

DWR CYMRU WELSH WATER - LLECHRYD WTW

Analysis of water clarification sludge cake

Sampling Point No: 100504

Sample ID: 8557181

Date: 14/10/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 50.0 |
| Application rate (t/acre) | 20.2 |
| pH | 5.8 |
| Dry solids (%) | 16.40 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 0.919 | 0.15 | % | 1.5 | 75 | 0.2 | 8 |
| Ammonium N | 62.4 | 10.23 | mg/kg | 0.0 | 1 | | |
| Phosphorus (P) | 3240 | 531.36 | mg/kg | 0.5 | 27 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 1.2 | 61 | 0.2 | 12 |
| Potassium (K) | 551 | 90.36 | mg/kg | 0.1 | 5 | | |
| Potash (K ₂ O) | | 0.00 | | 0.1 | 5 | 0.0 | 1 |
| Magnesium (Mg) | 1420 | 232.88 | mg/kg | 0.2 | 12 | | |
| Magnesium (MgO) | | 0.00 | | 0.4 | 19 | 0.1 | 4 |
| Sulphur (S) | 3780 | 619.92 | mg/kg | 0.6 | 31 | | |
| Sulphur (SO ₃) | | 0.00 | | 1.5 | 77 | 0.2 | 8 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 126 | 20.66 | mg/kg | 20.66 | 1.03 | 15.00 | 7% |
| Copper | 38.6 | 6.33 | mg/kg | 6.33 | 0.32 | 7.50 | 4% |
| Nickel | 17 | 2.79 | mg/kg | 2.79 | 0.14 | 3.00 | 5% |
| Lead | 22.1 | 3.62 | mg/kg | 3.62 | 0.18 | 15.00 | 1% |
| Cadmium | 0.34 | 0.06 | mg/kg | 0.06 | 0.00 | 0.15 | 2% |
| Chromium | 16.3 | 2.67 | mg/kg | 2.67 | 0.13 | 15.00 | 1% |
| Arsenic | 22.1 | 3.62 | mg/kg | 3.62 | 0.18 | 0.70 | 26% |
| Mercury | 0.31 | 0.05 | mg/kg | 0.05 | 0.00 | 0.10 | 3% |
| | | | | | | | |
| <u>Other Elements</u> | | | | | | | |
| Iron | 187000 | 30668.00 | mg/kg | 30668.00 | 1533 | | |
| Aluminium | 7180 | 1177.52 | mg/kg | 1177.52 | 59 | | |

| | | | |
|---------------------------|---|--------------------|-------------------------------------|
| Sampling Point No: | 100504 | Location: | LLECHRYD WTW SLUDGE TANKERING POINT |
| Date Sampled: | 14/10/2025 | Time Taken: | 12:59 |
| Laboratory: | ALS | Sample ID: | 8557181 |
| No. of Results: | 20 | | |
| Sampling Reason: | WTW Sludge - Product Monitoring (SW_ME) | | |
| Type: | WTW Sludge (SW) | | |

Sample Results

| Code | Result | Units | Qualifier | Lower Limit |
|--------------------------|--------|-------|-----------|-------------|
| 238 Magnesium | 1420 | mg/kg | | |
| 288 Aluminium | 7180 | mg/kg | | |
| 357 Arsenic | 22.1 | mg/kg | | |
| 4620 pH | 5.8 | pH | | |
| 7774 Mercury | 0.31 | mg/kg | < | |
| 8241 Volatile solids | 45.7 | % | | |
| 9233 Ammoniacal nitrogen | 62.4 | mg/kg | | |
| 9234 Sulphur | 3780 | mg/kg | | |
| 9271 Cadmium | 0.34 | mg/kg | < | |
| 9272 Chromium | 16.3 | mg/kg | | |
| 9273 Copper | 38.6 | mg/kg | | |
| 9275 Nickel | 17.0 | mg/kg | | |
| 9276 Lead | 22.1 | mg/kg | | |
| 9277 Zinc | 126 | mg/kg | | |
| 9278 Iron | 187000 | mg/kg | | |
| 9281 % Dry solids | 16.4 | % | | |
| 9282 % Minerals | 54.3 | % | | |
| 9283 % K (dry weight) | 0.0551 | mg/kg | | |
| 9284 % P (dry weight) | 0.324 | % | | |
| 9285 % N (dry weight) | 0.919 | % | | |

Comments:

Signed:

Approved by:

Position:

Upper Limit

DWR CYMRU WELSH WATER - BONTGOCH WTW

Analysis of water clarification sludge cake

Sampling Point No: 100521

Sample ID: 8443893

Date: 10/07/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 19.0 |
| Application rate (t/acre) | 7.7 |
| pH | 6.3 |
| Dry solids (%) | 20.30 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 1.43 | 0.29 | % | 2.9 | 55 | 0.3 | 6 |
| Ammonium N | 153 | 31.06 | mg/kg | 0.0 | 1 | | |
| Phosphorus (P) | 7100 | 1441.30 | mg/kg | 1.4 | 27 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 3.3 | 63 | 0.7 | 13 |
| Potassium (K) | 209 | 42.43 | mg/kg | 0.0 | 1 | | |
| Potash (K ₂ O) | | 0.00 | | 0.1 | 1 | 0.0 | 0 |
| Magnesium (Mg) | 698 | 141.69 | mg/kg | 0.1 | 3 | | |
| Magnesium (MgO) | | 0.00 | | 0.2 | 4 | 0.0 | 1 |
| Sulphur (S) | 3360 | 682.08 | mg/kg | 0.7 | 13 | | |
| Sulphur (SO ₃) | | 0.00 | | 1.7 | 32 | 0.2 | 3 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 475 | 96.43 | mg/kg | 96.43 | 1.83 | 15.00 | 12% |
| Copper | 24.9 | 5.05 | mg/kg | 5.05 | 0.10 | 7.50 | 1% |
| Nickel | 26.4 | 5.36 | mg/kg | 5.36 | 0.10 | 3.00 | 3% |
| Lead | 109 | 22.13 | mg/kg | 22.13 | 0.42 | 15.00 | 3% |
| Cadmium | 0.96 | 0.19 | mg/kg | 0.19 | 0.00 | 0.15 | 2% |
| Chromium | 17 | 3.45 | mg/kg | 3.45 | 0.07 | 15.00 | 0% |
| Arsenic | 67.9 | 13.78 | mg/kg | 13.78 | 0.26 | 0.70 | 37% |
| Mercury | 0.24 | 0.05 | mg/kg | 0.05 | 0.00 | 0.10 | 1% |
| | | | | | | | |
| Other Elements | | | | | | | |
| Iron | 379000 | 76937.00 | mg/kg | 76937.00 | 1462 | | |
| Aluminium | 8010 | 1626.03 | mg/kg | 1626.03 | 31 | | |

