

# Sunnyside Coal Mine Community Consultative Committee Meeting #14

## Environmental Monitoring Report March – May 2011

### Noise Monitoring

The noise limits applicable to operations on the Sunnyside Coal Mine, as prescribed in the Project Approval and Environment Protection Licence, are as follows:-

| Day/Evening<br>LAeq(15 minute) | Land   |
|--------------------------------|--|
| 35                             | Any residence on, or more than 25% of, any privately owned land, except "Lilydale".<br>Impact Assessment Criteria dB(A). |

Monitoring was undertaken on the 29<sup>th</sup> May 2012 with results outlined below:

| Noise Monitoring Results – 29 May 2012 (Day) |         |                       |                          |   |
|--|---------|-----------------------|--------------------------|---|
| Location                                     | Time    | dB(A),Leq<br>(15 min) | Wind speed/<br>direction | Identified Noise Sources as dB(A) Leq (15 min)              |
| Illili                                       | 4:23 pm | 41                    | 1m/s S                   | Birds (41), SCM (35), traffic (32)                          |
| Ferndale                                     | 5:12 pm | 46                    | 1.5m/s S                 | Traffic (45), SCM (35), birds (33)                          |
| Plain View                                   | 3:58 pm | 48                    | 2-3m/s S                 | Birds (47), wind in trees (40), traffic (32), SCM inaudible |
| Lilydale                                     | 3:35 pm | 44                    | 1.5m/s S                 | Traffic (42), birds & insects (41), SCM inaudible           |

| Noise Monitoring Results – 29 May 2012 (Evening) |         |                       |                          |  |
|--|---------|-----------------------|--------------------------|--|
| Location   | Time    | dB(A),Leq<br>(15 min) | Wind speed/<br>direction | Identified Noise Sources   |
| Illili   | 8:08 pm | 39                    | 2m/s S                   | Birds & insects (36), SCM (33), traffic (30), wind in trees (30) |
| Ferndale   | 9:01 pm | 41                    | 1.5m/s S                 | Birds (38), SCM (37), traffic (30)                               |
| Plain View                                       | 7:36 pm | 51                    | 2-3m/s S                 | Insects (51), wind in trees (44), traffic (35), SCM inaudible    |
| Lilydale   | 7:10 pm | 41                    | 1.5m/s S                 | Traffic (39), birds & insects (33), SCM inaudible                |

The results indicate that, under the operational and atmospheric conditions at the time, noise emissions from mine operations exceeded the noise criterion of 35 dB(A)  $L_{eq}$  (15 min) at the "Ferndale" property during the evening survey. Mine hum, truck revs and dozer tracks were the dominant audible mine noise sources at this receiver.

Monitoring was also conducted at the "Glendower" residence on the 29<sup>th</sup> May 2012 to confirm if mine noise remained within compliance limits at that residence, with results confirming a 1dB exceedance during the day survey as per the following table.

| Noise Monitoring Results – 29 May 2012 - Glendower |         |                       |                          |  |
|--|---------|-----------------------|--------------------------|--|
| Date   | Time    | dB(A),Leq<br>(15 min) | Wind speed/<br>direction | Identified Noise Sources as dB(A) Leq (15 min) |
| 29 May   | 4:50 pm | 44                    | 1.5m/s S                 | Birds (43), SCM (36), traffic (35)             |
| 29 May   | 7:58 pm | 36                    | 1m/s S                   | SCM (35), insects (28)                         |

An investigation is currently underway to determine the cause of the elevated results. The investigation will include determination of any temperature inversion that may have been present at the time of monitoring that may have influenced noise levels. Agencies and the landholders will be informed of the elevated noise results and the outcomes from the investigation. Discussions will be held with the affected landholders to verify if noise from the mine has been causing consistent impacts or if the elevated result was an isolated occurrence. These discussions will inform the most appropriate steps to minimise the risk of further noise exceedances.

