



## ROOTY HILL DISTRIBUTION CENTRE ENVIRONMENTAL MONITORING

Aspect	Air Quality, Noise and Meteorology
Date	April 2013

### SUMMARY

Monitoring period	1 April to 31 April 2013
Parameters monitored in period	Dust (PM <sub>10</sub> ) Dust (Depositional) Meteorology Noise
Exceedances of assessment criteria	None
Action required	None

### Monitoring Locations

- Dust monitoring (PM<sub>10</sub>): Olympic Park (refer to Figure 1).
- Dust monitoring (Depositional) Locations 1 – 3
- Noise monitoring: Locations 1 – 5 (Not conducted at Location 1 – see Report )
- Meteorology: Olympic Park

### Monitoring Methodology

#### *Dust*

Air quality (dust) monitoring was undertaken using an Ecotech High Volume Air Sampler (HVAS) 3000 with a Particulate Matter - 10µm (PM<sub>10</sub>) sampling head. The HVAS was operated on one-day-in-six in accordance with *AS/NZS 3580.9.6:2003 Methods for sampling and analysis of ambient air, Method 9.6: Determination of suspended particulate matter (PM10) – High volume sampler with size selective inlet - Gravimetric method.*

Calibration of the unit is checked on a monthly basis, in accordance with operating instructions for the unit and *AS/NZS 3580.9.6:2003.*

Depositional dust was monitored in accordance with *AS/NZS 3580.10.1:2003 Methods for sampling and analysis of ambient air Method 10.1: Determination of particulate matter – Deposited matter – Gravimetric method*.

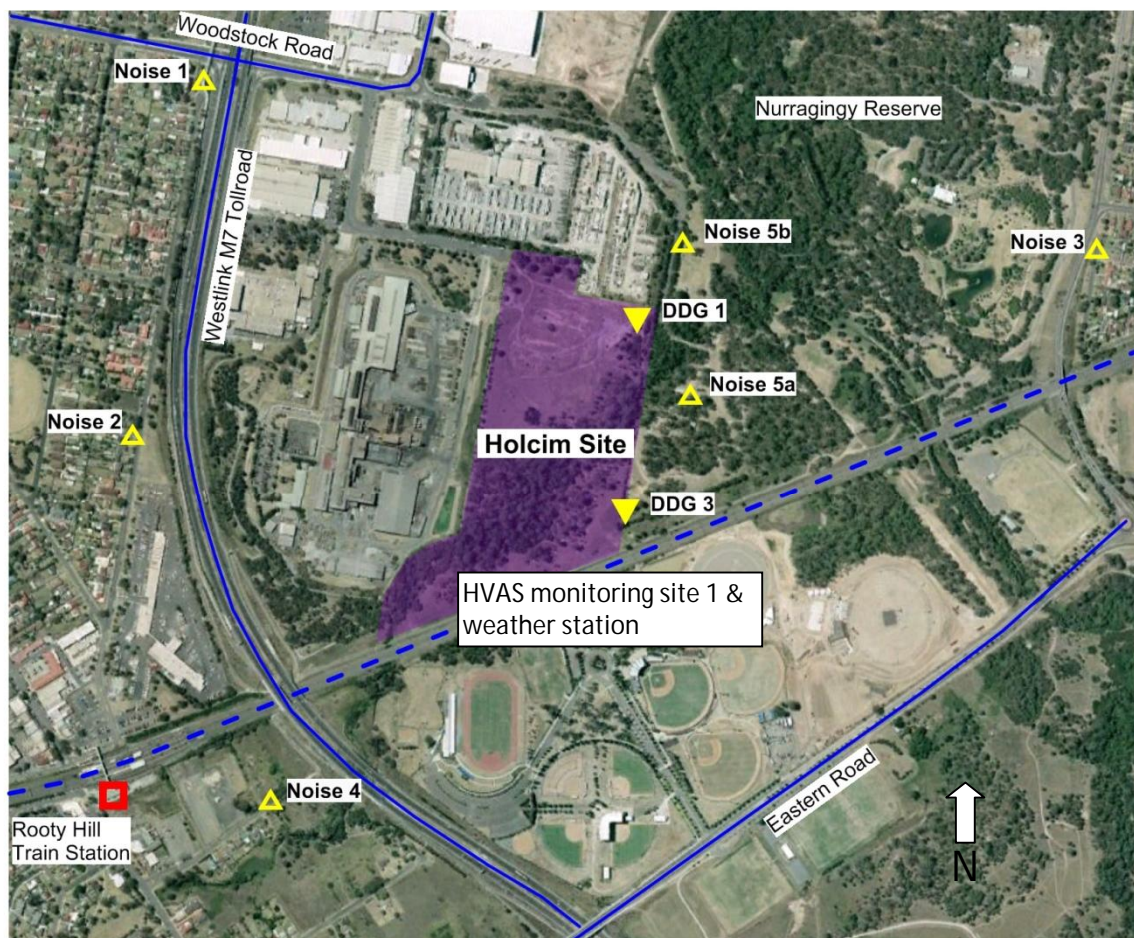
### Noise

Construction noise was monitored for 15 minute attended periods in accordance with the requirements set out in the EPA (2000) Industrial Noise Policy and the DECC (2009) Interim Construction Noise Guidelines. Monitoring was carried out using a Brüel and Kjær Type 1 2260 Sound Level Meter by appropriately qualified personnel. Calibration of the unit was checked before and after each monitoring period, and the drift was below 0.5dB.

