | | | Alpha | Beta/gamma | Highest |
| Average of D51, D52, D53, D54: | | | | | | | | | 8841 | 22537 | 22768 |

DRUM 57

| No. | Length (cm) | Width (cm) | Surface area (cm2) | cps (beta) | Bq/cm2 (beta) | cps (alpha) | Bq/cm2 (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|-----|-------------|------------|--------------------|------------|---------------|-------------|----------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 52.2 | 7.32 | 15.9 | 3.176 | 0.5 | 1524.48 | 3513.6 | 3513.6 |
| 2 | 40 | 24 | 960 | 50.6 | 7.08 | 11.8 | 2.356 | 0.5 | 1130.88 | 3398.4 | 3398.4 |
| 3 | 40 | 24 | 960 | 92 | 13.29 | 10.7 | 2.136 | 0.5 | 1025.28 | 6379.2 | 6379.2 |
| 4 | 40 | 24 | 960 | 71 | 10.14 | 15.6 | 3.116 | 0.5 | 1495.68 | 4867.2 | 4867.2 |
| 5 | 40 | 24 | 960 | 24 | 3.09 | 6.7 | 1.336 | 0.5 | 641.28 | 1483.2 | 1483.2 |
| 6 | 40 | 24 | 960 | 31 | 4.14 | 7.3 | 1.456 | 0.5 | 698.88 | 1987.2 | 1987.2 |
| 7 | 40 | 24 | 960 | 34 | 4.59 | 10.8 | 2.156 | 0.5 | 1034.88 | 2203.2 | 2203.2 |
| 8 | 40 | 24 | 960 | 16.6 | 1.98 | 5.8 | 1.156 | 0.5 | 554.88 | 950.4 | 950.4 |
| 9 | 40 | 24 | 960 | 25 | 3.24 | 7.25 | 1.446 | 0.5 | 694.08 | 1555.2 | 1555.2 |
| 10 | 40 | 24 | 960 | 24.3 | 3.135 | 5.9 | 1.176 | 0.5 | 564.48 | 1504.8 | 1504.8 |
| 11 | 40 | 24 | 960 | 27 | 3.54 | 7.4 | 1.476 | 0.5 | 708.48 | 1699.2 | 1699.2 |
| 12 | 40 | 24 | 960 | 31 | 4.14 | 6.3 | 1.256 | 0.5 | 602.88 | 1987.2 | 1987.2 |
| 13 | 40 | 24 | 960 | 32 | 4.29 | 7.9 | 1.576 | 0.5 | 756.48 | 2059.2 | 2059.2 |
| 14 | 40 | 24 | 960 | 22 | 2.79 | 7.4 | 1.476 | 0.5 | 708.48 | 1339.2 | 1339.2 |
| 15 | 40 | 24 | 960 | 18.1 | 2.205 | 6.8 | 1.356 | 0.5 | 650.88 | 1058.4 | 1058.4 |
| 16 | 40 | 24 | 960 | 44 | 6.09 | 13.4 | 2.676 | 0.5 | 1284.48 | 2923.2 | 2923.2 |
| 17 | 40 | 24 | 960 | 51 | 7.14 | 9.3 | 1.856 | 0.5 | 890.88 | 3427.2 | 3427.2 |
| 18 | 40 | 24 | 960 | 22 | 2.79 | 5.7 | 1.136 | 0.5 | 545.28 | 1339.2 | 1339.2 |
| 19 | 40 | 24 | 960 | 52 | 7.29 | 12.3 | 2.456 | 0.5 | 1178.88 | 3499.2 | 3499.2 |
| 20 | 40 | 24 | 960 | 46 | 6.39 | 13.6 | 2.716 | 0.5 | 1303.68 | 3067.2 | 3067.2 |
| 21 | 40 | 24 | 960 | 40 | 5.49 | 12.8 | 2.556 | 0.5 | 1226.88 | 2635.2 | 2635.2 |
| 22 | 40 | 24 | 960 | 44 | 6.09 | 16.4 | 3.276 | 0.5 | 1572.48 | 2923.2 | 2923.2 |
| 23 | 40 | 24 | 960 | 43 | 5.94 | 11.8 | 2.356 | 0.5 | 1130.88 | 2851.2 | 2851.2 |
| 24 | 40 | 24 | 960 | 122 | 17.79 | 18.7 | 3.736 | 0.5 | 1793.28 | 8539.2 | 8539.2 |
| 25 | 40 | 24 | 960 | 190 | 27.99 | 12.3 | 2.456 | 0.5 | 1178.88 | 13435.2 | 13435.2 |
| 26 | 40 | 24 | 960 | 37 | 5.04 | 8.5 | 1.696 | 0.5 | 814.08 | 2419.2 | 2419.2 |
| 27 | 40 | 24 | 960 | 50 | 6.99 | 15 | 2.996 | 0.5 | 1438.08 | 3355.2 | 3355.2 |
| 28 | 40 | 24 | 960 | 50 | 6.99 | 5 | 0.996 | 0.5 | 478.08 | 3355.2 | 3355.2 |
| 29 | 40 | 24 | 960 | 30 | 3.99 | 6 | 1.196 | 0.5 | 574.08 | 1915.2 | 1915.2 |
| 30 | 40 | 24 | 960 | 40 | 5.49 | 10 | 1.996 | 0.5 | 958.08 | 2635.2 | 2635.2 |
| 31 | 40 | 24 | 960 | 40 | 5.49 | 15 | 2.996 | 0.5 | 1438.08 | 2635.2 | 2635.2 |
| 32 | 40 | 24 | 960 | 50 | 6.99 | 10 | 1.996 | 0.5 | 958.08 | 3355.2 | 3355.2 |
| 33 | 40 | 24 | 960 | 40 | 5.49 | 7 | 1.396 | 0.5 | 670.08 | 2635.2 | 2635.2 |
| 34 | 40 | 24 | 960 | 40 | 5.49 | 10 | 1.996 | 0.5 | 958.08 | 2635.2 | 2635.2 |
| 35 | 40 | 24 | 960 | 40 | 5.49 | 15 | 2.996 | 0.5 | 1438.08 | 2635.2 | 2635.2 |
| 36 | 40 | 24 | 960 | 30 | 3.99 | 15 | 2.996 | 0.5 | 1438.08 | 1915.2 | 1915.2 |
| 37 | 40 | 24 | 960 | 10 | 0.99 | 5 | 0.996 | 0.5 | 478.08 | 475.2 | 478.08 |
| 38 | 40 | 24 | 960 | 54 | 7.59 | 9.3 | 1.856 | 0.5 | 890.88 | 3643.2 | 3643.2 |
| 39 | 40 | 24 | 960 | 34 | 4.59 | 14.7 | 2.936 | 0.5 | 1409.28 | 2203.2 | 2203.2 |
| 40 | 40 | 24 | 960 | 64 | 9.09 | 18.7 | 3.736 | 0.5 | 1793.28 | 4363.2 | 4363.2 |
| 41 | 40 | 24 | 960 | 36 | 4.89 | 9.6 | 1.916 | 0.5 | 919.68 | 2347.2 | 2347.2 |
| 42 | 40 | 24 | 960 | 41 | 5.64 | 12.3 | 2.456 | 0.5 | 1178.88 | 2707.2 | 2707.2 |
| 43 | 40 | 24 | 960 | 20 | 2.49 | 6.8 | 1.356 | 0.5 | 650.88 | 1195.2 | 1195.2 |
| 44 | 40 | 24 | 960 | 23 | 2.94 | 8.2 | 1.636 | 0.5 | 785.28 | 1411.2 | 1411.2 |
| 45 | 40 | 24 | 960 | 26 | 3.39 | 10.4 | 2.076 | 0.5 | 996.48 | 1627.2 | 1627.2 |
| 46 | 40 | 24 | 960 | 14 | 1.59 | 8.83 | 1.762 | 0.5 | 845.76 | 763.2 | 845.76 |
| 47 | 40 | 24 | 960 | 17 | 2.04 | 5.7 | 1.136 | 0.5 | 545.28 | 979.2 | 979.2 |
| 48 | 40 | 24 | 960 | 27 | 3.54 | 7.3 | 1.456 | 0.5 | 698.88 | 1699.2 | 1699.2 |
| 49 | 40 | 24 | 960 | 28 | 3.69 | 9.6 | 1.916 | 0.5 | 919.68 | 1771.2 | 1771.2 |
| 50 | 40 | 24 | 960 | 19 | 2.34 | 5.4 | 1.076 | 0.5 | 516.48 | 1123.2 | 1123.2 |
| 51 | 40 | 24 | 960 | 22 | 2.79 | 6.3 | 1.256 | 0.5 | 602.88 | 1339.2 | 1339.2 |

| | | |
|-------------------------------|----|------|
| Drum 57 count range | | % |
| Alpha low (0.3 to 1 cps) | 0 | 0.0 |
| Alpha mid (1 to 2 cps) | 0 | 0.0 |
| Alpha high (2 to 5cps) | 2 | 3.6 |
| Alpha very high (5 to 20 cps) | 53 | 96.4 |
| | 55 | |

| | | | | | | | | | | | |
|----------|----|----|-----|----|------|-----|-------|-----|--------|------------|---------|
| 52 | 40 | 24 | 960 | 33 | 4.44 | 7.7 | 1.536 | 0.5 | 737.28 | 2131.2 | 2131.2 |
| 53 | 40 | 24 | 960 | 17 | 2.04 | 5.9 | 1.176 | 0.5 | 564.48 | 979.2 | 979.2 |
| 54 | 40 | 24 | 960 | 22 | 2.79 | 6.6 | 1.316 | 0.5 | 631.68 | 1339.2 | 1339.2 |
| 55 | 40 | 24 | 960 | 16 | 1.89 | 5.3 | 1.056 | 0.5 | 506.88 | 907.2 | 907.2 |
| | | | | | | | | | Alpha | Beta/gamma | Highest |
| Drum 57: | | | | | | | | | 51732 | 143122 | 143207 |

