NEW HOPE GROUP

## Jondaryan Rail Loading Facility Air Quality Monitoring Results

**Issue Month:** August 2017

New Acland Coal Pty Ltd (NAC) undertakes air quality monitoring as part of the environmental monitoring program for the Jondaryan Rail Loading Facility (JRLF). The following air quality data is provided to the Jondaryan community.

**Table 1: Dust deposition and compositional monitoring results for July 2017**

| Site | Dust Deposition ($mg/m^2/day$) | EA Criteria ($mg/m^2/day$) | Compositional Analysis[1] | | | Comments |
|---|---|---|---|---|---|---|
| | | | Major (>20%) | Minor (5% - 20%) | Trace (<5%) | |
| JD1 | 17 | 120 | Mineral Material (75%) | Insects (10%), Vegetation (10%), Coal (5%) | N/A | Rail and Highway to the north, north-west and north-east. JRLF to north-east. Gravel and dirt immediately surrounding. Bare paddock to north-east, east. Residential to north and west. Road with unsealed edges to north-west, north and north-east, unsealed road to landfill to north-east and gravel driveways to north-west. |
| JD2 | 27 | 120 | Coal (65%) | Mineral Material (35%) | Insects (<5%), Vegetation (<5%) | Rail and Highway to north, north-west and north-east. JRLF to the north-east. Grass immediately surrounding. Stubble paddock to south-east. Residential to south and west. Road with unsealed edges to north-east, east, south-east and south. Gravel road to south-east, south, south-west. |
| JD3 | 23 | 120 | Mineral Material (65%) | Vegetation (20%), Insects (10%), Coal (5%) | N/A | Highway and Rail to north-west, north, north-east. JRLF to the north-east. Residential surrounding. Grass and garden immediately surrounding. Road to north-west, north, north-east, east, south-east, south and south-west. Gravel drive to north-east and south. |
| JD4 | 210 | 120 | Polysaccharide Slime (40%), Mineral Material (25%), Vegetation (25%) | Insects (10%) | Coal (<5%) | Rail, Highway and Jondaryan town to south-east, south, south-west and west. JRLF to the east. Immediate surrounding grass and cropped paddock. Cropped paddocks to south-west, west, north-west, north, north-east. Bare paddock to north. Roads to north-east, east, south-east, south, south-west. |
| JD5 | 30 | 120 | Mineral Material (60%), Vegetation (35%) | Coal (5%) | Insects (<5%) | Rail and Highway to north-west, north, north-east. JRLF to the north-east. Grass immediately surrounding. Spider web in funnel. Residential to east, south and west. Road to north-east, east and south-east. |

[1] A semi-qualitative visual analysis of a representative portion of the collected sample which is as consistent as possible (however potentially biased) to that of the complete sample

When measured at a sensitive place, the allowable maximum level of the release of dust from JRLF is 120 milligrams per square metre per day (120 $mg/m^2/day$ as stated in JRLF's Environmental Authority (EA). The dust deposition monitors do not distinguish between dust sources. The predominant wind directions for July 2017 were South (23.97%), North-West (19.90%) and South-West (17.71%). The predominant wind speeds were calm to light breeze[2]. JD4 reported a concentration greater than the EA limit however JD4's compositional analysis reported coal at <5% with the major constituent being polysaccharide slime (40%), mineral material (25%) and vegetation (25%), results indicate localised sources are the likely cause of the elevated result at JD4.

[3] Wind speed classification uses the Beaufort scale

**Table 2: Quarterly $PM_{10}$ monitoring result for 12-13 July 2017**

| Location | 24 Hour $PM_{10}$ Result ($\mu g/m^3$) | Long-Term $PM_{10}$ average ($\mu g/m^3$) | NEPM Criteria for 24 Hour $PM_{10}$ exposure ($\mu g/m^3$)[3] | Comments[3] |
|---|---|---|---|---|
| Corner of Lagoon and Earl Streets, Jondaryan | 20 | 22 | 50 | "Winds from the east-north-east to east-south-east placed the site downwind of the Jondaryan Coal Stockpile (~1km) for approximately 82.4 % of the sampling period." |

[3] Taken from monitoring report, with respect to most recent result

[4] $PM_{10}$ monitoring is undertaken on a quarterly basis for a nominal

The national 24-hour exposure for $PM_{10}$ particulates stated in the National Environment Protection Measure for Ambient Air Quality is 50 micrograms per cubic meter (50 $\mu g/m^3$). The $PM_{10}$ monitors do not distinguish between *particulate matter sources.*

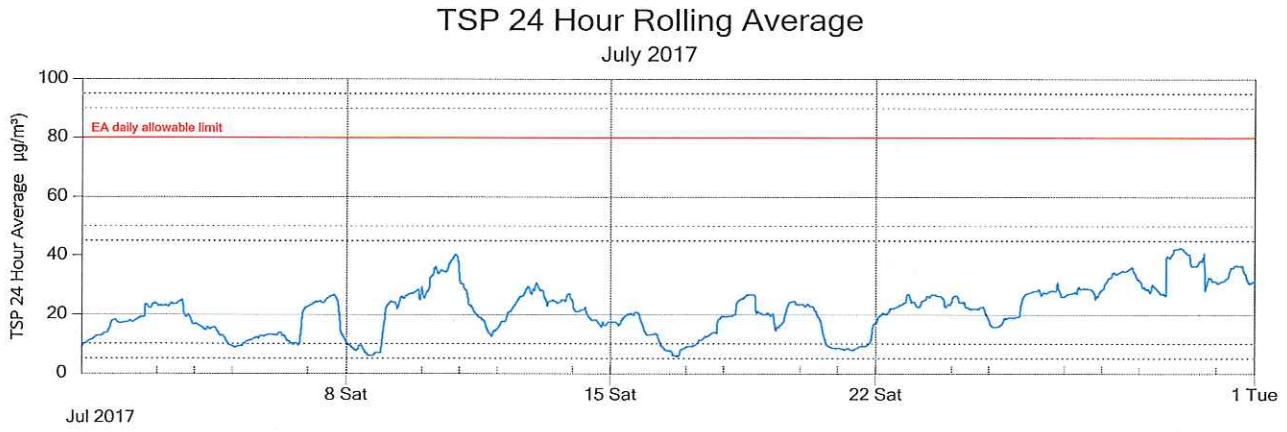


**Figure 1: Jondaryan Township TSP continuous monitoring results for July 2017**

**Comments:** Ecotech Pty Ltd has been contracted by NAC for the maintenance and data collection at a TEOM site located in the Jondaryan Township which continuously measures Total Suspended Particulate (TSP) matter. When measured at a sensitive place, the maximum level of the release of TSP from the JRLF (24 hour rolling average) is 80 micrograms per cubic metre (80 $\mu g/m^3$) as stated in the JLRF's EA. Any exceedances of this limit are displayed in Figure 1 (above) The TEOM does not distinguish between particulate matter sources. The predominant wind directions for July 2017 were South (23.97%), North-West (19.90%) and South-West (17.71%). The TEOM unit availability for TSP determination was 99.8% of the sample period.

If there are any queries regarding the air quality monitoring undertaken for the Jondaryan Rail Loading Facility please contact Rob Rashleigh at the New Acland Coal Mine during business hours on 4694 8888.

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