



Drayton Management System Standard

Air Quality Management and Monitoring Plan

| | | | | |
|----------------|------------------|--------------------------------|-------------|--|
| Author: | Name | Pam Simpson | | |
| | Title | Environment Coordinator | | |
| | Signature | | Date | |

| | | | | |
|------------------|------------------|---------------------------|-------------|--|
| Reviewer: | Name | Peter Forbes | | |
| | Title | S & SD Manager | | |
| | Signature | | Date | |

| | | | | |
|--------------------|------------------|------------------------|-------------|--|
| Authoriser: | Name | Mark Heaton | | |
| | Title | General Manager | | |
| | Signature | | Date | |

*This document is controlled whilst it remains in the Drayton intranet.
Printed copies created from this document are deemed to be uncontrolled*

Revisions

| Issue | Issue Date | Originator | Reviewed | Approved |
|--------------|-------------------|-------------------|-----------------|-----------------|
| 1 | February 2003 | P Simpson | P Forbes | T Hulme |
| 2 | November 2005 | P Simpson | P Forbes | H Hayes |
| 3 | June 2008 | P Simpson | P Forbes | M Heaton |
| | | | | |
| | | | | |

Distribution List

| Distributed to: |
|--|
| General Manager's Office (current originals) |
| Drayton Intranet |
| Administration Central File (originals of previous versions) |
| Department of Planning NSW |
| Department of Environment and Climate Change |
| |
| |
| |
| |

Table of Contents

| | | |
|--------|---|----|
| 1 | PURPOSE AND PROJECT DESCRIPTION..... | 5 |
| 2 | SCOPE..... | 5 |
| 3 | DEFINITIONS | 5 |
| 4 | PROCEDURAL REQUIREMENT | 5 |
| 4.1 | Responsibilities..... | 5 |
| 4.2 | Audit/Review Schedule | 6 |
| 4.3 | Records Management..... | 6 |
| 4.4 | Revision Status..... | 6 |
| 4.5 | References And Relationship With Other Environmental Documentation..... | 7 |
| 4.6 | Documents..... | 7 |
| 4.6.1 | Air Quality Parameters..... | 7 |
| 4.6.2 | Statutory Requirements..... | 9 |
| 4.6.3 | Current Control and Mitigation Measures..... | 11 |
| 4.6.4 | Equipment Availability and Utilisation..... | 12 |
| 4.6.5 | Monitoring | 13 |
| 4.6.7 | Air Quality Monitoring Protocol | 20 |
| 4.6.8 | Reporting | 21 |
| 4.6.9 | Land Acquisition Criteria..... | 21 |
| 4.6.10 | Spontaneous Combustion | 22 |
| 4.6.11 | Odour / Fume Management | 22 |
| 4.6.12 | Meteorological Monitoring..... | 22 |
| 4.6.13 | Complaints Handling..... | 22 |
| 4.6.14 | Handling Exceedences..... | 22 |
| 5 | APPENDICES..... | 23 |

Document Information

1 PURPOSE AND PROJECT DESCRIPTION

Anglo Coal Drayton Mine was granted project approval by the NSW Department of Planning on 1st February 2008 to further extend current mining operations until 2017, incorporating increased production and additional infrastructure.

The purpose of this management plan is to provide a framework for air quality management, monitoring and controls to be implemented in relation to continued operations at Anglo Coal Drayton Mine.

2 SCOPE

This procedure describes:

- Statutory requirements with regard to air quality
- Assessment criteria for air quality impacts
- Land acquisition criteria
- Air quality monitoring plan
- Operating conditions
- Spontaneous combustion
- Dust control mitigation mechanisms
- Reporting requirements of air quality
- Responsibilities regarding dust management

3 DEFINITIONS

S & SD Manager

Safety, Health, Environment and Community Manager

Air Quality

The ambient levels of particulate matter and its constituents, which remain in the surrounding atmosphere.

DoP

NSW Department of Planning

4 PROCEDURAL REQUIREMENT

4.1 Responsibilities

Environment Coordinator

The Environment Coordinator shall be responsible for monitoring and recording all air quality parameters related to Anglo Coal Drayton Mine. They shall ensure all air quality monitoring and analysis is undertaken following the relevant Australian Standard. The Environmental Coordinator is also responsible for supplying technical information regarding air quality issues and to assist in managing air quality at Anglo Coal Drayton Mine.

Safety & Sustainable Development (S&SD) Manager

The S & SD Manager shall ensure that all regulations relating to the Anglo Coal Drayton Mine mining operation are adhered to.

Mining Manager

The Mining Manager shall ensure all mining equipment is operated to minimise dust emissions and shall also ensure all procedures and regulations are followed regarding the management of dust emissions.

Mining Operations Supervisor

Mining Operations Supervisor shall ensure all operators are aware of dust issues and shall ensure dust emissions are managed appropriately within the mining operation. The Mining Operations Supervisor shall ensure all dust control measures are fully operational at all required times.

Mining Superintendent

The Mining Superintendent shall ensure all maintenance is scheduled and undertaken in a prompt and efficient manner on all equipment related to the minimisation of dust on equipment.

4.2 Audit/Review Schedule

This procedure shall be subject to a review every three years. The S & SD Manager shall be responsible for such reviews.

4.3 Records Management

All records of monitoring details will be kept on file in the S&SD department for a period of not less than four years following measurement.

Records of all dust fallout monitoring have been kept at Anglo Coal Drayton Mine for the life of mine and are maintained within the S&SD Department.

Analysis data is entered into the Environmental Database. This is the responsibility of the Environment Coordinator.

4.4 Revision Status

November 2005

Changes in this revision include:

- Updating into Anglo Coal Australia procedure format
- Reorganisation of procedure
- Updating responsibilities of key personnel

This management plan was forwarded to Muswellbrook Shire Council and the Department of Environment and Conservation (EPA) on 19th September 2005 for review. No comments were received from either party consulted.

June 2008

Changes to the original Air Quality Management Plan as a result of new Project Approval from the Department of Planning NSW are as follows:

- Updating with impact assessment criteria
- Updating land acquisition criteria
- Review of operating conditions
- Referencing spontaneous combustion management
- Implementation of air quality monitoring plan

This management plan has been prepared in consultation with the NSW Department of Environment and Climate Change (EPA).

4.5 References And Relationship With Other Environmental Documentation

- Project Approval Conditions Anglo Coal (Drayton Management) Pty Limited issued by Department of Planning NSW (Ref 06-0202)
- Anglo Coal Drayton Mine Environmental Assessment 2007
- Environment Protection Licence 1323
- Environmental Enquiries Procedure
- Environmental Non-Conformance Procedure
- Australian Standard 3580.9.3 - 2003 Methods For Sampling and Analysis of Ambient Air – Determination of Suspended Particulate Matter – Total Suspended Particulate Matter (TSP) – High Volume Sampler Gravimetric Method
- Australian Standard 3580.9.6 – 2003 Methods For Sampling and Analysis of Ambient Air – Determination of Suspended Particulate Matter – PM (sub) 10 High Volume Sampler With Size Selective Inlet – Gravimetric Method
- Australian Standard 3580.10.1 – 2003 – Methods For Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method
- National Environmental Protection Measure (NEPM) – Ambient Air Quality (Environment Protection and Heritage Council)

Drayton's Environment Protection Licence is currently under review by the DECC to accommodate conditions of consent.