DRUM 58

| No. | Length (cm) | Width (cm) | Surface area (cm ²) | cps (beta) | Bq/cm ² (beta) | cps (alpha) | Bq/cm ² (alpha) | Est. fraction of area contaminated | Total Activity (Bq) Based on alpha | Total Activity (Bq) Based on beta | Highest activity (alpha or beta) (Bq) |
|----------|-------------|------------|---------------------------------|------------|---------------------------|-------------|----------------------------|------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| 1 | 40 | 24 | 960 | 80.2 | 11.52 | 42.1 | 8.416 | 0.5 | 4039.68 | 5529.6 | 5529.6 |
| 2 | 40 | 24 | 960 | 124 | 18.09 | 44.2 | 8.836 | 0.5 | 4241.28 | 8683.2 | 8683.2 |
| 3 | 40 | 24 | 960 | 92.6 | 13.38 | 41 | 8.196 | 0.5 | 3934.08 | 6422.4 | 6422.4 |
| 4 | 40 | 24 | 960 | 104 | 15.09 | 23.6 | 4.716 | 0.5 | 2263.68 | 7243.2 | 7243.2 |
| 5 | 40 | 24 | 960 | 167 | 24.54 | 64.5 | 12.896 | 0.5 | 6190.08 | 11779.2 | 11779.2 |
| 6 | 40 | 24 | 960 | 202 | 29.79 | 47.2 | 9.436 | 0.5 | 4529.28 | 14299.2 | 14299.2 |
| 7 | 40 | 24 | 960 | 92 | 13.29 | 28.8 | 5.756 | 0.5 | 2762.88 | 6379.2 | 6379.2 |
| 8 | 40 | 24 | 960 | 129 | 18.84 | 49.5 | 9.896 | 0.5 | 4750.08 | 9043.2 | 9043.2 |
| 9 | 40 | 24 | 960 | 188 | 27.69 | 34.2 | 6.836 | 0.5 | 3281.28 | 13291.2 | 13291.2 |
| 10 | 40 | 24 | 960 | 93 | 13.44 | 29.6 | 5.916 | 0.5 | 2839.68 | 6451.2 | 6451.2 |
| 11 | 40 | 24 | 960 | 170 | 24.99 | 49.8 | 9.956 | 0.5 | 4778.88 | 11995.2 | 11995.2 |
| 12 | 40 | 24 | 960 | 115 | 16.74 | 41.4 | 8.276 | 0.5 | 3972.48 | 8035.2 | 8035.2 |
| 13 | 40 | 24 | 960 | 81 | 11.64 | 26.5 | 5.296 | 0.5 | 2542.08 | 5587.2 | 5587.2 |
| 14 | 40 | 24 | 960 | 88 | 12.69 | 39.2 | 7.836 | 0.5 | 3761.28 | 6091.2 | 6091.2 |
| 15 | 40 | 24 | 960 | 175 | 25.74 | 33.3 | 6.656 | 0.5 | 3194.88 | 12355.2 | 12355.2 |
| 16 | 40 | 24 | 960 | 297 | 44.04 | 29.7 | 5.936 | 0.5 | 2849.28 | 21139.2 | 21139.2 |
| 17 | 40 | 24 | 960 | 57 | 8.04 | 21.6 | 4.316 | 0.5 | 2071.68 | 3859.2 | 3859.2 |
| 18 | 40 | 24 | 960 | 34 | 4.59 | 24.6 | 4.916 | 0.5 | 2359.68 | 2203.2 | 2359.68 |
| 19 | 40 | 24 | 960 | 48 | 6.69 | 21.7 | 4.336 | 0.5 | 2081.28 | 3211.2 | 3211.2 |
| 20 | 40 | 24 | 960 | 83 | 11.94 | 33.2 | 6.636 | 0.5 | 3185.28 | 5731.2 | 5731.2 |
| 21 | 40 | 24 | 960 | 96 | 13.89 | 22.6 | 4.516 | 0.5 | 2167.68 | 6667.2 | 6667.2 |
| 22 | 40 | 24 | 960 | 155 | 22.74 | 24.9 | 4.976 | 0.5 | 2388.48 | 10915.2 | 10915.2 |
| 23 | 40 | 24 | 960 | 65 | 9.24 | 28.2 | 5.636 | 0.5 | 2705.28 | 4435.2 | 4435.2 |
| 24 | 40 | 24 | 960 | 51 | 7.14 | 22.6 | 4.516 | 0.5 | 2167.68 | 3427.2 | 3427.2 |
| 25 | 40 | 24 | 960 | 81 | 11.64 | 33.7 | 6.736 | 0.5 | 3233.28 | 5587.2 | 5587.2 |
| 26 | 40 | 24 | 960 | 100 | 14.49 | 32.2 | 6.436 | 0.5 | 3089.28 | 6955.2 | 6955.2 |
| 27 | 40 | 24 | 960 | 68 | 9.69 | 23.4 | 4.676 | 0.5 | 2244.48 | 4651.2 | 4651.2 |
| 28 | 40 | 24 | 960 | 75 | 10.74 | 25 | 4.996 | 0.5 | 2398.08 | 5155.2 | 5155.2 |
| 29 | 40 | 24 | 960 | 375 | 55.74 | 45 | 8.996 | 0.5 | 4318.08 | 26755.2 | 26755.2 |
| 30 | 40 | 24 | 960 | 60 | 8.49 | 20 | 3.996 | 0.5 | 1918.08 | 4075.2 | 4075.2 |
| 31 | 40 | 24 | 960 | 350 | 51.99 | 70 | 13.996 | 0.5 | 6718.08 | 24955.2 | 24955.2 |
| 32 | 40 | 24 | 960 | 500 | 74.49 | 50 | 9.996 | 0.5 | 4798.08 | 35755.2 | 35755.2 |
| 33 | 40 | 24 | 960 | 75 | 10.74 | 20 | 3.996 | 0.5 | 1918.08 | 5155.2 | 5155.2 |
| 34 | 40 | 24 | 960 | 100 | 14.49 | 40 | 7.996 | 0.5 | 3838.08 | 6955.2 | 6955.2 |
| 35 | 40 | 24 | 960 | 70 | 9.99 | 30 | 5.996 | 0.5 | 2878.08 | 4795.2 | 4795.2 |
| 36 | 40 | 24 | 960 | 150 | 21.99 | 25 | 4.996 | 0.5 | 2398.08 | 10555.2 | 10555.2 |
| 37 | 40 | 24 | 960 | 80 | 11.49 | 25 | 4.996 | 0.5 | 2398.08 | 5515.2 | 5515.2 |
| 38 | 40 | 24 | 960 | 70 | 9.99 | 25 | 4.996 | 0.5 | 2398.08 | 4795.2 | 4795.2 |
| 39 | 40 | 24 | 960 | 150 | 21.99 | 60 | 11.996 | 0.5 | 5758.08 | 10555.2 | 10555.2 |
| 40 | 40 | 24 | 960 | 150 | 21.99 | 60 | 11.996 | 0.5 | 5758.08 | 10555.2 | 10555.2 |
| 41 | 40 | 24 | 960 | 150 | 21.99 | 70 | 13.996 | 0.5 | 6718.08 | 10555.2 | 10555.2 |
| 42 | 40 | 24 | 960 | 220 | 32.49 | 120 | 23.996 | 0.5 | 11518.08 | 15595.2 | 15595.2 |
| 43 | 40 | 24 | 960 | 85 | 12.24 | 25 | 4.996 | 0.5 | 2398.08 | 5875.2 | 5875.2 |
| 44 | 40 | 24 | 960 | 70 | 9.99 | 30 | 5.996 | 0.5 | 2878.08 | 4795.2 | 4795.2 |
| 45 | 40 | 24 | 960 | 300 | 44.49 | 90 | 17.996 | 0.5 | 8638.08 | 21355.2 | 21355.2 |
| 46 | 40 | 24 | 960 | 1000 | 149.49 | 35 | 6.996 | 0.5 | 3358.08 | 71755.2 | 71755.2 |
| 47 | 40 | 24 | 960 | 800 | 119.49 | 150 | 29.996 | 0.5 | 14398.08 | 57355.2 | 57355.2 |
| 48 | 40 | 24 | 960 | 272 | 40.29 | 91.4 | 18.276 | 0.5 | 8772.48 | 19339.2 | 19339.2 |
| 49 | 40 | 24 | 960 | 78 | 11.19 | 26.3 | 5.256 | 0.5 | 2522.88 | 5371.2 | 5371.2 |
| 50 | 40 | 24 | 960 | 123 | 17.94 | 38.4 | 7.676 | 0.5 | 3684.48 | 8611.2 | 8611.2 |
| 51 | 40 | 24 | 960 | 53 | 7.44 | 29.2 | 5.836 | 0.5 | 2801.28 | 3571.2 | 3571.2 |
| 52 | 40 | 24 | 960 | 86 | 12.39 | 21.2 | 4.236 | 0.5 | 2033.28 | 5947.2 | 5947.2 |
| 53 | 40 | 24 | 960 | 49 | 6.84 | 22.4 | 4.476 | 0.5 | 2148.48 | 3283.2 | 3283.2 |
| 54 | 40 | 24 | 960 | 66 | 9.39 | 27.1 | 5.416 | 0.5 | 2599.68 | 4507.2 | 4507.2 |
| 55 | 40 | 24 | 960 | 1600 | 239.49 | 300 | 59.996 | 0.5 | 28798.08 | 114955.2 | 114955.2 |
| | | | | | | | | | Alpha | Beta/gamma | Highest |
| Drum 58: | | | | | | | | | 238387 | 720418 | 720574 |

Drum 58 count range %

Alpha low (0.3 to 1 cps) 0 0.0

Alpha mid (1 to 2 cps) 0 0.0

Alpha high (2 to 5cps) 0 0.0

Alpha very high (5 to 20 cps) 1 1.8

Alpha bloody high (> 20 cps) 54 98.2

55

Observation: First 5 drums contain tiles removed from North Western Cnr of lower floor building (above G11), moving from roof pitch to gutter from North to South. Drums 56 - 60 reflect those removed from middle to Southern end (above G13). Incidence of numbers of tiles with higher activity increased towards the Southern end (above G11-G13). Tiles above category 1 will be subject to individual calculation assessment to determine drum activity.

Drum activity categories:

| Category | Alpha count range | Activity range | Drum activity | Comment |
|------------|--------------------|---------------------------|---------------|---|
| Category 1 | <5cps alpha | <1 Bq/cm ² | 22.8 kBq | Activity based on average of drums 51 - 54 which have similar activities; and also higher worse case scenario to account for masking of alpha |
| Category 2 | 5 - 20 cps alpha | 1 - 4 Bq/cm ² | 143.2 kBq | Activity based on drum 57 |
| Category 3 | 20 - 100 cps alpha | 4 - 20 Bq/cm ² | 720.5 kBq | Activity based on drum 58 |

Summary of drum activities:

| | | | Net Mass (kg) |
|-----|------------------|-----------|---------------|
| D50 | 1-2 cps alpha | 12.1 kBq | 180.5 |
| D51 | <5cps alpha | 25.6 kBq | 178 |
| D52 | <5cps alpha | 22.6 kBq | 175.5 |
| D53 | <5cps alpha | 22.5 kBq | 178 |
| D54 | <5cps alpha | 20.3 kBq | 175.5 |
| D55 | <5cps alpha | 22.8 kBq | 173.5 |
| D56 | <5cps alpha | 22.8 kBq | 179.5 |
| D57 | 5 - 20 cps alpha | 143.2 kBq | 174.5 |
| D58 | >20 cps alpha | 720.5 kBq | 169.5 |
| D59 | <5cps alpha | 22.8 kBq | 182.5 |
| D60 | <5cps alpha | 22.8 kBq | 183 |
| D69 | <5cps alpha | 22.8 kBq | 180.5 |
| D70 | <5cps alpha | 22.8 kBq | 184.5 |

| | | | | |
|---------------|--------------------|-----------|----------|-------|
| D71 | 5 - 20 cps alpha | 143.2 kBq | | 184.5 |
| D72 | 20 - 100 cps alpha | 720.5 kBq | hot one! | 185 |
| D73 | <5cps alpha | 22.8 kBq | | 173.5 |
| D74 | <5cps alpha | 22.8 kBq | | 202 |
| D75 | <5cps alpha | 22.8 kBq | | 204.5 |
| D76 | <5cps alpha | 22.8 kBq | | 207.5 |
| D77 | 5 - 20 cps alpha | 143.2 kBq | | 201 |
| D78 | 5 - 20 cps alpha | 143.2 kBq | | 184 |
| D79 | 5 - 20 cps alpha | 143.2 kBq | | 190 |
| D80 | <5cps alpha | 22.8 kBq | | 175 |
| D81 | <5cps alpha | 22.8 kBq | | 186 |
| D82 | >20 cps alpha | 720.5 kBq | hot one! | 189 |
| D83 | <5cps alpha | 22.8 kBq | | 180 |
| D84 | <5cps alpha | 22.8 kBq | | 184.5 |
| D85 | <5cps alpha | 22.8 kBq | | 176 |
| D86 | <5cps alpha | 22.8 kBq | | 184 |
| D87 | <5cps alpha | 22.8 kBq | | 176 |
| D88 | <5cps alpha | 22.8 kBq | | 176.5 |
| D89 | <5cps alpha | 22.8 kBq | | 187 |
| D90 | >20 cps alpha | 720.5 kBq | hot one! | 173.5 |
| D147 | <5cps alpha | 22.8 kBq | | 206.5 |
| C <5cps alpha | | | | 6241 |

Roof battens and other timber material**Instrument MTE: 5527, 5506****Higher area of contamination than ceiling material wood**

During processing of this material it was observed that *after vacuuming*, the count rate range was similar to that measured when processing the "wood and ceiling material" previously removed from ceilings, however the area of each piece of batten wood that was contaminated was found to be greater. In consideration of the similar typical count rate range, the activity determination derived for the "wood and ceiling material" has been applied to this "roof batten and timbers" material with the exception the fraction of the area factor has been increased to "1" (as in the case adopted for the ventilation duct plasterboard material). The resulting activity therefore has been determined as **116314 Bq** per drum.

The above activity level has been applied to the following drums:

D65**D66****D67****D68****D91****D92****D93****D97****D98****D99**

Pieces of guttering measurements and assumptions:

| Measured spots | Beta CPS | Typical alpha response assumed (CPS) (based on known comparative measurements from wood/skirting board etc) | Average assumed α cps of spots | Bq/cm ² α | 1cps /Bq/cm ² Alpha |
|----------------|----------|---|---------------------------------------|-----------------------------|--------------------------------|
| 1 | 170 | 60 | 47.5 | 9.5 | 0.2 |
| 2 | 120 | 40 | | | |
| 3 | 100 | 35 | | | |
| 4 | 60 | 25 | | | |
| 5 | 50 | 20 | | | |
| 6 | 30 | 10 | | | |

Assumptions

Each piece of gutter is approximately 100 cm x 10 cm (length and bottom surface of U shaped gutter only)

Surface area: 1000 cm²

Assume approximately 50% of each gutter piece is contaminated

Assumed contaminated surface area: 500 cm²

Total activity per piece of gutter: 4750 Bq

2 pieces of guttering per bag 9500 Bq

5 bags per drum 47500 Bq

Total assumed drum activity: 47.5 kBq

Nb: The above assumptions and calculations are estimates based on comparative readings between instrument responses to different radiations observed on other similar materials. This method of calculating activity was necessary as it was not possible to assess directly the alpha readings (used for quantification) as the items contained asbestos and had already been sealed by asbestos specialists, and the risk of potential release exceeded the value of getting better, more accurate radiation measurements when the items will ultimately still be considered as radioactive and hazardous material.

Section 4 - Sample ID

| LIMS ID | Sample ID | Sample Description |
|-------------------|-----------|--|
| C2/2 | | Soil Samples taken from underneath the flooring of B164 Me |
| G11-4/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| E | | Soil Samples taken outside B164 Melb. Uni. |
| D | | Soil Samples taken outside B164 Melb. Uni. |
| H (B) | | Soil Samples taken outside B164 Melb. Uni. |
| H (A) | | Soil Samples taken outside B164 Melb. Uni. |
| G06/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G08-2/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| C | | Soil Samples taken outside B164 Melb. Uni. |
| B | | Soil Samples taken outside B164 Melb. Uni. |
| G13/1-A | | Soil Samples taken from underneath the flooring of B164 Me |
| G | | Soil Samples taken outside B164 Melb. Uni. |
| I | | Soil Samples taken outside B164 Melb. Uni. |
| F | | Soil Samples taken outside B164 Melb. Uni. |
| ENTRANCE | | Soil Samples taken from underneath the flooring of B164 Me |
| BG | | Soil Samples taken from underneath the flooring of B164 Me |
| A | | Soil Samples taken outside B164 Melb. Uni. |
| G08/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G05 | | Soil Samples taken from underneath the flooring of B164 Me |
| G12-1/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G02/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| C3 | | Soil Samples taken from underneath the flooring of B164 Me |
| G09/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G11-3/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G11-2/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G11-5 | | Soil Samples taken from underneath the flooring of B164 Me |
| G13/1-B | | Soil Samples taken from underneath the flooring of B164 Me |
| G01/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G11/1-1 | | Soil Samples taken from underneath the flooring of B164 Me |
| C1/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G04/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| G-12-2/1 | | Soil Samples taken from underneath the flooring of B164 Me |
| C2/2 Duplicate | | Soil Samples taken from underneath the flooring of B164 Me |
| G11-4/1 Duplicate | | Soil Samples taken from underneath the flooring of B164 Me |

ANALYTICAL REQUEST FORM

IER (Inorganic/Tritium/MLR)

INSTRUCTIONS:

Very Important Note: prior commitments will determine the date(s) sample analyses commence.