DWR CYMRU WELSH WATER - BONTGOCH WTW

Analysis of water clarification sludge cake

Sampling Point No: 100521

Sample ID: 8443893

Date: 10/07/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 24.0 |
| Application rate (t/acre) | 9.7 |
| pH | 6.3 |
| Dry solids (%) | 20.30 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 1.43 | 0.29 | % | 2.9 | 70 | 0.3 | 7 |
| Ammonium N | 153 | 31.06 | mg/kg | 0.0 | 1 | | |
| Phosphorus (P) | 7100 | 1441.30 | mg/kg | 1.4 | 35 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 3.3 | 79 | 0.7 | 16 |
| Potassium (K) | 209 | 42.43 | mg/kg | 0.0 | 1 | | |
| Potash (K ₂ O) | | 0.00 | | 0.1 | 1 | 0.0 | 0 |
| Magnesium (Mg) | 698 | 141.69 | mg/kg | 0.1 | 3 | | |
| Magnesium (MgO) | | 0.00 | | 0.2 | 6 | 0.0 | 1 |
| Sulphur (S) | 3360 | 682.08 | mg/kg | 0.7 | 16 | | |
| Sulphur (SO ₃) | | 0.00 | | 1.7 | 41 | 0.2 | 4 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 475 | 96.43 | mg/kg | 96.43 | 2.31 | 15.00 | 15% |
| Copper | 24.9 | 5.05 | mg/kg | 5.05 | 0.12 | 7.50 | 2% |
| Nickel | 26.4 | 5.36 | mg/kg | 5.36 | 0.13 | 3.00 | 4% |
| Lead | 109 | 22.13 | mg/kg | 22.13 | 0.53 | 15.00 | 4% |
| Cadmium | 0.96 | 0.19 | mg/kg | 0.19 | 0.00 | 0.15 | 3% |
| Chromium | 17 | 3.45 | mg/kg | 3.45 | 0.08 | 15.00 | 1% |
| Arsenic | 67.9 | 13.78 | mg/kg | 13.78 | 0.33 | 0.70 | 47% |
| Mercury | 0.24 | 0.05 | mg/kg | 0.05 | 0.00 | 0.10 | 1% |
| | | | | | | | |
| Other Elements | | | | | | | |
| Iron | 379000 | 76937.00 | mg/kg | 76937.00 | 1846 | | |
| Aluminium | 8010 | 1626.03 | mg/kg | 1626.03 | 39 | | |

| | | | |
|---------------------------|---|--------------------|-------------------------------------|
| Sampling Point No: | 100521 | Location: | BONTGOCH WTW SLUDGE TANKERING POINT |
| Date Sampled: | 10/07/2025 | Time Taken: | 10:04 |
| Laboratory: | ALS | Sample ID: | 8443893 |
| No. of Results: | 20 | | |
| Sampling Reason: | WTW Sludge - Product Monitoring (SW_ME) | | |
| Type: | WTW Sludge (SW) | | |

Sample Results

| Code | Result | Units | Qualifier | Lower Limit |
|--------------------------|--------|-------|-----------|-------------|
| 238 Magnesium | 698 | mg/kg | | |
| 288 Aluminium | 8010 | mg/kg | | |
| 357 Arsenic | 67.9 | mg/kg | | |
| 4620 pH | 6.3 | pH | | |
| 7774 Mercury | 0.24 | mg/kg | < | |
| 8241 Volatile solids | 36.7 | % | | |
| 9233 Ammoniacal nitrogen | 153 | mg/kg | | |
| 9234 Sulphur | 3360 | mg/kg | | |
| 9271 Cadmium | 0.96 | mg/kg | | |
| 9272 Chromium | 17.0 | mg/kg | | |
| 9273 Copper | 24.9 | mg/kg | | |
| 9275 Nickel | 26.4 | mg/kg | | |
| 9276 Lead | 109 | mg/kg | | |
| 9277 Zinc | 475 | mg/kg | | |
| 9278 Iron | 379000 | mg/kg | | |
| 9281 % Dry solids | 20.3 | % | | |
| 9282 % Minerals | 63.3 | % | | |
| 9283 % K (dry weight) | 0.0209 | mg/kg | < | |
| 9284 % P (dry weight) | 0.710 | % | | |
| 9285 % N (dry weight) | 1.43 | % | | |

Comments:

Signed:

Approved by:

Position:

Upper Limit

DWR CYMRU WELSH WATER - BOLTON HILL WTW

Analysis of water clarification sludge cake

Sampling Point No: 120038

Sample ID: 8444337

Date: 10/07/2025

| | |
|---------------------------|------|
| Application rate (t/ha) | 51.0 |
| Application rate (t/acre) | 20.6 |
| pH | 6.7 |
| Dry solids (%) | 15.6 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 1.27 | 0.20 | % | 2.0 | 101 | 0.2 | 10 |
| Ammonium N | 82.6 | 12.89 | mg/kg | 0.0 | 1 | | |
| Phosphorus (P) | 3430 | 535.08 | mg/kg | 0.5 | 27 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 1.2 | 62 | 0.2 | 12 |
| Potassium (K) | 482 | 75.19 | mg/kg | 0.1 | 4 | | |
| Potash (K ₂ O) | | 0.00 | | 0.1 | 5 | 0.0 | 1 |
| Magnesium (Mg) | 717 | 111.85 | mg/kg | 0.1 | 6 | | |
| Magnesium (MgO) | | 0.00 | | 0.2 | 9 | 0.0 | 2 |
| Sulphur (S) | 5120 | 798.72 | mg/kg | 0.8 | 41 | | |
| Sulphur (SO ₃) | | 0.00 | | 2.0 | 102 | 0.2 | 10 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 83 | 12.95 | mg/kg | 12.95 | 0.66 | 15.00 | 4% |
| Copper | 47.5 | 7.41 | mg/kg | 7.41 | 0.38 | 7.50 | 5% |
| Nickel | 23.2 | 3.62 | mg/kg | 3.62 | 0.18 | 3.00 | 6% |
| Lead | 20.4 | 3.18 | mg/kg | 3.18 | 0.16 | 15.00 | 1% |
| Cadmium | 0.36 | 0.06 | mg/kg | 0.06 | 0.00 | 0.15 | 2% |
| Chromium | 14.1 | 2.20 | mg/kg | 2.20 | 0.11 | 15.00 | 1% |
| Arsenic | 20.6 | 3.21 | mg/kg | 3.21 | 0.16 | 0.70 | 23% |
| Mercury | 0.66 | 0.10 | mg/kg | 0.10 | 0.01 | 0.10 | 5% |
| | | | | | | | |
| Other Elements | | | | | | | |
| Iron | 17700 | 2761.20 | mg/kg | 2761.20 | 141 | | |
| Aluminium | 168000 | 26208.00 | mg/kg | 26208.00 | 1337 | | |