4.6 Documents

It is Drayton's policy that air quality shall be managed to a level that does not cause an exceedence of air quality impact assessment criteria to any residence, on privately owned land or on more than 25% of any privately owned land.

4.6.1 Air Quality Parameters

Specific parameters included in this Air Quality Monitoring Plan include:

- Dust deposition
- Dust concentration

Dust Deposition

Dust deposition (or fallout) refers to the amount of dust that is deposited on the ground over a set period of time. It is measured in units of grams per square metre per month ($\text{g}/\text{m}^2/\text{month}$) and is a measure of amenity-based impacts.

Dust Concentration

Dust concentration refers to the amount of dust present in a specific volume of air (usually measured in units of micrograms per cubic metre $\mu\text{g}/\text{m}^3$).

Dust concentration can be categorised as Total Suspended Particulates (TSP) or Particulate Matter < 10 μm diameter (PM_{10}). TSP refers to the airborne fraction of dust that is respirable. These dust particles have an aerodynamic diameter of less than 50 μm . PM_{10} refers to the portion that, on entering the lungs of people, may cause respiratory problems. PM_{10} particles have an aerodynamic diameter of less than 10 μm . TSP and PM_{10} are a measure utilised for both short-term and long-term particulate matter criteria.

Annual Targets

The following targets indicate the levels not to be exceeded at any residence, on privately owned land or on more than 25% of any privately owned land. An assessment of the analysis of monitoring data will be included in the Annual Environment Management Report against this criteria.

Long Term Impact Assessment Criteria for Particulate Matter

| Pollutant | Criterion | Agency |
|--|-----------------------------------|---------|
| Total Suspended Particulate Matter (TSP) | 90µg/m ³ (annual goal) | NSW DoP |
| Particulate Matter <10µm (PM ₁₀) | 30µg/m ³ (annual goal) | NSW DoP |

Short Term Impact Assessment Criteria for Particulate Matter

| Pollutant | Criterion | Agency |
|--|-------------------------------------|---------|
| Particulate Matter <10µg (PM ₁₀) | 50µg/m ³ (24 hr average) | NSW DoP |

(5 days/yr allowable exceedence)

NSW DoP Long Term Impact Assessment Criteria for Deposited Dust

| Pollutant | Averaging Period | Maximum Increase in Deposited Dust Levels | Maximum Total Deposited Dist Level |
|----------------|------------------|---|------------------------------------|
| Deposited Dust | Annual | 2g/m ² /month | 4g/m ² /month |

(Dust is assessed as insoluble solids as defined in AS 3580 10.1-2003 (AM-19))

4.6.2 Statutory Requirements

The Department of Planning NSW is the consent authority for this development. DoP have set specific guidelines with regard to dust management.

Conditions relating to dust abatement also exist in Drayton's EPA Licence and lease conditions. These relate to maintenance of plant and equipment, carrying out activities in a competent manner and monitoring and reporting requirements.

| Condition | Details | Reference |
|-----------|--|-----------|
| S3.21 | Impact Assessment Criteria: <i>The Proponent shall ensure that the dust emissions generated by the project do not cause additional exceedances of the air quality impact assessment criteria listed in Tables 6, 7 and 8 at any residence, on privately-owned land, or on more than 25 percent of any privately-owned land.</i> | 4.6.1 |

| | <p><i>Table 6: Long term impact assessment criteria for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td>90 µg/m³</td> </tr> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>Annual</td> <td>30 µg/m³</td> </tr> </tbody> </table> <p><i>Table 7: Short term impact assessment criterion for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>24 hour</td> <td>50 µg/m³</td> </tr> </tbody> </table> <p><i>Table 8: Long term impact assessment criteria for deposited dust</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td>Deposited dust</td> <td>Annual</td> <td>2 g/m²/month</td> <td>4 g/m²/month</td> </tr> </tbody> </table> <p><i>Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.</i></p> | Pollutant | Averaging period | Criterion | Total suspended particulate (TSP) matter | Annual | 90 µg/m ³ | Particulate matter < 10 µm (PM ₁₀) | Annual | 30 µg/m ³ | Pollutant | Averaging period | Criterion | Particulate matter < 10 µm (PM ₁₀) | 24 hour | 50 µg/m ³ | Pollutant | Averaging period | Maximum increase in deposited dust level | Maximum total deposited dust level | Deposited dust | Annual | 2 g/m ² /month | 4 g/m ² /month | | | | | | | | | | |
|--|---|--|------------------------------------|------------------------|--|--------|----------------------|--|--------|----------------------|-----------|------------------|-----------|--|---------|--|-----------|-----------------------|--|------------------------------------|--|---------|---------------------------|---------------------------|------------------------|-----------|------------------|--|------------------------------------|----------------|--------|---------------------------|---------------------------|--------------|
| Pollutant | Averaging period | Criterion | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total suspended particulate (TSP) matter | Annual | 90 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Particulate matter < 10 µm (PM ₁₀) | Annual | 30 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pollutant | Averaging period | Criterion | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Particulate matter < 10 µm (PM ₁₀) | 24 hour | 50 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pollutant | Averaging period | Maximum increase in deposited dust level | Maximum total deposited dust level | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deposited dust | Annual | 2 g/m ² /month | 4 g/m ² /month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>S3.22</p> | <p>Land Acquisition Criteria: <i>If the dust emissions generated by the project exceed the criteria in Table 8. 9 and 10 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land, the Proponent shall, upon receiving a written request from the landowner, acquire the land in accordance with the procedures in conditions 8-10 of Schedule 4.</i></p> <p><i>Table 8: Long term land acquisition criteria for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td>90 µg/m³</td> </tr> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>Annual</td> <td>30 µg/m³</td> </tr> </tbody> </table> <p><i>Table 9: Short term land acquisition criteria for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> <th>Percentile¹</th> <th>Basis</th> </tr> </thead> <tbody> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>24 hour</td> <td>150 µg/m³</td> <td>99²</td> <td>Total³</td> </tr> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>24 hour</td> <td>50 µg/m³</td> <td>98.6</td> <td>Increment⁴</td> </tr> </tbody> </table> <p><i>Notes:</i> ¹Based on the number of block 24 hour averages in an annual period. ²Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Director-General in consultation with the DECC. ³Background PM₁₀ concentrations due to all other sources plus the incremental increase in PM₁₀ concentrations due to the mine alone. ⁴Incremental increase in PM₁₀ concentrations due to the mine alone.</p> <p><i>Table 10: Long term land acquisition criteria for deposited dust</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td>Deposited dust</td> <td>Annual</td> <td>2 g/m²/month</td> <td>4 g/m²/month</td> </tr> </tbody> </table> <p><i>Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.</i></p> | Pollutant | Averaging period | Criterion | Total suspended particulate (TSP) matter | Annual | 90 µg/m ³ | Particulate matter < 10 µm (PM ₁₀) | Annual | 30 µg/m ³ | Pollutant | Averaging period | Criterion | Percentile ¹ | Basis | Particulate matter < 10 µm (PM ₁₀) | 24 hour | 150 µg/m ³ | 99 ² | Total ³ | Particulate matter < 10 µm (PM ₁₀) | 24 hour | 50 µg/m ³ | 98.6 | Increment ⁴ | Pollutant | Averaging period | Maximum increase in deposited dust level | Maximum total deposited dust level | Deposited dust | Annual | 2 g/m ² /month | 4 g/m ² /month | <p>4.6.8</p> |
| Pollutant | Averaging period | Criterion | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total suspended particulate (TSP) matter | Annual | 90 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Particulate matter < 10 µm (PM ₁₀) | Annual | 30 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pollutant | Averaging period | Criterion | Percentile ¹ | Basis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Particulate matter < 10 µm (PM ₁₀) | 24 hour | 150 µg/m ³ | 99 ² | Total ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Particulate matter < 10 µm (PM ₁₀) | 24 hour | 50 µg/m ³ | 98.6 | Increment ⁴ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pollutant | Averaging period | Maximum increase in deposited dust level | Maximum total deposited dust level | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deposited dust | Annual | 2 g/m ² /month | 4 g/m ² /month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>S3.23</p> | <p>Operating Conditions: <i>The Proponent shall:</i></p> <ol style="list-style-type: none"> <i>ensure any visible air pollution generated by the project is assessed regularly, and that mining operations are relocated, modified, and/or stopped as required to minimise air quality impacts on privately owned land;</i> <i>ensure that the real-time air quality monitoring and metrological monitoring data are assessed regularly, and that mining operations are relocated, modified and/or stopped as required to ensure compliance with the relevant air quality criteria; and</i> <i>implement all practicable measures to minimise the off-site odour and fume emissions generated by any spontaneous combustion on site,</i> | <p>4.6.3 4.6.5</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|--------------|--|--------|
| | <i>to the satisfaction of the Director-General.</i> | |
| S3.24 | Spontaneous Combustion: <i>The Proponent shall prepare and implement a Spontaneous Combustion Management Plan for the project to the satisfaction of the Director-General. This must be:</i> a) <i>prepared in consultation with the DECC and DPI by suitable qualified expert/s whose appointment/s have been approved by the Director-General; and</i> b) <i>submitted to the Director-General for approval within 6 months of this approval.</i> | 4.6.9 |
| S3.25 | Monitoring: <i>The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program must be:</i> a) <i>prepared in consultation with the DECC;</i> b) <i>submitted to the Director-General for approval within 6 months of this approval; and</i> c) <i>include:</i> <ul style="list-style-type: none"> • <i>a combination of real-time dust monitors, high volume air samplers and dust deposition gauges to monitor the dust emissions of the project; and</i> • <i>an air quality monitoring protocol for evaluating compliance with the air quality impact assessment and land acquisition criteria in this approval.</i> | 4.6.5 |
| S3.26 | Meteorological Monitoring During the life of the project, the Proponent shall ensure that there is a suitable meteorological station in the vicinity of the site that complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline. | 4.6.11 |