- 1) This form is designed to be filled out 100% electronically.
- 2) **Please complete all 4 sections**
- 3) Don't forget to include ANY sample preparation requirements in the section provided &/or attach an extra worksheet.
- 4) **Please** remember to include an Excel table with **your sample identities**, in the next sheet of this workbook.

e-mail the completed form to [REDACTED]

- 5) A printout (b/w) of this form **MUST** accompany the submitted sample(s) with your Project Leader's **signature**

Section 1 - Client's Information

| | | | | | |
|---|--|--|---|---|------------|
| Requestor's Name: | [REDACTED] | | | Phone No.: | [REDACTED] |
| E-mail: | [REDACTED] | | | Date Submitted: | 13/03/2012 |
| Requestor's Association: | ANSTO staff <input checked="" type="checkbox"/> | Project Student <input type="checkbox"/> | AINSE Student <input type="checkbox"/> | External client <input type="checkbox"/> | |
| Urgency | High <input type="checkbox"/> | Med <input type="checkbox"/> | Low <input type="checkbox"/> | | |
| Sample Summary (No., type etc): | 34 x Soil Samples for damma spec (U and Th series) | | | | |
| Hazards : (chemical, radioactive, biological etc) | Radiological | | | | |
| Matrix & other Relevant Info: (be specific) | | | | | |
| Project : | Safety Commercial | | WBS element: 0073k-1-3 | | |
| Association: (choose more than one if appropriate) | ANSTO Project OP: | | AINSE Project <input type="checkbox"/> | | |
| | Research <input type="checkbox"/> | Commercial <input checked="" type="checkbox"/> | Safety <input type="checkbox"/> | Other ANSTO division/Facility <input type="checkbox"/> | |
| Accounting: | running cost: | | estimated staff time: | | |
| Sample Disposition at Completion of Analyses : | Discard <input type="checkbox"/> | | OR Return to Client/Originator <input checked="" type="checkbox"/> | | |

| | |
|--------------------------|-----------------------|
| Project Leader Approval: | Name: Robert Blackley |
|--------------------------|-----------------------|

ANALYTICAL REQUEST FORM **IER (Inorganic/Tritium/MLR)**

Section 2 - Sample Preparation

| | | |
|---|---|---|
| <input type="checkbox"/> Filtration (0.2 or 0.45µm) | <input type="checkbox"/> Nitric acid Leach | <input type="checkbox"/> Mixed acid leach |
| <input type="checkbox"/> Total Digestion | <input type="checkbox"/> TCLP | <input type="checkbox"/> Special request - please specify |
| <input type="checkbox"/> Freeze Drying | <input type="checkbox"/> Acidification (HNO ₃ / HCl) | <input type="checkbox"/> Not Required |

Section 3 - Analyses Required

| | | |
|--|--|---|
| <u>Inorganic Laboratory</u> | | |
| Physical Measurements | | |
| <input type="checkbox"/> Eh | <input type="checkbox"/> pH | <input type="checkbox"/> Turbidity |
| <input type="checkbox"/> Conductivity | <input type="checkbox"/> Acid/Base Accounting | <input type="checkbox"/> Alkalinity if present |
| <input type="checkbox"/> TSS - Suspended Solids | <input type="checkbox"/> TDS - Total Dissolved Solids | <input type="checkbox"/> Special request - please specify |
| Instrumental Measurements | | |
| <input type="checkbox"/> IC: F ⁻ Cl ⁻ Br ⁻ NO ₂ ⁻ NO ₃ ⁻ SO ₄ ²⁻ <small>(delete unwanted anions)</small> | | |
| <input type="checkbox"/> ICPAES - specify elements required on periodic table below | <input type="checkbox"/> Speciation <small>(specify elemental species):</small> | |
| <input type="checkbox"/> ICPMS - specify elements required on periodic table below | | |

ANALYTICAL REQUEST FORM **IER (Inorganic/Tritium/MLR)**

Radiochemical and Tritium Laboratories

- ☐ Sample Preparation
- ☐ Tritium ☐ including concentration via electrolysis
- ☐ Liquid Scintillation Counting
(specify nuclides):

Gamma Spectrometry:

- ☐ Qualitative
- ☒ Natural radioactivity (U + daughters, Th + daughters, K)
- ☐ Natural radioactivity (Specify nuclides)
- ☐ Fission Products (Specify)
- ☐ Natural Radioactivity (^{214}Pb , ^{210}Pb , ^{228}Ac , ^{212}Pb , ^{40}K)
- ☐ Fission Products (B23 & B41 Pond Samples)
- ☐ Other - pls specify

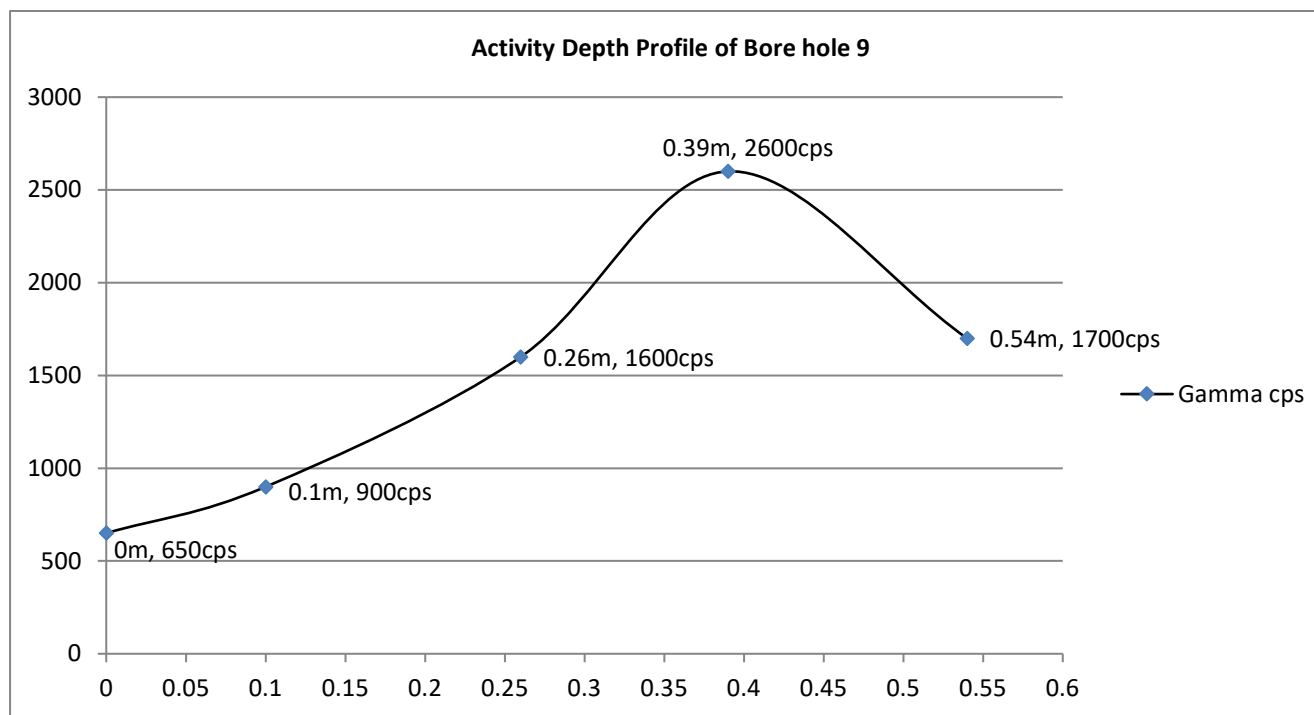
| | | | | | | | | | | | | | | | | |
|----|----|-----------------------|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|
| Li | Be | Then close the window | | | | | | | | | | B | C | N | O | F |
| Na | Mg | | | | | | | | | | | Al | Si | P | S | Cl |
| K | Ca | Sc | Ti | V | Cr | Mn | Fe | Co | Ni | Cu | Zn | Ga | Ge | As | Se | Br |
| Rb | Sr | Y | Zr | Nb | Mo | Tc | Ru | Rh | Pd | Ag | Cd | In | Sn | Sb | Te | I |
| Cs | Ba | La | Hf | Ta | W | Re | Os | Ir | Pt | Au | Hg | Tl | Pb | Bi | Po | At |
| Fr | Ra | Ac | Rf | Db | Sg | Bh | Hs | Mt | Uun | | | | | | | |
| | | | Ce | Pr | Nd | Pm | Sm | Eu | Gd | Tb | Dy | Ho | Er | Tm | Yb | Lu |
| | | | Th | Pa | U | Np | Pu | Am | Cm | Bk | Cf | Es | Fm | Md | No | Lr |

TEST FORM
tritium/MLR)

- ☐ Elements in **YELLOW** are standard ICP-AES analytes; quantification limits 50 – 100 ppb.
- ☐ Elements in **RED** are standard ICP-MS analytes; quantification limits 1 – 10 ppb.
- ☐ Elements in **BLUE** may only be analysed via special arrangement.
- ☐ Elements in **GREEN** are standard IC analytes.
- ☐ Elements in **PINK** are CNS analytes.
- ☐ Elements in **BLACK** can not be analysed.

Depth (m) Gamma cps

| | |
|------|------|
| 0 | 650 |
| 0.1 | 900 |
| 0.26 | 1600 |
| 0.39 | 2600 |
| 0.54 | 1700 |



laboratory)

Nb: The source area available to the detector is reduced by an aluminium plate used to support the detector

Nb: activity calibrations are based on detector areas for all contamination monitors

An explanation of the constants used in these calculations can be found in the "Derivations of constants" tab.

| L _C | L _D | MDA | MDA | MDA | cps | cps | cps | Bq/cm ² |
|-----------------|-----------------|------------------------|-----------------------|--------|-----------------------|----------------------|---------------------|--------------------|
| Counts/ time | Counts/ time | (e/s/cm ²) | (Bq/cm ²) | (Bq) * | 0.4Bq/cm ² | 1 Bq/cm ² | 4Bq/cm ² | 1 cps |
| 5.7 | 14.4 | 0.02 | 0.05 | 2.40 | 2.0 | 4.9 | 19.6 | 0.2041 |

NB: * For measuring an "item" (such as a wipe test paper) the MDA is based on the total activity on the item, hence the results are in Bq only

| Efficiency checks - source <i>smaller</i> than detector area | |
|--|-------------------|
| Instrument / detector type: | 42mm alpha drawer |
| Source: | Am-241 |
| Source ID: | EE-202 |
| Source area cm ² : | 10.18 |
| Total activity (Bq): | 2599 |
| Emission rate: | N/a |
| Detector area (cm ²): | 13.86 |
| Average act conc applied to probe area: | 187.5 |
| Total act (Bq) 'as seen' by the detector: | 3538.5 |
| 10 minutes net counts at 3 mm: | 591000 |
| CPS derived from 10 minute count | 985 |
| Emission rate efficiency (%): | #VALUE! |
| Activity efficiency (%): | 37.9 |

Nb: activity calibrations are based on detector areas for all contamination monitors

* The calculations for L_D and MDA are at 95% confidence level, and it is assumed that the background is stable, [Ref: Environmental Implementation Guide for Radiological Survey Procedures February 1997 Department of Energy USA [Section 5.6 - 5.9] i.e. as in a 'laboratory environment' such as a counting castle or drawer where a count is obtained over time. Nb: The count time and the background will effect the MDA, i.e. A longer count time and a lower background will result in a lower (better) MDA.

An explanation of the constants used in these calculations can be found in the "Derivations of constants" tab.

| | | |
|---|-------|---|
| Count time X (in seconds) | 600 | * L_D and MDA |
| Total background counts over the count time used | 10 | |
| Bckgrnd count rate in cps (counts/time in sec) | 0.02 | |
| The critical limit is the point where counts above B/g can first be considered as 'real'. The Limit of Detection is the first point where cps above B/g can be quantified and converted to an activity level. | L_D | The $L_D = 3 + (\text{SQRT of the B/g count rate, ie cps}) \times 3.29$. In this example, the resulting L_D is based on a 10 minute count. |
| | 13.4 | |

| L_C | L_D | MDA | MDA |
|--------|--------|---------|-------|
| (600S) | (600S) | (e/s) | (Bq)* |
| 0.2 | 13.4 | #VALUE! | 0.06 |

NB1: *As this use is for measuring an "item" (such as a wipe test paper) in a castle, the MDA is based on the total activity on the item, hence the results are in Bq only

NB2: The correct application of an MDA for a counting instrument of this type is to determine the minimum activity that can be detected in Bq. In terms of the MDA being related to the number of "counts" (over a given time period) when counting an item such as a smear there are a large number of errors that are apparent such as surface area smeared, pick up factor etc. For this instrument, assuming the count and background time remains at 600 seconds, for assessing a smear used to wipe over an area of 100cm² with a pick up factor of 10%, then the response for alpha activity is 1.5 net counts/sec (900counts in 10 min) = 0.4Bq/cm²

992

Enter data in **RED** fields

Nb: activity calibrations are based on detector areas for all contamination monitors

An explanation of the constants used in these calculations can be found in the "Derivations of constants" tab.

| L _C | L _D | MDA | MDA | MDA | cps | cps | cps | Bq/cm ² |
|-----------------|-----------------|------------------------|-----------------------|--------|-----------------------|----------------------|---------------------|--------------------|
| Counts/ time | Counts/ time | (e/s/cm ²) | (Bq/cm ²) | (Bq) * | 0.4Bq/cm ² | 1 Bq/cm ² | 4Bq/cm ² | 1 cps |
| 0.0 | 3.0 | 0.29 | 0.6 | 30.00 | 2.0 | 4.9 | 19.6 | 0.2041 |

NB: * For measuring an "item" (such as a wipe test paper) the MDA is based on the total activity on the item, hence the results are in Bq only

Efficiency checks - source *LARGER* than detector area

| | |
|---|---------|
| Instrument / detector type: | DP2/R4A |
| Source: | Am-241 |
| Source ID: | DO-911 |
| Area of entire source (cm ²): | 100 |
| Source total activity (Bq): | 1000 |
| Source alpha emission rate/sec: | 473 |
| Source area "available" to detector (cm ²): | 49 |
| Available activity (Bq): | 490 |
| Available emission rate: | 231.77 |
| Detector area (cm ²): | 49 |
| Average Act conc applied to probe area: (Bq/cm ²) | 10 |
| Total act (Bq) 'as seen' by the detector: | 490 |
| cps at 5 mm: | 49 |
| 1cps/Bq/cm ² : | 0.2 |
| Xcps=1Bq/cm ² : | 4.9 |
| cps/4Bq/cm ² : | 19.6 |
| Emission rate efficiency (%): | 21.1 |
| Activity efficiency (%): | 10 |

Nb: The source area available to the detector is reduced by an aluminium plate used to support the detector

Nb: activity calibrations are based on detector areas for all contamination monitors

* The calculations for LD and MDA are at 95% confidence level, and it is assumed that the background is unstable, i.e. as "in the field operating a cps instrument". Nb: The background will effect the MDA, i.e. the lower the background, the lower (better) the MDA. [Ref: Environmental Implementation Guide for Radiological Survey Procedures February 1997 Department of Energy USA [Section 5.6 - 5.9]

An explanation of the constants used in these calculations can be found in the "Derivations of constants" tab.

