

Monthly Monitoring Data



Environmental Protection Licence Number: 12693

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 Published: 1st August 2017 (Discharge Quality and Ambient Water Monitoring published 12th July)

Depositional Dust Monitoring

Sample Period: 6th June 2016 – 5th July 2017

Date Obtained: 21st July 2017

Units of Measure: 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 | 2.1 | 0.4 | 1.0 | 0.4 |

High Volume Air Sampling

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

Frequency: Weekly

| | Monitoring Point 14 - HVAS 1 (Steel River) (Obtained 21 st July 2017) | | Monitoring Point 15 - HVAS 2 (Crebert Street) (Obtained 21 st July 2017) | |
|--------|---|------|--|------|
| | TSP | PM10 | TSP | PM10 |
| 5-Jun | 37 | 17 | 38 | 21 |
| 11-Jun | 13 | 6 | 13 | 7 |
| 17-Jun | 28 | 12 | 25 | 13 |
| 23-Jun | 41 | 20 | 41 | 20 |
| 29-Jun | 16 | 8 | 12 | 7 |

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

Groundwater Sampling Point 1**Sample Date:** 6th June 2017**Units of Measure:** pH units; milligrams per litre (mg/L); microSiemens per centimetre ($\mu\text{S}/\text{cm}$); micrograms per litre ($\mu\text{g}/\text{L}$)

| Pollutant | Units of Measure | Frequency | Recorded Value |
|---------------------|-------------------------|----------------|----------------|
| pH | pH units | Every 6 Months | 7.30 |
| Conductivity | $\mu\text{S}/\text{cm}$ | Every 6 Months | 13600 |
| Cobalt | mg/L | Every 6 Months | <0.001 |
| Copper | mg/L | Every 6 Months | <0.001 |
| Manganese | mg/L | Every 6 Months | 0.24 |
| Nickel | mg/L | Every 6 Months | <0.001 |
| Zinc | mg/L | Every 6 Months | <0.005 |
| Iron | mg/L | Every 6 Months | <0.05 |
| Magnesium | mg/L | Every 6 Months | 120 |
| Sodium | mg/L | Every 6 Months | 2130 |
| Potassium | mg/L | Every 6 Months | 117 |
| Total PAHs | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 |
| TPH C6-9 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <20 |
| TPH C10-14 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <50 |
| TPH C15-28 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <100 |
| TPH C29-36 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <50 |
| Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 |
| Toluene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 |
| Ethyl Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 |
| m+p Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 |
| o Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 |
| Cyanide (free) | $\mu\text{g}/\text{L}$ | Every 6 Months | <4 |
| Cyanide (total) | $\mu\text{g}/\text{L}$ | Every 6 Months | <4 |
| Ammonia | $\mu\text{g}/\text{L}$ | Every 6 Months | 1500 |
| Phenol | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 |



Groundwater Sampling Point 20**Sample Date:** 6th June 2017**Units of Measure:** pH units; microSiemens per centimetre ($\mu\text{S}/\text{cm}$), micrograms per litre ($\mu\text{g}/\text{L}$).

| Pollutant | Units of Measure | Frequency | Recorded Value | EP Licence Trigger Level | Exceedance (yes/no) |
|---------------------|-------------------------|----------------|----------------|--------------------------|---------------------|
| pH | pH units | Every 6 Months | 7.03 | N/A | N/A |
| Conductivity | $\mu\text{S}/\text{cm}$ | Every 6 Months | 24900 | N/A | N/A |
| Ammonia | $\mu\text{g}/\text{L}$ | Every 6 Months | 2820 | N/A | N/A |
| Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 700 | No |
| Ethyl Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 5 | No |
| m+p Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 75 | No |
| o Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 350 | No |
| Cyanide (free) | $\mu\text{g}/\text{L}$ | Every 6 Months | <4 | 4 | No |
| Cyanide (total) | $\mu\text{g}/\text{L}$ | Every 6 Months | <4 | 81.1 | No |
| Phenol | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 400 | No |
| Toluene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 180 | No |
| Total PAHs | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 1 | No |
| TPH C6-9 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <20 | 20 | No |
| TPH C10-14 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <50 | 50 | No |
| TPH C15-28 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <100 | 100 | No |
| TPH C29-36 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <50 | 50 | No |

Note: If trigger level is exceeded, 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.



