

# Sunnyside Coal Mine Community Consultative Committee Meeting #9

## Environmental Monitoring Report December 2010 – February 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 LAeq(15 minute)	Land
35	Any residence on, or more than 25% of, any privately owned land, except "Lilydale". Impact Assessment Criteria dB(A).

Monitoring was undertaken on the 8<sup>th</sup> and 9<sup>th</sup> February 2011 with results outlined below:

Noise Monitoring Results – 8 February 2011 (Evening)				
Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	8:23pm	52	5m/s ESE	Birds & insects (52), wind in trees (48), <b>SCM (est. &lt;30)</b>
Ferndale	9:05pm	52	3.5m/s ESE	Birds & insects (52), wind (40), <b>SCM (30)</b>
Plain View	8:03pm	50	4m/s SE	Birds & insects (50), wind in trees (40), <b>SCM inaudible</b>
Lilydale	7:45pm	45	4m/s SE	Birds & insects (42), wind in trees (40), traffic (38), <b>SCM inaudible</b>

SCM Noise Monitoring Results – 9 February 2011 (Day)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Illili	9:45am	45	3m/s E	Birds (45), traffic (35), <b>SCM (&lt;30)</b>
Ferndale	10:03am	55	3m/s E	Traffic (55), birds & insects (41), <b>SCM inaudible</b>
Plain View	10:22am	47	2.5m/s E	Birds (47), traffic (35), <b>SCM inaudible</b>
Lilydale	10:40am	43	2.5m/s E	Traffic (40), birds & insects (39), wind (30), <b>SCM inaudible</b>

The results indicate compliance at all receivers throughout the monitoring period. Monitoring was also conducted at the "Glendower" residence on the 8<sup>th</sup> and 9<sup>th</sup> February 2011 to confirm if mine noise remained within compliance limits at that residence, with results confirming compliance as per the table below:

Noise Monitoring Results – 8 & 9 February – Glendower				
Date	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
8 Feb	8:45 pm	46	3.5m/s ESE	<b>Birds &amp; insects (44), wind (40), SCM (34), traffic (30)</b>
9 Feb	9:20 am	46	3m/s E	Birds (45), traffic (40), <b>SCM (&lt;30)</b>

In addition to mine noise assessment, monitoring was undertaken at the “Roslyn” property adjacent to Torrens Lane to determine road noise levels from coal haulage. Over a monitoring period of 1 hour, a total of 19 heavy vehicle movements were measured, consisting of 7 full and 7 empty coal haulage trucks, along with 5 other heavy vehicles. The measured Leq noise level from vehicles on Torrens Lane was of 54 dB(A) Leq (1 hour), which is compliant with the noise criterion of 55 dB(A) Leq (1 hour).

## **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**

<b>Month</b>	<b>SD1 Ferndale</b>	<b>SD3 Plainview</b>	<b>SD4 Lilydale</b>	<b>SD5 Ivanhoe</b>	<b>SD6 Illili</b>	<b>SD7 Innisvale</b>	<b>SD8 Woodlawn</b>
February 2010	2.5	1.3	0.6	1.2	0.6	0.7	-
March 2010	11.9	3.0	1.9	1.8	1.8	2.5	-
April 2010	0.9	1.2	0.9	1.8	0.6	0.6	-
May 2010	1.0	1.1	0.6	1.4	2.5	0.6	-
June 2010	0.3	1.4	0.9	13.1	1.2	0.4	-
July 2010	0.4	0.4	0.2	4.0	1.3	0.5	-
August 2010	3.2	0.4	0.3	1.2	3.0	2.0	-
September 2010	0.7	0.6	0.9	2.5	6.3	1.8	-
October 2010	10.8	0.5	0.5	1.2	0.3	0.5	-
November 2010	2.8	1.3	2.2	0.8	1.1	2.0	2.0
December 2010	0.5	2.5	33.0	1.5	1.1	4.8	1.4
January 2011	7.1	N/A	18.6	3.5	2.0	6.1	1.0
<b>Annual Average</b>	<b>3.5</b>	<b>1.2</b>	<b>5.1</b>	<b>2.8</b>	<b>1.8</b>	<b>2.0</b>	<b>1.5</b>

Deposited dust levels have increased at some sites over the last 3 months, with varied results recorded during December 2010 and January 2011. Lilydale (project related) recorded very high results of 33.0g/m<sup>2</sup>/month and 18.6g/m<sup>2</sup>/month in December and January. As these results are similar to those experienced during the 2009 dust storms, they are considered to be anomalies with the source of contamination unknown. The results have subsequently pushed the annual average above the annual average limit to 5.1g/m<sup>2</sup>/month. Innisvale has also recorded elevated results of 4.8g/m<sup>2</sup>/month and 6.1g/m<sup>2</sup>/month in December and January, however the annual average remains below the limit of 4.0g/m<sup>2</sup>/month.