Examples of application of this data for determining the lowest level that a clearance can be achieved

| | | |
|---|---------------------------|--|
| Bckgrnd counts in x time (ie cps) | 0 | * L _D and MDA |
| Count time x (ie 1 second) | 1 | |
| The critical limit is the point where counts above B/g can first be considered as 'real'. The Limit of Detection is the first point where cps above B/g can be quantified and converted to an activity level. | L _D 3.0 | The LD = 3 + (SQRT of the B/g count rate, ie cps) x 4.65. In this example, the resulting LD is in cps. In some references, this step is carried out during the MDA calculation, however at ANSTO, we like to know this level in terms of cps as well as Bq/cm ² . |

| L _C | L _D | MDA | MDA | cps | cps | cps | Bq/cm ² |
|----------------|----------------|------------------------|-----------------------|-----------------------|---------------------|---------------------|--------------------|
| (cps) | (cps) | (e/s/cm ²) | (Bq/cm ²) | 0.5Bq/cm ² | 1Bq/cm ² | 4Bq/cm ² | 1cps |
| 0.0 | 3.0 | 0.3 | 0.6 | 2.5 | 4.9 | 19.6 | 0.20 |

L_D and MDA calculations for **Field use** (where the background is "unstable") Instruments measuring in **CPS**

Efficiency checks - source *smaller* than detector area

| | |
|---|---------|
| Instrument / detector type: | DP2/R4A |
| Source: | Am-241 |
| Source ID: | EE-202 |
| Source area cm ² : | 10.18 |
| Total activity (Bq): | 2599 |
| Emission rate: | N/a |
| Detector area (cm ²): | 49 |
| Average act conc applied to probe area (Bq/cm ²): | 53.0 |
| Total act (Bq) 'as seen' by the detector: | 2599 |
| cps at 5 mm: | 330 |
| 1cps/Bq/cm ² : | 0.2 |
| Xcps=1Bq/cm ² : | 6.2 |
| cps/4Bq/cm ² : | 24.9 |
| Emission rate efficiency (%): | #VALUE! |
| Activity efficiency (%): | 12.7 |

Nb: Smaller than detector area

Nb: activity calibrations are based on detector areas for all contamination monitors

* The calculations for LD and MDA are at 95% confidence level, and it is assumed that the background is unstable, i.e. as "in the field operating a cps instrument". Nb: The background will effect the MDA, i.e. the lower the background, the lower (better) the MDA. [Ref: Environmental Implementation Guide for Radiological Survey Procedures February 1997 Department of Energy USA [Section 5.6 - 5.9]

An explanation of the constants used in these calculations can be found in the "Derivations of constants" tab.

Examples of application of this data for determining the lowest level that a clearance can be achieved

| | | |
|---|----------------|--|
| Bckgrnd counts in x time (ie cps) | 0.01 | * L _D and MDA |
| Count time x (ie 1 second) | 1 | |
| The critical limit is the point where counts above B/g can first be considered as 'real'. The Limit of Detection is the first point where cps above B/g can be quantified and converted to an activity level. | L _D | The LD = 3 + (SQRT of the B/g count rate, ie cps) x 4.65. In this example, the resulting LD is in cps. In some references, this step is carried out during the MDA calculation, however at ANSTO, we like to know this level in terms of cps as well as Bq/cm ² . |
| | 3.5 | |

| L _C | L _D | MDA | MDA | cps | cps | cps | Bq/cm ² |
|----------------|----------------|------------------------|-----------------------|-----------------------|---------------------|---------------------|--------------------|
| (cps) | (cps) | (e/s/cm ²) | (Bq/cm ²) | 0.5Bq/cm ² | 1Bq/cm ² | 4Bq/cm ² | 1cps |
| 0.2 | 3.5 | #VALUE! | 0.6 | 3.1 | 6.2 | 24.9 | 0.16 |

L_D and MDA calculations for Instruments measuring in **timed counts where the background is stable (i.e. as in a Laboratory)**

Efficiency checks - source **smaller** than detector area

| | |
|---|--------------|
| Instrument / detector type: | DP2/R4A |
| Source: | CI-36 |
| Source ID: | FK764 |
| Source area cm ² : | 10.18 |
| Total activity (Bq): | 2980 |
| Emission rate: | 1880 |
| Detector area (cm ²): | 49 |
| Average act conc applied to probe area: | 60.8 |
| Total act (Bq) 'as seen' by the detector: | 2980 |
| 1 minute net counts at 5 mm: | 27600 |
| 1cpm/Bq/cm ² : | 0.0 |
| Xcpm=1Bq/cm ² : | 453.8 |
| cps/4Bq/cm ² : | 1815.3 |
| Emission rate efficiency (%): | 24.5 |
| Activity efficiency (%): | 15.4 |

Nb: Smaller than detector area

Nb: activity calibrations are based on detector areas for all contamination monitors

* The calculations for LD and MDA are at 95% confidence level, and it is assumed that **the background is stable**, i.e. as in a 'laboratory environment' where a count is obtained over time. Nb: The count time and the background will effect the MDA, i.e. A longer count time and a lower background will result in a lower (better) MDA. **In this particular case a "laboratory use" has been applied to a field instrument that is capable of timed counting being used to monitor over an area.** [Ref: Environmental Implementation Guide for Radiological Survey Procedures February 1997 Department of Energy USA [Section 5.6 - 5.9]

Examples of application of this data for determining clearance levels

An explanation of the constants used in these calculations can be found in the "Derivations of constants" tab.

| | |
|--|------------|
| Count time x (in seconds) | 60 |
| Bckgrnd count rate in cps (counts/time) | 2.5 |
| Total background counts over count time | 150 |

| | |
|---|----------------|
| The critical limit is the point where counts above B/g can first be considered as 'real'. The Limit of Detection is the first point where cps above B/g can be quantified and converted to an activity level. | L _D |
| | 43.3 |

* L_D and MDA

The LD = 3 + (SQRT of the B/g count rate, ie cps) x 3.29. In this example, the resulting LD is in cpm. In some references, this step is carried out during the MDA calculation, however at ANSTO, we like to know this level in terms of cps as well as Bq/cm².

| L _C | L _D | MDA | MDA | cpm | cpm | cpm | Bq/cm ² |
|----------------|----------------|------------------------|-----------------------|-----------------------|----------------------|---------------------|--------------------|
| (cpm) | (cpm) | (e/s/cm ²) | (Bq/cm ²) | 0.5Bq/cm ² | 1 Bq/cm ² | 4Bq/cm ² | 1 cpm |
| 2.6 | 43.3 | 0.1 | 0.10 | 226.9 | 453.8 | 1815.3 | 0.0022 |

L_D and MDA calculations for **Field use** (where the background is "unstable") Instruments measuring in **CPS**

Efficiency checks - source **smaller** than detector area

| | |
|---|---------|
| Instrument / detector type: | DP2/R4A |
| Source: | CI-36 |
| Source ID: | FK764 |
| Source area cm ² : | 10.18 |
| Total activity (Bq): | 2980 |
| Emission rate: | 1880 |
| Detector area (cm ²): | 49 |
| Average act conc applied to probe area: | 60.8 |
| Total act (Bq) 'as seen' by the detector: | 2980 |
| cps 5 mm: | 460 |
| 1cps/Bq/cm ² : | 0.1 |
| Xcps=1Bq/cm ² : | 7.6 |
| cps/4Bq/cm ² : | 30.3 |
| Emission rate efficiency (%): | 24.5 |
| Activity efficiency (%): | 15.4 |

Nb: Smaller than detector area

Nb: activity calibrations are based on detector areas for all contamination monitors

* The calculations for LD and MDA are at 95% confidence level, and it is assumed that the background is unstable, i.e. as **"in the field operating a cps instrument"**. Nb: The background will effect the MDA, i.e. the lower the background, the lower (better) the MDA. [Ref: Environmental Implementation Guide for Radiological Survey Procedures February 1997 Department of Energy USA [Section 5.6 - 5.9]

An explanation of the constants used in these calculations can be found in the "Derivations of constants" tab.

Examples of application of this data for determining the lowest level that a clearance can be achieved

| | | |
|---|----------------------------|--|
| Bckgrnd counts in x time (ie cps) | 2.5 | * L _D and MDA |
| Count time x (ie 1 second) | 1 | |
| The critical limit is the point where counts above B/g can first be considered as 'real'. The Limit of Detection is the first point where cps above B/g can be quantified and converted to an activity level. | L _D 10.4 | The LD = 3 + (SQRT of the B/g count rate, ie cps) x 4.65. In this example, the resulting LD is in cps. In some references, this step is carried out during the MDA calculation, however at ANSTO, we like to know this level in terms of cps as well as Bq/cm ² . |

| L _C | L _D | MDA | MDA | cps | cps | cps | Bq/cm ² |
|----------------|----------------|------------------------|-----------------------|-----------------------|---------------------|---------------------|--------------------|
| (cps) | (cps) | (e/s/cm ²) | (Bq/cm ²) | 0.5Bq/cm ² | 1Bq/cm ² | 4Bq/cm ² | 1cps |
| 3.7 | 10.4 | 0.9 | 1.4 | 3.8 | 7.6 | 30.3 | 0.13 |

Efficiency checks - source *smaller* than detector area

| | |
|---|-----------|
| Instrument / detector type: | DP2/R4A |
| Source: | Sr-90 |
| Source ID: | FK-760 |
| Source area cm ² : | 10.18 |
| Total activity (Bq): | 4140 |
| Emission rate: | 2585 |
| Detector area (cm ²): | 49 |
| Average act conc applied to probe area: | 84.5 |
| Total act (Bq) 'as seen' by the detector: | 4140 |
| 1 minute net counts at 5 mm: | 33858 |
| 1cpm/Bq/cm ² : | 0.0024954 |
| "X" cpm for 1Bq/cm ² : | 400.7 |
| "X" cpm for 4Bq/cm ² : | 1602.9 |
| Emission rate efficiency (%): | 21.8 |
| Activity efficiency (%): | 13.6 |

Enter data in **RED** fields

Nb: Smaller than detector area

Nb: activity calibrations are based on detector areas for all contamination monitors

* The calculations for LD and MDA are at 95% confidence level, and it is assumed that **the background is stable**, i.e. as in a 'laboratory environment' where a count is obtained over time. Nb: The count time and the background will effect the MDA, i.e. A longer count time and a lower background will result in a lower (better) MDA. **In this particular case a "laboratory use" has been applied to a field instrument that is capable of timed counting being used to monitor a wipe paper. The MDA is based on the total activity on the wipe paper, hence the results are in Bq only** [Ref: Environmental Implementation Guide for Radiological Survey Procedures February 1997 Department of Energy USA]

An explanation of the constants used in these calculations can be found in the "Derivations of constants" tab.

Examples of application of this data for determining clearance

| | | |
|---|----------------|---|
| Count time x (in seconds) | 60 | |
| Bckgnd count rate - cps (counts/time) | 3.7 | |
| Total bckgrnd counts over count time | 222 | |
| The critical limit is the point where counts above B/g can first be considered as 'real'. The Limit of Detection is the first point where cps above B/g can be quantified and converted to an activity level. | L _D | The LD = 3 + (SQRT of the B/g count rate, ie cps) x 3.29. In this example, the resulting LD is in 'counts' (based on the count time). In some references, this step is carried out during the MDA calculation, however at ANSTO, we like to know this level in terms of cps as well as Bq/cm ² . |
| | 52.0 | |

* L_D and MDA

| L _C | L _D | MDA | MDA | | | | |
|----------------|----------------|-------|-------|--|--|--|--|
| (60 sec) | (60 sec) | (e/s) | (Bq) | | | | |
| 3.2 | 52.0 | 0.0 | 6.361 | | | | |

NB: * For measuring an "item" (such as a wipe test paper) the MDA is based on the total activity on the item, hence the results are in Bq only

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| Efficiency checks - source <i>smaller</i> than detector area | |
|--|---------|
| Instrument / detector type: | DP2/R4A |
| Source: | Sr-90 |
| Source ID: | FK760 |
| Source area cm ² : | 10.18 |
| Total activity (Bq): | 4140 |
| Emission rate: | 2585 |
| Detector area (cm ²): | 49 |
| Average act conc applied to probe area: | 84.5 |
| Total act (Bq) 'as seen' by the detector: | 4140 |
| cps 5 mm: | 738 |
| 1cps/Bq/cm ² : | 0.1 |
| Xcps=1Bq/cm ² : | 8.7 |
| cps/4Bq/cm ² : | 34.9 |
| Emission rate efficiency (%): | 28.5 |
| Activity efficiency (%): | 17.8 |

Nb: Quoted source activity doubled to account for Sr-90 + Y-90

* The calculations for LD and MDA are at 95% confidence level, and it is assumed that the background is unstable, i.e. as **"in the field operating a cps instrument"**. Nb: The background will effect the MDA, i.e. the lower the background, the lower (better) the MDA. [Ref: Environmental Implementation Guide for Radiological Survey Procedures February 1997 Department of Energy USA [Section 5.6 - 5.9]

Examples of application of this data for determining the lowest level that a clearance can be achieved

| | | | | | | | | | | |
|---|----------------|--|-------------------------------|----------------|------------------------|-----------------------|-----------------------|---------------------|---------------------|--------------------|
| If background is cps: | 2.5 | * L _D and MDA | Derivations of constants tab. | | | | | | | |
| Instrument monitoring rate is cps | 1 | | | | | | | | | |
| The critical limit is the point where counts above B/g can first be considered as 'real'. The Limit of Detection is the first point where cps above B/g can be quantified and converted to an activity level. | L _D | The LD = 3 + (SQRT of the B/g count rate, ie cps) x 4.65. In this example, the resulting LD is in cps. In some references, this step is carried out during the MDA calculation, however at ANSTO, we like to know this level in terms of cps as well as Bq/cm ² . | L _C | L _D | MDA | MDA | cps | cps | cps | Bq/cm ² |
| | | | (cps) | (cps) | (e/s/cm ²) | (Bq/cm ²) | 0.5Bq/cm ² | 1Bq/cm ² | 4Bq/cm ² | 1cps |
| | 10.4 | | 3.7 | 10.4 | 0.7 | 1.2 | 4.4 | 8.7 | 34.9 | 0.11 |

Efficiency checks - source *smaller* than detector area

| | |
|---|-------------|
| Instrument / detector type: | SH380AB |
| Source: | Am-241 |
| Source ID: | EE-202 |
| Source area cm ² : | 10.18 |
| Total activity (Bq): | 2599 |
| Emission rate: | N/a |
| Detector area (cm ²): | 100 |
| Average act conc applied to probe area: | 25.99 |
| Total act (Bq) 'as seen' by the detector: | 2599 |
| 1 minute net counts at 1 mm: | 33200 |
| 1cpm/Bq/cm ² : | 0.0 |
| "X" cpm for 1Bq/cm ² : | 1277.41439 |
| "X" cpm for 4Bq/cm ² : | 5109.657561 |
| Emission rate efficiency (%): | #VALUE! |
| Activity efficiency (%): | 21.29023984 |

Enter data in RED fields

Nb: Smaller than detector area

Nb: activity calibrations are based on detector areas for all contamination monitors

* The calculations for LD and MDA are at 95% confidence level, and it is assumed that **the background is stable**, i.e. as in a 'laboratory environment' where a count is obtained over time. Nb: The count time and the background will effect the MDA, i.e. A longer count time and a lower background will result in a lower (better) MDA. **In this particular case a "laboratory use" has been applied to a field instrument that is capable of timed counting being used to monitor over an area.** [Ref: Environmental Implementation Guide for Radiological Survey Procedures February 1997 Department of Energy USA [Section 5.6 - 5.9]

An explanation of the constants used in these calculations can be found in the "Derivations of constants" tab.

