

Monthly Monitoring Data

Environmental Protection Licence Number: 12693

link to EPL12693 on EPA Public Register: [Click Here](#)

Licensee: Newcastle Coal Infrastructure Group Pty Ltd, Locked Bag 6003, Hunter Region Mail Centre NSW 2310

Premises: Newcastle Coal Infrastructure Group, Cormorant Road, Kooragang NSW 2304

Date Data Obtained: 23 January 2024

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Note: On the 25th of August 2017 an amendment was made to the NCIG Environmental Protection Licence (EPL12693) which removed the requirement for ambient air quality monitoring at Points 7-10 and 14-15. However, NCIG will continue to publish ambient air quality data for these locations previously listed in EPL12693 for the interest of the public.

Depositional Dust Monitoring

Sample Period: 05 Dec 2023 – 04 Jan 2024

Units of Measure: Insoluble Solids (grams per square metre per month (g/m²/month))

Frequency: Monthly

| | Monitoring Point 7 - DG3 (Kooragang Island) | Monitoring Point 8 - DG4 (Mayfield Sport Rec Club) | Monitoring Point 9 - DG5 (Mayfield West) | Monitoring Point 10 - DG6 (Sandgate) |
|--------------------------|--|---|---|---|
| Depositional Dust | 0.6 | 1.1 | 1.1 | 0.6 |

High Volume Air Sampling

Units of measure: Micrograms per cubic metre (µg/m³)

Frequency: Weekly

| | Monitoring Point 14 - HVAS 1 (Steel River, Mayfield West) | | | Monitoring Point 15 - HVAS 2 (Crebert Street, Mayfield) | | | |
|------------------|---|------------------|------|---|----|------------------|----|
| | TSP | PM10 | | TSP | | PM10 | |
| 01-Dec-23 | 28.8 | 01-Dec-23 | 17.9 | 01-Dec-23 | 30 | 01-Dec-23 | 9 |
| 07-Dec-23 | 57.9 | 07-Dec-23 | 33.0 | 07-Dec-23 | 60 | 07-Dec-23 | 29 |
| 13-Dec-23 | 67.1 | 13-Dec-23 | 30.3 | 13-Dec-23 | 65 | 13-Dec-23 | 28 |
| 19-Dec-23 | 70.3 | 19-Dec-23 | 15.9 | 19-Dec-23 | 78 | 19-Dec-23 | 40 |
| 25-Dec-23 | 35.2 | 25-Dec-23 | 14.4 | 25-Dec-23 | 23 | 25-Dec-23 | 11 |
| 31-Dec-23 | TBC | 31-Dec-23 | TBC | 31-Dec-23 | 36 | 31-Dec-23 | 15 |

NB: Sample period is a 24-hour period on each of the above dates | TSP = Total Suspended Particulates | PM10 = Particulate Matter <10 microns |

6 Monthly Groundwater Monitoring

Sampling Point 1, 38, 39 (Background Monitoring Wells)

Groundwater Sampling Point 1 (GW1)

Sample Date: 6 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|----------------|----------------|
| pH | pH units | Every 6 Months | 7.23 |
| Conductivity | µS/cm | Every 6 Months | 16500 |
| Bromide | mg/L | Every 6 Months | 15.8 |
| Aluminium | mg/L | Every 6 Months | <0.01 |
| Arsenic | mg/L | Every 6 Months | <0.001 |
| Cadmium | mg/L | Every 6 Months | <0.0001 |
| Copper | mg/L | Every 6 Months | <0.001 |
| Manganese | mg/L | Every 6 Months | 0.202 |
| Nickel | mg/L | Every 6 Months | <0.001 |
| Zinc | mg/L | Every 6 Months | 0.025 |
| Iron | mg/L | Every 6 Months | 1.46 |
| Total PAH | µg/L | Every 6 Months | <0.5 |
| TPH C6-9 Fraction | µg/L | Every 6 Months | <20 |
| TPH C10-14 Fraction | µg/L | Every 6 Months | <50 |
| TPH C15-28 Fraction | µg/L | Every 6 Months | <100 |
| TPH C29-36 Fraction | µg/L | Every 6 Months | <50 |
| Cyanide (free) | mg/L | Every 6 Months | <0.004 |
| Cyanide (total) | mg/L | Every 6 Months | <0.004 |

Groundwater Sampling Point 38 (BH21S)

Sample Date: 12 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|----------------|----------------|
| pH | pH units | Every 6 Months | 10.80 |
| Conductivity | µS/cm | Every 6 Months | 2240 |
| Bromide | mg/L | Every 6 Months | 2.07 |
| Aluminium | mg/L | Every 6 Months | 0.29 |
| Arsenic | mg/L | Every 6 Months | 0.002 |
| Cadmium | mg/L | Every 6 Months | <0.0001 |
| Copper | mg/L | Every 6 Months | <0.001 |
| Manganese | mg/L | Every 6 Months | <0.001 |
| Nickel | mg/L | Every 6 Months | 0.003 |
| Zinc | mg/L | Every 6 Months | <0.005 |
| Iron | mg/L | Every 6 Months | 0.09 |
| Total PAH | µg/L | Every 6 Months | 242 |
| TPH C6-9 Fraction | µg/L | Every 6 Months | <100 |
| TPH C10-14 Fraction | µg/L | Every 6 Months | 400 |
| TPH C15-28 Fraction | µg/L | Every 6 Months | 220 |
| TPH C29-36 Fraction | µg/L | Every 6 Months | <50 |
| Cyanide (free) | mg/L | Every 6 Months | <0.004 |
| Cyanide (total) | mg/L | Every 6 Months | <0.004 |