4.6.3 Current Control and Mitigation Measures

Drayton is committed to managing dust emissions by implementing the following measures to control air emissions:

Table 5: Air Quality Control Measures and Implementation Program

| Measure | By When | By Who | Current Status |
|---|-----------------------|---|---|
| Implement available measures to keep visible dust as low as possible from offsite at all times | Immediate and ongoing | Mine Manager | Implemented and ongoing |
| Topsoil clearing restricted to a single strip ahead of mining, where practical | Immediate and ongoing | TES Manager | Implemented and ongoing |
| Overburden drills are equipped with equipment to minimise dust generation (water injections facilities or dust collection facility) | Immediate | Mine Manager | Drills fitted with dust suppression. |
| Water tankers to be utilised at all times to minimise dust emissions from roads and work areas | Immediate and ongoing | Mine Manager | Water trucks in use. Volumes of water applied collected monthly and reported in AEMR |
| Overburden is dumped in low level lifts, with outer berms maintained by dozers | Immediate and ongoing | Mine Manager | Implemented and Ongoing |
| Dragline operations are conducted to minimise dumping height so there is minimal freefall of material | Immediate and ongoing | Mine Manager | Implemented and ongoing. |
| Blasting is carried out using gravel stemming or crushed coal, which contains blast within the ground and minimises dust | Immediate and ongoing | Mine Manager / Drill & Blast Coordinator | Implemented and ongoing. |
| The CHP is operated with dust suppression sprays at the dump hopper and transfer points as well as coal stockpiles | Immediate and ongoing | Coal Handling and Processing Superintendent | Implemented and ongoing. Volumes applied are reported in the AEMR. |
| Rehabilitation of mined areas is progressively achieved | Immediate and ongoing | TES Manager / Mine Manager | Rehabilitation targets set annually based on MOP and internal requirements. Areas reported in AEMR. |
| In known or suspected high dust areas, production processes are modified to ensure effective management of visible dust levels | Immediate and ongoing | Mine Manager | Implemented and ongoing. Mining Coordinators actively manage air quality emissions daily. |
| Monitoring of air quality emissions | Immediate and ongoing | Environment Coordinator | Monitoring program underway. Data and analysis reported in AEMR |

Drayton will be proactive and predictive on air quality management rather than reactive.

If visible air pollution is generated by mining operations, an assessment shall be undertaken by mining personnel, who shall then decide on any action to be taken to minimise the air quality impacts on any privately owned land. Such actions to be considered shall include relocating equipment, modifying or ceasing mining operations until conditions are alleviated.

4.6.4 Equipment Availability and Utilisation

Anglo Coal Drayton Mine utilises various methods of dust suppression. These include:

- Three mobile water tankers with 68130 L capacity for use in haul road dust suppression.
- Drills have skirts and water injection facilities.
- CHP dust suppression operates on all stockpiles, conveyors and transfer points.

These are available for use continuously. Electronic data capture also aids in tracking the utilisation of all mine equipment on site.

4.6.5 Monitoring

Specific requirements relating to air quality monitoring are detailed in the NSW Department of Planning Project Approval Conditions and all monitoring is conducted as set out in the “Approved Methods for Sampling and Analysis of Air Pollutants in NSW” (NSW DECC requirement). A registered offsite laboratory undertakes all analysis of dust fallout samples.

Air quality monitoring shall continue based on the current network of monitoring locations. A combination of dust fallout gauges, high volumes air samplers currently monitor dust levels from a community perspective.

In addition, Drayton also operates an automatic weather station, which updates current weather conditions on a five-minute basis. This station complies with the requirements of the *Approved Methods for Sampling of Air Pollutants in New South Wales* guidelines. Real time information is downloaded to a central computer file, whereby information can be utilised to assist in the day-to-day operational issues as well as long-term analysis of environmental data.

Dust Fallout Monitoring

Monthly dust fallout monitoring is undertaken in and around the Anglo Coal Drayton Mine mining operation and the Antiene subdivision to the north of the site. A network of eight (8) gauges exist in the Antiene area to assess air quality impacts on the Antiene subdivision, directly to the north of the mine lease and are collected as a component of Drayton’s Environmental monitoring system on a monthly basis.