Examples of application of this data for determining clearance

| | | |
|---|----------------------------|---|
| Count time x (in seconds) | 60 | * L _D and MDA |
| Bckgnd count rate - cps (counts/time) | 0.133 | |
| Total bckgrnd counts over count time | 8 | |
| The critical limit is the point where counts above B/g can first be considered as 'real'. The Limit of Detection is the first point where cps above B/g can be quantified and converted to an activity level. | L _D 12.3 | The LD = 3 + (SQRT of the B/g count rate, ie cps) x 3.29. In this example, the resulting LD is in 'counts' (based on the count time). In some references, this step is carried out during the MDA calculation, however at ANSTO, we like to know this level in terms of cps as well as Bq/cm ² . |

| L _C | L _D | MDA | MDA | cpm | cpm | cpm | Bq/cm ² |
|----------------|----------------|------------------------|-----------------------|-----------------------|----------------------|---------------------|--------------------|
| (cpm) | (cpm) | (e/s/cm ²) | (Bq/cm ²) | 0.5Bq/cm ² | 1 Bq/cm ² | 4Bq/cm ² | 1 cpm |
| 0.6 | 12.3 | #VALUE! | 0.010 | 638.7 | 1277.4 | 5109.7 | 0.0008 |

Efficiency checks - source *smaller* than detector area

| | |
|---|-------------|
| Instrument / detector type: | SH380AB |
| Source: | Am-241 |
| Source ID: | EE-202 |
| Source area cm ² : | 10.18 |
| Total activity (Bq): | 2599 |
| Emission rate: | N/a |
| Detector area (cm ²): | 100 |
| Average act conc applied to probe area: | 25.99 |
| Total act (Bq) 'as seen' by the detector: | 2599 |
| 1 minute net counts at 1 mm: | 33200 |
| 1cpm/Bq/cm ² : | 0.000783 |
| "X" cpm for 1Bq/cm ² : | 1277.41439 |
| "X" cpm for 4Bq/cm ² : | 5109.657561 |
| Emission rate efficiency (%): | #VALUE! |
| Activity efficiency (%): | 21.29023984 |

Enter data in **RED** fields

Nb: Smaller than detector area

Nb: activity calibrations are based on detector areas for all contamination monitors

* The calculations for LD and MDA are at 95% confidence level, and it is assumed that **the background is stable**, i.e. as in a 'laboratory environment' where a count is obtained over time. Nb: The count time and the background will effect the MDA, i.e. A longer count time and a lower background will result in a lower (better) MDA. **In this particular case a "laboratory use" has been applied to a field instrument that is capable of timed counting being used to monitor a wipe paper. The MDA is based on the total activity on the wipe paper, hence the results are in Bq only** [Ref: Environmental Implementation Guide for Radiological Survey Procedures February 1997 Department of Energy USA]

An explanation of the constants used in these calculations can be found in the "Derivations of constants" tab.

Examples of application of this data for determining clearance

| | | |
|---|----------------------------|---|
| Count time x (in seconds) | 60 | * L _D and MDA |
| Bckgnd count rate - cps (counts/time) | 0.133 | |
| Total bckgrnd counts over count time | 8 | |
| The critical limit is the point where counts above B/g can first be considered as 'real'. The Limit of Detection is the first point where cps above B/g can be quantified and converted to an activity level. | L _D 12.3 | The LD = 3 + (SQRT of the B/g count rate, ie cps) x 3.29. In this example, the resulting LD is in 'counts' (based on the count time). In some references, this step is carried out during the MDA calculation, however at ANSTO, we like to know this level in terms of cps as well as Bq/cm ² . |

| L _C | L _D | MDA | MDA | | | | |
|----------------|----------------|---------|-------|--|--|--|--|
| (60 sec) | (60 sec) | (e/s) | (Bq)* | | | | |
| 0.6 | 12.3 | #VALUE! | 0.963 | | | | |

NB: * For measuring an "item" (such as a wipe test paper) the MDA is based on the total activity on the item, hence the results are in Bq only

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Efficiency checks - source *smaller* than detector area

| | |
|---|----------|
| Instrument / detector type: | SH380-AB |
| Source: | Am-241 |
| Source ID: | EE-202 |
| Source area cm ² : | 10.18 |
| Total activity (Bq): | 2599 |
| Emission rate: | N/a |
| Detector area (cm ²): | 100 |
| Average act conc applied to probe area: | 26.0 |
| Total act (Bq) 'as seen' by the detector: | 2599 |
| cps 1 mm: | 530 |
| 1cps/Bq/cm ² : | 0.0 |
| Xcps=1Bq/cm ² : | 20.4 |
| cps/4Bq/cm ² : | 81.6 |
| Emission rate efficiency (%): | #VALUE! |
| Activity efficiency (%): | 20.4 |

Nb: Smaller than detector area

Nb: activity calibrations are based on detector areas for all contamination monitors

* The calculations for LD and MDA are at 95% confidence level, and it is assumed that the background is unstable, **i.e. as "in the field operating a cps instrument"**. **Nb: The background will effect the MDA, i.e. the lower the background, the lower (better) the MDA.** [Ref: Environmental Implementation Guide for Radiological Survey Procedures February 1997 Department of Energy USA [Section 5.6 - 5.9]

An explanation of the constants used in these calculations can be found in the "Derivations of constants" tab.

Examples of application of this data for determining clearance

| | | | | | | | | | | |
|---|----------------|--|----------------|----------------|------------------------|-----------------------|-----------------------|---------------------|---------------------|--------------------|
| Bckgrnd counts in x time (ie cps) | 0 | * L _D and MDA | | | | | | | | |
| Count time x (ie 1 second) | 1 | | | | | | | | | |
| The critical limit is the point where counts above B/g can first be considered as 'real'. The Limit of Detection is the first point where cps above B/g can be quantified and converted to an activity level. | L _D | The LD = 3 + (SQRT of the B/g count rate, ie cps) x 4.65. In this example, the resulting LD is in cps. In some references, this step is carried out during the MDA calculation, however at ANSTO, we like to know this level in terms of cps as well as Bq/cm ² . | L _C | L _D | MDA | MDA | cps | cps | cps | Bq/cm ² |
| | | | (cps) | (cps) | (e/s/cm ²) | (Bq/cm ²) | 0.5Bq/cm ² | 1Bq/cm ² | 4Bq/cm ² | 1cps |
| | 3.0 | | 0.0 | 3.0 | #VALUE! | 0.1 | 10.2 | 20.4 | 81.6 | 0.05 |

*The calculations for LD and MDA are at 95% confidence level, and it is assumed that the background is **unstable (ie as in the field for a 'walk over land survey')**. Ref: Environmental Implementation Guide for Radiological Survey Procedures February 1997 Department of Energy USA [Section 5.6 - 5.9]

THE FOLLOWING EXTRACT is from the Environmental Implementation Guide for Radiological Survey Procedures February 1997
Department of Energy USA [Section 5.6 – 5.9]

The following discussion provides an overview of the derivation contained in a well-known publication by L. A. Currie (1968) followed by a description of how the resulting formulae should be used. That publication by Currie and an earlier publication by Altshuler and Pasternack (1963) provide details of the derivations involved for those who are interested.

If a and b are assumed to be equal, and the variance (s^2) of all measurement values are assumed to be equal to the values themselves, and the background of the detection system is not well known, then the critical detection level and the detection limit can be calculated by using the following formulae:

$$\begin{aligned} LC &= k^2 \sqrt{B} \\ LD &= k^2 + 2 k^2 \sqrt{B} \end{aligned} \quad \text{Equation 5.1}$$

where

LC = critical detection level (counts),

LD = a priori detection limit (counts),

k = poisson probability sum for a and b (assuming a and b are equal),

B = number of background counts that are expected to occur while performing an actual measurement.

If 5% false positives (Type I) and 5% false negatives (Type II) are selected to be acceptable levels for both types of errors, then **k = 1.645** and the above equations can be written as:*

$$\begin{aligned} LC &= 2.32 \sqrt{B} \\ LD &= 3 + 4.65 \sqrt{B} \end{aligned} \quad \text{Equation 5.2.}$$

Note: In Currie's derivation, the constant factor of 3 in the LD formula was stated as being 2.71, but since that time it has been shown (Brodsky and Gallagher, 1991) and generally accepted that a constant factor of 3 is appropriate.

As part of the derivation of Eq. (5.2), it is assumed that the background response has some level of uncertainty associated with it. This uncertainty is subsequently propagated into the resulting formulae. If the background is very well known, then the uncertainty associated with the background response goes to zero and the equations become:

$$\begin{aligned} LC &= 1.645 \sqrt{B} \\ LD &= 3 + 3.29 \sqrt{B} \end{aligned} \quad \text{Equation 5.3}$$

The background response is usually well known in instruments that are used in a laboratory, whether they be of the mobile or the permanent location type. Background levels are more variable in field situations, and for practical application it should be assumed that the background is NOT well known, since in reality it will vary from point to point. In fact, the variation from point to point across a survey area may be very large when compared to the simple square root of the background, as shown in Eqs. (5.2) and (5.3). In cases such as these, it is recommended that a value for the background be selected from the upper 90% to 95% of the expected background values. By selecting a background from the high end of the expected distribution, one can ensure that the detection sensitivity is not underestimated and is, in fact, more realistic.

For an integrated measurement over a preset time, the minimum detectable activity (MDA) for a surface activity measurement is derived from Eq. (5.2) giving:

$$MDA = \frac{3 + 4.65\sqrt{B_R t}}{t \cdot E \cdot A \cdot C}$$

where

MDA = minimum detectable activity [background NOT well-known, field measurements],