Groundwater Sampling Point 39 (BH21D)

Sample Date: 12 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|----------------|----------------|
| pH | pH units | Every 6 Months | 8.65 |
| Conductivity | µS/cm | Every 6 Months | 5690 |
| Bromide | mg/L | Every 6 Months | 11.3 |
| Aluminium | mg/L | Every 6 Months | 0.02 |
| Arsenic | mg/L | Every 6 Months | 0.002 |
| Cadmium | mg/L | Every 6 Months | <0.0001 |
| Copper | mg/L | Every 6 Months | <0.001 |
| Manganese | mg/L | Every 6 Months | 0.22 |
| Nickel | mg/L | Every 6 Months | 0.001 |
| Zinc | mg/L | Every 6 Months | 0.012 |
| Iron | mg/L | Every 6 Months | 1.8 |
| Total PAH | µg/L | Every 6 Months | 59.2 |
| TPH C6-9 Fraction | µg/L | Every 6 Months | <100 |
| TPH C10-14 Fraction | µg/L | Every 6 Months | <50 |
| TPH C15-28 Fraction | µg/L | Every 6 Months | <100 |
| TPH C29-36 Fraction | µg/L | Every 6 Months | <50 |
| Cyanide (free) | mg/L | Every 6 Months | <0.004 |
| Cyanide (total) | mg/L | Every 6 Months | <0.004 |

Sampling Point 20,21,22,23,36,37,40,41 (Regular Monitoring Wells)

Groundwater Sampling Point 20 (K9/3N)

Sample Date: 1 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value | Trigger met (Yes/No)* |
|---------------------|------------------|----------------|----------------|-----------------------|
| pH | pH units | Every 6 Months | 7.13 | No |
| Conductivity | µS/cm | Every 6 Months | 17500 | No |
| Bromide | mg/L | Every 6 Months | 17.8 | No |
| Aluminium | mg/L | Every 6 Months | <0.01 | No |
| Arsenic | mg/L | Every 6 Months | <0.001 | No |
| Cadmium | mg/L | Every 6 Months | <0.0001 | No |
| Copper | mg/L | Every 6 Months | <0.001 | No |
| Manganese | mg/L | Every 6 Months | 0.951 | No |
| Nickel | mg/L | Every 6 Months | <0.001 | No |
| Zinc | mg/L | Every 6 Months | <0.005 | No |
| Iron | mg/L | Every 6 Months | <0.05 | No |
| Total PAH | µg/L | Every 6 Months | <0.5 | No |
| TPH C6-9 Fraction | µg/L | Every 6 Months | <20 | No |
| TPH C10-14 Fraction | µg/L | Every 6 Months | <50 | No |
| TPH C15-28 Fraction | µg/L | Every 6 Months | <100 | No |
| TPH C29-36 Fraction | µg/L | Every 6 Months | <50 | No |
| Cyanide (free) | mg/L | Every 6 Months | <0.004 | No |
| Cyanide (total) | mg/L | Every 6 Months | <0.004 | No |

Note: If trigger level is met, actions listed in Condition E1.2 of EPL12693 are to be followed. These actions include notifying the EPA and resampling the location to confirm the elevated concentration.

* Trigger Condition 1 and 2 recalculated each sampling round.

Groundwater Sampling Point 21 (K9/3S)

Sample Date: 1 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value | Exceedance (Yes/No)* |
|---------------------|------------------|----------------|----------------|----------------------|
| pH | pH units | Every 6 Months | 7.96 | No |
| Conductivity | µS/cm | Every 6 Months | 3780** | No |
| Bromide | mg/L | Every 6 Months | 2.98 | No |
| Aluminium | mg/L | Every 6 Months | 0.01 | No |
| Arsenic | mg/L | Every 6 Months | 0.002 | No |
| Cadmium | mg/L | Every 6 Months | <0.0001 | No |
| Copper | mg/L | Every 6 Months | <0.001 | No |
| Manganese | mg/L | Every 6 Months | 0.163 | No |
| Nickel | mg/L | Every 6 Months | <0.001 | No |
| Zinc | mg/L | Every 6 Months | <0.005 | No |
| Iron | mg/L | Every 6 Months | <0.05 | No |
| Total PAH | µg/L | Every 6 Months | <0.5 | No |
| TPH C6-9 Fraction | µg/L | Every 6 Months | <20 | No |
| TPH C10-14 Fraction | µg/L | Every 6 Months | <50 | No |
| TPH C15-28 Fraction | µg/L | Every 6 Months | <100** | No |
| TPH C29-36 Fraction | µg/L | Every 6 Months | <50** | No |
| Cyanide (free) | mg/L | Every 6 Months | <0.004 | No |
| Cyanide (total) | mg/L | Every 6 Months | <0.004 | No |

Note: If trigger level is met, actions listed in Condition E1.2 of EPL12693 are to be followed. These actions include notifying the EPA and resampling the location to confirm the elevated concentration.