Road noise monitoring was conducted on the 30<sup>th</sup> May 2012 for a one hour period from 8:00am. The sound level meter was set up in the yard at “Roslyn” on Torrens Lane, at the same distance from the road as the façade of the residence.

A total of 18 heavy vehicles travelled along Torrens Lane during the monitoring period. These consisted of 9 full and 8 empty coal haulage trucks entering and leaving the CHPP site and 1 water cart leaving the site. The measured Leq noise level from all vehicles on Torrens Lane was of 57 dB(A)  $L_{eq(1\text{ hour})}$  which is in exceedance of the noise criterion for a local road of 55 dB(A)  $L_{eq(1\text{ hour})}$ . As “Roslyn” is a project related property, the elevated noise result does not constitute a non-compliance.

## **Air Quality Monitoring**

### **Deposited Dust**

Deposited dust levels for the site for the last 12 months are shown in the following table.

**Sunnyside Mine – Deposited Dust**

| Month                 | SD1<br>Ferndale | SD3<br>Plainview | SD4<br>Lilydale | SD5<br>Ivanhoe | SD6<br>Illili | SD7<br>Innisvale | SD8<br>Woodlawn |
|-----------------------|-----------------|------------------|-----------------|----------------|---------------|------------------|-----------------|
| June 2011             | 0.5             | 1.6              | 0.7             | 0.3            | 0.4           | 1.6              | 0.5             |
| July 2011             | 0.5             | 1.0              | 0.2             | 0.5            | 0.5           | 0.7              | 0.3             |
| August 2011           | 0.4             | 0.9              | 0.4             | 2.7            | 0.5           | 0.8              | 0.5             |
| September 2011        | 0.9             | 0.6              | 0.3             | 0.7            | 0.3           | 0.6              | 0.3             |
| October 2011          | 0.6             | 0.7              | 0.4             | 1.7            | 0.8           | 0.5              | 0.7             |
| November 2011         | 3.7             | 0.7              | 1.9             | 2.6            | 1.4           | 1.2              | 0.9             |
| December 2011         | 0.7             | 1.4              | 1.0             | 1.5            | 1.2           | 3.3              | 1.3             |
| January 2012          | 1.6             | 3.8              | 6.8             | 6.0            | 1.8           | 4.3              | 1.9             |
| February 2012         | 0.8             | 1.6              | 10.2            | 13.6           | 2.8           | 1.2              | 3.7             |
| March 2012            | 0.8             | 1.5              | 4.6             | 4.6            | 1.3           | 1.1              | 10.8            |
| April 2012            | 0.8             | 3.3              | 0.4             | 1.7            | 1.1           | 1.1              | 0.8             |
| May 2012              | 1.6             | 0.5              | 0.5             | 1.2            | 0.7           | 1.2              | 0.6             |
| <b>Annual Average</b> | <b>1.1</b>      | <b>1.5</b>       | <b>2.3</b>      | <b>3.1</b>     | <b>1.1</b>    | <b>1.5</b>       | <b>1.9</b>      |

Deposited dust rates over the last three months have been at low levels, with the exception of a result of 10.8g/m<sup>2</sup>/month at “Woodlawn” in March 2012. Deposited dust gauges collect dust from all sources which can result in elevated dust levels that aren't necessarily related to mining operations. The “Plainview” and “Lilydale” properties are in between the mine and “Woodlawn” and both only recorded a result of 4.6g/m<sup>2</sup>/month. The “Woodlawn” result also comprised 7.6g of combustible matter as per the laboratory advice thereby indicating that the bulk of the sample was not dust related. Despite this higher than normal result at “Woodlawn”, the annual average remains well within the compliance limit of 4g/m<sup>2</sup>/month. All other monitors also remain compliant.

### **PM<sub>10</sub> Data**

Compliance with the 24hr criterion of 50µg/m<sup>3</sup> has been maintained during the reporting period.

PM<sub>10</sub> measurements taken for the “Illili” High Volume Air Sampler (HVAS) are returning a running annual average of 9.83µg/m<sup>3</sup>, which is well below the annual average limit of 30µg/m<sup>3</sup>.

