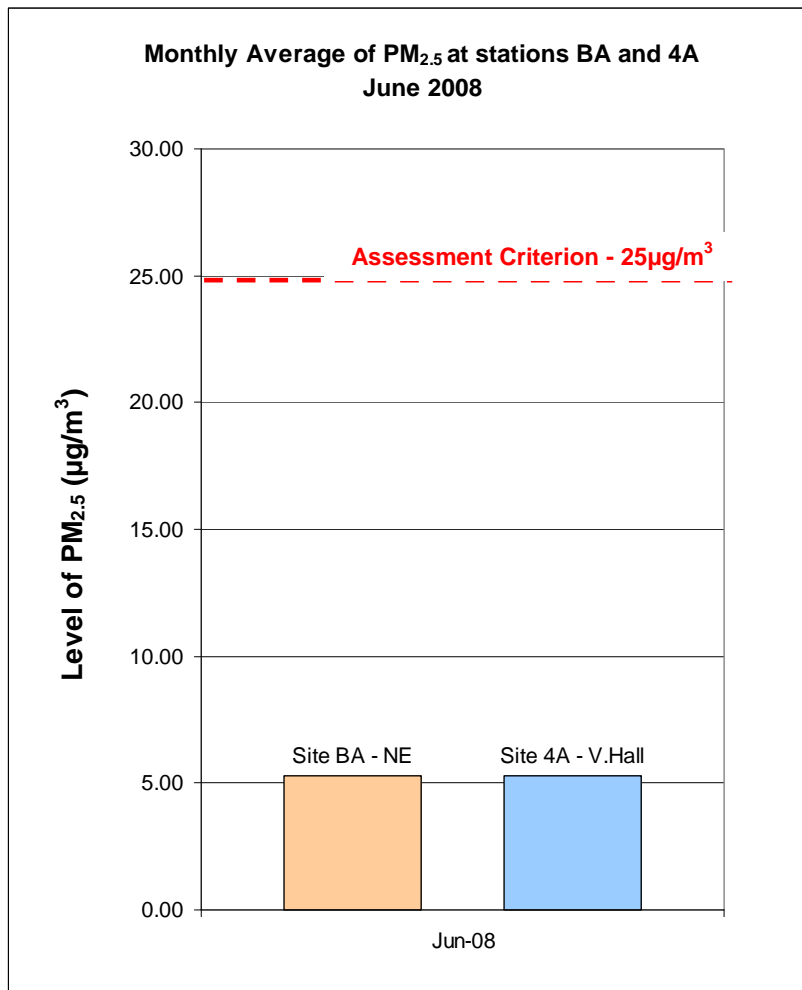


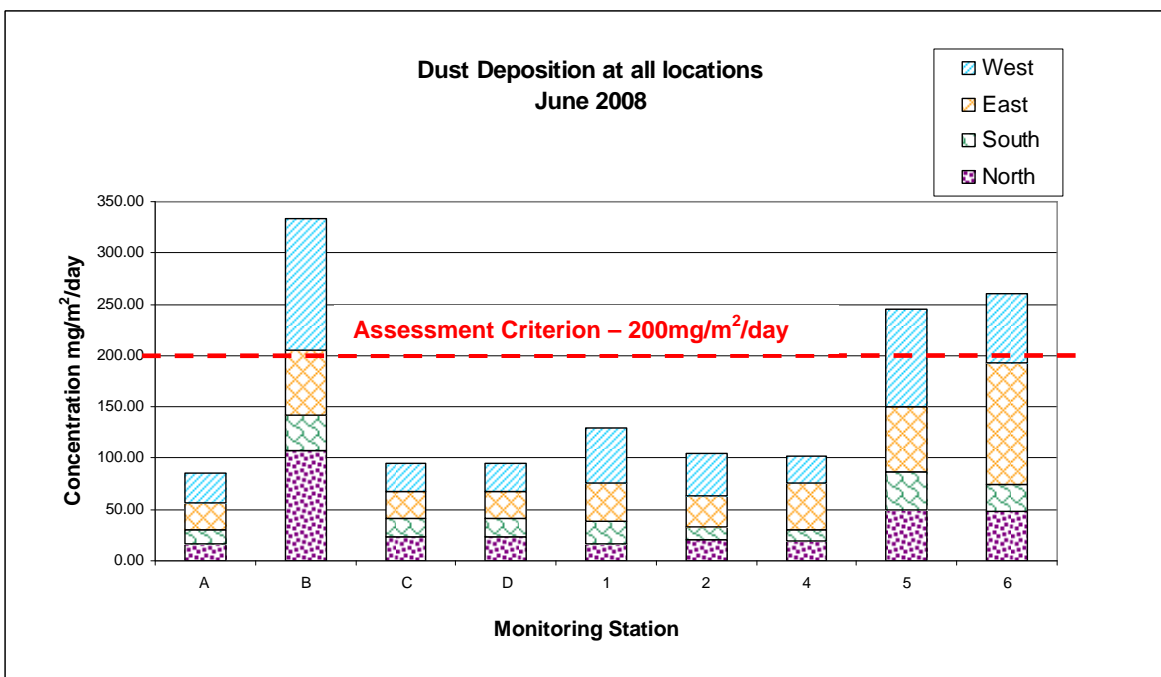
1.2.2 PM_{2.5} Levels

The assessment level of 25µg/m³ was not exceeded at on-site station B or off-site station 4 during the month, with the monthly mean result being 5.27µg/m³ for station B, and 5.30µg/m³ for station 4.



1.2.3 Deposited Dust

The assessment criterion level of 200mg/m²/day was exceeded at stations B, 5 and 6 during the month with the results being 333, 245 and 261 mg/m²/day respectively.



It is considered that the exceedance of deposited dust at station B was a short term and local occurrence, caused by a combination of excavation works adjacent to the lagoon security gates, approximately 50 metres north of station B, and trafficked dirt (and consequential dust) from traffic movement along the haul road. This activity comprised the construction of an access ramp at the end of the lagoon 2 stabilisation bund using the excavated materials.

Excessive dust arisings associated with the excavation and construction works were identified by the Site Condition Manager during regular visual checks. On these occasions the drivers of vehicles were asked to slow down to a more appropriate speed, and dust suppression measures were implemented, which comprised the dampening down of surfaces using water bowsers.