* Trigger Condition 1 and 2 recalculated each sampling round.

** Resample result (13/2/24)

Groundwater Sampling Point 22 (K11/1)**Sample Date:** 6 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value | Exceedance (Yes/No)* |
|---------------------|------------------|----------------|----------------|----------------------|
| pH | pH units | Every 6 Months | 7.49 | No |
| Conductivity | µS/cm | Every 6 Months | 1540 | No |
| Bromide | mg/L | Every 6 Months | 1.06 | No |
| Aluminium | mg/L | Every 6 Months | <0.01 | No |
| Arsenic | mg/L | Every 6 Months | <0.001 | No |
| Cadmium | mg/L | Every 6 Months | <0.0001 | No |
| Copper | mg/L | Every 6 Months | <0.001 | No |
| Manganese | mg/L | Every 6 Months | 0.800 | No |
| Nickel | mg/L | Every 6 Months | <0.001 | No |
| Zinc | mg/L | Every 6 Months | 0.008 | No |
| Iron | mg/L | Every 6 Months | 0.08 | No |
| Total PAH | µg/L | Every 6 Months | <0.5 | No |
| TPH C6-9 Fraction | µg/L | Every 6 Months | <20 | No |
| TPH C10-14 Fraction | µg/L | Every 6 Months | <50 | No |
| TPH C15-28 Fraction | µg/L | Every 6 Months | <100 | No |
| TPH C29-36 Fraction | µg/L | Every 6 Months | <50 | No |
| Cyanide (free) | mg/L | Every 6 Months | <0.004 | No |
| Cyanide (total) | mg/L | Every 6 Months | <0.004 | No |

Note: If trigger level is met, actions listed in Condition E1.2 of EPL12693 are to be followed. These actions include notifying the EPA and resampling the location to confirm the elevated concentration.

* Trigger Condition 1 and 2 recalculated each sampling round.

Groundwater Sampling Point 23 (K11/1S)

Sample Date: 6 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value | Exceedance (Yes/No)* |
|---------------------|------------------|----------------|----------------|----------------------|
| pH | pH units | Every 6 Months | 7.81 | No |
| Conductivity | µS/cm | Every 6 Months | 7080 | No |
| Bromide | mg/L | Every 6 Months | 6.25 | No |
| Aluminium | mg/L | Every 6 Months | <0.01 | No |
| Arsenic | mg/L | Every 6 Months | <0.001 | No |
| Cadmium | mg/L | Every 6 Months | <0.0001 | No |
| Copper | mg/L | Every 6 Months | <0.001 | No |
| Manganese | mg/L | Every 6 Months | 0.132 | No |
| Nickel | mg/L | Every 6 Months | <0.001 | No |
| Zinc | mg/L | Every 6 Months | 0.009 | No |
| Iron | mg/L | Every 6 Months | <0.05** | No |
| Total PAH | µg/L | Every 6 Months | <0.5 | No |
| TPH C6-9 Fraction | µg/L | Every 6 Months | <20 | No |
| TPH C10-14 Fraction | µg/L | Every 6 Months | <50** | No |
| TPH C15-28 Fraction | µg/L | Every 6 Months | <100** | No |
| TPH C29-36 Fraction | µg/L | Every 6 Months | 420** | Yes |
| Cyanide (free) | mg/L | Every 6 Months | <0.004 | No |
| Cyanide (total) | mg/L | Every 6 Months | <0.004 | No |

Note: If trigger level is met, actions listed in Condition E1.2 of EPL12693 are to be followed. These actions include notifying the EPA and resampling the location to confirm the elevated concentration.

* Trigger Condition 1 and 2 recalculated each sampling round.

** Resample result (13/2/24)

Groundwater Sampling Point 36 (BH20S)**Sample Date:** 12 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value | Exceedance (Yes/No)* |
|---------------------|------------------|----------------|----------------|----------------------|
| pH | pH units | Every 6 Months | 7.06 | No |
| Conductivity | µS/cm | Every 6 Months | 1040 | No |
| Bromide | mg/L | Every 6 Months | 0.173 | No |
| Aluminium | mg/L | Every 6 Months | <0.01 | No |
| Arsenic | mg/L | Every 6 Months | <0.006 | No |
| Cadmium | mg/L | Every 6 Months | <0.0001 | No |
| Copper | mg/L | Every 6 Months | <0.001 | No |
| Manganese | mg/L | Every 6 Months | 2.3 | No |
| Nickel | mg/L | Every 6 Months | 0.002 | No |
| Zinc | mg/L | Every 6 Months | 0.021 | No |
| Iron | mg/L | Every 6 Months | 1.89 | No |
| Total PAH | µg/L | Every 6 Months | <0.5 | No |
| TPH C6-9 Fraction | µg/L | Every 6 Months | <20 | No |
| TPH C10-14 Fraction | µg/L | Every 6 Months | <50 | No |
| TPH C15-28 Fraction | µg/L | Every 6 Months | <100 | No |
| TPH C29-36 Fraction | µg/L | Every 6 Months | <50 | No |
| Cyanide (free) | mg/L | Every 6 Months | <0.004 | No |
| Cyanide (total) | mg/L | Every 6 Months | <0.004 | No |

Note: If trigger level is met, actions listed in Condition E1.2 of EPL12693 are to be followed. These actions include notifying the EPA and resampling the location to confirm the elevated concentration.