DWR CYMRU WELSH WATER - BOLTON HILL WTW

Analysis of water clarification sludge cake

Sampling Point No: 120038

Sample ID: 8444337

Date: 10/07/2025

| | |
|---------------------------|------|
| Application rate (t/ha) | 65.0 |
| Application rate (t/acre) | 26.3 |
| pH | 6.7 |
| Dry solids (%) | 15.6 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 1.27 | 0.20 | % | 2.0 | 129 | 0.2 | 13 |
| Ammonium N | 82.6 | 12.89 | mg/kg | 0.0 | 1 | | |
| Phosphorus (P) | 3430 | 535.08 | mg/kg | 0.5 | 35 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 1.2 | 80 | 0.2 | 16 |
| Potassium (K) | 482 | 75.19 | mg/kg | 0.1 | 5 | | |
| Potash (K ₂ O) | | 0.00 | | 0.1 | 6 | 0.0 | 1 |
| Magnesium (Mg) | 717 | 111.85 | mg/kg | 0.1 | 7 | | |
| Magnesium (MgO) | | 0.00 | | 0.2 | 12 | 0.0 | 2 |
| Sulphur (S) | 5120 | 798.72 | mg/kg | 0.8 | 52 | | |
| Sulphur (SO ₃) | | 0.00 | | 2.0 | 130 | 0.2 | 13 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 83 | 12.95 | mg/kg | 12.95 | 0.84 | 15.00 | 6% |
| Copper | 47.5 | 7.41 | mg/kg | 7.41 | 0.48 | 7.50 | 6% |
| Nickel | 23.2 | 3.62 | mg/kg | 3.62 | 0.24 | 3.00 | 8% |
| Lead | 20.4 | 3.18 | mg/kg | 3.18 | 0.21 | 15.00 | 1% |
| Cadmium | 0.36 | 0.06 | mg/kg | 0.06 | 0.00 | 0.15 | 2% |
| Chromium | 14.1 | 2.20 | mg/kg | 2.20 | 0.14 | 15.00 | 1% |
| Arsenic | 20.6 | 3.21 | mg/kg | 3.21 | 0.21 | 0.70 | 30% |
| Mercury | 0.66 | 0.10 | mg/kg | 0.10 | 0.01 | 0.10 | 7% |
| Other Elements | | | | | | | |
| Iron | 17700 | 2761.20 | mg/kg | 2761.20 | 179 | | |
| Aluminium | 168000 | 26208.00 | mg/kg | 26208.00 | 1704 | | |

| | | | |
|---------------------------|---|--------------------|------------------------------------|
| Sampling Point No: | 120038 | Location: | BOLTON HILL Sludge Tankering Point |
| Date Sampled: | 10/07/2025 | Time Taken: | 10:09 |
| Laboratory: | ALS | Sample ID: | 8444337 |
| No. of Results: | 20 | | |
| Sampling Reason: | WTW Sludge - Product Monitoring (SW_ME) | | |
| Type: | WTW Sludge (SW) | | |

Sample Results

| Code | Result | Units | Qualifier | Lower Limit |
|--------------------------|--------|-------|-----------|-------------|
| 238 Magnesium | 717 | mg/kg | | |
| 288 Aluminium | 168000 | mg/kg | | |
| 357 Arsenic | 20.6 | mg/kg | | |
| 4620 pH | 6.7 | pH | | |
| 7774 Mercury | 0.66 | mg/kg | < | |
| 8241 Volatile solids | 45.9 | % | | |
| 9233 Ammoniacal nitrogen | 82.6 | mg/kg | | |
| 9234 Sulphur | 5120 | mg/kg | | |
| 9271 Cadmium | 0.36 | mg/kg | < | |
| 9272 Chromium | 14.1 | mg/kg | < | |
| 9273 Copper | 47.5 | mg/kg | | |
| 9275 Nickel | 23.2 | mg/kg | | |
| 9276 Lead | 20.4 | mg/kg | < | |
| 9277 Zinc | 83.0 | mg/kg | | |
| 9278 Iron | 17700 | mg/kg | | |
| 9281 % Dry solids | 15.6 | % | | |
| 9282 % Minerals | 54.1 | % | | |
| 9283 % K (dry weight) | 0.0482 | mg/kg | | |
| 9284 % P (dry weight) | 0.343 | % | | |
| 9285 % N (dry weight) | 1.27 | % | | |

Comments:

Signed:

 Approved by:

Position:

Upper Limit

DWR CYMRU WELSH WATER - PRESELI WTW

Analysis of water clarification sludge cake

Sampling Point No: 100506

Sample ID: 8443875

Date: 10/07/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 58.0 |
| Application rate (t/acre) | 23.5 |
| pH | 7.1 |
| Dry solids (%) | 13.30 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 1.3 | 0.17 | % | 1.7 | 100 | 0.2 | 10 |
| Ammonium N | 275 | 36.58 | mg/kg | 0.0 | 2 | | |
| Phosphorus (P) | 3550 | 472.15 | mg/kg | 0.5 | 27 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 1.1 | 63 | 0.2 | 13 |
| Potassium (K) | 336 | 44.69 | mg/kg | 0.0 | 3 | | |
| Potash (K ₂ O) | | 0.00 | | 0.1 | 3 | 0.0 | 1 |
| Magnesium (Mg) | 626 | 83.26 | mg/kg | 0.1 | 5 | | |
| Magnesium (MgO) | | 0.00 | | 0.1 | 8 | 0.0 | 2 |
| Sulphur (S) | 8040 | 1069.32 | mg/kg | 1.1 | 62 | | |
| Sulphur (SO ₃) | | 0.00 | | 2.7 | 155 | 0.3 | 16 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 215 | 28.60 | mg/kg | 28.60 | 1.66 | 15.00 | 11% |
| Copper | 52.3 | 6.96 | mg/kg | 6.96 | 0.40 | 7.50 | 5% |
| Nickel | 37.3 | 4.96 | mg/kg | 4.96 | 0.29 | 3.00 | 10% |
| Lead | 22.8 | 3.03 | mg/kg | 3.03 | 0.18 | 15.00 | 1% |
| Cadmium | 1.01 | 0.13 | mg/kg | 0.13 | 0.01 | 0.15 | 5% |
| Chromium | 15.8 | 2.10 | mg/kg | 2.10 | 0.12 | 15.00 | 1% |
| Arsenic | 12.1 | 1.61 | mg/kg | 1.61 | 0.09 | 0.70 | 13% |
| Mercury | 0.37 | 0.05 | mg/kg | 0.05 | 0.00 | 0.10 | 3% |
| | | | | | | | |
| <u>Other Elements</u> | | | | | | | |
| Iron | 13800 | 1835.40 | mg/kg | 1835.40 | 106 | | |
| Aluminium | 124000 | 16492.00 | mg/kg | 16492.00 | 957 | | |

DWR CYMRU WELSH WATER - PRESELI WTW

Analysis of water clarification sludge cake

Sampling Point No: 100506

Sample ID: 8443875

Date: 10/07/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 73.0 |
| Application rate (t/acre) | 29.5 |
| pH | 7.1 |
| Dry solids (%) | 13.30 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 1.3 | 0.17 | % | 1.7 | 126 | 0.2 | 13 |
| Ammonium N | 275 | 36.58 | mg/kg | 0.0 | 3 | | |
| Phosphorus (P) | 3550 | 472.15 | mg/kg | 0.5 | 34 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 1.1 | 79 | 0.2 | 16 |
| Potassium (K) | 336 | 44.69 | mg/kg | 0.0 | 3 | | |
| Potash (K ₂ O) | | 0.00 | | 0.1 | 4 | 0.0 | 1 |
| Magnesium (Mg) | 626 | 83.26 | mg/kg | 0.1 | 6 | | |
| Magnesium (MgO) | | 0.00 | | 0.1 | 10 | 0.0 | 2 |
| Sulphur (S) | 8040 | 1069.32 | mg/kg | 1.1 | 78 | | |
| Sulphur (SO ₃) | | 0.00 | | 2.7 | 195 | 0.3 | 20 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 215 | 28.60 | mg/kg | 28.60 | 2.09 | 15.00 | 14% |
| Copper | 52.3 | 6.96 | mg/kg | 6.96 | 0.51 | 7.50 | 7% |
| Nickel | 37.3 | 4.96 | mg/kg | 4.96 | 0.36 | 3.00 | 12% |
| Lead | 22.8 | 3.03 | mg/kg | 3.03 | 0.22 | 15.00 | 1% |
| Cadmium | 1.01 | 0.13 | mg/kg | 0.13 | 0.01 | 0.15 | 7% |
| Chromium | 15.8 | 2.10 | mg/kg | 2.10 | 0.15 | 15.00 | 1% |
| Arsenic | 12.1 | 1.61 | mg/kg | 1.61 | 0.12 | 0.70 | 17% |
| Mercury | 0.37 | 0.05 | mg/kg | 0.05 | 0.00 | 0.10 | 4% |
| | | | | | | | |
| Other Elements | | | | | | | |
| Iron | 13800 | 1835.40 | mg/kg | 1835.40 | 134 | | |
| Aluminium | 124000 | 16492.00 | mg/kg | 16492.00 | 1204 | | |