Dust fallout monitoring is undertaken as per Australian Standard 3580.10.1 - 2003 at locations illustrated in Figure 1.

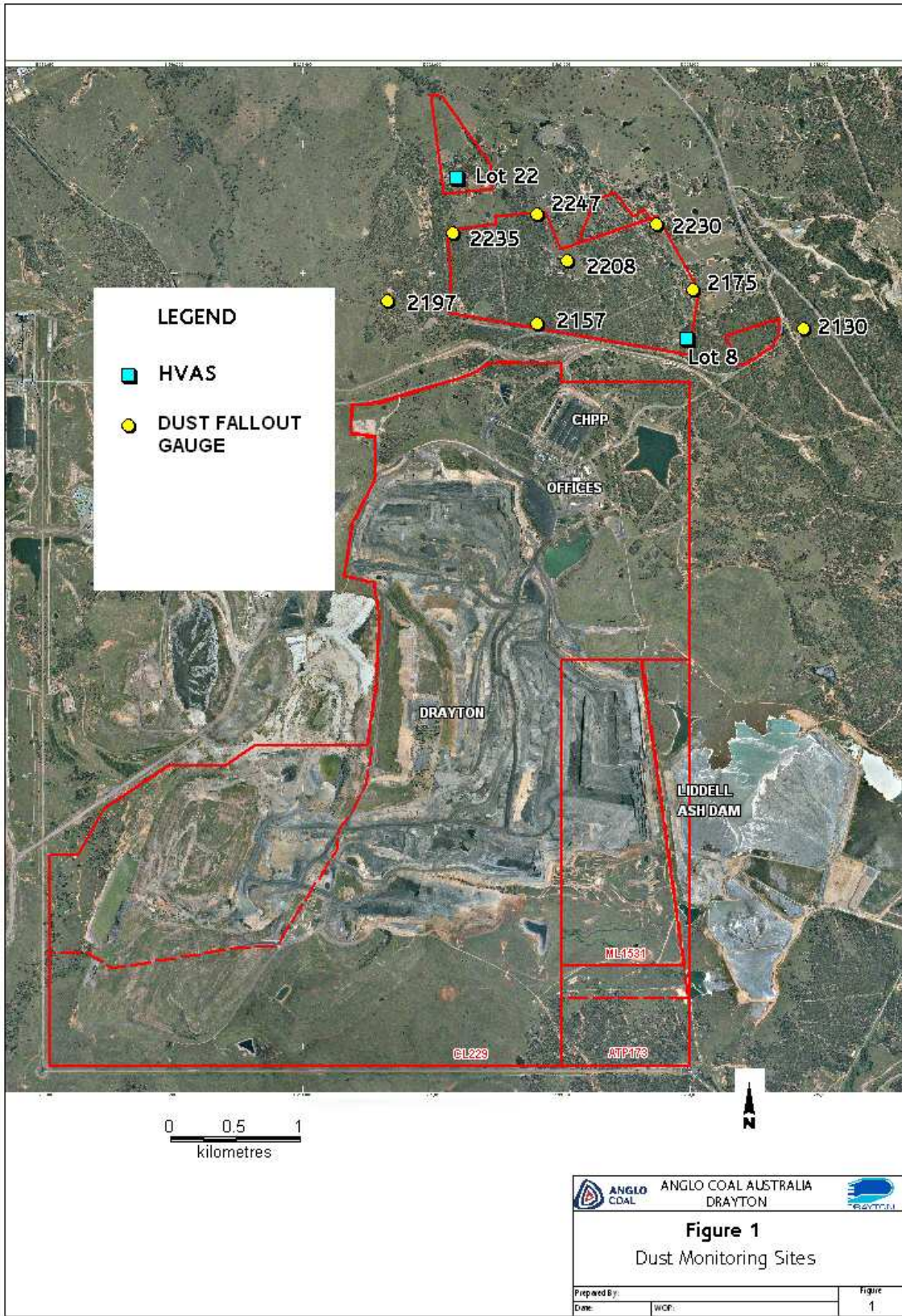
All data is analysed and presented in Drayton’s Annual Environment Management Report.

Suspended Dust Monitoring

Suspended dust monitoring is also undertaken as per the NSW DECC 6 day cycle program. Drayton has two high-volume air samplers in operation in the Antiene subdivision. One unit measures TSP, whilst the other monitors for PM₁₀. Total suspended particulate monitoring is undertaken as per Australian Standard 3580.9.3 - 2003 at locations detailed in Figure 1.

Monitoring of air quality has been undertaken at Anglo Coal Drayton Mine since 1978, thus developing a long-term baseline of existing condition relating to air quality. This data can be utilised to compare future air quality performance against historical data both pre- and post-mining developments.

All data is analysed and presented in Drayton’s Annual Environment Management Report.