* Trigger Condition 1 and 2 recalculated each sampling round.

Groundwater Sampling Point 37 (BH20D)**Sample Date:** 12 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value | Exceedance (Yes/No)* |
|---------------------|------------------|----------------|----------------|----------------------|
| pH | pH units | Every 6 Months | 6.3 | No |
| Conductivity | µS/cm | Every 6 Months | 44200 | No |
| Bromide | mg/L | Every 6 Months | 43.9 | No |
| Aluminium | mg/L | Every 6 Months | <0.10 | No |
| Arsenic | mg/L | Every 6 Months | <0.010 | No |
| Cadmium | mg/L | Every 6 Months | <0.0010 | No |
| Copper | mg/L | Every 6 Months | <0.010 | No |
| Manganese | mg/L | Every 6 Months | 10.6 | No |
| Nickel | mg/L | Every 6 Months | 0.025 | No |
| Zinc | mg/L | Every 6 Months | <0.050 | No |
| Iron | mg/L | Every 6 Months | 44.1 | No |
| Total PAH | µg/L | Every 6 Months | <0.5 | No |
| TPH C6-9 Fraction | µg/L | Every 6 Months | <20 | No |
| TPH C10-14 Fraction | µg/L | Every 6 Months | <50 | No |
| TPH C15-28 Fraction | µg/L | Every 6 Months | <100 | No |
| TPH C29-36 Fraction | µg/L | Every 6 Months | <50 | No |
| Cyanide (free) | mg/L | Every 6 Months | <0.004 | No |
| Cyanide (total) | mg/L | Every 6 Months | <0.004 | No |

Note: If trigger level is met, actions listed in Condition E1.2 of EPL12693 are to be followed. These actions include notifying the EPA and resampling the location to confirm the elevated concentration.

* Trigger Condition 1 and 2 recalculated each sampling round.

Groundwater Sampling Point 40 (BH23S)

Sample Date: 12 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value | Exceedance (Yes/No)* |
|---------------------|------------------|----------------|----------------|----------------------|
| pH | pH units | Every 6 Months | 8.44 | No |
| Conductivity | µS/cm | Every 6 Months | 1100 | No |
| Bromide | mg/L | Every 6 Months | 0.324 | No |
| Aluminium | mg/L | Every 6 Months | 0.03 | No |
| Arsenic | mg/L | Every 6 Months | 0.001 | No |
| Cadmium | mg/L | Every 6 Months | <0.0001 | No |
| Copper | mg/L | Every 6 Months | <0.001 | No |
| Manganese | mg/L | Every 6 Months | 0.51 | No |
| Nickel | mg/L | Every 6 Months | <0.001 | No |
| Zinc | mg/L | Every 6 Months | <0.005 | No |
| Iron | mg/L | Every 6 Months | <0.05 | No |
| Total PAH | µg/L | Every 6 Months | <0.5 | No |
| TPH C6-9 Fraction | µg/L | Every 6 Months | <20 | No |
| TPH C10-14 Fraction | µg/L | Every 6 Months | <50 | No |
| TPH C15-28 Fraction | µg/L | Every 6 Months | <100 | No |
| TPH C29-36 Fraction | µg/L | Every 6 Months | <50 | No |
| Cyanide (free) | mg/L | Every 6 Months | <0.004 | No |
| Cyanide (total) | mg/L | Every 6 Months | <0.004 | No |

Note: If trigger level is met, actions listed in Condition E1.2 of EPL12693 are to be followed. These actions include notifying the EPA and resampling the location to confirm the elevated concentration.

* Trigger Condition 1 and 2 recalculated each sampling round.

Groundwater Sampling Point 41 (BH23D)

Sample Date: 12 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value | Exceedance (Yes/No)* |
|---------------------|------------------|----------------|----------------|----------------------|
| pH | pH units | Every 6 Months | 6.99 | No |
| Conductivity | µS/cm | Every 6 Months | 16900 | No |
| Bromide | mg/L | Every 6 Months | 17.5 | No |
| Aluminium | mg/L | Every 6 Months | <0.01 | No |
| Arsenic | mg/L | Every 6 Months | <0.001 | No |
| Cadmium | mg/L | Every 6 Months | <0.0001 | No |
| Copper | mg/L | Every 6 Months | <0.001 | No |
| Manganese | mg/L | Every 6 Months | 0.806** | No |
| Nickel | mg/L | Every 6 Months | <0.001 | No |
| Zinc | mg/L | Every 6 Months | 0.02 | No |
| Iron | mg/L | Every 6 Months | 10.8 | No |
| Total PAH | µg/L | Every 6 Months | <0.5 | No |
| TPH C6-9 Fraction | µg/L | Every 6 Months | <20 | No |
| TPH C10-14 Fraction | µg/L | Every 6 Months | <50 | No |
| TPH C15-28 Fraction | µg/L | Every 6 Months | <100 | No |
| TPH C29-36 Fraction | µg/L | Every 6 Months | <50 | No |
| Cyanide (free) | mg/L | Every 6 Months | <0.004 | No |
| Cyanide (total) | mg/L | Every 6 Months | <0.004 | No |