| | | | |
|---------------------------|--|--------------------|---|
| Sampling Point No: | 100506 | Location: | PRESELI WTW SLUDGE Tankering Point (New Works) |
| Date Sampled: | 10/07/2025 | Time Taken: | 09:58 |
| Laboratory: | ALS | Sample ID: | 8443875 |
| No. of Results: | 20 | | |
| Sampling Reason: | WTW Sludge - Product Monitoring (SW_ME) | | |
| Type: | WTW Sludge (SW) | | |

Sample Results

| Code | Result | Units | Qualifier | Lower Limit |
|--------------------------|--------|-------|-----------|-------------|
| 238 Magnesium | 626 | mg/kg | | |
| 288 Aluminium | 124000 | mg/kg | | |
| 357 Arsenic | 12.1 | mg/kg | | |
| 4620 pH | 7.1 | pH | | |
| 7774 Mercury | 0.37 | mg/kg | < | |
| 8241 Volatile solids | 99.8 | % | | |
| 9233 Ammoniacal nitrogen | 275 | mg/kg | | |
| 9234 Sulphur | 8040 | mg/kg | | |
| 9271 Cadmium | 1.01 | mg/kg | | |
| 9272 Chromium | 15.8 | mg/kg | < | |
| 9273 Copper | 52.3 | mg/kg | | |
| 9275 Nickel | 37.3 | mg/kg | | |
| 9276 Lead | 22.8 | mg/kg | < | |
| 9277 Zinc | 215 | mg/kg | | |
| 9278 Iron | 13800 | mg/kg | | |
| 9281 % Dry solids | 13.3 | % | | |
| 9282 % Minerals | 0.20 | % | < | |
| 9283 % K (dry weight) | 0.0336 | mg/kg | | |
| 9284 % P (dry weight) | 0.355 | % | | |
| 9285 % N (dry weight) | 1.30 | % | | |

Comments:

Signed:

Approved by:

Position:

Upper Limit

DWR CYMRU WELSH WATER - STRATA FLORIDA WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100519

Sample ID: 8443899

Date: 10/07/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 235.0 |
| Application rate (t/acre) | 95.1 |
| pH | 6.3 |
| Dry solids (%) | 1.94 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 1.69 | 0.03 | % | 0.3 | 77 | 0.0 | 8 |
| Ammonium N | 316 | 6.13 | mg/kg | 0.0 | 1 | | |
| Phosphorus (P) | 6000 | 116.40 | mg/kg | 0.1 | 27 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 0.3 | 63 | 0.1 | 13 |
| Potassium (K) | 893 | 17.32 | mg/kg | 0.0 | 4 | | |
| Potash (K ₂ O) | | 0.00 | | 0.0 | 5 | 0.0 | 1 |
| Magnesium (Mg) | 390 | 7.57 | mg/kg | 0.0 | 2 | | |
| Magnesium (MgO) | | 0.00 | | 0.0 | 3 | 0.0 | 1 |
| Sulphur (S) | 8000 | 155.20 | mg/kg | 0.2 | 36 | | |
| Sulphur (SO ₃) | | 0.00 | | 0.4 | 91 | 0.0 | 9 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 126 | 2.44 | mg/kg | 2.44 | 0.57 | 15.00 | 4% |
| Copper | 80.1 | 1.55 | mg/kg | 1.55 | 0.37 | 7.50 | 5% |
| Nickel | 52.4 | 1.02 | mg/kg | 1.02 | 0.24 | 3.00 | 8% |
| Lead | 63.7 | 1.24 | mg/kg | 1.24 | 0.29 | 15.00 | 2% |
| Cadmium | 1.13 | 0.02 | mg/kg | 0.02 | 0.01 | 0.15 | 3% |
| Chromium | 44.2 | 0.86 | mg/kg | 0.86 | 0.20 | 15.00 | 1% |
| Arsenic | 39.4 | 0.76 | mg/kg | 0.76 | 0.18 | 0.70 | 26% |
| Mercury | 1.03 | 0.02 | mg/kg | 0.02 | 0.00 | 0.10 | 5% |
| | | | | | | | |
| Other Elements | | | | | | | |
| Iron | 24500 | 475.30 | mg/kg | 475.30 | 112 | | |
| Aluminium | 138000 | 2677.20 | mg/kg | 2677.20 | 629 | | |

DWR CYMRU WELSH WATER - STRATA FLORIDA WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100519

Sample ID: 8443899

Date: 10/07/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 250.0 |
| Application rate (t/acre) | 101.2 |
| pH | 6.3 |
| Dry solids (%) | 1.94 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 1.69 | 0.03 | % | 0.3 | 82 | 0.0 | 8 |
| Ammonium N | 316 | 6.13 | mg/kg | 0.0 | 2 | | |
| Phosphorus (P) | 6000 | 116.40 | mg/kg | 0.1 | 29 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 0.3 | 67 | 0.1 | 13 |
| Potassium (K) | 893 | 17.32 | mg/kg | 0.0 | 4 | | |
| Potash (K ₂ O) | | 0.00 | | 0.0 | 5 | 0.0 | 1 |
| Magnesium (Mg) | 390 | 7.57 | mg/kg | 0.0 | 2 | | |
| Magnesium (MgO) | | 0.00 | | 0.0 | 3 | 0.0 | 1 |
| Sulphur (S) | 8000 | 155.20 | mg/kg | 0.2 | 39 | | |
| Sulphur (SO ₃) | | 0.00 | | 0.4 | 97 | 0.0 | 10 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 126 | 2.44 | mg/kg | 2.44 | 0.61 | 15.00 | 4% |
| Copper | 80.1 | 1.55 | mg/kg | 1.55 | 0.39 | 7.50 | 5% |
| Nickel | 52.4 | 1.02 | mg/kg | 1.02 | 0.25 | 3.00 | 8% |
| Lead | 63.7 | 1.24 | mg/kg | 1.24 | 0.31 | 15.00 | 2% |
| Cadmium | 1.13 | 0.02 | mg/kg | 0.02 | 0.01 | 0.15 | 4% |
| Chromium | 44.2 | 0.86 | mg/kg | 0.86 | 0.21 | 15.00 | 1% |
| Arsenic | 39.4 | 0.76 | mg/kg | 0.76 | 0.19 | 0.70 | 27% |
| Mercury | 1.03 | 0.02 | mg/kg | 0.02 | 0.00 | 0.10 | 5% |
| | | | | | | | |
| Other Elements | | | | | | | |
| Iron | 24500 | 475.30 | mg/kg | 475.30 | 119 | | |
| Aluminium | 138000 | 2677.20 | mg/kg | 2677.20 | 669 | | |

| | | | |
|---------------------------|--|--------------------|--|
| Sampling Point No: | 100519 | Location: | STRATA FLORIDA WTW SLUDGE TANKERING POINT |
| Date Sampled: | 10/07/2025 | Time Taken: | 10:07 |
| Laboratory: | ALS | Sample ID: | 8443899 |
| No. of Results: | 20 | | |
| Sampling Reason: | WTW Sludge - Product Monitoring (SW_ME) | | |
| Type: | WTW Sludge (SW) | | |