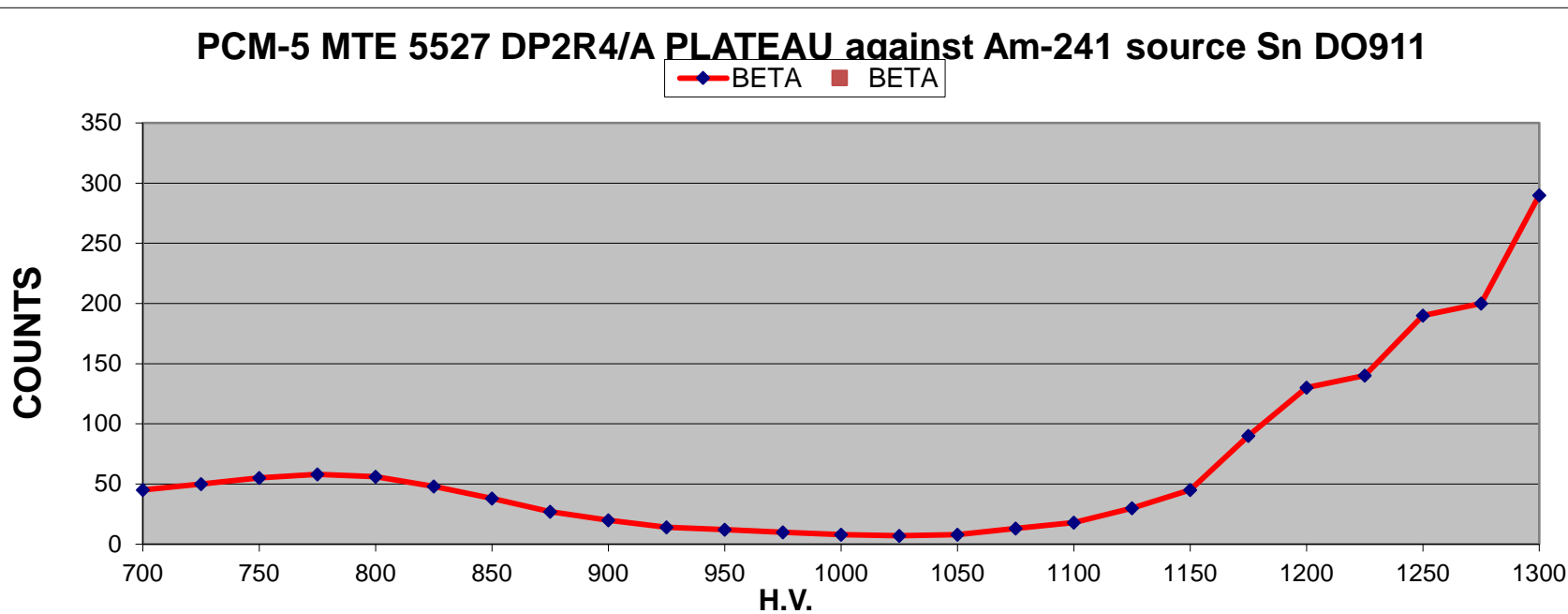
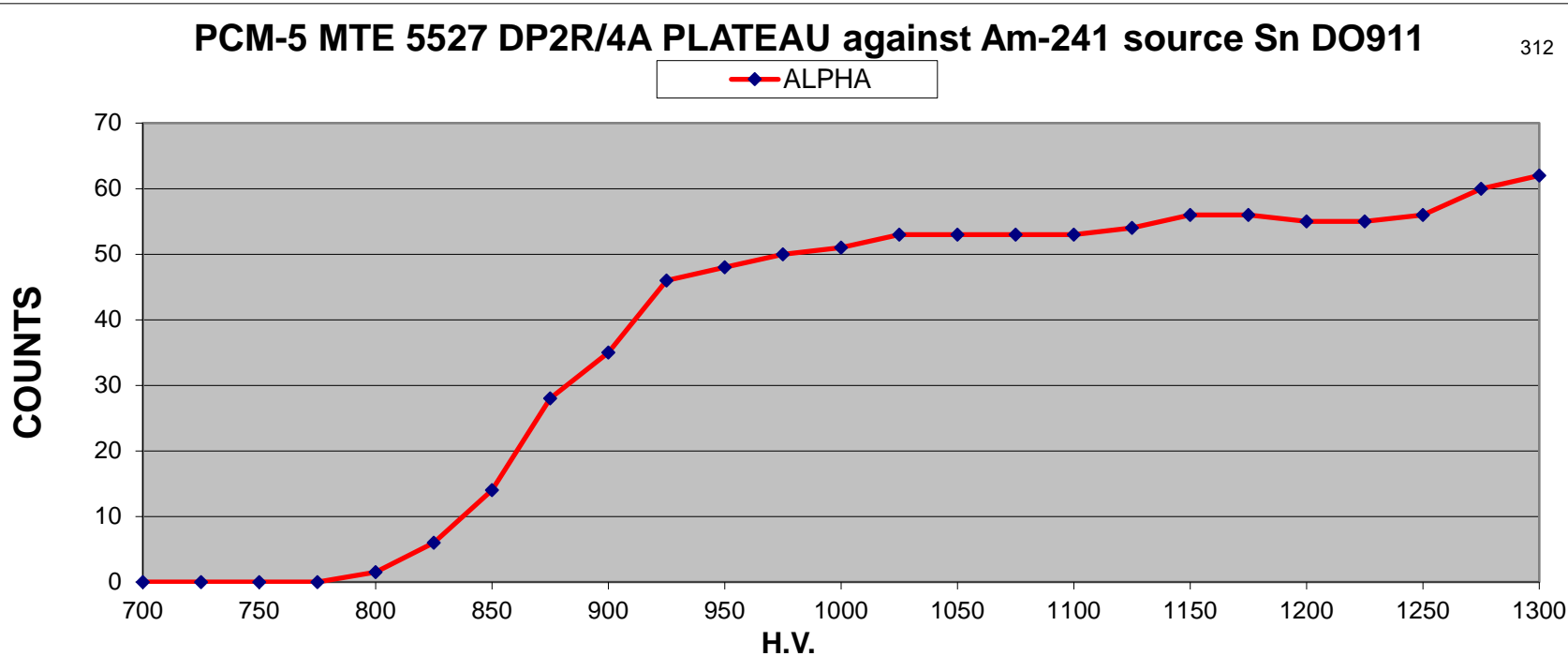
B_R = background in counts/minute,

t = counting time in minutes,

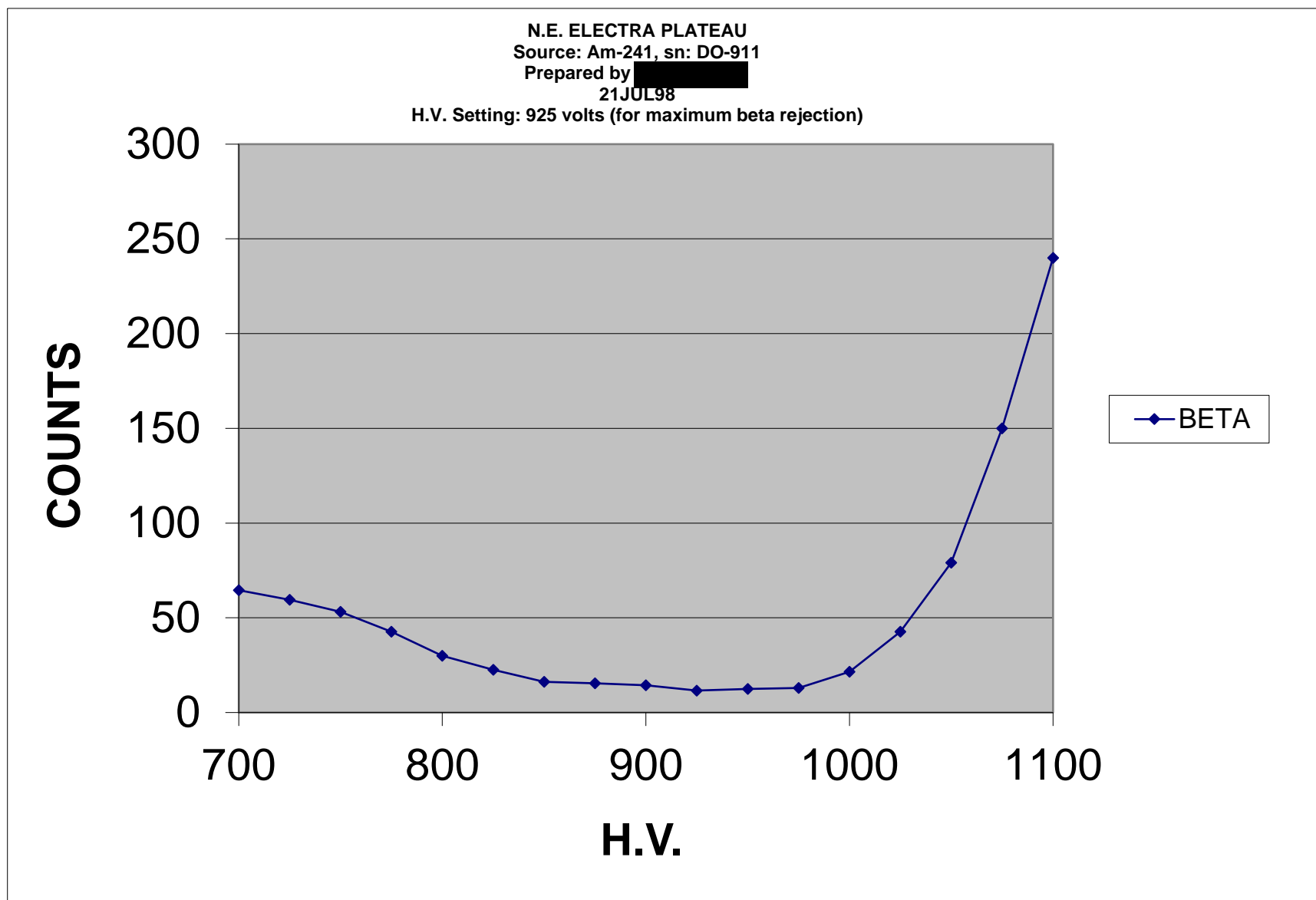
E = detector efficiency in counts/disintegration,

*The use of a false positive and false negative error rate of 5% is presented here and is recommended for general use. Alternate error levels may be selected (Currie 1968) when deemed necessary. In particular, the in situ measurement of some low risk isotopes such as ^{129}I and ^{14}C at current Appendix A guideline levels may not be plausible at 5% error levels. For conditions such as this, higher error levels may be selected and used in conjunction with process knowledge, swipes and/or samples to demonstrate compliance.

| H.V. | ALPHA | BETA |
|------|-------|------|
| 700 | 0 | 45 |
| 725 | 0 | 50 |
| 750 | 0 | 55 |
| 775 | 0 | 58 |
| 800 | 1.5 | 56 |
| 825 | 6 | 48 |
| 850 | 14 | 38 |
| 875 | 28 | 27 |
| 900 | 35 | 20 |
| 925 | 46 | 14 |
| 950 | 48 | 12 |
| 975 | 50 | 10 |
| 1000 | 51 | 8 |
| 1025 | 53 | 7 |
| 1050 | 53 | 8 |
| 1075 | 53 | 13 |
| 1100 | 53 | 18 |
| 1125 | 54 | 30 |
| 1150 | 56 | 45 |
| 1175 | 56 | 90 |
| 1200 | 55 | 130 |
| 1225 | 55 | 140 |
| 1250 | 56 | 190 |
| 1275 | 60 | 200 |
| 1300 | 62 | 290 |



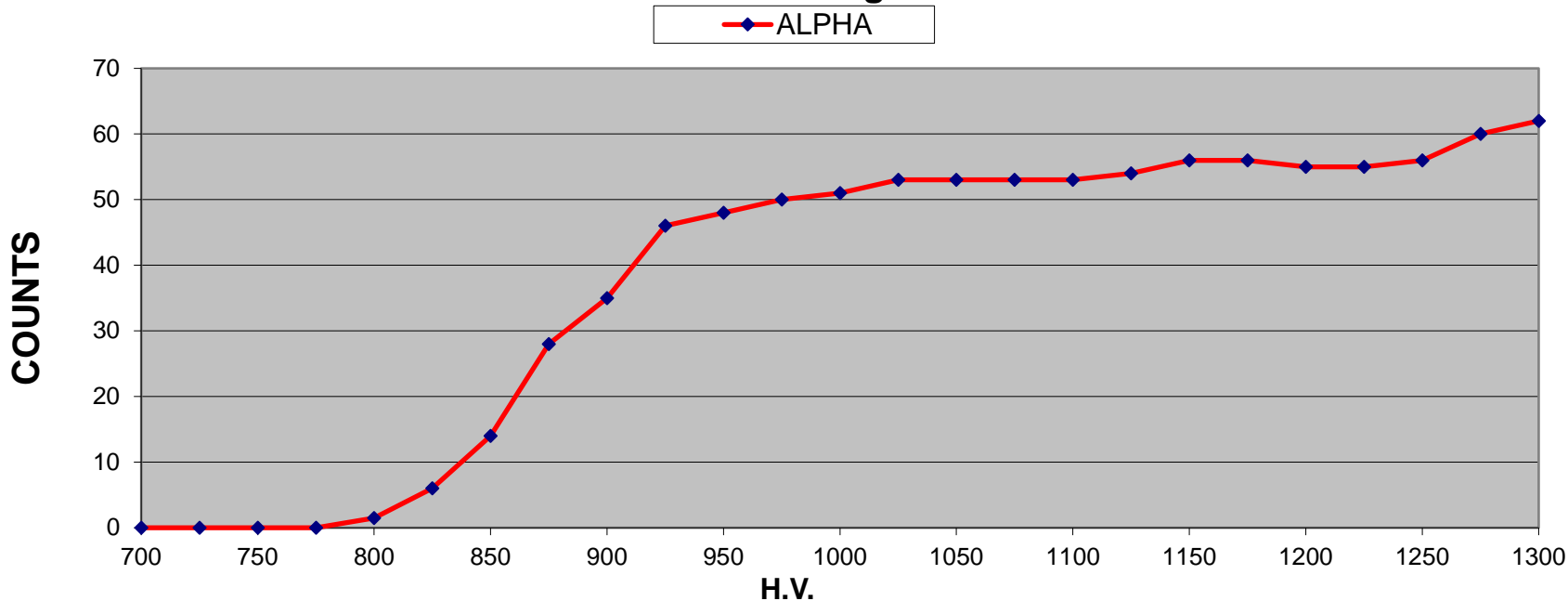
| H.V. | BETA |
|------|------|
| 700 | 64.6 |
| 725 | 59.5 |
| 750 | 53.2 |
| 775 | 42.6 |
| 800 | 30 |
| 825 | 22.6 |
| 850 | 16.2 |
| 875 | 15.4 |
| 900 | 14.4 |
| 925 | 11.6 |
| 950 | 12.4 |
| 975 | 12.9 |
| 1000 | 21.5 |
| 1025 | 42.6 |
| 1050 | 79.1 |
| 1075 | 150 |
| 1100 | 240 |



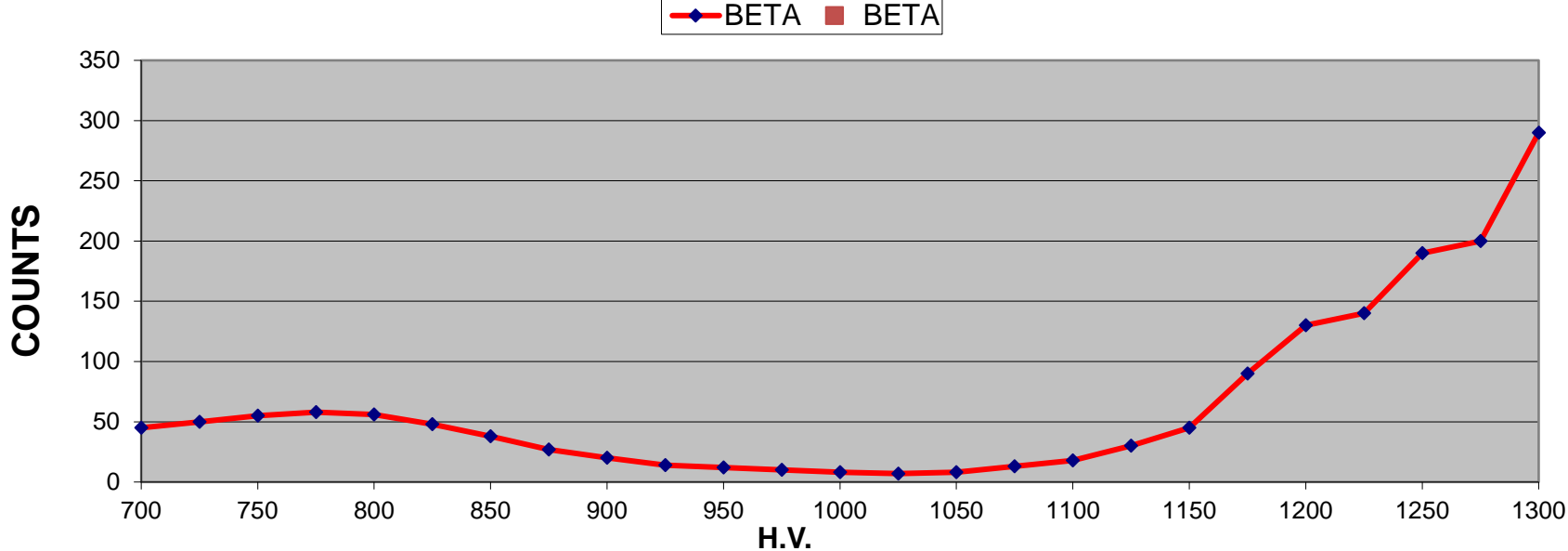
| H.V. | ALPHA | BETA |
|------|-------|------|
| 700 | 0 | 45 |
| 725 | 0 | 50 |
| 750 | 0 | 55 |
| 775 | 0 | 58 |
| 800 | 1.5 | 56 |
| 825 | 6 | 48 |
| 850 | 14 | 38 |
| 875 | 28 | 27 |
| 900 | 35 | 20 |
| 925 | 46 | 14 |
| 950 | 48 | 12 |
| 975 | 50 | 10 |
| 1000 | 51 | 8 |
| 1025 | 53 | 7 |
| 1050 | 53 | 8 |
| 1075 | 53 | 13 |
| 1100 | 53 | 18 |
| 1125 | 54 | 30 |
| 1150 | 56 | 45 |
| 1175 | 56 | 90 |
| 1200 | 55 | 130 |
| 1225 | 55 | 140 |
| 1250 | 56 | 190 |
| 1275 | 60 | 200 |
| 1300 | 62 | 290 |