Note: If trigger level is met, actions listed in Condition E1.2 of EPL12693 are to be followed. These actions include notifying the EPA and resampling the location to confirm the elevated concentration.

* Trigger Condition 1 and 2 recalculated each sampling round.

** Resample result (13/2/24)

Sampling Point 24,25,26,27,28,29,30,31,32,33 (Additional Contingency Wells)

Groundwater Sampling Point BHe23S (Note: BHe23S has been used as a substitute to Monitoring Point 24 (K11/3E), which no longer exists due to previous impacts to the bore).

Sample Date: N/A

Note: Sampling Point BHe23S was unable to be sampled in this monitoring round as the well was dry. Dipped 1 Dec 2023.

Groundwater Sampling Point BHe23D (Note: BHe23D has been used as a substitute to Monitoring Point 25 (K11/3W), which no longer exists due to previous impacts to the bore).

Sample Date: 1 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|---------------------|----------------|
| pH | pH units | Special Frequency 1 | 7.29 |
| Conductivity | µS/cm | Special Frequency 1 | 14400 |
| Bromide | mg/L | Special Frequency 1 | 13 |
| Aluminium | mg/L | Special Frequency 1 | <0.01 |
| Arsenic | mg/L | Special Frequency 1 | <0.001 |
| Cadmium | mg/L | Special Frequency 1 | <0.0001 |
| Copper | mg/L | Special Frequency 1 | <0.001 |
| Manganese | mg/L | Special Frequency 1 | 0.922 |
| Nickel | mg/L | Special Frequency 1 | <0.001 |
| Zinc | mg/L | Special Frequency 1 | 0.005 |
| Iron | mg/L | Special Frequency 1 | 0.08 |
| Total PAH | µg/L | Special Frequency 1 | <0.5 |
| TPH C6-9 Fraction | µg/L | Special Frequency 1 | <20 |
| TPH C10-14 Fraction | µg/L | Special Frequency 1 | <50 |
| TPH C15-28 Fraction | µg/L | Special Frequency 1 | <100 |
| TPH C29-36 Fraction | µg/L | Special Frequency 1 | <50 |
| Cyanide (free) | mg/L | Special Frequency 1 | <0.004 |
| Cyanide (total) | mg/L | Special Frequency 1 | <0.004 |

Note: For the purposes of the table(s) above Special Frequency 1 means the collection of samples on a six monthly basis if trigger conditions specified in condition E1.1 of EPL12693 are met.

Groundwater Sampling Point 26 (K11/2W)

Sample Date: 1 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|---------------------|----------------|
| pH | pH units | Special Frequency 1 | 7.57 |
| Conductivity | µS/cm | Special Frequency 1 | 6970 |
| Bromide | mg/L | Special Frequency 1 | 4.58 |
| Aluminium | mg/L | Special Frequency 1 | 0.01 |
| Arsenic | mg/L | Special Frequency 1 | <0.01 |
| Cadmium | mg/L | Special Frequency 1 | <0.001 |
| Copper | mg/L | Special Frequency 1 | <0.0001 |
| Manganese | mg/L | Special Frequency 1 | <0.001 |
| Nickel | mg/L | Special Frequency 1 | 0.057 |
| Zinc | mg/L | Special Frequency 1 | <0.001 |
| Iron | mg/L | Special Frequency 1 | 0.007 |
| Total PAH | µg/L | Special Frequency 1 | <0.5 |
| TPH C6-9 Fraction | µg/L | Special Frequency 1 | <20 |
| TPH C10-14 Fraction | µg/L | Special Frequency 1 | <50 |
| TPH C15-28 Fraction | µg/L | Special Frequency 1 | <100 |
| TPH C29-36 Fraction | µg/L | Special Frequency 1 | <50 |
| Cyanide (free) | mg/L | Special Frequency 1 | <0.004 |
| Cyanide (total) | mg/L | Special Frequency 1 | <0.004 |

Note: For the purposes of the table(s) above Special Frequency 1 means the collection of samples on a six monthly basis if trigger conditions specified in condition E1.1 of EPL12693 are met.