Sample Results

| Code | Result | Units | Qualifier | Lower Limit |
|--------------------------|--------|-------|-----------|-------------|
| 238 Magnesium | 390 | mg/kg | < | |
| 288 Aluminium | 138000 | mg/kg | | |
| 357 Arsenic | 39.4 | mg/kg | | |
| 4620 pH | 6.3 | pH | | |
| 7774 Mercury | 1.03 | mg/kg | < | |
| 8241 Volatile solids | 56.8 | % | | |
| 9233 Ammoniacal nitrogen | 316 | mg/kg | < | |
| 9234 Sulphur | 8000 | mg/kg | | |
| 9271 Cadmium | 1.13 | mg/kg | < | |
| 9272 Chromium | 44.2 | mg/kg | < | |
| 9273 Copper | 80.1 | mg/kg | < | |
| 9275 Nickel | 52.4 | mg/kg | < | |
| 9276 Lead | 63.7 | mg/kg | < | |
| 9277 Zinc | 126 | mg/kg | < | |
| 9278 Iron | 24500 | mg/kg | | |
| 9281 % Dry solids | 1.94 | % | | |
| 9282 % Minerals | 43.2 | % | | |
| 9283 % K (dry weight) | 0.0893 | mg/kg | < | |
| 9284 % P (dry weight) | 0.600 | % | < | |
| 9285 % N (dry weight) | 1.69 | % | | |

Comments:

Signed:

Approved by:

Position:

Upper Limit

DWR CYMRU WELSH WATER - LLECHRYD WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100504

Sample ID: 8511042

Date: 04/09/2025

| | |
|---------------------------|------|
| Application rate (t/ha) | 50.0 |
| Application rate (t/acre) | 20.2 |
| pH | 6.9 |
| Dry solids (%) | 3.06 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 0.976 | 0.03 | % | 0.3 | 15 | 0.0 | 1 |
| Ammonium N | 200 | 6.12 | mg/kg | 0.0 | 0 | | |
| Phosphorus (P) | 5550 | 169.83 | mg/kg | 0.2 | 8 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 0.4 | 19 | 0.1 | 4 |
| Potassium (K) | 572 | 17.50 | mg/kg | 0.0 | 1 | | |
| Potash (K ₂ O) | | 0.00 | | 0.0 | 1 | 0.0 | 0 |
| Magnesium (Mg) | 841 | 25.73 | mg/kg | 0.0 | 1 | | |
| Magnesium (MgO) | | 0.00 | | 0.0 | 2 | 0.0 | 0 |
| Sulphur (S) | 3160 | 96.70 | mg/kg | 0.1 | 5 | | |
| Sulphur (SO ₃) | | 0.00 | | 0.2 | 12 | 0.0 | 1 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 133 | 4.07 | mg/kg | 4.07 | 0.20 | 15.00 | 1% |
| Copper | 51.3 | 1.57 | mg/kg | 1.57 | 0.08 | 7.50 | 1% |
| Nickel | 33.5 | 1.03 | mg/kg | 1.03 | 0.05 | 3.00 | 2% |
| Lead | 40.8 | 1.25 | mg/kg | 1.25 | 0.06 | 15.00 | 0% |
| Cadmium | 0.72 | 0.02 | mg/kg | 0.02 | 0.00 | 0.15 | 1% |
| Chromium | 28.3 | 0.87 | mg/kg | 0.87 | 0.04 | 15.00 | 0% |
| Arsenic | 28.2 | 0.86 | mg/kg | 0.86 | 0.04 | 0.70 | 6% |
| Mercury | 0.66 | 0.02 | mg/kg | 0.02 | 0.00 | 0.10 | 1% |
| | | | | | | | |
| <u>Other Elements</u> | | | | | | | |
| Iron | 314000 | 9608.40 | mg/kg | 9608.40 | 480 | | |
| Aluminium | 3080 | 94.25 | mg/kg | 94.25 | 5 | | |

DWR CYMRU WELSH WATER - LLECHRYD WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100504

Sample ID: 8511042

Date: 04/09/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 160.0 |
| Application rate (t/acre) | 64.8 |
| pH | 6.9 |
| Dry solids (%) | 3.06 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 0.976 | 0.03 | % | 0.3 | 48 | 0.0 | 5 |
| Ammonium N | 200 | 6.12 | mg/kg | 0.0 | 1 | | |
| Phosphorus (P) | 5550 | 169.83 | mg/kg | 0.2 | 27 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 0.4 | 62 | 0.1 | 12 |
| Potassium (K) | 572 | 17.50 | mg/kg | 0.0 | 3 | | |
| Potash (K ₂ O) | | 0.00 | | 0.0 | 3 | 0.0 | 1 |
| Magnesium (Mg) | 841 | 25.73 | mg/kg | 0.0 | 4 | | |
| Magnesium (MgO) | | 0.00 | | 0.0 | 7 | 0.0 | 1 |
| Sulphur (S) | 3160 | 96.70 | mg/kg | 0.1 | 15 | | |
| Sulphur (SO ₃) | | 0.00 | | 0.2 | 39 | 0.0 | 4 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 133 | 4.07 | mg/kg | 4.07 | 0.65 | 15.00 | 4% |
| Copper | 51.3 | 1.57 | mg/kg | 1.57 | 0.25 | 7.50 | 3% |
| Nickel | 33.5 | 1.03 | mg/kg | 1.03 | 0.16 | 3.00 | 5% |
| Lead | 40.8 | 1.25 | mg/kg | 1.25 | 0.20 | 15.00 | 1% |
| Cadmium | 0.72 | 0.02 | mg/kg | 0.02 | 0.00 | 0.15 | 2% |
| Chromium | 28.3 | 0.87 | mg/kg | 0.87 | 0.14 | 15.00 | 1% |
| Arsenic | 28.2 | 0.86 | mg/kg | 0.86 | 0.14 | 0.70 | 20% |
| Mercury | 0.66 | 0.02 | mg/kg | 0.02 | 0.00 | 0.10 | 3% |
| | | | | | | | |
| Other Elements | | | | | | | |
| Iron | 314000 | 9608.40 | mg/kg | 9608.40 | 1537 | | |
| Aluminium | 3080 | 94.25 | mg/kg | 94.25 | 15 | | |

DWR CYMRU WELSH WATER - LLECHRYD WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100504