The fact that the elevated dust levels did not appear to impact on the surrounding area, and no complaints were received, suggests that these measures were effective; with results from nearby on-site stations A and C being low (86 and 95mg/m²/day respectively), and nearby off-site station 4 dust levels being 102mg/m²/day.

Petrographic analysis indicates that the dust collected from the west at station B comprised 35% plant and animal fragments, 23% amorphous dirt, 23% unburnt coal, 15% silicon rich material, 2% calcium rich material, and 2% iron rich material. From the west at station 5 the dust comprised 48% silicon rich material, 22% plant and animal fragments, 20% unburnt coal, and 10% amorphous dirt.

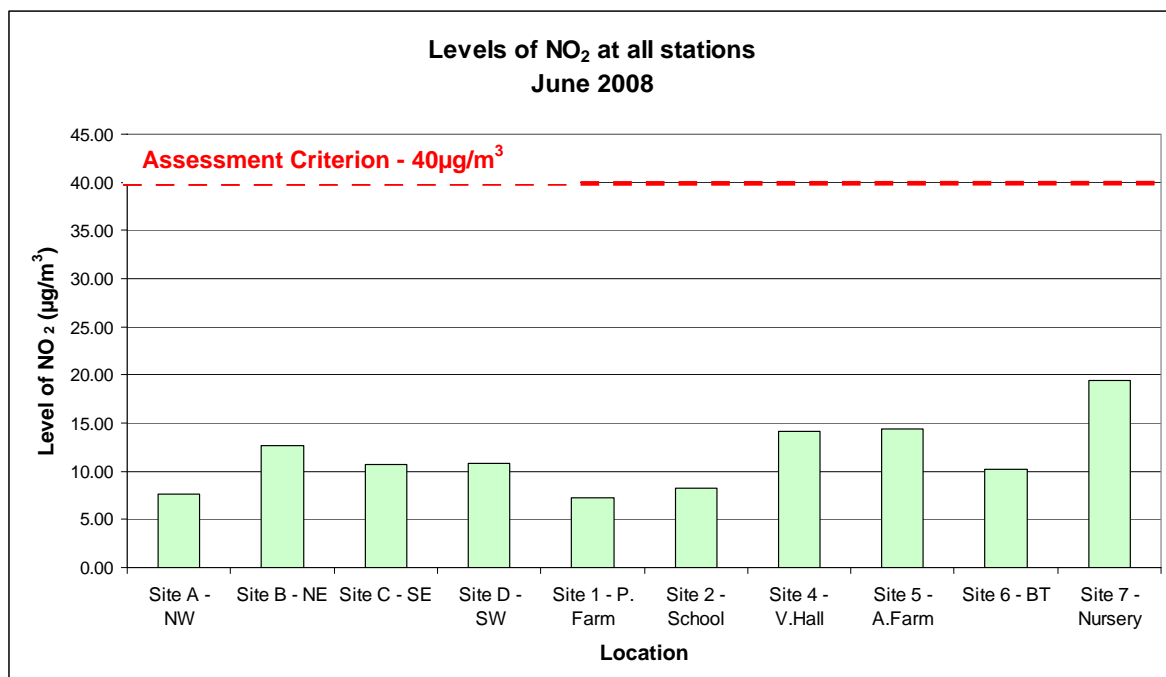
The differences in proportions of silicon rich material and plant and animal fragments between dust collected from stations B and 5 suggests that the dust at these sites are from different sources. This further suggests that the exceedance of deposited dust at station 5 is a result from conditions or activities local to that station.

