

Quarterly Groundwater Results

May 2024



City of Newcastle - Summerhill Waste Management Centre

141 Minmi Road, Wallsend, NSW

Environment Protection Licence 5897 - Condition M2 – Groundwater Sampling

| Parameter | CN ID | | GW33* | GW34 | GW35* | GW42* | GW46 | GW48 | GW49* | GW51 |
|---------------------------------------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | EPL ID | | 33 | 34 | 35 | 42 | 46 | 48 | 49 | 51 |
| | Units | LOR | | | | | | | | |
| Ammonia | mg/L | 0.01 | | <0.05 | | | 0.53 | 0.02 | | 0.09 |
| Calcium | mg/L | 1 | | 98 | | | 62 | 55 | | 10 |
| Chloride | mg/L | 1 | | 1900 | | | 2760 | 116 | | 208 |
| Electrical Conductivity | µS/cm | 1 | | 7980 | | | 10000 | 1220 | | 1590 |
| Iron | mg/L | 0.05 | | 0.68 | | | 3.04 | 8.08 | | 10.3 |
| Lead | mg/L | 0.001 | | 0.005 | | | 0.004 | 0.012 | | 0.033 |
| Magnesium | mg/L | 1 | | 140 | | | 150 | 34 | | 22 |
| Nitrate as N | mg/L | 0.01 | | 0.11 | | | <0.01 | <0.01 | | <0.01 |
| pH Value | pH Unit | 0.01 | | 5.46 | | | 6.50 | 6.52 | | 6.04 |
| Potassium | mg/L | 1 | | 21 | | | 30 | 8 | | 12 |
| Sodium | mg/L | 1 | | 1410 | | | 1750 | 176 | | 301 |
| Sulfate | mg/L | 1 | | 391 | | | 541 | 137 | | 290 |
| Total Alkalinity as CaCO ₃ | mg/L | 1 | | 360 | | | 409 | 323 | | 276 |
| Total Dissolved Solids | mg/L | 10 | | 4170 | | | 5900 | 894 | | 940 |
| Total Organic Carbon | mg/L | 1 | | 6 | | | 5 | 5 | | 7 |
| Standing Water Level | mAHD | 0.01 | | 26.75 | | | 22.23 | 36.08 | | 35.59 |

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May 2024

| Parameter | CN ID | | GW101* | GW102 | GW103 | GW104 | GW105 | GW106* | GW107* |
|---------------------------------------|---------|-------|--------|--------|-------|-------|-------|--------|--------|
| | EPL ID | | 68 | 69 | 70 | 71 | 72 | 73 | 74 |
| | Units | LOR | | | | | | | |
| Ammonia | mg/L | 0.01 | | 0.06 | 0.64 | 0.25 | 0.72 | | |
| Calcium | mg/L | 1 | | 7 | 107 | 66 | 88 | | |
| Chloride | mg/L | 1 | | 210 | 893 | 2470 | 3760 | | |
| Electrical Conductivity | µS/cm | 1 | | 1580 | 3210 | 9100 | 12400 | | |
| Iron | mg/L | 0.05 | | 2.13 | 9.50 | 11.8 | 43.6 | | |
| Lead | mg/L | 0.001 | | <0.001 | 0.016 | 0.002 | 0.004 | | |
| Magnesium | mg/L | 1 | | 18 | 50 | 182 | 301 | | |
| Nitrate as N | mg/L | 0.01 | | <0.01 | <0.05 | <0.05 | <0.01 | | |
| pH Value | pH Unit | 0.01 | | 6.09 | 7.06 | 5.65 | 6.60 | | |
| Potassium | mg/L | 1 | | 7 | 11 | 31 | 36 | | |
| Sodium | mg/L | 1 | | 298 | 500 | 1560 | 2050 | | |
| Sulfate | mg/L | 1 | | 295 | 138 | 402 | 414 | | |
| Total Alkalinity as CaCO ₃ | mg/L | 1 | | 267 | 379 | 283 | 246 | | |
| Total Dissolved Solids | mg/L | 10 | | 987 | 2460 | 5430 | 7970 | | |
| Total Organic Carbon | mg/L | 1 | | 7 | 22 | 5 | 12 | | |
| Standing Water Level | mBTOC | 0.01 | | 16.55 | 8.79 | 10.40 | 6.07 | | |