Groundwater Sampling Point 27 (K11/2E)

Sample Date: 1 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|---------------------|----------------|
| pH | pH units | Special Frequency 1 | 7.38 |
| Conductivity | µS/cm | Special Frequency 1 | 1450 |
| Bromide | mg/L | Special Frequency 1 | 0.543 |
| Aluminium | mg/L | Special Frequency 1 | <0.01 |
| Arsenic | mg/L | Special Frequency 1 | 0.005 |
| Cadmium | mg/L | Special Frequency 1 | <0.0001 |
| Copper | mg/L | Special Frequency 1 | <0.001 |
| Manganese | mg/L | Special Frequency 1 | 0.371 |
| Nickel | mg/L | Special Frequency 1 | <0.001 |
| Zinc | mg/L | Special Frequency 1 | <0.005 |
| Iron | mg/L | Special Frequency 1 | 5.78 |
| Total PAH | µg/L | Special Frequency 1 | <0.5 |
| TPH C6-9 Fraction | µg/L | Special Frequency 1 | <20 |
| TPH C10-14 Fraction | µg/L | Special Frequency 1 | <50 |
| TPH C15-28 Fraction | µg/L | Special Frequency 1 | <100 |
| TPH C29-36 Fraction | µg/L | Special Frequency 1 | <50 |
| Cyanide (free) | mg/L | Special Frequency 1 | <0.004 |
| Cyanide (total) | mg/L | Special Frequency 1 | <0.004 |

Note: For the purposes of the table(s) above Special Frequency 1 means the collection of samples on a six monthly basis if trigger conditions specified in condition E1.1 of EPL12693 are met.

Groundwater Sampling Point 28 (K9/4W)

Sample Date: 6 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|---------------------|----------------|
| pH | pH units | Special Frequency 1 | 7.32 |
| Conductivity | µS/cm | Special Frequency 1 | 7760 |
| Bromide | mg/L | Special Frequency 1 | 4.49 |
| Aluminium | mg/L | Special Frequency 1 | <0.01 |
| Arsenic | mg/L | Special Frequency 1 | <0.001 |
| Cadmium | mg/L | Special Frequency 1 | <0.0001 |
| Copper | mg/L | Special Frequency 1 | <0.001 |
| Manganese | mg/L | Special Frequency 1 | 0.163 |
| Nickel | mg/L | Special Frequency 1 | <0.001 |
| Zinc | mg/L | Special Frequency 1 | 0.035 |
| Iron | mg/L | Special Frequency 1 | 2.44 |
| Total PAH | µg/L | Special Frequency 1 | <0.5 |
| TPH C6-9 Fraction | µg/L | Special Frequency 1 | <20 |
| TPH C10-14 Fraction | µg/L | Special Frequency 1 | <50 |
| TPH C15-28 Fraction | µg/L | Special Frequency 1 | <100 |
| TPH C29-36 Fraction | µg/L | Special Frequency 1 | <50 |
| Cyanide (free) | mg/L | Special Frequency 1 | <0.004 |
| Cyanide (total) | mg/L | Special Frequency 1 | <0.004 |

Note: For the purposes of the table(s) above Special Frequency 1 means the collection of samples on a six monthly basis if trigger conditions specified in condition E1.1 of EPL12693 are met.

Groundwater Sampling Point 29 (K9/4E)

Sample Date: 6 June 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|---------------------|----------------|
| pH | pH units | Special Frequency 1 | 7.21 |
| Conductivity | µS/cm | Special Frequency 1 | 10500 |
| Bromide | mg/L | Special Frequency 1 | 9.74 |
| Aluminium | mg/L | Special Frequency 1 | 0.02 |
| Arsenic | mg/L | Special Frequency 1 | 0.002 |
| Cadmium | mg/L | Special Frequency 1 | <0.0001 |
| Copper | mg/L | Special Frequency 1 | <0.001 |
| Manganese | mg/L | Special Frequency 1 | 1.54 |
| Nickel | mg/L | Special Frequency 1 | <0.001 |
| Zinc | mg/L | Special Frequency 1 | 0.009 |
| Iron | mg/L | Special Frequency 1 | 0.17 |
| Total PAH | µg/L | Special Frequency 1 | <0.5 |
| TPH C6-9 Fraction | µg/L | Special Frequency 1 | <20 |
| TPH C10-14 Fraction | µg/L | Special Frequency 1 | <50 |
| TPH C15-28 Fraction | µg/L | Special Frequency 1 | <100 |
| TPH C29-36 Fraction | µg/L | Special Frequency 1 | <50 |
| Cyanide (free) | mg/L | Special Frequency 1 | <0.004 |
| Cyanide (total) | mg/L | Special Frequency 1 | <0.004 |

Note: For the purposes of the table(s) above Special Frequency 1 means the collection of samples on a six monthly basis if trigger conditions specified in condition E1.1 of EPL12693 are met.