Analysis of dust at station 6 indicates that that collected from the north comprised 38% plant and animal fragments, 35% silicon rich material, 12% amorphous dirt, 10% calcium rich material, and 5% unburnt coal material; from the south the dust comprised 43% plant and animal fragments, 35% silicon rich material, 13% amorphous dirt, 7% calcium rich material, and 2% unburnt coal material.

None of the available information points to the Avenue site being the source of the dust, and it is therefore considered that the exceedance at station 6 was due to conditions or activities local to station 6, namely building works to the BT Pensions Office.

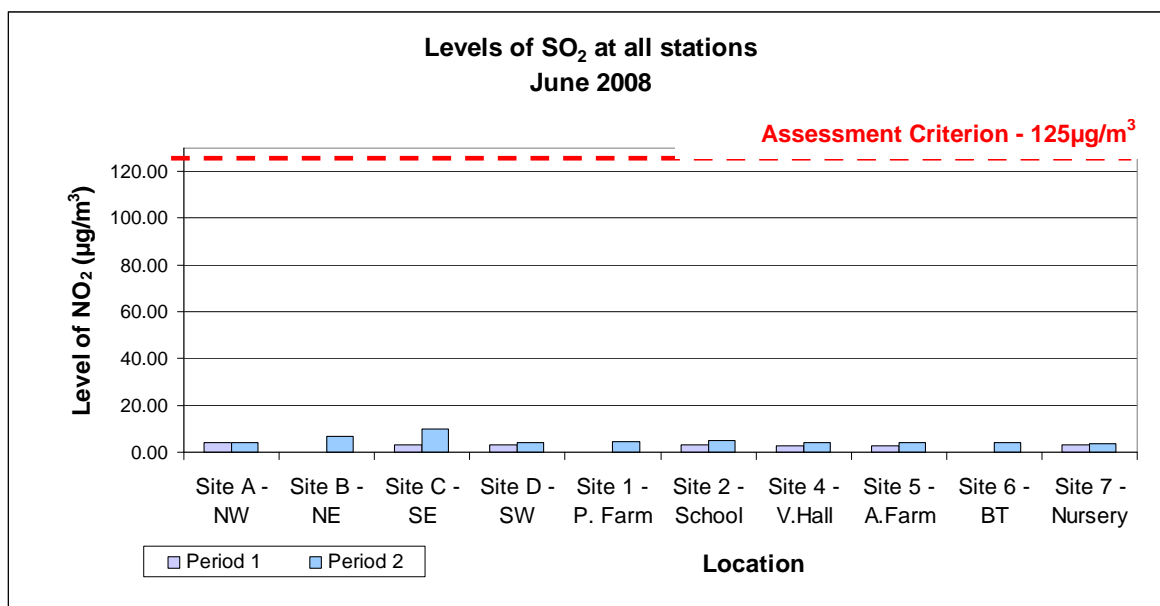
1.2.4 Nitrogen Dioxide

The assessment criteria level developed for NO₂ is 40µg/m³. No stations recorded NO₂ in exceedance of this level, with the highest NO₂ result being 19.48µg/m³ at station 7.



1.2.5 Sulphur Dioxide

The assessment criteria levels developed for SO₂ is 125µg/m³. No stations recorded SO₂ in exceedance of this level, with the highest SO₂ level being 10.05µg/m³, recorded at station C in the second monitoring period. Station B, 1 and 6 were reported to be below the LOD during the first period.



1.2.6 BTEX Compounds

The assessment criteria limits for benzene and toluene are 5µg/m³ and 1.9mg/m³ per fortnight, respectively. No stations recorded levels of benzene or toluene above the LOD during the month.

1.2.7 Metals

The only metal currently falling under the control of the UK Air Quality Strategy is lead, at a maximum concentration 0.5µg/m³ (annual mean). The highest level of lead was 0.02µg/m³, recorded at stations 4 and 6 in the second period.

Cadmium was recorded at levels around the applicable LOD (0.005µg/m³) at stations 5 and 6 due to smaller sample volumes as a result of downtime experienced at those stations.

All other metals were below the assessment criteria developed for the site, and in many cases below LODs.

1.2.8 Cyanide

No National Air Quality Standard has been developed for cyanide; the assessment criteria suggested for the Avenue is a maximum concentration of 50µg/m³ per fortnight. No results were reported above the LOD during the month.

