

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: 29th July 2016

Depositional Dust Monitoring

Sample Period: 2nd June 2016 – 1st July 2016

Date Obtained: 28th July 2016

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 | 0.9 | 0.5 | 0.8 | 1.4 |

* Results due to adjacent construction works not related to NCIG

High Volume Air Sampling

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

Frequency: Weekly

| | Monitoring Point 14 - HVAS 1 (Steel River) (Obtained 28 th July 2016) | | Monitoring Point 15 - HVAS 2 (Mayfield Sport Rec Club) (Obtained 28 th July 2016) | |
|---------------|---|------|---|------|
| | TSP | PM10 | TSP | PM10 |
| 4-Jun | 17 | 10 | 32 | 16 |
| 10-Jun | 20 | 5 | 18 | 5 |
| 16-Jun | 35 | 19 | 47 | 23 |
| 22-Jun | 23 | 6 | 23 | 6 |
| 28-Jun | 20 | 9 | 15 | 12 |

* Results due to adjacent construction works not related to NCIG

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:** 2nd June 2016**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 | 7.47 |
| Conductivity | $\mu\text{S}/\text{cm}$ | Every 6 Months | 12100 |
| Cobalt | mg/L | Every 6 Months | <0.001 |
| Copper | mg/L | Every 6 Months | <0.001 |
| Manganese | mg/L | Every 6 Months | 0.23 |
| Nickel | mg/L | Every 6 Months | <0.001 |
| Zinc | mg/L | Every 6 Months | <0.005 |
| Iron | mg/L | Every 6 Months | 0.014 |
| Magnesium | mg/L | Every 6 Months | 100 |
| Sodium | mg/L | Every 6 Months | 1900 |
| Potassium | mg/L | Every 6 Months | 130 |
| Total PAHs | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 |
| TPH C6-9 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <40 |
| 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 | <200 |
| TPH C29-36 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <200 |
| Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 |
| Toluene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 |
| Ethyl Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 |
| m+p Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 |
| o Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 |
| 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 | 1700 |
| Phenol | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 |



Groundwater Sampling Point 20**Sample Date:** 2nd June 2016**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 | 6.89 | N/A | N/A |
| Conductivity | $\mu\text{S}/\text{cm}$ | Every 6 Months | 22600 | N/A | N/A |
| Ammonia | $\mu\text{g}/\text{L}$ | Every 6 Months | 3300 | N/A | N/A |
| Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 700 | No |
| Ethyl Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 5 | No |
| m+p Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 75 | No |
| o Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 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 | <0.5 | 400 | No |
| Toluene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 180 | No |
| Total PAHs | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 1 | No |
| TPH C6-9 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <40 | 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 | <200 | 100 | No |
| TPH C29-36 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <200 | 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:** 2nd June 2016**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 | 7.71 | N/A | N/A |
| Conductivity | $\mu\text{S}/\text{cm}$ | Every 6 Months | 6720 | N/A | N/A |
| Ammonia | $\mu\text{g}/\text{L}$ | Every 6 Months | 1700 | N/A | N/A |
| Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 700 | No |
| Ethyl Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 5 | No |
| m+p Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 75 | No |
| o Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 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 | 6 | 21.8 | No |
| Phenol | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 400 | No |
| Toluene | $\mu\text{g}/\text{L}$ | Every 6 Months | 0.5 | 180 | No |
| Total PAHs | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 1.1 | No |
| TPH C6-9 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <40 | 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 | <200 | 100 | No |
| TPH C29-36 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <200 | 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:** 2nd June 2016**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 | 7.55 | N/A | N/A |
| Conductivity | $\mu\text{S}/\text{cm}$ | Every 6 Months | 801 | N/A | N/A |
| Ammonia | $\mu\text{g}/\text{L}$ | Every 6 Months | 210 | N/A | N/A |
| Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 700 | No |
| Ethyl Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 5 | No |
| m+p Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 75 | No |
| o Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 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 | <0.5 | 400 | No |
| Toluene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 180 | No |
| Total PAHs | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 2.2 | No |
| TPH C6-9 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <40 | 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 | <200 | 100 | No |
| TPH C29-36 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <200 | 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:** 2nd June 2016**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 | 7.54 | N/A | N/A |
| Conductivity | $\mu\text{S}/\text{cm}$ | Every 6 Months | 15200 | N/A | N/A |
| Ammonia | $\mu\text{g}/\text{L}$ | Every 6 Months | 5900 | N/A | N/A |
| Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 700 | No |
| Ethyl Benzene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 5 | No |
| m+p Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 75 | No |
| o Xylene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 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 | 5 | 75.6 | No |
| Phenol | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 400 | No |
| Toluene | $\mu\text{g}/\text{L}$ | Every 6 Months | <0.5 | 180 | No |
| Total PAHs | $\mu\text{g}/\text{L}$ | Every 6 Months | <1 | 1.5 | No |
| TPH C6-9 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <40 | 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 | <200 | 100 | No |
| TPH C29-36 Fraction | $\mu\text{g}/\text{L}$ | Every 6 Months | <200 | 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.