The elevated results experienced at some monitoring locations in January are likely to be partly associated with the recent dry conditions. Future deposited dust results will be closely monitored to detect and manage any future exceedances, with the objective to keep the annual average below 4g/m<sup>2</sup>/month.

## 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 8.81µg/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 7.1µg/m<sup>3</sup>, which is also well below the annual average limit of 30µg/m<sup>3</sup>.

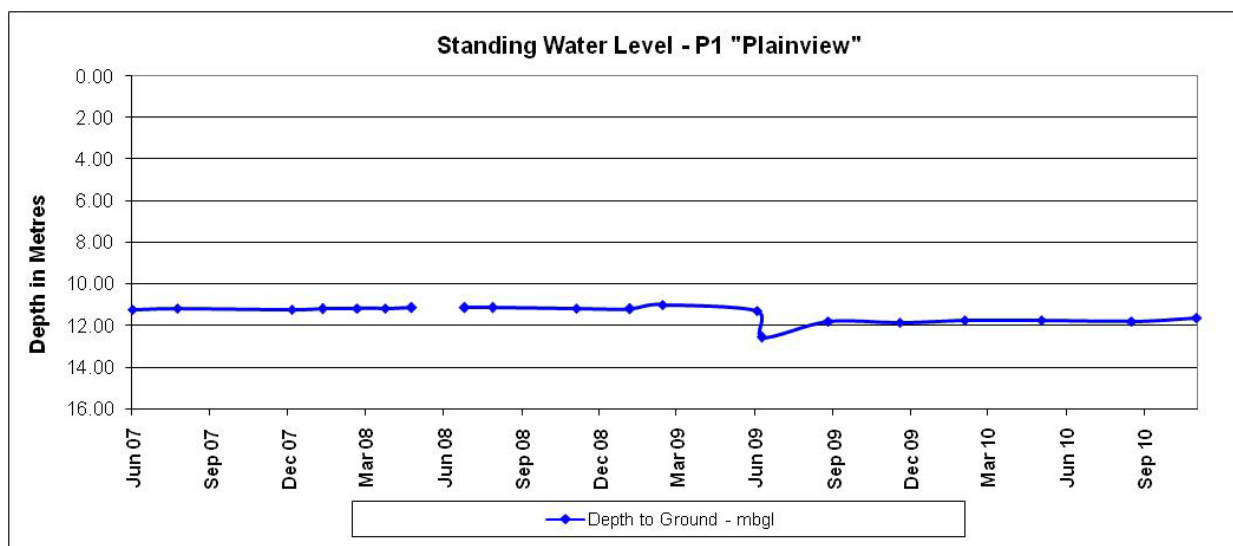
## Blast Monitoring

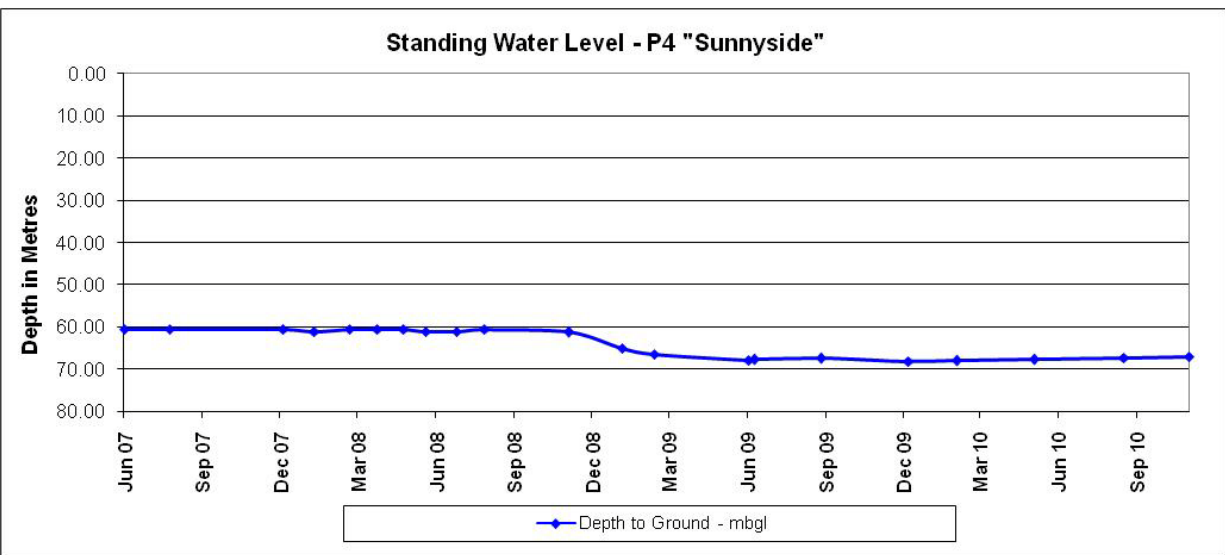
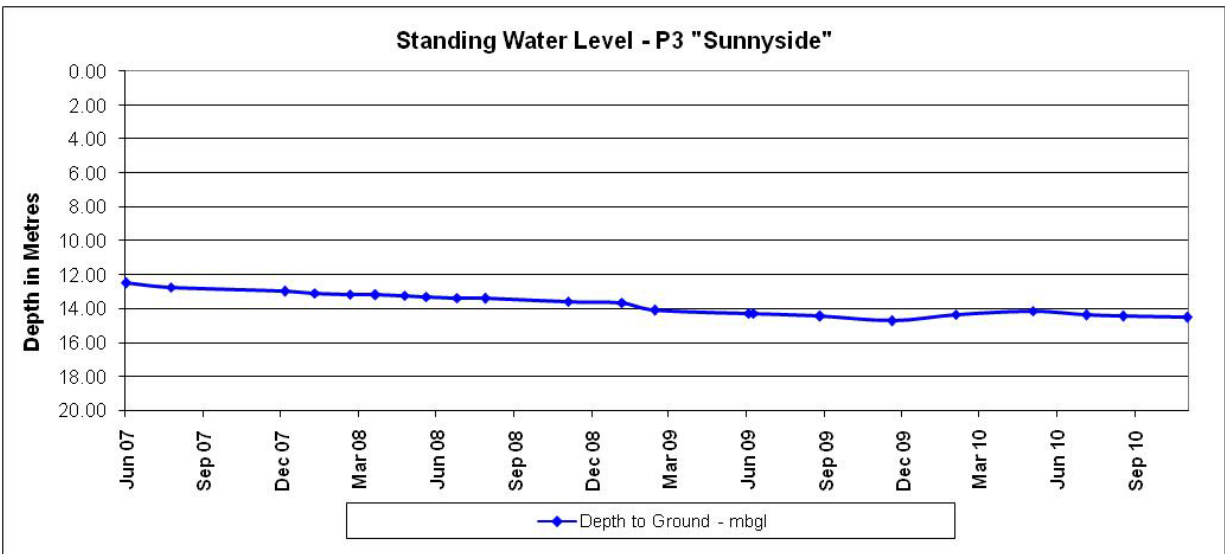
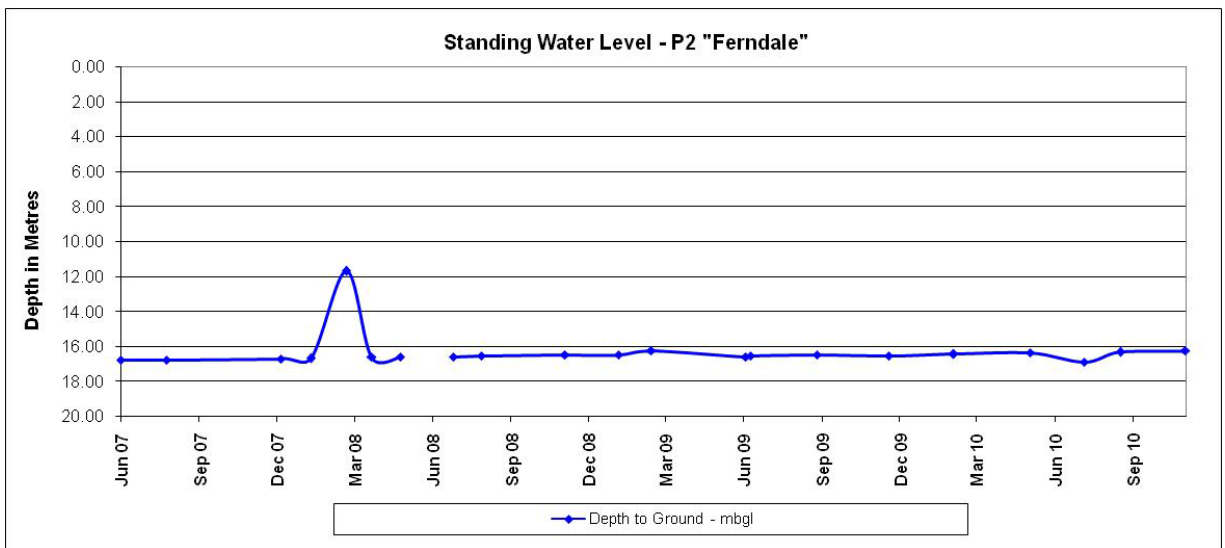
Since the first shot there have been 25 blasts. All blasts during this report period have been compliant within the limits of 115dBL and 5mm/s.