Groundwater Sampling Point 30 (K9/2W)

Sample Date: 6 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|---------------------|----------------|
| pH | pH units | Special Frequency 1 | 7.73 |
| Conductivity | µS/cm | Special Frequency 1 | 2910 |
| Bromide | mg/L | Special Frequency 1 | 1.53 |
| Aluminium | mg/L | Special Frequency 1 | 0.01 |
| Arsenic | mg/L | Special Frequency 1 | 0.002 |
| Cadmium | mg/L | Special Frequency 1 | <0.0001 |
| Copper | mg/L | Special Frequency 1 | <0.001 |
| Manganese | mg/L | Special Frequency 1 | 0.188 |
| Nickel | mg/L | Special Frequency 1 | <0.001 |
| Zinc | mg/L | Special Frequency 1 | 0.007 |
| Iron | mg/L | Special Frequency 1 | 0.1 |
| Total PAH | µg/L | Special Frequency 1 | <0.5 |
| TPH C6-9 Fraction | µg/L | Special Frequency 1 | <20 |
| TPH C10-14 Fraction | µg/L | Special Frequency 1 | <50 |
| TPH C15-28 Fraction | µg/L | Special Frequency 1 | <100 |
| TPH C29-36 Fraction | µg/L | Special Frequency 1 | <50 |
| Cyanide (free) | mg/L | Special Frequency 1 | <0.004 |
| Cyanide (total) | mg/L | Special Frequency 1 | <0.004 |

Note: For the purposes of the table(s) above Special Frequency 1 means the collection of samples on a six monthly basis if trigger conditions specified in condition E1.1 of EPL12693 are met.

Groundwater Sampling Point 31 (K9/2E)

Sample Date: 6 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|---------------------|----------------|
| pH | pH units | Special Frequency 1 | 7.30 |
| Conductivity | µS/cm | Special Frequency 1 | 27600 |
| Bromide | mg/L | Special Frequency 1 | 24.7 |
| Aluminium | mg/L | Special Frequency 1 | <0.01 |
| Arsenic | mg/L | Special Frequency 1 | <0.001 |
| Cadmium | mg/L | Special Frequency 1 | <0.0001 |
| Copper | mg/L | Special Frequency 1 | <0.001 |
| Manganese | mg/L | Special Frequency 1 | 0.475 |
| Nickel | mg/L | Special Frequency 1 | <0.001 |
| Zinc | mg/L | Special Frequency 1 | 0.013 |
| Iron | mg/L | Special Frequency 1 | 0.29 |
| Total PAH | µg/L | Special Frequency 1 | 3.0 |
| TPH C6-9 Fraction | µg/L | Special Frequency 1 | <20 |
| TPH C10-14 Fraction | µg/L | Special Frequency 1 | 180 |
| TPH C15-28 Fraction | µg/L | Special Frequency 1 | 380 |
| TPH C29-36 Fraction | µg/L | Special Frequency 1 | 530 |
| Cyanide (free) | mg/L | Special Frequency 1 | <0.004 |
| Cyanide (total) | mg/L | Special Frequency 1 | <0.004 |

Note: For the purposes of the table(s) above Special Frequency 1 means the collection of samples on a six monthly basis if trigger conditions specified in condition E1.1 of EPL12693 are met.

Groundwater Sampling Point BHe29D (Note: BHe29D has been used as a substitute to Monitoring Point 32 (K10/4W), which no longer exists due to previous impacts to the bore).

Sample Date: 1 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|---------------------|----------------|
| pH | pH units | Special Frequency 1 | 7.58 |
| Conductivity | µS/cm | Special Frequency 1 | 6780 |
| Bromide | mg/L | Special Frequency 1 | 5.71 |
| Aluminium | mg/L | Special Frequency 1 | <0.01 |
| Arsenic | mg/L | Special Frequency 1 | <0.001 |
| Cadmium | mg/L | Special Frequency 1 | <0.0001 |
| Copper | mg/L | Special Frequency 1 | <0.001 |
| Manganese | mg/L | Special Frequency 1 | 0.129 |
| Nickel | mg/L | Special Frequency 1 | <0.001 |
| Zinc | mg/L | Special Frequency 1 | <0.005 |
| Iron | mg/L | Special Frequency 1 | <0.05 |
| Total PAH | µg/L | Special Frequency 1 | <0.5 |
| TPH C6-9 Fraction | µg/L | Special Frequency 1 | <20 |
| TPH C10-14 Fraction | µg/L | Special Frequency 1 | <50 |
| TPH C15-28 Fraction | µg/L | Special Frequency 1 | <100 |
| TPH C29-36 Fraction | µg/L | Special Frequency 1 | <50 |
| Cyanide (free) | mg/L | Special Frequency 1 | <0.004 |
| Cyanide (total) | mg/L | Special Frequency 1 | <0.004 |

Note: For the purposes of the table(s) above Special Frequency 1 means the collection of samples on a six monthly basis if trigger conditions specified in condition E1.1 of EPL12693 are met.

Groundwater Sampling Point BHe26S (Note: BHe26S has been used as a substitute to Monitoring Point 33 (DM10), which no longer exists due to previous impacts to the bore).