Sample ID: 8511042

Date: 04/09/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 205.0 |
| Application rate (t/acre) | 83.0 |
| pH | 6.9 |
| Dry solids (%) | 3.06 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 0.976 | 0.03 | % | 0.3 | 61 | 0.0 | 6 |
| Ammonium N | 200 | 6.12 | mg/kg | 0.0 | 1 | | |
| Phosphorus (P) | 5550 | 169.83 | mg/kg | 0.2 | 35 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 0.4 | 80 | 0.1 | 16 |
| Potassium (K) | 572 | 17.50 | mg/kg | 0.0 | 4 | | |
| Potash (K ₂ O) | | 0.00 | | 0.0 | 4 | 0.0 | 1 |
| Magnesium (Mg) | 841 | 25.73 | mg/kg | 0.0 | 5 | | |
| Magnesium (MgO) | | 0.00 | | 0.0 | 9 | 0.0 | 2 |
| Sulphur (S) | 3160 | 96.70 | mg/kg | 0.1 | 20 | | |
| Sulphur (SO ₃) | | 0.00 | | 0.2 | 50 | 0.0 | 5 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 133 | 4.07 | mg/kg | 4.07 | 0.83 | 15.00 | 6% |
| Copper | 51.3 | 1.57 | mg/kg | 1.57 | 0.32 | 7.50 | 4% |
| Nickel | 33.5 | 1.03 | mg/kg | 1.03 | 0.21 | 3.00 | 7% |
| Lead | 40.8 | 1.25 | mg/kg | 1.25 | 0.26 | 15.00 | 2% |
| Cadmium | 0.72 | 0.02 | mg/kg | 0.02 | 0.00 | 0.15 | 3% |
| Chromium | 28.3 | 0.87 | mg/kg | 0.87 | 0.18 | 15.00 | 1% |
| Arsenic | 28.2 | 0.86 | mg/kg | 0.86 | 0.18 | 0.70 | 25% |
| Mercury | 0.66 | 0.02 | mg/kg | 0.02 | 0.00 | 0.10 | 4% |
| | | | | | | | |
| <u>Other Elements</u> | | | | | | | |
| Iron | 314000 | 9608.40 | mg/kg | 9608.40 | 1970 | | |
| Aluminium | 3080 | 94.25 | mg/kg | 94.25 | 19 | | |

| | | | |
|---------------------------|---|--------------------|-------------------------------------|
| Sampling Point No: | 100504 | Location: | LLECHRYD WTW SLUDGE TANKERING POINT |
| Date Sampled: | 04/09/2025 | Time Taken: | 09:26 |
| Laboratory: | ALS | Sample ID: | 8511042 |
| No. of Results: | 20 | | |
| Sampling Reason: | WTW Sludge - Product Monitoring (SW_ME) | | |
| Type: | WTW Sludge (SW) | | |

Sample Results

| Code | Result | Units | Qualifier | Lower Limit |
|--------------------------|--------|-------|-----------|-------------|
| 238 Magnesium | 841 | mg/kg | | |
| 288 Aluminium | 3080 | mg/kg | | |
| 357 Arsenic | 28.2 | mg/kg | | |
| 4620 pH | 6.9 | pH | | |
| 7774 Mercury | 0.66 | mg/kg | < | |
| 8241 Volatile solids | 42.6 | % | | |
| 9233 Ammoniacal nitrogen | 200 | mg/kg | < | |
| 9234 Sulphur | 3160 | mg/kg | | |
| 9271 Cadmium | 0.72 | mg/kg | < | |
| 9272 Chromium | 28.3 | mg/kg | < | |
| 9273 Copper | 51.3 | mg/kg | < | |
| 9275 Nickel | 33.5 | mg/kg | < | |
| 9276 Lead | 40.8 | mg/kg | < | |
| 9277 Zinc | 133 | mg/kg | | |
| 9278 Iron | 314000 | mg/kg | | |
| 9281 % Dry solids | 3.06 | % | | |
| 9282 % Minerals | 57.4 | % | | |
| 9283 % K (dry weight) | 0.0572 | mg/kg | < | |
| 9284 % P (dry weight) | 0.555 | % | | |
| 9285 % N (dry weight) | 0.976 | % | | |

Comments:

Signed:

Approved by:

Position:

Upper Limit

DWR CYMRU WELSH WATER - BRYNGWYN WTW

Analysis of liquid water clarification sludge

Sampling Point No: 79131

Sample ID: 8268999

Date: 05/02/2025

| | |
|---------------------------|------|
| Application rate (t/ha) | 50.0 |
| Application rate (t/acre) | 20.2 |
| pH | 6.5 |
| Dry solids (%) | 2.92 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 0.564 | 0.02 | % | 0.2 | 8 | 0.0 | 1 |
| Ammonium N | 209 | 6.10 | mg/kg | 0.0 | 0 | | |
| Phosphorus (P) | 1260 | 36.79 | mg/kg | 0.0 | 2 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 0.1 | 4 | 0.0 | 1 |
| Potassium (K) | 509 | 14.86 | mg/kg | 0.0 | 1 | | |
| Potash (K ₂ O) | | 0.00 | | 0.0 | 1 | 0.0 | 0 |
| Magnesium (Mg) | 1460 | 42.63 | mg/kg | 0.0 | 2 | | |
| Magnesium (MgO) | | 0.00 | | 0.1 | 4 | 0.0 | 1 |
| Sulphur (S) | 3010 | 87.89 | mg/kg | 0.1 | 4 | | |
| Sulphur (SO ₃) | | 0.00 | | 0.2 | 11 | 0.0 | 1 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 200 | 5.84 | mg/kg | 5.84 | 0.29 | 15.00 | 2% |
| Copper | 12.6 | 0.37 | mg/kg | 0.37 | 0.02 | 7.50 | 0% |
| Nickel | 17.7 | 0.52 | mg/kg | 0.52 | 0.03 | 3.00 | 1% |
| Lead | 38 | 1.11 | mg/kg | 1.11 | 0.06 | 15.00 | 0% |
| Cadmium | 0.32 | 0.01 | mg/kg | 0.01 | 0.00 | 0.15 | 0% |
| Chromium | 12.5 | 0.37 | mg/kg | 0.37 | 0.02 | 15.00 | 0% |
| Arsenic | 19.4 | 0.57 | mg/kg | 0.57 | 0.03 | 0.70 | 4% |
| Mercury | 1.38 | 0.04 | mg/kg | 0.04 | 0.00 | 0.10 | 2% |
| | | | | | | | |
| Other Elements | | | | | | | |
| Iron | 367000 | 10716.40 | mg/kg | 10716.40 | 536 | | |
| Aluminium | 6150 | 179.58 | mg/kg | 179.58 | 9 | | |

DWR CYMRU WELSH WATER - BRYNGWYN WTW

Analysis of liquid water clarification sludge

Sampling Point No: 79131

Sample ID: 8268999

Date: 05/02/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 250.0 |
| Application rate (t/acre) | 101.2 |
| pH | 6.5 |
| Dry solids (%) | 2.92 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 0.564 | 0.02 | % | 0.2 | 41 | 0.0 | 4 |
| Ammonium N | 209 | 6.10 | mg/kg | 0.0 | 2 | | |
| Phosphorus (P) | 1260 | 36.79 | mg/kg | 0.0 | 9 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 0.1 | 21 | 0.0 | 4 |
| Potassium (K) | 509 | 14.86 | mg/kg | 0.0 | 4 | | |
| Potash (K ₂ O) | | 0.00 | | 0.0 | 4 | 0.0 | 1 |
| Magnesium (Mg) | 1460 | 42.63 | mg/kg | 0.0 | 11 | | |
| Magnesium (MgO) | | 0.00 | | 0.1 | 18 | 0.0 | 4 |
| Sulphur (S) | 3010 | 87.89 | mg/kg | 0.1 | 22 | | |
| Sulphur (SO ₃) | | 0.00 | | 0.2 | 55 | 0.0 | 5 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 200 | 5.84 | mg/kg | 5.84 | 1.46 | 15.00 | 10% |
| Copper | 12.6 | 0.37 | mg/kg | 0.37 | 0.09 | 7.50 | 1% |
| Nickel | 17.7 | 0.52 | mg/kg | 0.52 | 0.13 | 3.00 | 4% |
| Lead | 38 | 1.11 | mg/kg | 1.11 | 0.28 | 15.00 | 2% |
| Cadmium | 0.32 | 0.01 | mg/kg | 0.01 | 0.00 | 0.15 | 2% |
| Chromium | 12.5 | 0.37 | mg/kg | 0.37 | 0.09 | 15.00 | 1% |
| Arsenic | 19.4 | 0.57 | mg/kg | 0.57 | 0.14 | 0.70 | 20% |
| Mercury | 1.38 | 0.04 | mg/kg | 0.04 | 0.01 | 0.10 | 10% |
| | | | | | | | |
| Other Elements | | | | | | | |
| Iron | 367000 | 10716.40 | mg/kg | 10716.40 | 2679 | | |
| Aluminium | 6150 | 179.58 | mg/kg | 179.58 | 45 | | |