1.2.9 Phenol(s)

The assessment criteria limits for phenol and cresol are 48µg/m³ and 220µg/m³ per fortnight, respectively. The reporting of phenols is subject to a LOD of 0.2µg/m³ and no results were reported above this level.

1.2.10 PAHs

The maximum allowable fortnightly concentration of Coal Tar Pitch Volatiles is 0.48µg/m³, whilst for naphthalene the figure is 126µg/m³. None of the on or off-site stations recorded concentrations in exceedance of these criteria during June 2008. The highest concentration of total coal tar pitch volatiles was 0.02249µg/m³ recorded at station B during the first monitoring period, and the highest naphthalene result was 0.0002µg/m³ recorded at station 2 during the first period.

1.2.11 Quality Control Samples

As part of the routine monitoring programme, quality control samples are submitted in the form of duplicates for all sample media and blanks for phenols, cyanide, metals, PAHs and BTEX. This is to ensure that results generated are accurate and, essentially, reliable. The outcomes for June 2008 are as follows:

Media Blanks

The analysis of media blanks indicated no problems with the contamination of media used for the collection of samples during June 2008.

Duplicates

Duplicate PM₁₀ samples taken at station A correlated well with original data during the month, with duplicate results ranging between 88% and 124% of original results.

Duplicate PAH results from station 1 correlated moderately well with original data during the first monitoring period, and less well during the second. During the first period the naphthalene and dibenzo(ah)anthracene duplicate results were 436% and 202% of the original respectively, and during the second the phenanthrene, anthracene, benzo(ghi)perylene and the total of coal tar pitch volatiles were 15%, 20%, 35%, and 50% of the original respectively.

Duplicate phenol samples were taken at station 1. No results were reported above the limit of detection (LOD) of 0.2µg/m³ during both monitoring periods, and as a result the duplicate results correlated exactly with original results.

Duplicate cyanide results from station A correlated well with original data for both monitoring periods.

Duplicate metals results from station A correlated well with original data during the second monitoring period, but less well during the first period; the duplicate results for copper and zinc were both 50% of original results during the first period.

Duplicate BTEX results recorded at station 6 correlated well with original results during both monitoring periods, with an exception to the duplicate result for total VOCs which was 260% of the original.

Both the duplicate NO₂ and SO₂ results from station B correlated well with the original results.

1.3 Results from Targeted Air Monitoring

Targeted monitoring is undertaken around specific site activities considered to have the potential to liberate airborne contaminants and also to monitor ambient conditions when no works are taking place. Due to the lack of potential for site activities to generate or liberate significant amounts of contaminative materials, targeted monitoring was not required during the month.

1.4 Results from Odour Monitoring

1.4.1 Odour Diaries

There were three records of odour of intensity 4 detected during the month:

- one record of 'smoky' odour was recorded on 2 June approximately 0.5km north of the Avenue site
- one record of odour described as 'food, kitchens' was recorded on 6 June approximately 0.8km north of the site
- one record of odour described as 'tar, asphalt, bitumen' was recorded on 25 June approximately 0.5km west of the site.

No odours of intensity 5 or 6 were reported during the month.

The smoky odour of intensity 4, detected on 2 June approximately 0.5km north of the Avenue site, was recorded when the wind was from the direction of the Avenue site. No activities were taking place on site at the time of this record that would be expected to generate odours of this type. In addition, no other diarists in the vicinity of the area recorded odours of a similar nature at around the same time. Therefore it is considered that the odour arising may be due to conditions or activities local to that odour diarist.

When the other odours were recorded, the wind was not from the direction of the Avenue site and therefore will not be assessed further (as they are not considered to be attributable to the Avenue site).

1.4.2 Sensory Field Odour Surveys

Four records of 'medium' odour annoyance impact were recorded during the month:

- a 'smoky' odour, described as 'unpleasant', was recorded at off-site station 7 on 5 June
- a 'rural' odour of 'neutral' pleasantness was recorded twice during the month, at off-site station 1 on 13 and 20 June
- a 'tar' odour, described as 'unpleasant', was recorded at off-site station 2 on 26 June.

One record of 'high' odour annoyance impact was recorded during the month:

- a 'hay' odour, described as pleasant, was recorded at off-site station 5 on 26 June.

The hay odour of 'high' odour annoyance impact, detected on 26 June at station 5, was recorded when the wind was from the direction of the Avenue. No site activities occurred at the time of this record that would be expected to generate odours of this type. In addition, no odours of a similar nature were detected at on-site stations on the same day, and it is therefore considered that they may be due to conditions or activities local to station 5 rather than activities or conditions at the Avenue site.

The wind was not from the direction of the Avenue at the time of the other records, and therefore they will not be assessed further (as they are not considered to be attributable to the Avenue site).

1.4.3 Complaints

No odour-related complaints were received during June 2008.