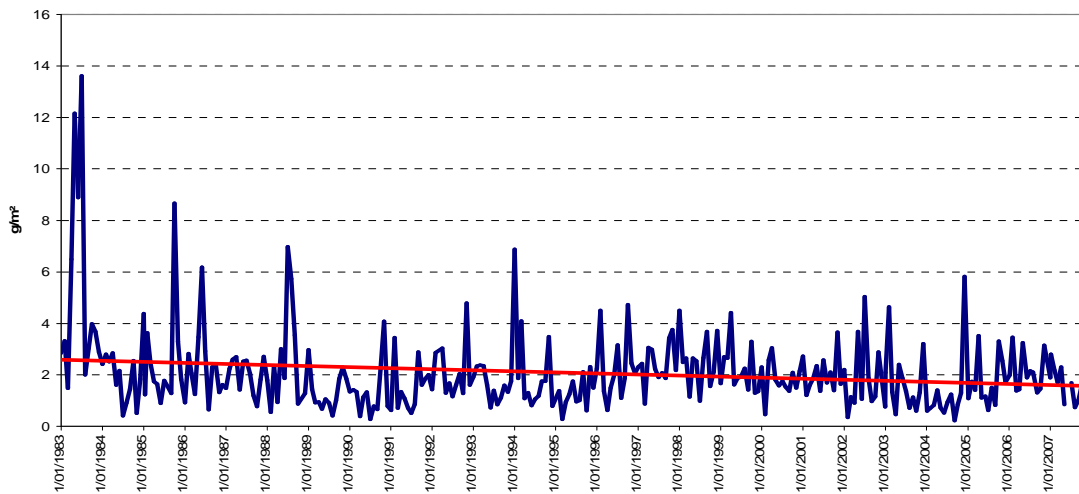


Baseline Monitoring

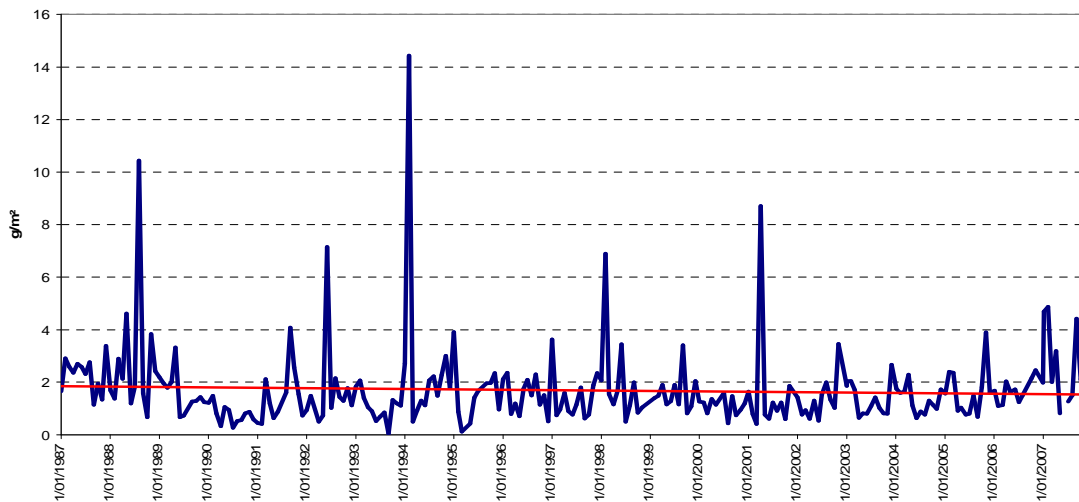
Anglo Coal Drayton Mine's environmental monitoring program dates back to the late 1970s, with some current monitoring location having in excess of 20 years monitoring data available for comparison.

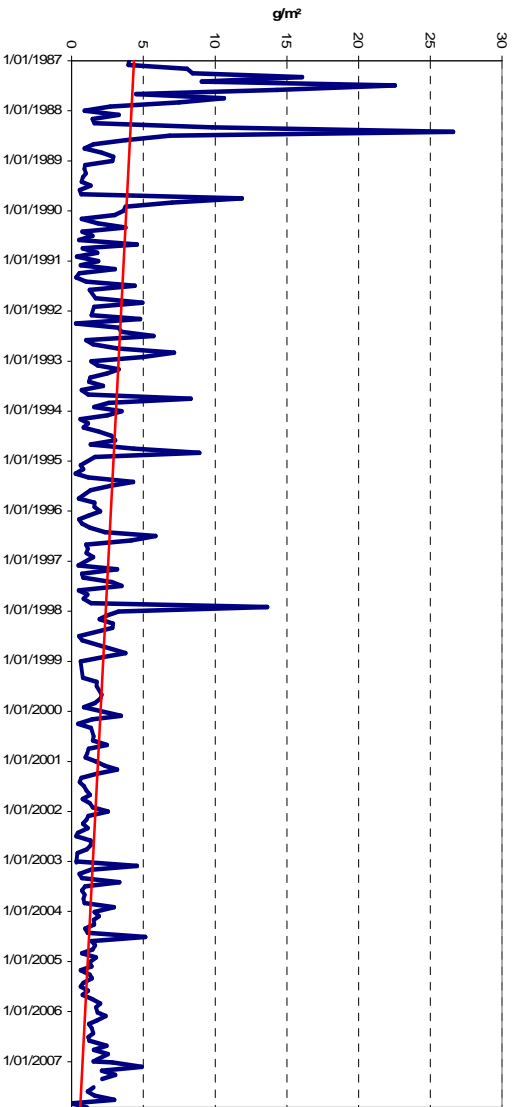
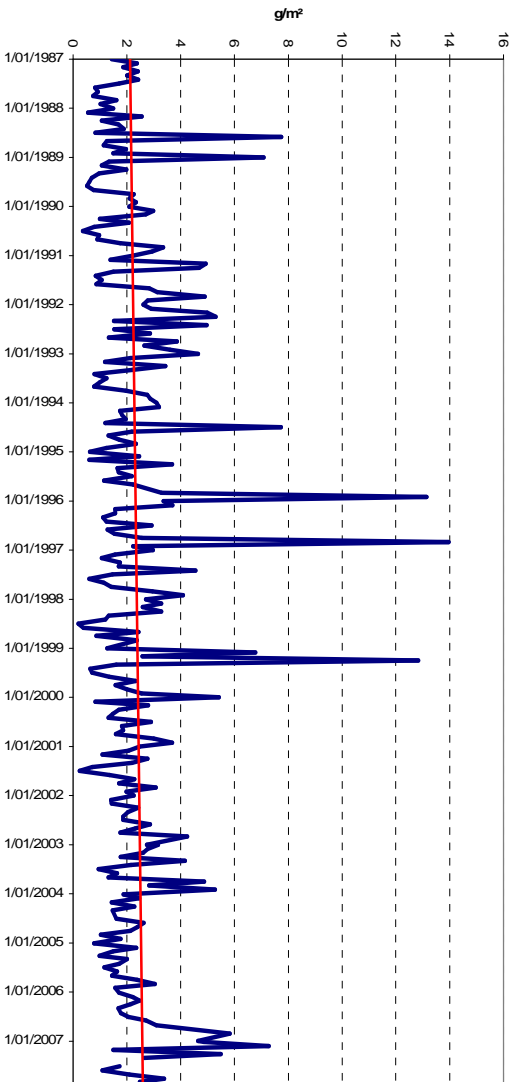
This detail is available for baseline and trending analysis to determine long-term variations and trends for dust emissions. Baseline data for the eight fallout gauges and two high volume air sampler sites, all located in the Antiene area are shown in the following graphs.