PM<sub>10</sub> measurements taken for the “Lilydale” HVAS are returning an annual average of 8.09µg/m<sup>3</sup>, which is also well below the annual average limit of 30µg/m<sup>3</sup>.

### **Blast Monitoring**

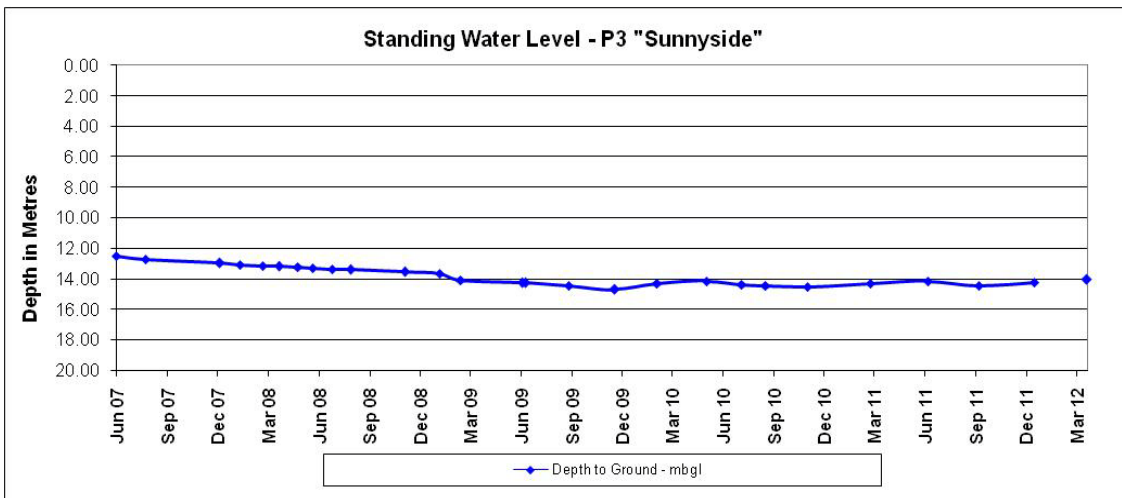