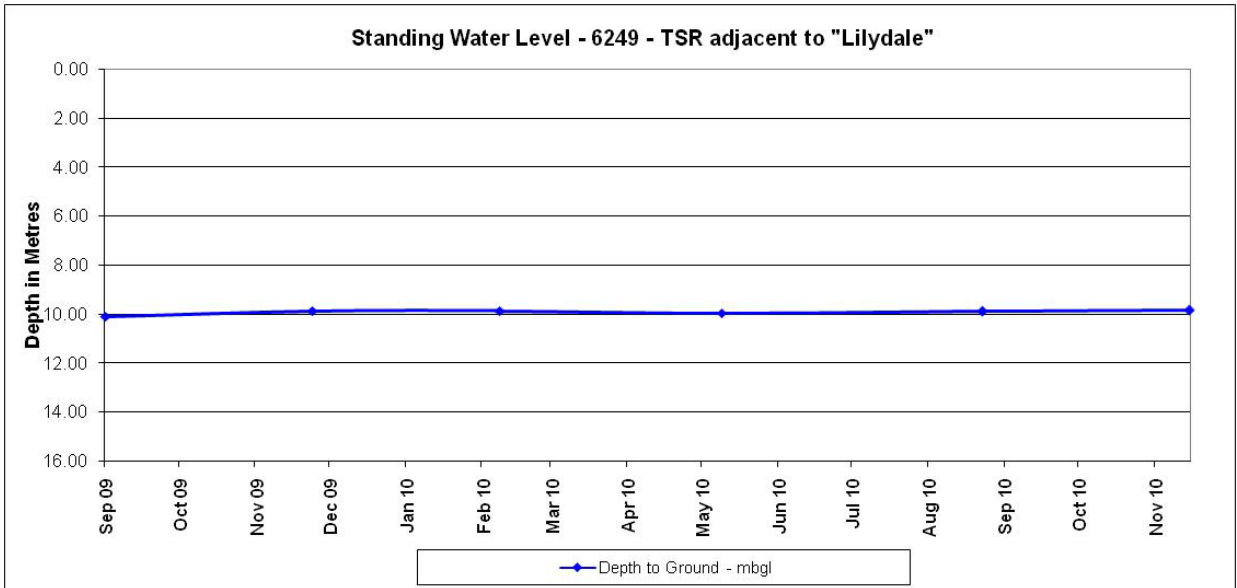
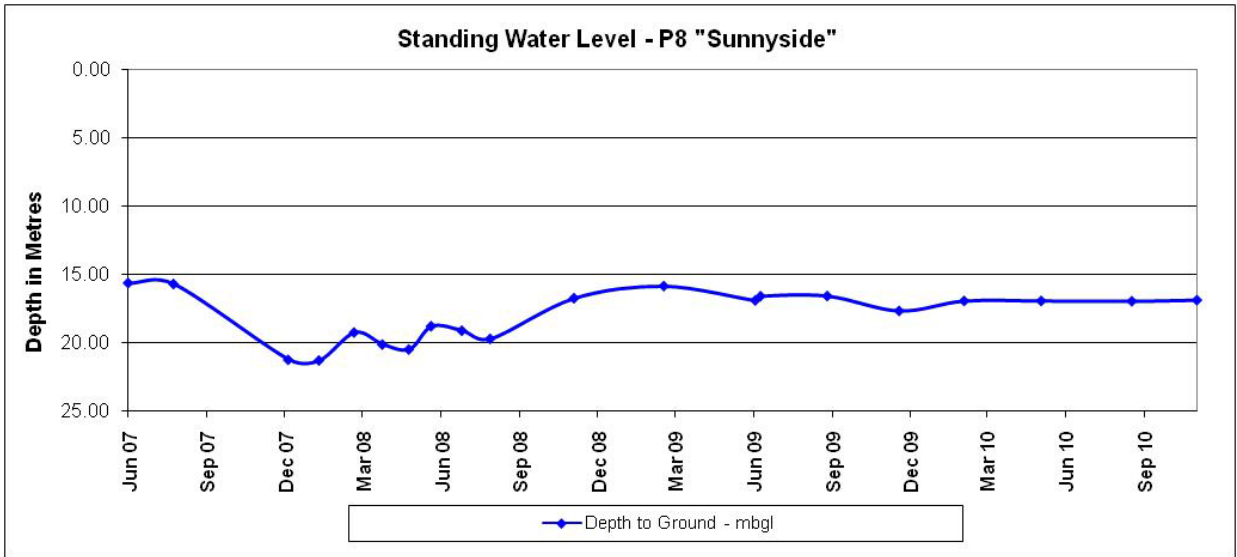
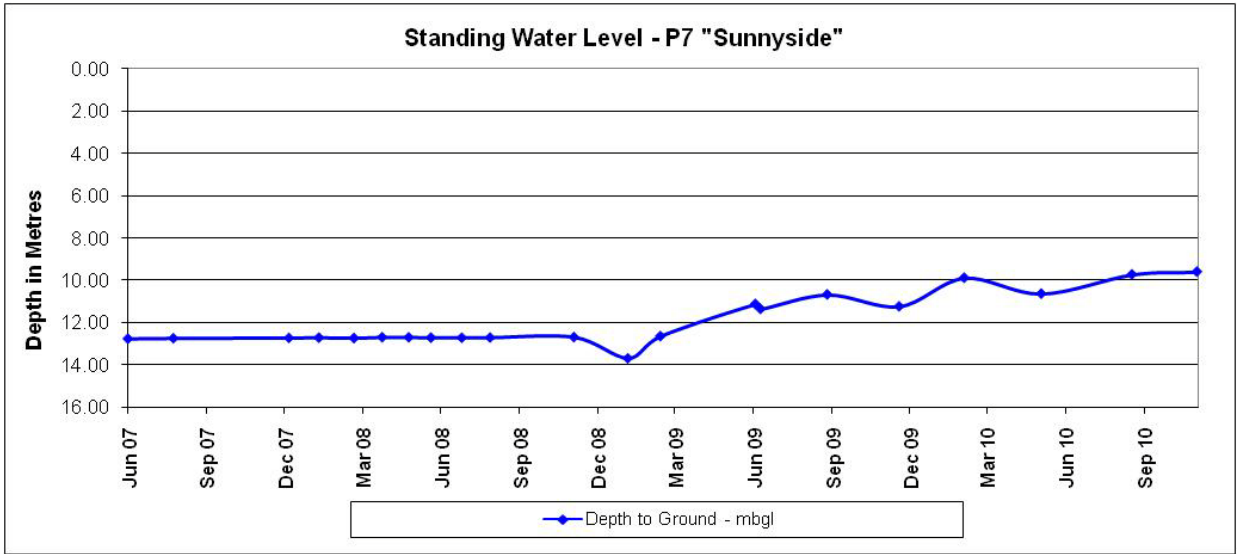
To date, the highest overpressure recorded is 114.8 dBL recorded at "Illili" on the 17<sup>th</sup> April 2010 & 23<sup>rd</sup> June 2010. The highest ground vibration recorded is 2.39mm/s recorded at "Plain View" on the 17<sup>th</sup> April 2009.