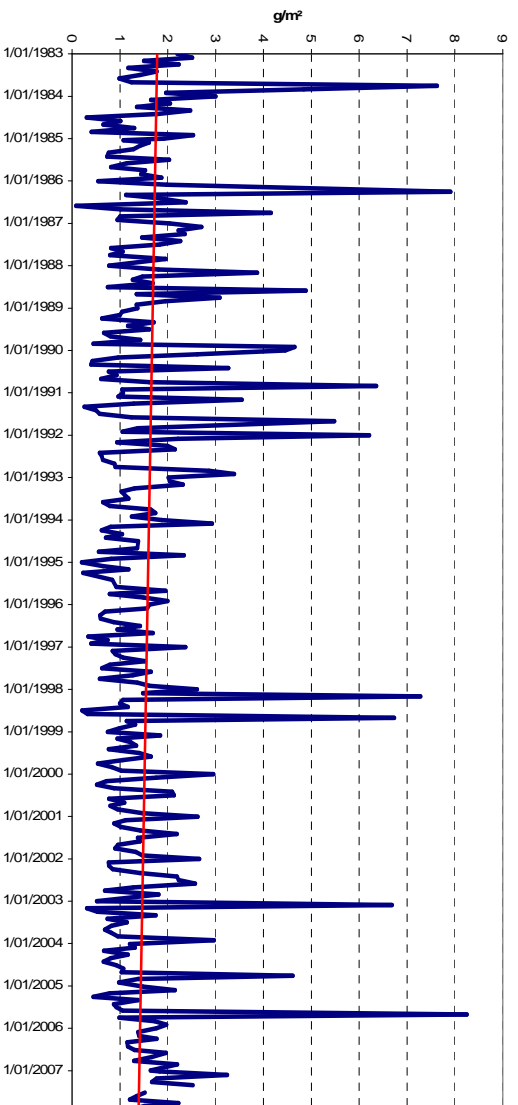
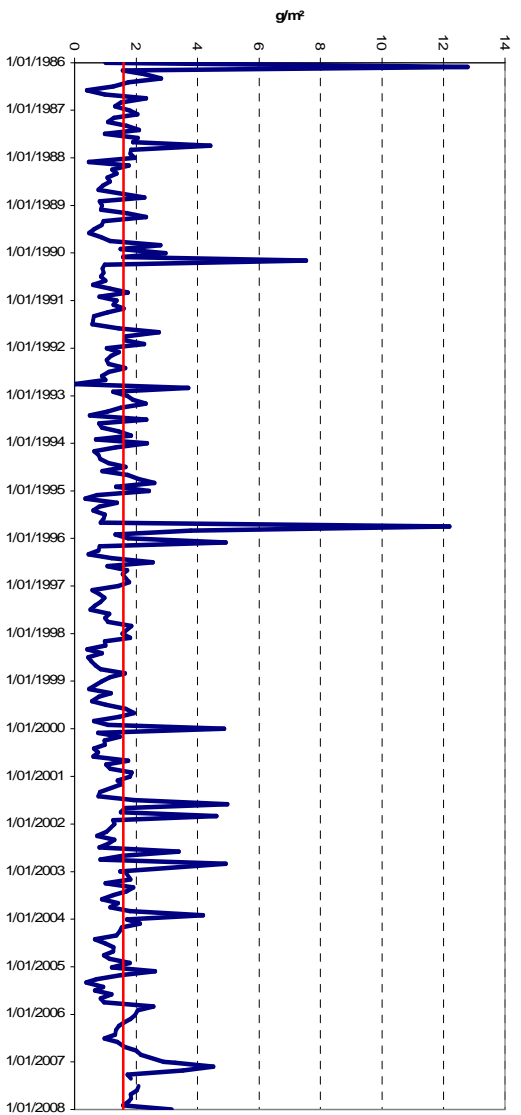
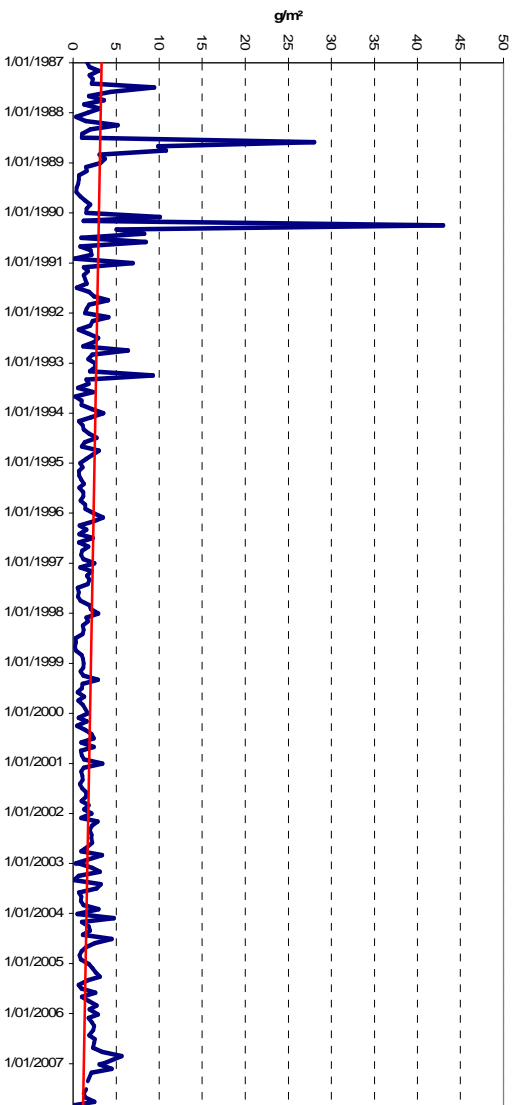
Gauge 2157