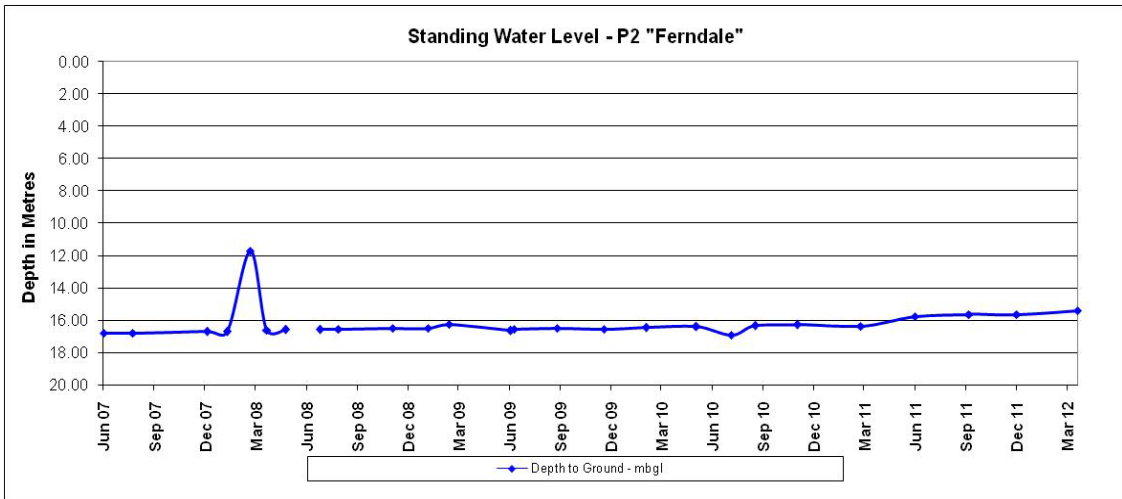
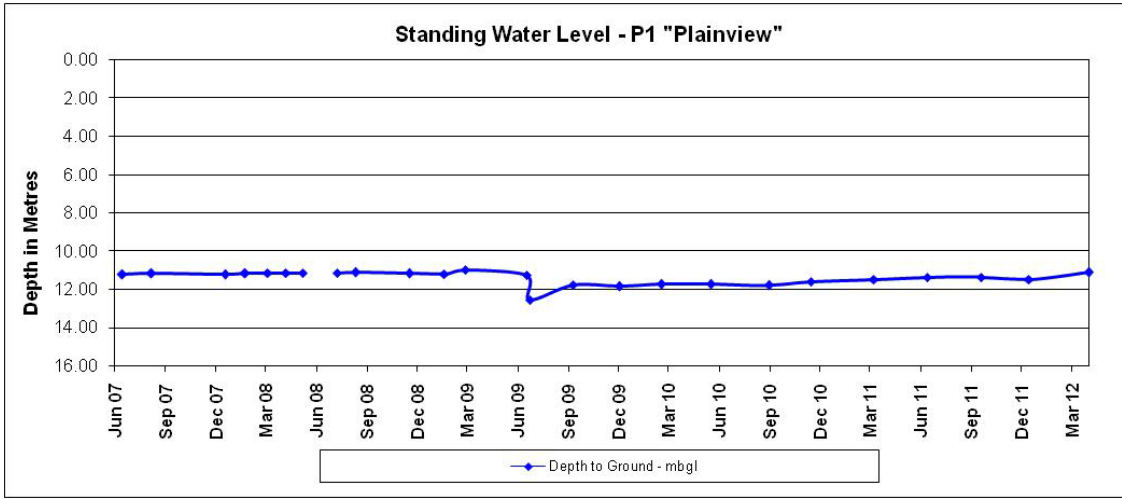
Since the first blast there have been 53 blasts. All blasts have been compliant with ground vibration and airblast overpressure criteria since the last CCC meeting.