Quarterly Groundwater Results

May 2024

| Parameter | CN ID | | GW109 | GW110 | GW111* | GW112* | GW113* | GW114 | GW115 | GW116 |
|---------------------------------------|---------|-------|-------|--------|--------|--------|--------|-------|--------|--------|
| | EPL ID | | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 |
| | Units | LOR | | | | | | | | |
| Ammonia | mg/L | 0.01 | 0.03 | <0.05 | | | | 0.51 | 0.10 | 0.12 |
| Calcium | mg/L | 1 | 21 | 20 | | | | 65 | 35 | 3 |
| Chloride | mg/L | 1 | 32 | 93 | | | | 427 | 481 | 409 |
| Electrical Conductivity | µS/cm | 1 | 342 | 1410 | | | | 2220 | 2400 | 2020 |
| Iron | mg/L | 0.05 | 7.44 | 3.25 | | | | 6.14 | 6.27 | 5.18 |
| Lead | mg/L | 0.001 | 0.009 | 0.003 | | | | 0.003 | 0.011 | <0.001 |
| Magnesium | mg/L | 1 | 3 | 23 | | | | 47 | 49 | 30 |
| Nitrate as N | mg/L | 0.01 | <0.01 | <0.05 | | | | 0.01 | <0.01 | <0.01 |
| pH Value | pH Unit | 0.01 | 6.51 | 5.88 | | | | 6.81 | 6.62 | 6.38 |
| Potassium | mg/L | 1 | 3 | 10 | | | | 11 | 9 | 6 |
| Sodium | mg/L | 1 | 41 | 264 | | | | 417 | 410 | 416 |
| Sulfate | mg/L | 1 | 24 | 283 | | | | 14 | 481 | 409 |
| Total Alkalinity as CaCO ₃ | mg/L | 1 | 85 | 357 | | | | 613 | 348 | 185 |
| Total Dissolved Solids | mg/L | 10 | 314 | 896 | | | | 1260 | 1510 | 1240 |
| Total Organic Carbon | mg/L | 1 | 14 | 11 | | | | 14 | 8 | 2 |
| Standing Water Level | mBTOC | 0.01 | 5.475 | 12.385 | | | | 70.72 | 69.745 | 70.37 |

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May 2024

| Parameter | CN ID | | GW117 | GW118* | GW119* | GW120 |
|---------------------------------------|---------|-------|-------|--------|--------|-------|
| | EPL ID | | 83 | 84 | 85 | 86 |
| | Units | LOR | | | | |
| Ammonia | mg/L | 0.01 | 0.16 | | | <0.05 |
| Calcium | mg/L | 1 | 13 | | | 44 |
| Chloride | mg/L | 1 | 288 | | | 44 |
| Electrical Conductivity | µS/cm | 1 | 1720 | | | 953 |
| Iron | mg/L | 0.05 | 23.8 | | | 0.75 |
| Lead | mg/L | 0.001 | 0.016 | | | 0.001 |
| Magnesium | mg/L | 1 | 26 | | | 31 |
| Nitrate as N | mg/L | 0.01 | <0.01 | | | <0.05 |
| pH Value | pH Unit | 0.01 | 6.31 | | | 6.39 |
| Potassium | mg/L | 1 | 8 | | | 10 |
| Sodium | mg/L | 1 | 324 | | | 118 |
| Sulfate | mg/L | 1 | 216 | | | 186 |
| Total Alkalinity as CaCO ₃ | mg/L | 1 | 214 | | | 260 |
| Total Dissolved Solids | mg/L | 10 | 990 | | | 586 |
| Total Organic Carbon | mg/L | 1 | 6 | | | 12 |
| Standing Water Level | mBTOC | 0.01 | 49.56 | | | 9.63 |

Notes:

CN = City of Newcastle

EPL = Environment Protection Licence

LOR = limit of reporting

mAHD = metres above Australian Height Datum

Results preceded by < indicate that the results were below the limit of detection for that analysis

NR = no result (non-compliant sample, insufficient water to sample etc)

EPL Monitoring points 42 was not sampled as wells are damaged (-)

*Insufficient water for analysis to be conducted

Date sampled: 27, 28, 29 and 30 May 2024

Final data obtained: 11 June 2024

Date published: 20 June 2024

A copy of the Environmental Protection Licence can be viewed at: <http://app.epa.nsw.gov.au/prpoeoapp/> A map showing the location of monitoring points can be viewed at: <http://www.newcastle.nsw.gov.au/Living/Waste-recycling/Summerhill-Waste-management-Centre/Environmental-Monitoring-Data>