Sample Date: 1 Dec 2023

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|------------------|---------------------|----------------|
| pH | pH units | Special Frequency 1 | 7.98 |
| Conductivity | µS/cm | Special Frequency 1 | 3890 |
| Bromide | mg/L | Special Frequency 1 | 2.7 |
| Aluminium | mg/L | Special Frequency 1 | <0.01 |
| Arsenic | mg/L | Special Frequency 1 | 0.004 |
| Cadmium | mg/L | Special Frequency 1 | <0.0001 |
| Copper | mg/L | Special Frequency 1 | <0.001 |
| Manganese | mg/L | Special Frequency 1 | 0.22 |
| Nickel | mg/L | Special Frequency 1 | <0.001 |
| Zinc | mg/L | Special Frequency 1 | 0.008 |
| Iron | mg/L | Special Frequency 1 | <0.05 |
| Total PAH | µg/L | Special Frequency 1 | <0.5 |
| TPH C6-9 Fraction | µg/L | Special Frequency 1 | <20 |
| TPH C10-14 Fraction | µg/L | Special Frequency 1 | <50 |
| TPH C15-28 Fraction | µg/L | Special Frequency 1 | <100 |
| TPH C29-36 Fraction | µg/L | Special Frequency 1 | <50 |
| Cyanide (free) | mg/L | Special Frequency 1 | <0.004 |
| Cyanide (total) | mg/L | Special Frequency 1 | <0.004 |

Note: For the purposes of the table(s) above Special Frequency 1 means the collection of samples on a six monthly basis if trigger conditions specified in condition E1.1 of EPL12693 are met.

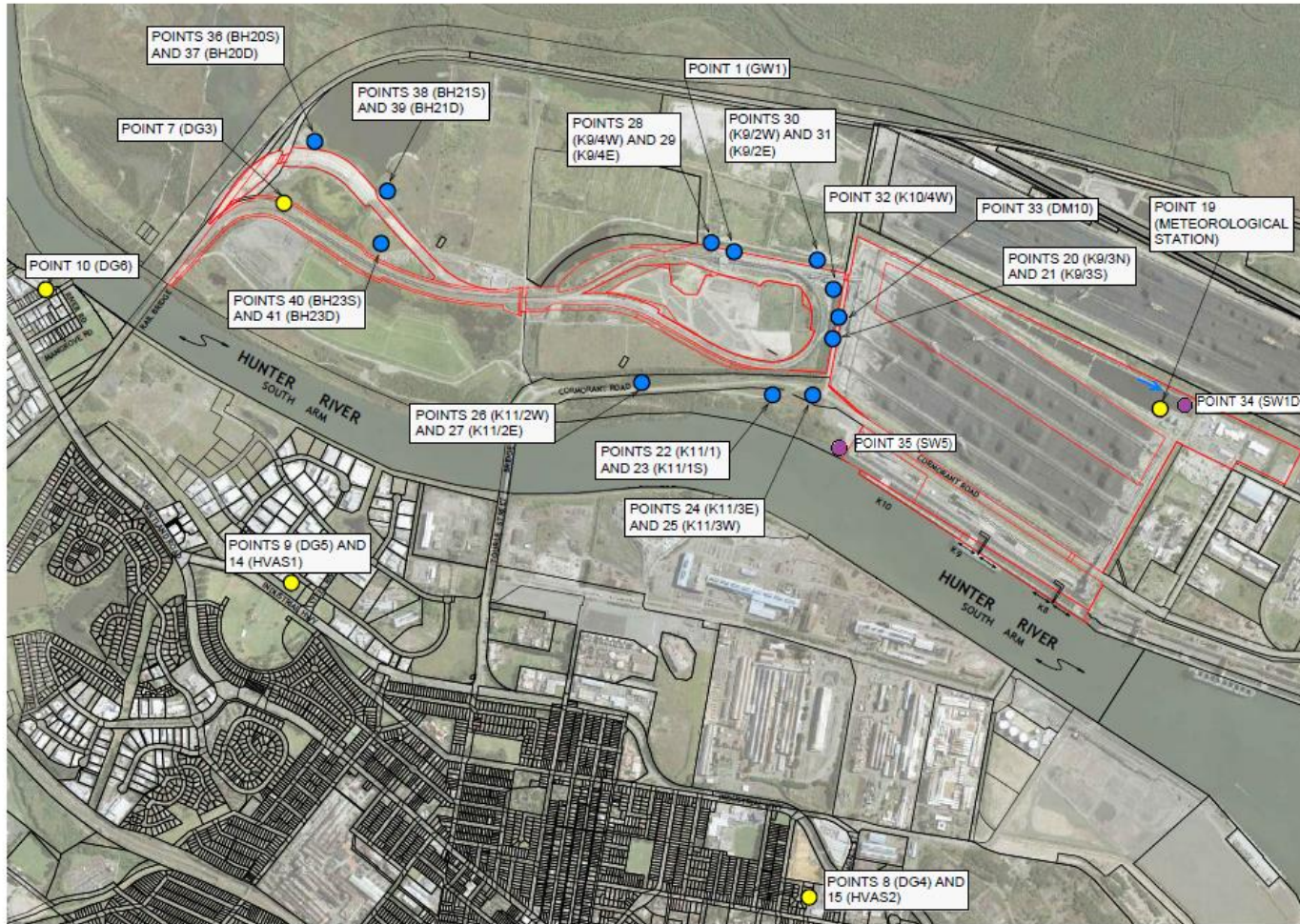


Figure 1: Groundwater, Surface Water and Additional Ambient Air Quality Monitoring Locations.