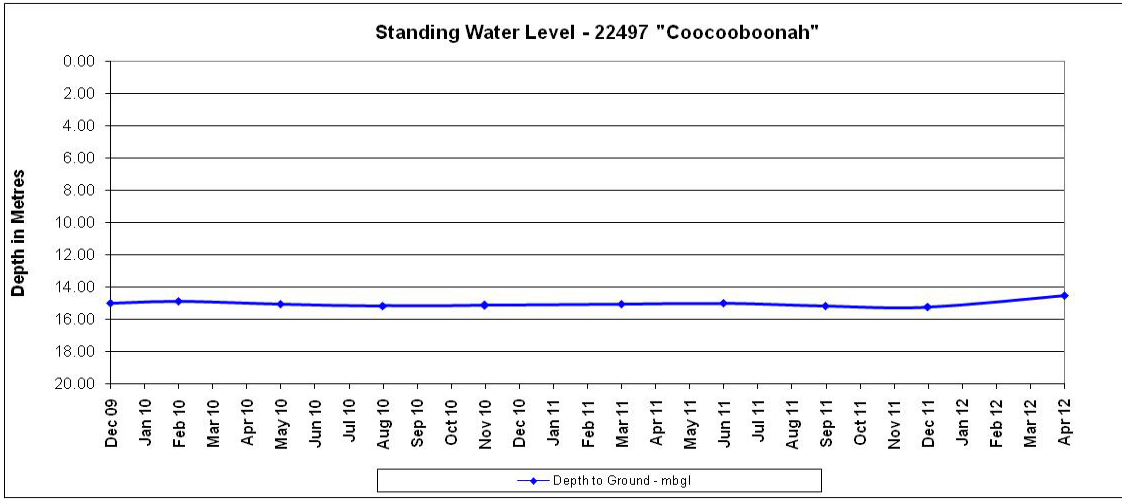
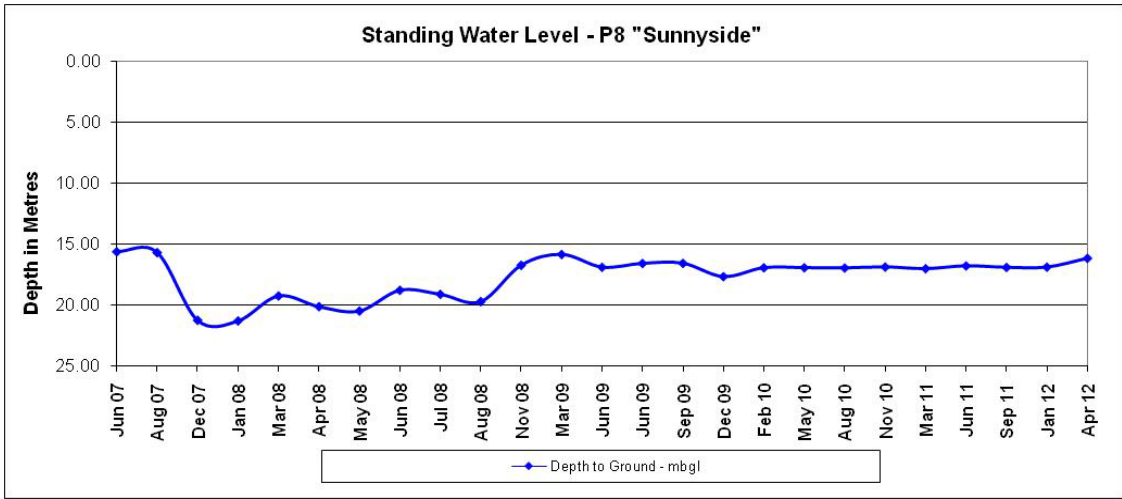
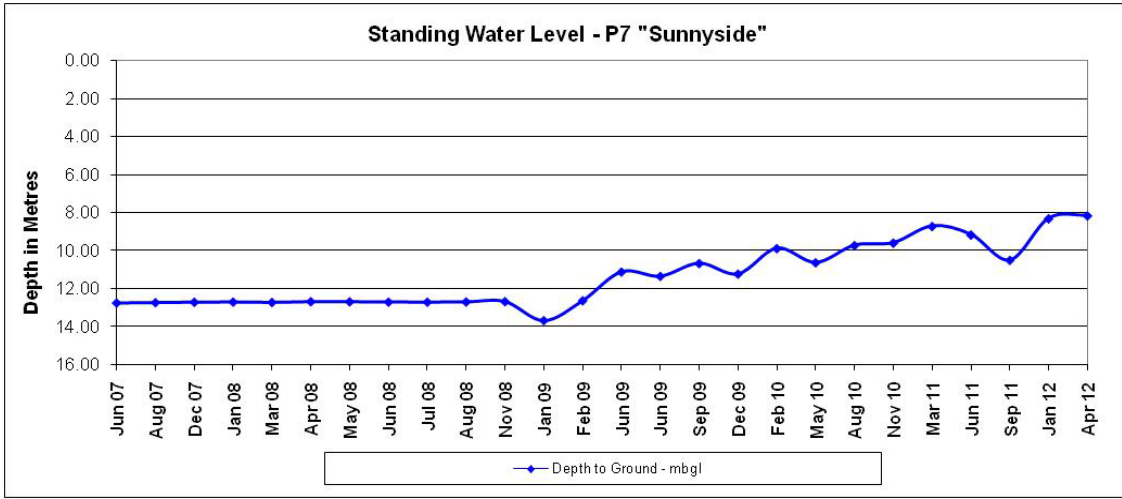
A complaint was received following the blast on the 22<sup>nd</sup> May 2012, which is discussed further in the complaints section of this report.