PCM-5 MTE 5527 DP2R/4A PLATEAU against Am-241 source Sn DO911

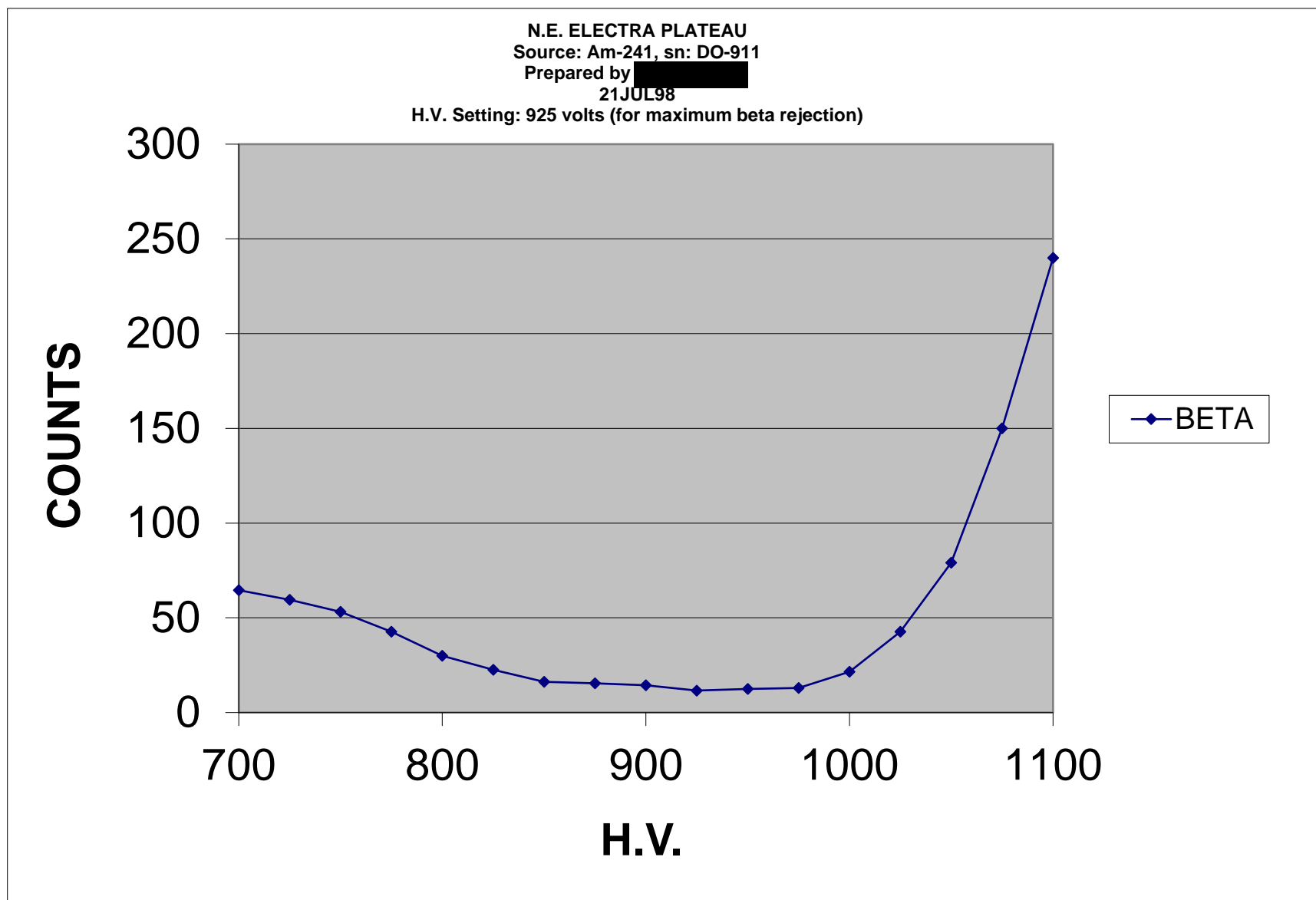
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PCM-5 MTE 5527 DP2R4/A PLATEAU against Am-241 source Sn DO911



| H.V. | BETA |
|------|------|
| 700 | 64.6 |
| 725 | 59.5 |
| 750 | 53.2 |
| 775 | 42.6 |
| 800 | 30 |
| 825 | 22.6 |
| 850 | 16.2 |
| 875 | 15.4 |
| 900 | 14.4 |
| 925 | 11.6 |
| 950 | 12.4 |
| 975 | 12.9 |
| 1000 | 21.5 |
| 1025 | 42.6 |
| 1050 | 79.1 |
| 1075 | 150 |
| 1100 | 240 |



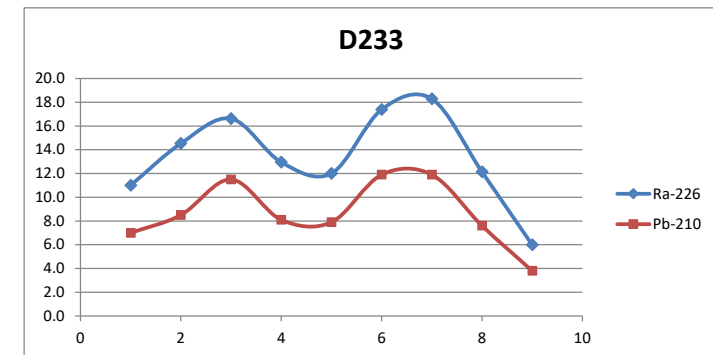
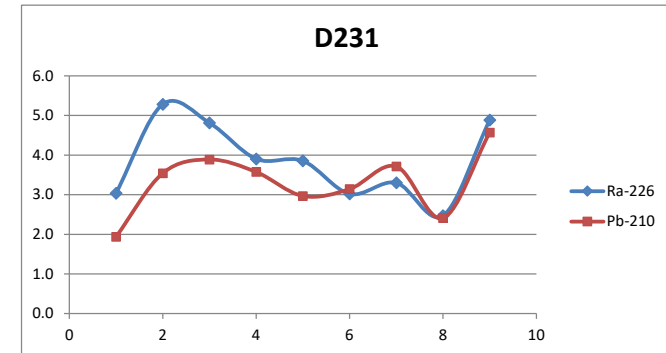
| Location | U238 (Bi214) Ra-226 | U235 U-235 | Th232 (Ra224) Ra-224 | | |
|---|------------------------|---------------|-------------------------|----------|----------|
| G01 | 25 | 8.6 | 24 | | |
| G02 | 36 | 5.2 | 18 | | |
| G04 | 47 | 6.4 | 31 | | |
| G05 | 290 | 12 | 35 | | |
| G06 | 110 | 10 | 27 | | |
| G08 -1 | 530 | 16 | 45 | | |
| G08 - 2 | 10000 | 50 | 190 | | |
| G08-2 BLIND 2 | 10000 | n/a | n/a | | |
| G09 | 46 | 4.6 | 22 | | |
| G11-1 | 220 | 9.5 | 31 | | |
| G11-2 | 2900 | 23 | 84 | | |
| G11-3 | 92 | 10 | 23 | | |
| G11-4 | 5600 | 19 | 87 | | |
| G11-4 DUPLICATE | 310 | 14 | 40 | | |
| G11-4 BLIND 1 | 5600 | n/a | n/a | | |
| G11-5 | 200 | 14 | 32 | | |
| G12-1 | 976 | 6.9 | 15 | | |
| G12-2 | 120 | 9.7 | 26 | | |
| G13-1(A) | 780000 | 3400 | 43000 | 0.435897 | 5.512821 |
| G13-1(B) | 640 | 9.4 | 40 | 1.46875 | 6.25 |
| C2-2 | 950 | 16 | 67 | | |
| C2-2 DULICATE | 450 | 12 | 39 | | |
| C-3 | 71 | 6 | 30 | | |
| A | 800 | 13 | 46 | | |
| B | 32 | 11 | 30 | | |
| C | 30 | 6.3 | 34 | | |
| D | 72 | 11 | 27 | | |
| E | 55 | 8 | 34 | | |
| F | 33 | 13 | 49 | | |
| G | 39 | 5.2 | 14 | | |
| H(A) | 37 | 10 | 20 | | |
| H(B) | 28 | 12 | 20 | | |
| I | 28 | 6.4 | 27 | | |
| BACKGROUND | 24 | 9.4 | 30 | | |
| ENTRANCE SOIL FROM UNDERNEATH FLOORING | 3400 | 31 | 120 | | |

Melbourne Uni Drum Samples

| Drum ID | Position | Section | Bq/g | | Section Weight (kg) | | Moisture (%) | Ra-226 Total Bq | | Pb-210 Total Bq | |
|---------|----------|---------------------|------------|------------|---------------------|---------------|-----------------|-----------------|-------------|-----------------|-------------|
| | | | Ra-226 | Pb-210 | Wet | Dry | | in Section | in Comp* | in Section | in Comp* |
| D231 | Top | 1 | 3.0 | 1.9 | 19.70 | 15.73 | 20.2 | 47780 | 304 | 30469 | 194 |
| | | 2 | 5.3 | 3.5 | 19.69 | 11.64 | 40.9 | 61488 | 528 | 41229 | 354 |
| | | 3 | 4.8 | 3.9 | 19.50 | 16.84 | 13.6 | 81059 | 481 | 65491 | 389 |
| | | 4 | 3.9 | 3.6 | 20.60 | 17.56 | 14.8 | 68545 | 390 | 62759 | 357 |
| | | 5 | 3.9 | 3.0 | 19.94 | 16.85 | 15.5 | 64948 | 385 | 49994 | 297 |
| | | 6 | 3.0 | 3.1 | 18.85 | 15.94 | 15.4 | 48139 | 302 | 50068 | 314 |
| | | 7 | 3.3 | 3.7 | 18.91 | 17.43 | 7.8 | 57528 | 330 | 64735 | 371 |
| | | 8 | 2.5 | 2.4 | 26.00 | 22.72 | 12.6 | 56164 | 247 | 54732 | 241 |
| | Bottom | 9 | 4.9 | 4.6 | 29.00 | 24.60 | 15.2 | 120146 | 488 | 112447 | 457 |
| | | Average Bq/g | 3.8 | | Total kg | 159.31 | Total Bq | 605798 | 3457 | 531924 | 2974 |
| | | Comp (calc) | 3.8 | 3.3 | | | | | | | |
| | | Comp (meas) | 3.7 | 2.9 | | | | | | | |

| | | | | | | | | | | | |
|------|--------|---------------------|-------------|------------|-----------------|---------------|-----------------|----------------|--------------|----------------|-------------|
| D233 | Top | 1 | 11.0 | 7.0 | 14.88 | 12.70 | 14.7 | 139744 | 1100 | 88900 | 700 |
| | | 2 | 14.5 | 8.5 | 18.45 | 15.52 | 15.9 | 225513 | 1453 | 131920 | 850 |
| | | 3 | 16.6 | 11.5 | 18.34 | 15.16 | 17.3 | 252020 | 1662 | 174340 | 1150 |
| | | 4 | 12.9 | 8.1 | 15.77 | 13.26 | 15.9 | 171704 | 1295 | 107406 | 810 |
| | | 5 | 12.0 | 7.9 | 19.79 | 16.62 | 16.0 | 199565 | 1201 | 131298 | 790 |
| | | 6 | 17.4 | 11.9 | 19.36 | 16.07 | 17.0 | 279433 | 1739 | 191233 | 1190 |
| | | 7 | 18.3 | 11.9 | 20.38 | 16.53 | 18.9 | 302185 | 1828 | 196707 | 1190 |
| | | 8 | 12.1 | 7.6 | 35.22 | 30.26 | 14.1 | 367099 | 1213 | 229976 | 760 |
| | Bottom | 9 | 6.0 | 3.8 | 43.00 | 27.19 | 36.8 | 162773 | 599 | 103322 | 380 |
| | | Average Bq/g | 12.9 | | Total kg | 163.31 | Total Bq | 2100036 | 12090 | 1355102 | 7820 |
| | | Comp (calc) | 13.4 | 8.7 | | | | | | | |
| | | Comp (meas) | 13.1 | 8.2 | | | | | | | |