### Meteorology

Meteorological conditions were monitored using a Davis Vantage Pro2 Plus monitoring unit. This unit was positioned in accordance with *AS2923-1987 Ambient air – Guide for measurement of horizontal wind for air quality applications*.

- Figure 1 Monitoring locations



## Guidelines

### Dust

Air quality (dust) criteria within the Project Conditions of Approval and the Construction Dust Management Plan mirror those in the NSW EPA document *Approved methods for the modelling and assessment of air pollutants in New South Wales* (DEC 2005). The air quality assessment criteria are outlined below, which apply cumulatively (that is, due to all sources of emissions and not just the contribution from the project).

Pollutant	Averaging period	Concentration
PM <sub>10</sub>	24 hours	50ug/m <sup>3</sup>
	Annual	30ug/m <sup>3</sup>
Deposited dust	Annual	4 g/m <sup>2</sup> /month

### Noise

Noise criteria are contained within Table 1 of the Developmental Approval Consent Conditions (Project Application No 05-0051), and are as follows:

*"The proponent shall design, construct, operate and maintain the project to ensure that the noise contributions from the project to the background acoustic environment do not exceed...":*

Location	Morning Shoulder (6am to 7am Mon to Sat and 6am to 8am Sun and Pub Hol)	Day (7am to 6pm Mon to Sat and 8am to 6pm Sun and Pub Hol)	Evening (6pm to 10pm all days)	Night (10pm to 7am Mon to Sat and 10pm to 8am Sun)	
	L <sub>Aeq(15min)</sub> dB(A)	L <sub>Aeq(15min)</sub> dB(A)	L <sub>Aeq(15min)</sub> dB(A)	L <sub>Aeq(15min)</sub> dB(A)	L <sub>A1(1min)</sub> dB(A)
Station St residences	39	44	44	39	53
Crawford Rd residences	40	40	39	39	53
Mavis St residences	35	35	35	35	53
Nurrangy reserve	When the reserve is in use L <sub>Aeq</sub> 50dB(A)				
Colebee Centre	When the centre is in use – L <sub>Aeq</sub> 50dB(A)				
Blacktown Olympic Park (active recreation areas)	When active recreation areas of the Park are in use – L <sub>Aeq</sub> 55dB(A)				

### Meteorology

Not applicable

### Monitoring results

#### Dust (PM<sub>10</sub>)

Date	PM <sub>10</sub> (ug/m <sup>3</sup> )	
	Measured result	Criteria
4 April 2013	9.3	50
10 April 2013	27.9	50
16 April 2013	13.6	50
22 April 2013	16.3	50
28 April 2013	29.4	50
Annual average (to date)	21.6	30

No exceedances of PM<sub>10</sub> dust criteria were recorded during the month of April 2013.

### Dust (Depositional)

Total Insoluble Matter (g/m <sup>2</sup> /month)				Goal (annual average)
Location	1	2	3	
28/03/2013 – 29/04/2013	1.4	1.6	1.6	N/A
Annual average (February 2013 to current)*	1.4	2.2	1.95	4 g /m <sup>2</sup> /month

\* Note: February results invalid due to excessive rainfall

No exceedances of depositional dust criteria were recorded during the month of April 2013.

### Noise

The results of attended construction noise monitoring are presented below:

Location	Start	Constructi on L <sub>Aeq</sub>	L <sub>Aeq</sub>	L <sub>A10</sub>	L <sub>A90</sub>	Project criteria L <sub>Aeq(15min)</sub> dB(A)	Notes
1	14:35	Inaudible	56	58	51	44	Holcim inaudible, M7 (constant 45-55), Woodstock avenue traffic (freq 50-55)
2	14:55	Inaudible	55	57	51	44	Holcim inaudible, M7 (constant 50-60), local traffic (reg 55-60)
3	15:40	Inaudible	59	62	56	40	Holcim inaudible, Knox Rd traffic (constant 50-65)
4	15:20	Inaudible	57	60	53	35	Holcim inaudible, M7 (constant 50-60), birds and frogs (40-60)
5a	13:55	51	52	55	45	50	Holcim - continuous excavator loading (50-55), birds (50), occasional train (55-60), local traffic (60-70)
5b	14:15	Inaudible	47	47	42	50	Holcim inaudible, Hume concrete (constant engine noise (40-45), industrial area (40-50), birds (45-50)

A marginal exceedance of noise criteria was recorded at location 5a during April 2013. This was due to the continuous operation of an excavator loading earth moving trucks adjacent to the monitoring location.

### Meteorology

A wind rose showing the proportion of direction and strength of winds throughout the reporting period is below. A complete data set, including, humidity, temperature and rainfall can be provided on request.

The results of the wind rose show that areas to the north of the site were the most likely to be impacted by construction generated dust. Given that most earthworks being conducted on the Holcim site were adjacent to the southern site fence, the likelihood of off-site impacts is reduced.

Overall wind speeds for the month were low, with still conditions being reported for 98% of the monitoring period.

### Windrose for April 2013