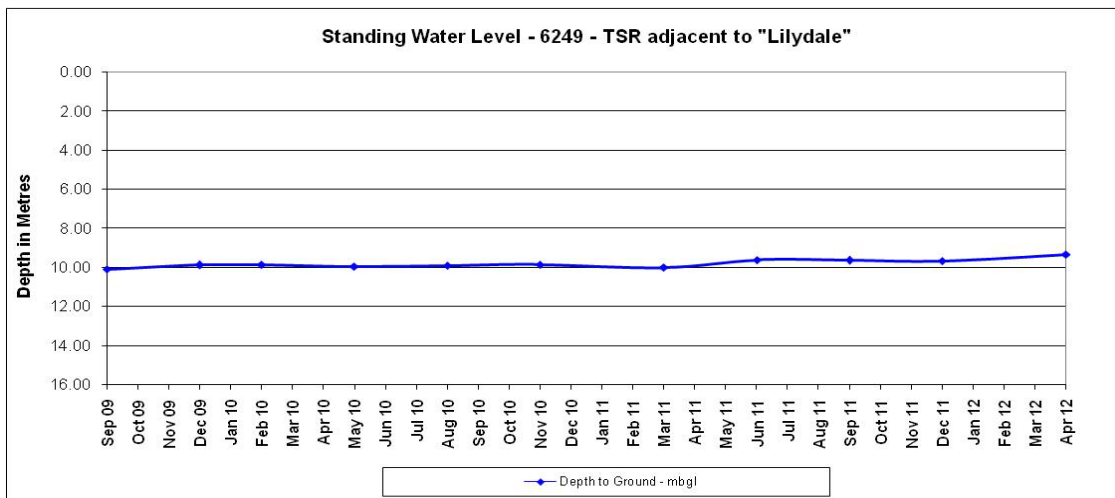
### **Groundwater Monitoring**

Groundwater monitoring is undertaken from a range of monitoring piezometers and water bores both within and surrounding the mine site. Standing Water Level (SWL) checks are undertaken on a quarterly basis, with full water quality sampling undertaken on a 6 monthly basis.

Monitoring was undertaken in early April 2012. Results for SWL are shown below with no significant impact/trend indicated from mining operations, other than at monitoring point P7, where recharge has been occurring due to the bore's standpipe being broken at ground level and allowing inflow from rainfall. The standpipe was repaired in late April so it is expected that the next round of monitoring in July 2012 will highlight some change to the SWL in this piezometer.







## **Surface Water**

Surface water sampling was carried out in May 2012. Results from the sampling were generally good with some elevated Total Suspended Solids (TSS) detected in some of the site's sediment basins. These sediment basins will continue to be utilised for site dust suppression to ensure they have sufficient capacity for further inflow, thereby reducing potential overflow into the final discharge dam. The final discharge dam, Storage Dam 4 (SD4), returned good results with low sediment levels (26mg/L).

No wet weather discharges have occurred since the last meeting.

## **Complaints**

One complaint has been received since the last meeting. The complaint was made on the 22nd May 2012 in relation to what appeared to be two blasts on that day. The complainant said his house shook but people working outdoors on his property did not notice the blast.

The blast monitor results at the property between the mine and the complainant's property confirmed compliance. The Environmental Officer spoke with the Project Manager who confirmed the blast appeared to be slightly louder than normal. There was definitely only one blast however it was low down in the pit so the noise/vibration may have been received at the complainant's property as what appeared to be two blasts in quick succession.

The Environmental Officer contacted the complainant to advise that the blast monitor confirmed compliance, despite the blast being slightly larger and louder than normal. A structural assessment was recently conducted at the complainant's property and the report will be issued to the complainant upon receipt.

## **Rehabilitation**

Rehabilitation works have continued to progress at the Sunnyside site with Ward's Earthmoving continuing to shape the emplacement area and undertaking works on the top of the emplacement to improve drainage and reduce potential for surface erosion. It is intended to undertake additional seeding and fertilizing in the next month (using Natramin and chicken manure to improve soil fertility, based on recommendations provided by Ag Solutions). Tubestock are also being sourced for an additional tree planting campaign for later this month.