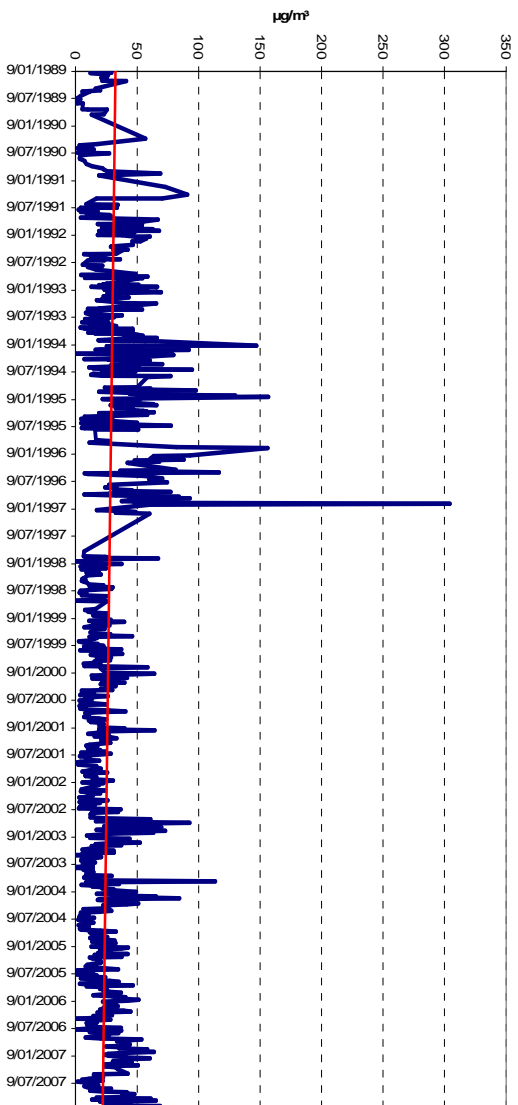
Gauge 2175



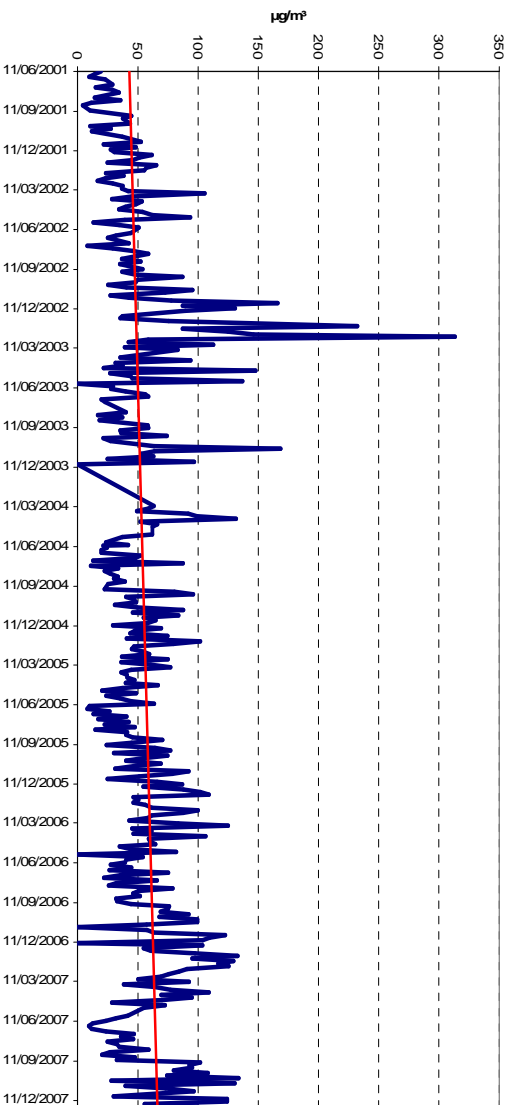




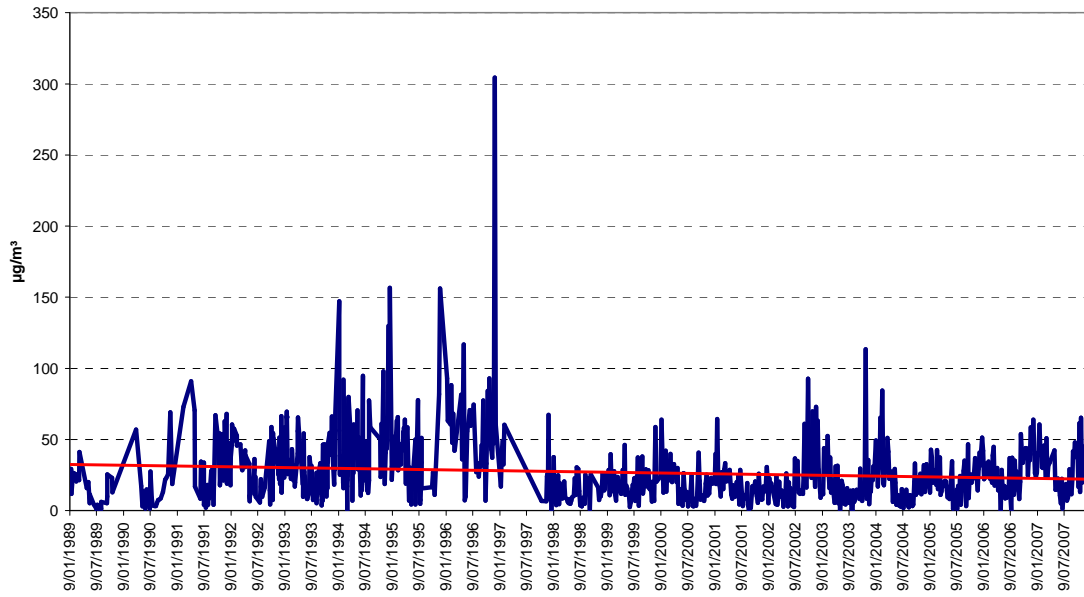
Lot 9 Antienne - PM10



Lot 22 - Total Suspended Particulates



Lot 9 Antiene - PM10



The sites depicted in the above graphs show typical dust levels over a periods in excess of twenty years of monitoring data. Linear trends are also shown on each graph, with no marked increases in overall dust levels being evident at any site. Drayton shall continue to compare ongoing dust emissions with these graphs and the following table to determine ongoing trends as the mine advances.

Long Term Averages – Dust Fallout and High Volume Air Samplers

| Site | Long Term Average |
|----------------|-------------------------|
| 2130 | 1.59 g/m ² |
| 2157 | 2.10 |
| 2175 | 1.70 |
| 2197 | 2.34 |
| 2208 | 2.47 |
| 2230 | 2.22 |
| 2235 | 1.65 |
| 2247 | 1.61 |
| | |
| Lot 22 Antiene | 55.00 µg/m ³ |
| Lot 9 Antiene | 27.16 |

Data collection currently adds to this extensive databases and shall continue to do so until mining is completed.

4.6.7 Air Quality Monitoring Protocol

The following standard air quality protocol will comprise of the following components:

- Source identification
- Management strategy
- Implementation
- Review and assess

Source Identification

This involves the identification of activities and equipment likely to cause excessive dust generation. Consideration will be given to equipment being utilised, timing of the activity, and location of the activity, prevailing weather conditions and results of monitoring data. The outcomes of the assessment of these issues will determine if there is a potential for an exceedence of the levels indicated in the project approval conditions and if it is necessary to implement additional management strategies.

Management Strategy

This component of the protocol involves the determination of the dust control and management measures that will be utilised to minimise dust emissions based on the results of the source identification stage. Potential dust control and management measures are outlined in section 4.6.3.

Implementation

This component involves the implementation of the dust control and management measures as determined as being the most appropriate measures to be implemented.

Review

This component of the protocol will assess the dust control and management measures implemented. During this assessment, a comparison against the criteria outlined in the Project Approval conditions will be undertaken.

Air Quality Monitoring Assessment

Air quality monitoring shall be conducted as detailed in section 4.6.5 and will be assessed against the criteria detailed in section 4.6.2. If in the event of an exceedence, an assessment will be conducted to determine:

- The timing of the exceedence;
- Location of the exceedence;
- Influences of non mine related noise from the data including the consideration of the location of other dust sources, highway traffic, animal influences, human activities;
- Climatic conditions at the time of the exceedence – wind speed, wind direction

Based on the above criteria, if the exceedence is determined to be due to Drayton operations, appropriate management strategies will be implemented. Details of actions implemented will be documented in the Annual Environment Management Report.

4.6.8 Reporting

On a monthly basis, air quality results form a component of Drayton’s internal environmental key performance indicators (dust deposition and concentration).

On an annual basis, reporting of air quality monitoring forms a component of Drayton’s Annual Environment Management Report (AEMR), which is then forwarded to all relevant authorities. All results of monitoring and analysis shall be included in the AEMR.

This report also evaluates and reports on compliance with air quality impact assessments and land acquisition criteria in approval conditions.

The Environment Coordinator coordinates all reports.

4.6.9 Land Acquisition Criteria

Land acquisition criteria has been defined in the Project Approval based on limits outlined in the following Tables.

Long Term land acquisition criteria for particulate matter

| Pollutant | Criterion | Averaging Period |
|--|---------------------|------------------|
| Total Suspended Particulate Matter (TSP) | 90µg/m ³ | Annual |
| Particulate Matter <10µm (PM ₁₀) | 30µg/m ³ | Annual |

Short Term land acquisition criteria for particulate matter

| Pollutant | Averaging Period | Criterion | Percentile | Basis |
|---|------------------|-----------------------|--------------------|-----------|
| Particulate Matter <10 µm (PM ₁₀) | 24 hour | 150 µg/m ³ | 99 th | Total |
| Particulate Matter <10µm (PM ₁₀) | 24 hour | 50 µg/m ³ | 98.6 th | Increment |

(Note: 99th = excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Director General in consultation with the DECC) and (Total = background PM₁₀ concentrations due to all other sources plus the incremental increase in PM₁₀ concentrations due to the mine alone) and (Increment = incremental increase in PM₁₀ concentrations due to the mine alone)

Long term land acquisition criteria for deposited dust

| Pollutant | Averaging period | Maximum increase in deposited dust level | Maximum total deposited dust level |
|----------------|------------------|--|------------------------------------|
| Deposited dust | Annual | 2g/m ² .month | 4g/m ² .month |

Acquisition levels are dependent upon more than 25% of any privately owned land being adversely impacted by dust emissions generated by the mining operations. If a written request for acquisition is received from a landowner, Drayton shall investigate the acquisition of the land in accordance with the process and procedures outlined in conditions 8-10 of Schedule 4 of the Project Approval.