| | | | |
|---------------------------|---|--------------------|-------------------------------------|
| Sampling Point No: | 79131 | Location: | BRYNGWYN WTW SLUDGE TANKERING POINT |
| Date Sampled: | 05/02/2025 | Time Taken: | 10:12 |
| Laboratory: | ALS | Sample ID: | 8268999 |
| No. of Results: | 20 | | |
| Sampling Reason: | WTW Sludge - Product Monitoring (SW_ME) | | |
| Type: | WTW Sludge (SW) | | |

Sample Results

| Code | Result | Units | Qualifier | Lower Limit |
|--------------------------|--------|-------|-----------|-------------|
| 238 Magnesium | 1460 | mg/kg | | |
| 288 Aluminium | 6150 | mg/kg | | |
| 357 Arsenic | 19.4 | mg/kg | | |
| 4620 pH | 6.5 | pH | | |
| 7774 Mercury | 1.38 | mg/kg | < | |
| 8241 Volatile solids | 26.8 | % | | |
| 9233 Ammoniacal nitrogen | 209 | mg/kg | < | |
| 9234 Sulphur | 3010 | mg/kg | | |
| 9271 Cadmium | 0.32 | mg/kg | < | |
| 9272 Chromium | 12.5 | mg/kg | | |
| 9273 Copper | 12.6 | mg/kg | | |
| 9275 Nickel | 17.7 | mg/kg | | |
| 9276 Lead | 38 | mg/kg | | |
| 9277 Zinc | 200 | mg/kg | | |
| 9278 Iron | 367000 | mg/kg | | |
| 9281 % Dry solids | 2.92 | % | | |
| 9282 % Minerals | 73.2 | % | | |
| 9283 % K (dry weight) | 0.0509 | mg/kg | | |
| 9284 % P (dry weight) | 0.126 | % | | |
| 9285 % N (dry weight) | 0.564 | % | | |

Comments:

Signed:

Approved by:

Position:

Upper Limit

DWR CYMRU WELSH WATER - BOLTON HILL WTW

Analysis of liquid water clarification sludge

Sampling Point No: 120038

Sample ID: 8443907

Date: 10/07/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 235.0 |
| Application rate (t/acre) | 95.1 |
| pH | 6.6 |
| Dry solids (%) | 3.34 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 1.21 | 0.04 | % | 0.4 | 95 | 0.0 | 9 |
| Ammonium N | 183 | 6.11 | mg/kg | 0.0 | 1 | | |
| Phosphorus (P) | 3470 | 115.90 | mg/kg | 0.1 | 27 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 0.3 | 62 | 0.1 | 12 |
| Potassium (K) | 865 | 28.89 | mg/kg | 0.0 | 7 | | |
| Potash (K ₂ O) | | 0.00 | | 0.0 | 8 | 0.0 | 2 |
| Magnesium (Mg) | 1490 | 49.77 | mg/kg | 0.0 | 12 | | |
| Magnesium (MgO) | | 0.00 | | 0.1 | 19 | 0.0 | 4 |
| Sulphur (S) | 6120 | 204.41 | mg/kg | 0.2 | 48 | | |
| Sulphur (SO ₃) | | 0.00 | | 0.5 | 120 | 0.1 | 12 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 108 | 3.61 | mg/kg | 3.61 | 0.85 | 15.00 | 6% |
| Copper | 60.8 | 2.03 | mg/kg | 2.03 | 0.48 | 7.50 | 6% |
| Nickel | 30.3 | 1.01 | mg/kg | 1.01 | 0.24 | 3.00 | 8% |
| Lead | 36.8 | 1.23 | mg/kg | 1.23 | 0.29 | 15.00 | 2% |
| Cadmium | 0.65 | 0.02 | mg/kg | 0.02 | 0.01 | 0.15 | 3% |
| Chromium | 25.5 | 0.85 | mg/kg | 0.85 | 0.20 | 15.00 | 1% |
| Arsenic | 16.4 | 0.55 | mg/kg | 0.55 | 0.13 | 0.70 | 18% |
| Mercury | 0.59 | 0.02 | mg/kg | 0.02 | 0.00 | 0.10 | 5% |
| | | | | | | | |
| Other Elements | | | | | | | |
| Iron | 24000 | 801.60 | mg/kg | 801.60 | 188 | | |
| Aluminium | 140000 | 4676.00 | mg/kg | 4676.00 | 1099 | | |

| | | | |
|---------------------------|---|--------------------|------------------------------------|
| Sampling Point No: | 120038 | Location: | BOLTON HILL Sludge Tankering Point |
| Date Sampled: | 10/07/2025 | Time Taken: | 10:10 |
| Laboratory: | ALS | Sample ID: | 8443907 |
| No. of Results: | 20 | | |
| Sampling Reason: | WTW Sludge - Product Monitoring (SW_ME) | | |
| Type: | WTW Sludge (SW) | | |

Sample Results

| Code | Result | Units | Qualifier | Lower Limit |
|--------------------------|--------|-------|-----------|-------------|
| 238 Magnesium | 1490 | mg/kg | | |
| 288 Aluminium | 140000 | mg/kg | | |
| 357 Arsenic | 16.4 | mg/kg | | |
| 4620 pH | 6.6 | pH | | |
| 7774 Mercury | 0.59 | mg/kg | < | |
| 8241 Volatile solids | 40.7 | % | | |
| 9233 Ammoniacal nitrogen | 183 | mg/kg | < | |
| 9234 Sulphur | 6120 | mg/kg | | |
| 9271 Cadmium | 0.65 | mg/kg | < | |
| 9272 Chromium | 25.5 | mg/kg | < | |
| 9273 Copper | 60.8 | mg/kg | | |
| 9275 Nickel | 30.3 | mg/kg | < | |
| 9276 Lead | 36.8 | mg/kg | < | |
| 9277 Zinc | 108 | mg/kg | | |
| 9278 Iron | 24000 | mg/kg | | |
| 9281 % Dry solids | 3.34 | % | | |
| 9282 % Minerals | 59.3 | % | | |
| 9283 % K (dry weight) | 0.0865 | mg/kg | | |
| 9284 % P (dry weight) | 0.347 | % | < | |
| 9285 % N (dry weight) | 1.21 | % | | |

Comments:

Signed:

Approved by:

Position:

Upper Limit

DWR CYMRU WELSH WATER - CRAY WTW

Analysis of liquid water clarification sludge

Sampling Point No: 79114

Sample ID: 8269009

Date: 05/02/2025

| | |
|---------------------------|------|
| Application rate (t/ha) | 50.0 |
| Application rate (t/acre) | 20.2 |
| pH | 6.1 |
| Dry solids (%) | 2.27 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 0.68 | 0.02 | % | 0.2 | 8 | 0.0 | 1 |
| Ammonium N | 269 | 6.11 | mg/kg | 0.0 | 0 | | |
| Phosphorus (P) | 523 | 11.87 | mg/kg | 0.0 | 1 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 0.0 | 1 | 0.0 | 0 |
| Potassium (K) | 126 | 2.86 | mg/kg | 0.0 | 0 | | |
| Potash (K ₂ O) | | 0.00 | | 0.0 | 0 | 0.0 | 0 |
| Magnesium (Mg) | 399 | 9.06 | mg/kg | 0.0 | 0 | | |
| Magnesium (MgO) | | 0.00 | | 0.0 | 1 | 0.0 | 0 |
| Sulphur (S) | 9690 | 219.96 | mg/kg | 0.2 | 11 | | |
| Sulphur (SO ₃) | | 0.00 | | 0.5 | 27 | 0.1 | 3 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 160 | 3.63 | mg/kg | 3.63 | 0.18 | 15.00 | 1% |
| Copper | 14.7 | 0.33 | mg/kg | 0.33 | 0.02 | 7.50 | 0% |
| Nickel | 17.2 | 0.39 | mg/kg | 0.39 | 0.02 | 3.00 | 1% |
| Lead | 23.5 | 0.53 | mg/kg | 0.53 | 0.03 | 15.00 | 0% |
| Cadmium | 0.41 | 0.01 | mg/kg | 0.01 | 0.00 | 0.15 | 0% |
| Chromium | 10.9 | 0.25 | mg/kg | 0.25 | 0.01 | 15.00 | 0% |
| Arsenic | 51.8 | 1.18 | mg/kg | 1.18 | 0.06 | 0.70 | 8% |
| Mercury | 1.76 | 0.04 | mg/kg | 0.04 | 0.00 | 0.10 | 2% |
| | | | | | | | |
| Other Elements | | | | | | | |
| Iron | 427000 | 9692.90 | mg/kg | 9692.90 | 485 | | |
| Aluminium | 2500 | 56.75 | mg/kg | 56.75 | 3 | | |

DWR CYMRU WELSH WATER - CRAY WTW

Analysis of liquid water clarification sludge

Sampling Point No: 79114

Sample ID: 8269009

Date: 05/02/2025

| | |
|---------------------------|-------|
| Application rate (t/ha) | 250.0 |
| Application rate (t/acre) | 101.2 |
| pH | 6.1 |
| Dry solids (%) | 2.27 |

NUTRIENT CONTENT

| | Dry Wt result | Wet Wt result | Units | Total | | Available | |
|--|---------------|---------------|-------|--------|----------|-----------|----------|
| | | | | (kg/t) | (kg/ha) | (kg/t) | (kg/ha) |
| Nitrogen (N) | 0.68 | 0.02 | % | 0.2 | 39 | 0.0 | 4 |
| Ammonium N | 269 | 6.11 | mg/kg | 0.0 | 2 | | |
| Phosphorus (P) | 523 | 11.87 | mg/kg | 0.0 | 3 | | |
| Phosphate (P ₂ O ₅) | | 0.00 | | 0.0 | 7 | 0.0 | 1 |
| Potassium (K) | 126 | 2.86 | mg/kg | 0.0 | 1 | | |
| Potash (K ₂ O) | | 0.00 | | 0.0 | 1 | 0.0 | 0 |
| Magnesium (Mg) | 399 | 9.06 | mg/kg | 0.0 | 2 | | |
| Magnesium (MgO) | | 0.00 | | 0.0 | 4 | 0.0 | 1 |
| Sulphur (S) | 9690 | 219.96 | mg/kg | 0.2 | 55 | | |
| Sulphur (SO ₃) | | 0.00 | | 0.5 | 137 | 0.1 | 14 |

POTENTIALLY TOXIC ELEMENTS

| | Dry Wt result | Wet Wt result | Units | Rate | | Limit | % of Annual Addition Limit |
|-----------------------|---------------|---------------|-------|-----------|---------|------------|----------------------------|
| | | | | (g/tonne) | (kg/ha) | (kg/ha/yr) | |
| Zinc | 160 | 3.63 | mg/kg | 3.63 | 0.91 | 15.00 | 6% |
| Copper | 14.7 | 0.33 | mg/kg | 0.33 | 0.08 | 7.50 | 1% |
| Nickel | 17.2 | 0.39 | mg/kg | 0.39 | 0.10 | 3.00 | 3% |
| Lead | 23.5 | 0.53 | mg/kg | 0.53 | 0.13 | 15.00 | 1% |
| Cadmium | 0.41 | 0.01 | mg/kg | 0.01 | 0.00 | 0.15 | 2% |
| Chromium | 10.9 | 0.25 | mg/kg | 0.25 | 0.06 | 15.00 | 0% |
| Arsenic | 51.8 | 1.18 | mg/kg | 1.18 | 0.29 | 0.70 | 42% |
| Mercury | 1.76 | 0.04 | mg/kg | 0.04 | 0.01 | 0.10 | 10% |
| Other Elements | | | | | | | |
| Iron | 427000 | 9692.90 | mg/kg | 9692.90 | 2423 | | |
| Aluminium | 2500 | 56.75 | mg/kg | 56.75 | 14 | | |

| | | | |
|---------------------------|---|--------------------|---------------------------------|
| Sampling Point No: | 79114 | Location: | CRAY WTW SLUDGE TANKERING POINT |
| Date Sampled: | 05/02/2025 | Time Taken: | 10:18 |
| Laboratory: | ALS | Sample ID: | 8269009 |
| No. of Results: | 20 | | |
| Sampling Reason: | WTW Sludge - Product Monitoring (SW_ME) | | |
| Type: | WTW Sludge (SW) | | |

Sample Results

| Code | Result | Units | Qualifier | Lower Limit |
|--------------------------|--------|-------|-----------|-------------|
| 238 Magnesium | 399 | mg/kg | | |
| 288 Aluminium | 2500 | mg/kg | | |
| 357 Arsenic | 51.8 | mg/kg | | |
| 4620 pH | 6.1 | pH | | |
| 7774 Mercury | 1.76 | mg/kg | < | |
| 8241 Volatile solids | 33.6 | % | | |
| 9233 Ammoniacal nitrogen | 269 | mg/kg | < | |
| 9234 Sulphur | 9690 | mg/kg | | |
| 9271 Cadmium | 0.41 | mg/kg | < | |
| 9272 Chromium | 10.9 | mg/kg | | |
| 9273 Copper | 14.7 | mg/kg | | |
| 9275 Nickel | 17.2 | mg/kg | | |
| 9276 Lead | 23.5 | mg/kg | | |
| 9277 Zinc | 160 | mg/kg | | |
| 9278 Iron | 427000 | mg/kg | | |
| 9281 % Dry solids | 2.27 | % | | |
| 9282 % Minerals | 66.4 | % | | |
| 9283 % K (dry weight) | 0.0126 | mg/kg | | |
| 9284 % P (dry weight) | 0.0523 | % | | |
| 9285 % N (dry weight) | 0.68 | % | < | |

Comments:

Signed:

Approved by:

Position:

Upper Limit