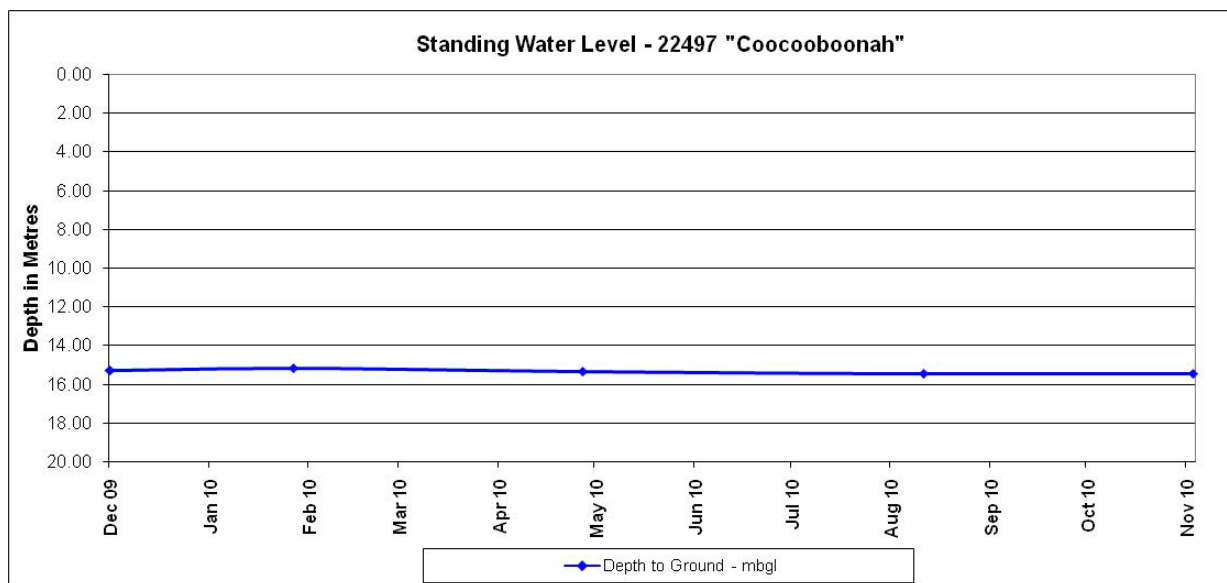
## Groundwater Monitoring

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 results to date for SWLs are shown below with no significant impact/trend indicated from mining operations. The next round of monitoring is expected to be conducted during February 2011.









The above results indicate minor variability in groundwater levels with no significant trend applicable. These graphs represent water bores and piezometers which are currently accessible for monitoring.

### **Surface Water**

One wet weather discharge event has occurred since the last CCC meeting. The wet weather discharge occurred after 64.8mm of rain on the 10<sup>th</sup> December 2010, from storage dams SD3 and SD4. Both SD3 and SD4 recorded results which were compliant with EPL thresholds, with SD4 recording a total suspended solid (TSS) of 50mg/L, equaling the limit of 50mg/L.

Coocooboonaah Creek upstream (CCUS) and downstream (CCDS) samples were also taken at the time of discharge. High TSS was recorded at both locations, being 646mg/L at CCU and 2030mg/L at CCD. These high results are likely to be associated with the extreme amount of rainfall received in a short period of time, causing significant flows across the area.

Surface water sampling is due in February and results will be included in the next CCC report.

### **Complaints**

One complaint was received during this reporting period on the 22<sup>nd</sup> December 2010 at 2:34pm, via phone call to the Project Manager. The complaint was in relation to truck noise from coal haulage from Sunnyside, and in particular one truck, with excessive use of exhaust brakes, and failing to stop/give way. The Project Manager advised the complainant they would discuss the matter with the contract truck driver. The Sunnyside Project Manager advised the truck driver about the complaint and requested that he comply with traffic laws and signs. The driver was advised that the use of exhaust brakes in the vicinity of nearby residences should be minimised by some prior speed reduction. The driver indicated that they would attempt such action.

Danny Young (Environmental Manager) provided advice to Toll and asked that they address the matter with the contractor to ensure drivers obey road rules, particularly in terms of stopping and giving way as required, as well as limiting the use of exhaust braking, especially in proximity to residences.

### **Rehabilitation**

Approximately 160 White Box and Yellow Box, or 'Koala friendly' species were planted in early January 2011, along the eastern boundary of the mine site as a part of the Koala Corridor.