4.6.10 Spontaneous Combustion

Spontaneous combustion management is detailed in Spontaneous Combustion Management Plan.

4.6.11 Odour / Fume Management

Odours and fumes from mining operations occur at times from Drayton. Spontaneous combustion has a direct influence on odour emissions. These are discussed in the Spontaneous Combustion Management plan.

Fumes are also emitted at times from blasting operations. These result from product selection, wet blast holes, explosive product blending and incomplete combustion of products during blast initialisation. To control fumes from blasting, Drayton will identify areas within the mining operation where there is a higher likelihood of fume emission, dewater blast holes where appropriate and has a documented fume management strategy to minimise fume emissions. This is appended as Appendix 3.

4.6.12 Meteorological Monitoring

Drayton has operated an onsite meteorological station since 1981. This system operates online reporting temperature, relative humidity, wind speed and direction and rainfall on a 5 minute basis. Data is summarised and is incorporated in onsite assessments for blasting, air quality, noise and blasting and is reported in the Annual Environment Management Report.

4.6.13 Complaints Handling

If a complaint or enquiry is received, it is immediately investigated. Details such as complainant name, contact details, nature of concern, date, time and method of receipt are recorded. While details of the enquiry vary depending on the nature and source of the enquiry, the following actions may result:

- Confirmation of whether the complainant would like the matter raised as a complaint or an enquiry
- Identify further details which may assist in determining the cause of the complaint
- Carry out an inspection of the site or conduct an assessment of monitoring results to identify the source
- Identify if there is an exceedance or non compliance with any consent or licence condition
- Identify, where necessary and practical, methods to manage the source of the complaint and minimise the chance of a recurrence or further complaints.

A follow up call is also made to the complainant after which time, all details pertaining to the incident are known and corrective actions have been determined to manage the issue.

All enquiries and/or complaints are recorded in an enquiries database and are presented in the AEMR.

4.6.14 Handling Exceedences

If an exceedance of approval conditions or environment protection licence conditions occurs, Drayton shall report the exceedance to the respective authority within 24 hours of the exceedance becoming known. An internal investigation will be undertaken and findings will be

forwarded to the respective authority. Details of any exceedence will also be included in the AEMR.

5 APPENDICES

Appendix 1 – Environmental Signoff

Appendix 2 – Regulatory Correspondence: Copy of letter to Department of Environment and Climate Change (EPA) requesting review of management plan (letter dated 7th July 2008); Response received from the DECC in regard to this management plan.

Appendix 3 – Fume and Odour Management Strategy

Appendix 1

Environmental Signoff

PROCEDURE TITLE: Air Quality Monitoring Plan

NAME: Peter Forbes

POSITION: Safety and Sustainable Development Manager

SIGNATURE FOR SIGNOFF:

DATE:

NAME: Pam Simpson

POSITION: Environment Coordinator

SIGNATURE FOR SIGNOFF:

DATE:

NAME: Dallas Core

POSITION: Mining Manager

SIGNATURE FOR SIGNOFF:

DATE:

NAME: Hal Morris

POSITION: Technical Services Manager

SIGNATURE FOR SIGNOFF:

DATE:

NAME: Ross Mowett

POSITION: Mining Superintendent – Coal and Partings

SIGNATURE FOR SIGNOFF:

DATE:

NAME: Andrew Polverino

POSITION: Mining Superintendent – Overburden

SIGNATURE FOR SIGNOFF:

DATE:



Mitchell Bennett
Head Regional Operations Unit - Hunter Region
Department of Environment and Climate Change NSW
PO Box 488G
NEWCASTLE NSW 2300

Anglo Coal (Drayton Management) Pty Ltd

Direct Fax +61 (0)2 6542 0369
Direct Line +61 (0)2 6542 0298

7th July 2008

Dear Sir

It is a requirement of Drayton's Project Approval Conditions as issued by the Department of Planning for the Drayton Mine Extension (Ref 06_0202) to prepare a Noise Monitoring Program and an Air Quality Management and Monitoring Plan in consultation with the Department of Environment and Climate Change (DECC).

Drayton request that the DECC review the attached Noise Monitoring Program and Air Quality Management and Monitoring Plan and respond accordingly with any comments.

Comments would greatly be appreciated by 23rd July 2008, to enable finalisation and submission of the plan for approval by the Department of Planning's requirement of 1st August 2008.

If you wish to discuss the attached document please feel free to contact me on 6542 0298 or by email to pam.simpson@anglocoal.com.au

Yours sincerely

Pam Simpson
Environment Coordinator

Anglo Coal (Drayton Management) Pty Ltd
Thomas Mitchell Drive, Muswellbrook 2333 - Australia
Private Mail Bag No 9, Muswellbrook 2333 - Australia
Tel +61 (0)2 6542 0200 fax +61 (0)2 6542 5009 www.anglocoal.com.au
apn nr 002 028 037



© 2008 Anglo Coal (Drayton Management) Pty Ltd. All rights reserved. This document is the property of Anglo Coal.

A member of the Anglo American plc group

Our reference : DOC08/31846 & DOC08/35968 LIC08/570
Contact : Mitchell Bennett , 02 4908 6806

11 AUG 2008

Anglo Coal (Drayton Management) Pty Ltd
PMB 9
MUSWELLBROOK NSW 2333

Attention: Ms Pam Simpson

Dear Ms Simpson

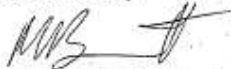
Water Management Plan and Air Quality Management and Monitoring Plan

I refer to your letters dated 7 and 27 July 2008 and the attached copies of the subject Plans.

The Department of Environment and Climate Change (DECC) encourages the preparation of strategies, programs and plans as useful tools for industry to ensure that it meets the environmental objectives specified in conditions of Environment Protection Licences. As a regulatory authority DECC does not review or comment on these plans.

Please contact Mitchell Bennett on 02 4908 6806 if you wish to discuss this matter.

Yours sincerely



MITCHELL BENNETT
Head Regional Operations Unit – Hunter Region
Environment Protection and Regulation

The Department of Environment and Conservation NSW is now known as
the Department of Environment and Climate Change NSW

PO Box 488G, Newcastle NSW 2300
117 Bull Street, Newcastle West, NSW 2302
Tel: (02) 4908 6800 Fax: (02) 4908 6810
ABN 30 841 387 271
www.environment.nsw.gov.au

Department of **Environment and Climate Change** NSW

Drayton Mine Fume Management Plan Flow Chart