Groundwater Sampling Point 21**Sample Date:** 6th June 2017**Units of Measure:** pH units; microSiemens per centimetre ($\mu\text{S}/\text{cm}$), micrograms per litre ($\mu\text{g}/\text{L}$).

| Pollutant | Units of Measure | Frequency | Recorded Value | EP Licence Trigger Level | Exceedance (yes/no) |
|---------------------|-------------------------|----------------|----------------|--------------------------|---------------------|
| pH | pH units | Every 6 Months | 7.68 | N/A | N/A |
| Conductivity | $\mu\text{S}/\text{cm}$ | Every 6 Months | 6890 | N/A | N/A |
| Ammonia | $\mu\text{g}/\text{L}$ | Every 6 Months | 800 | N/A | N/A |
| Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 700 | No |
| Ethyl Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 5 | No |
| m+p Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 75 | No |
| o Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 350 | No |
| Cyanide (free) | $\mu\text{g}/\text{L}$ | Every 6 Months | <4 | 4 | No |
| Cyanide (total) | $\mu\text{g}/\text{L}$ | Every 6 Months | <4 | 21.8 | No |
| Phenol | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 400 | No |
| Toluene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 180 | No |
| Total PAHs | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 1.1 | No |
| TPH C6-9 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <20 | 20 | No |
| TPH C10-14 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <50 | 50 | No |
| TPH C15-28 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <100 | 100 | No |
| TPH C29-36 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <50 | 50 | No |

Note: If trigger level is exceeded, 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.



Groundwater Sampling Point 22**Sample Date:** 6th June 2017**Units of Measure:** pH units; microSiemens per centimetre ($\mu\text{S}/\text{cm}$), micrograms per litre ($\mu\text{g}/\text{L}$).

| Pollutant | Units of Measure | Frequency | Recorded Value | EP Licence Trigger Level | Exceedance (Yes/No) |
|---------------------|-------------------------|----------------|----------------|--------------------------|---------------------|
| pH | pH units | Every 6 Months | 7.27 | N/A | N/A |
| Conductivity | $\mu\text{S}/\text{cm}$ | Every 6 Months | 1120 | N/A | N/A |
| Ammonia | $\mu\text{g}/\text{L}$ | Every 6 Months | 60 | N/A | N/A |
| Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 700 | No |
| Ethyl Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 5 | No |
| m+p Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 75 | No |
| o Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 350 | No |
| Cyanide (free) | $\mu\text{g}/\text{L}$ | Every 6 Months | <4 | 4 | No |
| Cyanide (total) | $\mu\text{g}/\text{L}$ | Every 6 Months | <4 | 16.6 | No |
| Phenol | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 400 | No |
| Toluene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 180 | No |
| Total PAHs | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 2.2 | No |
| TPH C6-9 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <20 | 20 | No |
| TPH C10-14 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <50 | 50 | No |
| TPH C15-28 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <100 | 100 | No |
| TPH C29-36 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <50 | 50 | No |

Note: If trigger level is exceeded, 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.



Groundwater Sampling Point 23**Sample Date:** 6th June 2017**Units of Measure:** pH units; milligrams per litre (mg/L); microSiemens per centimetre ($\mu\text{S}/\text{cm}$), micrograms per litre ($\mu\text{g}/\text{L}$).

| Pollutant | Units of Measure | Frequency | Recorded Value | EP Licence Trigger Level | Exceedance (Yes/No) |
|---------------------|-------------------------|----------------|----------------|--------------------------|---------------------|
| pH | pH units | Every 6 Months | 7.61 | N/A | N/A |
| Conductivity | $\mu\text{S}/\text{cm}$ | Every 6 Months | 14400 | N/A | N/A |
| Ammonia | $\mu\text{g}/\text{L}$ | Every 6 Months | 5830 | N/A | N/A |
| Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 700 | No |
| Ethyl Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 5 | No |
| m+p Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 75 | No |
| o Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 350 | No |
| Cyanide (free) | $\mu\text{g}/\text{L}$ | Every 6 Months | <4 | 4 | No |
| Cyanide (total) | $\mu\text{g}/\text{L}$ | Every 6 Months | <4 | 75.6 | No |
| Phenol | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 400 | No |
| Toluene | $\mu\text{g}/\text{L}$ | Every 6 Months | <2 | 180 | No |
| Total PAHs | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 1.5 | No |
| TPH C6-9 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <20 | 20 | No |
| TPH C10-14 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <50 | 50 | No |
| TPH C15-28 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <100 | 100 | No |
| TPH C29-36 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <50 | 50 | No |

Note: If trigger level is exceeded, 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.



Discharge Quality Monitoring – Point 34**Sample Date:** 11th June 2017**Results Received:** 4th July 2017**Units of Measure:** pH units; milligrams per litre (mg/L)

| Pollutant | Units of Measure | Frequency | Recorded Value |
|------------------------|------------------|--------------------------|----------------|
| Oil and Grease | mg/L | monthly during discharge | <5 |
| pH | pH units | monthly during discharge | 8.25 |
| Total Suspended Solids | mg/L | monthly during discharge | 42 |

Ambient Water Monitoring – Point 35**Sample Date:** 11th June 2017**Results Received:** 4th July 2017**Units of Measure:** pH units; milligrams per litre (mg/L)

| Pollutant | Units of Measure | Frequency | Recorded Value |
|------------------------|------------------|----------------------|----------------|
| Oil and Grease | mg/L | Special Frequency 2* | <5 |
| pH | pH units | Special Frequency 2* | 7.63 |
| Total Suspended Solids | mg/L | Special Frequency 2* | 9 |

* Special Frequency 2 refers to the collection of samples on an outgoing/ebb tide when monitoring is required at Point 34