* 100 g of each pulverised section taken for composite



Melbourne
Sampling period 18Nov-19 Nov 2010

| Bar Code No | Sample No | Room No | TE Num | Radon concentration Bq*m-3 | Error Bq*m-3 |
|-------------|-----------|-------------|--------|-------------------------------|-----------------|
| 2160508 | 5 | G05 | TE5 | 162 | 4.7 |
| 2160513 | 9 | G09 | TE9 | 144 | 4.6 |
| 2160514 | 10 | G10 | TE10 | 122 | 4.3 |
| 2160512 | 8 | G08 | TE8 | 111 | 4.0 |
| 2160519 | 15 | Under floor | TE15 | 96 | 3.9 |
| 2160507 | 4 | G04 | TE4 | 75 | 3.4 |
| 2160516 | 12 | G12 | TE12 | 68 | 3.4 |
| 2160504 | 1 | G01 | TE1 | 56 | 3.0 |
| 2160515 | 11 | G11 | TE11 | 51 | 3.0 |
| 2160518 | 14 | G Hallway | TE14 | 46 | 3.0 |
| 2160520 | 16 | Under floor | TE16 | 46 | 3.0 |
| 2160505 | 2 | G02 | TE2 | 39 | 2.6 |
| 2160509 | 6 | G06 | TE6 | 32 | 2.5 |
| 2160511 | 7 | G07 | TE7 | 25 | 2.4 |
| 2160506 | 3 | G03 | TE3 | 24 | 2.3 |
| 2160517 | 26 | Stairway | TE13 | 15 | 2.3 |
| 2160525 | 20 | 103 | TE20 | 13 | 2.2 |
| 2160522 | 18 | 101 | TE18 | 11 | 2.1 |
| 2160523 | 17 | Hallway | TE17 | 9 | 2.0 |
| 2160527 | 22 | 105 | TE22 | 6 | 1.9 |
| 2160524 | 19 | 102 | TE19 | 6 | 1.9 |
| 2160530 | 25 | John's | TE25 | 5 | 2.0 |
| 2160526 | 21 | 104 | TE21 | 4 | 1.9 |
| 2160529 | 24 | 107 | TE24 | 3 | 1.9 |
| 2160521 | 13 | Steve's | TE13 | 2 | 1.7 |
| 2160528 | 23 | 106 | TE23 | 2 | 1.8 |

Melbourne
Sampling period 18Nov-19 Nov 2010

| Bar Code No | Sample No | Room No | TE Num | Radon concentration Bq*m-3 | Error Bq*m-3 |
|-------------|-----------|-------------|--------|-------------------------------|-----------------|
| 2160504 | 1 | G01 | TE1 | 56 | 3.0 |
| 2160505 | 2 | G02 | TE2 | 39 | 2.6 |
| 2160506 | 3 | G03 | TE3 | 24 | 2.3 |
| 2160507 | 4 | G04 | TE4 | 75 | 3.4 |
| 2160508 | 5 | G05 | TE5 | 162 | 4.7 |
| 2160509 | 6 | G06 | TE6 | 32 | 2.5 |
| 2160511 | 7 | G07 | TE7 | 25 | 2.4 |
| 2160512 | 8 | G08 | TE8 | 111 | 4.0 |
| 2160513 | 9 | G09 | TE9 | 144 | 4.6 |
| 2160514 | 10 | G10 | TE10 | 122 | 4.3 |
| 2160515 | 11 | G11 | TE11 | 51 | 3.0 |
| 2160516 | 12 | G12 | TE12 | 68 | 3.4 |
| 2160521 | 13 | Steve's | TE13 | 2 | 1.7 |
| 2160518 | 14 | G Hallway | TE14 | 46 | 3.0 |
| 2160519 | 15 | Under floor | TE15 | 96 | 3.9 |
| 2160520 | 16 | Under floor | TE16 | 46 | 3.0 |
| 2160523 | 17 | Hallway | TE17 | 9 | 2.0 |
| 2160522 | 18 | 101 | TE18 | 11 | 2.1 |
| 2160524 | 19 | 102 | TE19 | 6 | 1.9 |
| 2160525 | 20 | 103 | TE20 | 13 | 2.2 |
| 2160526 | 21 | 104 | TE21 | 4 | 1.9 |
| 2160527 | 22 | 105 | TE22 | 6 | 1.9 |
| 2160528 | 23 | 106 | TE23 | 2 | 1.8 |
| 2160529 | 24 | 107 | TE24 | 3 | 1.9 |
| 2160530 | 25 | John's | TE25 | 5 | 2.0 |
| 2160517 | 26 | Stairway | TE13 | 15 | 2.3 |

| Bar Code No | Sample No | Room No | TE Num | Radon concentration Bq*m-3 | Error Bq*m-3 |
|-------------|-----------|-------------|--------|-------------------------------|-----------------|
| 204756 | 13 | G13 | TE13 | 822 | 14.0 |
| 204758 | 15 | Under floor | TE15 | 303 | 8.9 |
| 204735 | 1 | G01 | TE1 | 283 | 8.1 |
| 204760 | 16 | Under floor | TE16 | 275 | 8.5 |
| 204743 | 6 | G06 | TE6 | 270 | 8.1 |
| 204752 | 9 | G09 | TE9 | 266 | 8.1 |
| 204742 | 5 | G05 | TE5 | 261 | 7.9 |
| 204754 | 11 | G11 | TE11 | 235 | 7.8 |
| 204757 | 14 | G Hallway | TE14 | 223 | 7.7 |
| 204738 | 3 | G03 | TE3 | 218 | 7.3 |
| 204736 | 2 | G02 | TE2 | 206 | 7.1 |
| 204751 | 8 | G08 | TE8 | 200 | 7.2 |
| 204755 | 12 | G12 | TE12 | 192 | 7.2 |
| 204750 | 7 | G07 | TE7 | 189 | 7.0 |
| 204741 | 4 | G04 | TE4 | 179 | 6.7 |
| 204753 | 10 | G10 | TE10 | 174 | 6.8 |
| 204765 | 19 | 102 | TE19 | 165 | 6.9 |
| 204772 | 26 | Stairway | TE26 | 65 | 4.4 |
| 204764 | 18 | 101 | TE18 | 50 | 4.5 |
| 204767 | 21 | 104 | TE21 | 48 | 4.6 |
| 204763 | 17 | Hallway | TE17 | 45 | 4.4 |
| 204766 | 20 | 103 | TE20 | 39 | 4.3 |
| 204768 | 22 | 105 | TE22 | 32 | 4.2 |
| 204770 | 24 | 107 | TE24 | 30 | 4.1 |
| 204769 | 23 | 106 | TE23 | 28 | 4.1 |
| 204771 | 25 | 108 | TE25 | 18 | 3.2 |

| Bar Code No | Sample No | Room No | TE Num | Radon concentration Bq*m-3 | Error Bq*m-3 |
|-------------|-----------|-------------|--------|-------------------------------|-----------------|
| 204735 | 1 | G01 | TE1 | 283 | 8.1 |
| 204736 | 2 | G02 | TE2 | 206 | 7.1 |
| 204738 | 3 | G03 | TE3 | 218 | 7.3 |
| 204741 | 4 | G04 | TE4 | 179 | 6.7 |
| 204742 | 5 | G05 | TE5 | 261 | 7.9 |
| 204743 | 6 | G06 | TE6 | 270 | 8.1 |
| 204750 | 7 | G07 | TE7 | 189 | 7.0 |
| 204751 | 8 | G08 | TE8 | 200 | 7.2 |
| 204752 | 9 | G09 | TE9 | 266 | 8.1 |
| 204753 | 10 | G10 | TE10 | 174 | 6.8 |
| 204754 | 11 | G11 | TE11 | 235 | 7.8 |
| 204755 | 12 | G12 | TE12 | 192 | 7.2 |
| 204756 | 13 | G13 | TE13 | 822 | 14.0 |
| 204757 | 14 | G Hallway | TE14 | 223 | 7.7 |
| 204758 | 15 | Under floor | TE15 | 303 | 8.9 |
| 204760 | 16 | Under floor | TE16 | 275 | 8.5 |
| 204763 | 17 | Hallway | TE17 | 45 | 4.4 |
| 204764 | 18 | 101 | TE18 | 50 | 4.5 |
| 204765 | 19 | 102 | TE19 | 165 | 6.9 |
| 204766 | 20 | 103 | TE20 | 39 | 4.3 |
| 204767 | 21 | 104 | TE21 | 48 | 4.6 |
| 204768 | 22 | 105 | TE22 | 32 | 4.2 |
| 204769 | 23 | 106 | TE23 | 28 | 4.1 |
| 204770 | 24 | 107 | TE24 | 30 | 4.1 |
| 204771 | 25 | 108 | TE25 | 18 | 3.2 |
| 204772 | 26 | Stairway | TE26 | 65 | 4.4 |

| Survey Point | Description | CPS 2" Na-I detector reading at contact | GM detector gamma reading at contact (uSv/h) | Observed dose rate/hr Environmental gamma monitor at 1 metre (uSv/h) | 100 sec counts Environmental gamma monitor at 1 metre (uSv/h) | Background subtraction | Net dose rate/hr at 1 metre environmental gamma monitor derived from integrated count over 100 seconds using radium calibration factors (uSv/h) |
|--------------|--|---|--|--|---|------------------------|---|
| A | Background outside building | 195 | | 0.13 | 214 | | 0.11 |
| B | Background on large grassed area towards Grattan St gate 9 | 145 | | 0.1 | 151 | | 0.08 |
| C | Background at Grattan St gate 9 | 135 | | 0.1 | 155 | | 0.08 |
| 1 | Door mat | 600 | | 0.17 | 246 | 151 | 0.049 |
| 2 | Entrance to bld | 350 | | 0.13 | 254 | 151 | 0.053 |
| 3 | Hallway 1 | 1300 | 1/0.3 | 0.16 | 305 | 151 | 0.080 |
| 4 | Hallway 2 | 800 | | 0.2 | 334 | 151 | 0.095 |
| 5 | Hallway 3 | 2500 | 2.2/0.43 | 1.2 | 1697 | 151 | 0.801 |
| 6 | Hallway 4 | 770 | | | | 151 | |
| 7 | Hallway 5 | 780 | | | | 151 | |
| 8 | Hallway 6 | 940 | 0.4 | 0.24 | 387 | 151 | 0.122 |
| 9 | Entrance to radium lab | 600 | | 0.25 | 410 | 151 | 0.134 |
| 10 | Under bench | 750 | | | | 151 | |
| 11 | In corner under bench | 920 | 0.4 at 1m | 0.21 | 390 | 151 | 0.124 |
| 12 | In cleaners closet | 900 | | 0.16 | 326 | 151 | 0.091 |
| 13 | at entrance to end lab | 800 | | 0.25 | 437 | 151 | 0.148 |
| 14 | In vault | 130 | | | | 151 | |
| 15 | Centre of end room | 600 | | | | 151 | |
| 16 | North corner of end room | 900 | | 0.21 | 425 | 151 | 0.142 |
| 17 | Eastern wall of end room | 520 | | 0.22 | 371 | 151 | 0.114 |
| 18 | In radium lab near entrance to end room | 800 | 0.5 at 1m | 0.21 | 410 | 151 | 0.134 |
| 19 | adjacent to white board in radium lab | 1100 | 0.4 at 1m | 0.22 | 408 | 151 | 0.133 |
| 20 | Near corner under cupboard in radium lab | 1400 | | | | | |
| 21 | South Eastern cnr of radium lab | 800 | | 0.2 | 338 | 151 | 0.097 |
| 22 | Northern end of radium lab | 1050 | | 0.22 | 390 | 151 | 0.124 |
| 23 | G08 - S.E. cnr | 420 | | 0.18 | 305 | 151 | 0.080 |
| 24 | G08 - E. Side | 260 | | 0.15 | 252 | 151 | 0.052 |
| 25 | G08 - centre | 1000 | 0.3 at 1m | 0.21 | 326 | 151 | 0.091 |
| 26 | G09 - Sth entrance | 650 | | 0.2 | 293 | 151 | 0.074 |
| 27 | G09 - East side | 370 | | 0.17 | 256 | 151 | 0.054 |
| 28 | G07 | 320 | | | | 151 | |
| 29 | G04 - Sth entrance | 470 | | 0.16 | 258 | 151 | 0.055 |
| 30 | G04 - Sth entrance | 400 | | | | | |
| 31 | G04 - CENTRE | 300 | | | | 151 | |
| 32 | G04 - Nth side | 220 | | | | 151 | |
| 33 | G04 - western side | 270 | | | | 151 | |
| 34 | G05 | 430 | | 0.12 | 214 | 151 | 0.033 |
| 35 | Corridor | 270 | | 0.14 | 275 | 151 | 0.064 |
| 36 | Corridor outside G02 | 460 | | 0.13 | 270 | 151 | 0.062 |
| 37 | G02 | 470 | | | | 151 | |
| 38 | G02 | 500 | | 0.15 | 279 | 151 | 0.066 |
| 39 | G01 | 400 | | 0.14 | 272 | 151 | 0.063 |

| | | | | | | | |
|----|-----|------|--|------|-----|-----|-------|
| 40 | G01 | 1600 | | 0.17 | 254 | 151 | 0.053 |
|----|-----|------|--|------|-----|-----|-------|

| Survey Point | Description | CPS 2" Na-I detector reading at contact | GM detector gamma reading at contact (uSv/h) | Observed dose rate/hr Environmental gamma monitor at 1 metre (uSv/h) | 100 sec counts Environmental gamma monitor at 1 metre (uSv/h) | Background subtraction | Net dose rate/hr at 1 metre environmental gamma monitor derived from integrated count over 100 seconds using radium calibration factors (uSv/h) |
|--------------|-------------|---|--|---|--|------------------------|--|
| A | | | | | 214 | | 0.111 |
| B | | | | | 151 | | 0.078 |
| C | | | | | 155 | | 0.080 |
| 1 | | | | 4 | | | |
| 2 | | | | 5 | | | |
| 3 | | | | 6 | 280 | 151 | 0.067 |
| 4 | | | | 7 | | | |
| 5 | | | | 8 | 349 | 151 | 0.103 |
| 6 | | | | 9 | 295 | 151 | 0.075 |
| 7 | | | | 10 | 290 | 151 | 0.072 |
| 8 | | | | 11 | 309 | 151 | 0.082 |
| 9 | | | | 12 | 294 | 151 | 0.074 |
| 10 | | | | 13 | 315 | 151 | 0.085 |
| 11 | | | | 14 | 261 | 151 | 0.057 |
| 12 | | | | 15 | | | |
| 13 | | | | 16 | 205 | 151 | 0.028 |
| 14 | | | | 17 | 200 | 151 | 0.025 |
| 15 | | | | 18 | 240 | 151 | 0.046 |
| 16 | | | | 19 | 275 | 151 | 0.064 |
| 17 | | | | 20 | 280 | 151 | 0.067 |
| 18 | | | | 21 | 257 | 151 | 0.055 |
| | | | | | | | |
| | | | | | | | |