



**SUNNYSIDE COAL MINE**

**COMMUNITY CONSULTATIVE COMMITTEE**

**MEETING #4**

**ENVIRONMENTAL MONITORING REPORT**

**September-November 2009**

## 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).

Noise measurements taken since the last meeting are as tabulated below.

### **Attended Noise Levels – 8<sup>th</sup> September 2009 (afternoon)**

Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	4:20 pm	39	2m/s NW	Wind (38), dogs (30), <b>SCM inaudible</b>
Ferndale	4:41 pm	51	2m/s NW	Traffic (50), birds & insects (45), <b>SCM faintly audible (est. &lt;30)</b>
Plain View	3:38 pm	49	1.5m/s NW	Birds (49), wind (35), <b>SCM (33)</b>
Lilydale	3:58 pm	41	1.5m/s NW	Birds (38), wind (37), <b>SCM (32)</b>

### **Attended Noise Levels – 9<sup>th</sup> September 2009 (morning)**

Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources
Illili	7:32 am	36	Calm	Birds (35), <b>SCM (29)</b>
Ferndale	7:14 am	44	Calm	Birds (44), <b>SCM (30)</b>
Plain View	8:10 am	46	Calm	Birds (43), <b>SCM (40)</b> , traffic (40)
Lilydale	8:29 am	37	Calm	Birds (35), <b>SCM (30)</b> , traffic (30)
Glendower	7:50am	43	Calm	Birds (42), <b>SCM (37)</b>

Exceedances were recorded on the 9<sup>th</sup> September 2009 at "Plain View" (5 dB) and "Glendower" (2 dB).

Atmospheric conditions at the time of monitoring were cool, calm and clear with about 75% relative humidity. A review of the mine's weather station data indicated that a mild inversion was present at the time of monitoring which is noise enhancing for all receivers. The mine noise was attributable to general mine hum and engine revs from the haul trucks and excavator.

The affected landholders, DoP and DECCW were notified of the exceedances.

In addition to the site noise monitoring, traffic noise from the coal transport trucks (Toll) was measured at the "Roslyn" property on Torrens Road, near the Whitehaven CHPP. Sunnyside coal transport is relatively sporadic compared to other Whitehaven operations. As a result, the

noise level at “Roslyn” measured over a representative period was used to calculate the maximum number of trucks that could travel the route whilst maintaining compliance.

The sound level meter was set up in the paddock adjacent to “Roslyn”, at the same distance from the road as the façade of the residence. The noise levels from 3 trucks (2 full and 1 empty) passing the site were measured between 8.55 am and 9.30 am on the 9th September 2009. The calculated average Leq (15 min) noise level for each pass-by was 45 dB(A). This indicates that up to 10 vehicle movements per hour could pass the residence before the day time noise criterion for a local road of 55 dB(A)Leq (1 hour) is exceeded.

#### Attended Noise Levels – 20<sup>th</sup> October 2009 (afternoon)

Location	Time	dB(A),Leq (15 min)	Wind speed/direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	4:48 pm	36	3m/s NW	Birds (36), <b>SCM inaudible</b>
Ferndale	5:30 pm	44	1.5m/s NW	Traffic (41), birds (40), dog (35), <b>SCM faintly audible (est. &lt;25)</b>
Plain View	4:06 pm	38	2m/s NW	<b>SCM (34)</b> , birds (33), traffic (30), wind (35),
Lilydale	4:24 pm	43	2.5m/s NW	Birds (42), <b>SCM (35)</b> , traffic (32), wind (30)
Glendower	5:07 pm	43	0.5m/s NW	Birds (40), cattle (36), traffic (30), wind (30), <b>SCM inaudible</b>

#### Attended Noise Levels – 21<sup>st</sup> October 2009 (morning)

Location	Time	dB(A),Leq (15 min)	Wind speed/direction	Identified Noise Sources
Illili	7:53 am	42	0.5m/s SE	Birds (38), cattle (37), dogs (36), <b>SCM (30)</b>
Ferndale	8:39 am	49	1m/s SE	Birds (47), traffic (44), <b>SCM (est. &lt;30)</b>
Plain View	7:29 am	42	0.5m/s SE	Birds (42), traffic (30), <b>SCM faintly audible (est. &lt;25)</b>
Lilydale	7:10 am	44	0.5m/s SE	Birds (43), road works (35), traffic (33), <b>SCM (30)</b>
Glendower	8:21 am	46	0.5m/s SE	Birds (44), cattle (38), traffic (35), <b>SCM (32)</b>

Noise monitoring in October 2009 indicated compliance at all monitoring locations.

The noise levels from 15 trucks (8 full and 7 empty) passing the “Roslyn” property on Torrens Road were measured between 9.09 am and 10.34 am on the 21st October 2009. The weighted average noise level for each truck was 64.4 dB(A) Leq (pass-by) for an average duration of 36 seconds. Over the approximate 1.5 hour monitoring period this equates to a measured Leq of 54.4 dB(A). This correlates with the calculations made in September 2009 which determined that up to 10 vehicle movements per hour could pass the residence before the day time noise criterion for a local road of 55 dB(A) Leq (1 hour) is exceeded.

The latest round of noise monitoring was conducted in late November 2009. Monitoring results will be presented at the next CCC meeting.

## Air Quality Monitoring

### Deposited Dust

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

#### Sunnyside Mine – Deposited Dust

Month	SD1 Ferndale	SD3 Plainview	SD4 Lilydale	SD5 Ivanhoe	SD6 Illili	SD7 Innisvale	Annual Average Limit
Dec-08	1.1	1.6	1.2	3.0	3.0	0.9	4.0
Jan-09	3.8	3.4	2.0	27.3	1.3	4.3	4.0
Feb-09	1.4	3.2	2.2	6.5	1.3	1.8	4.0
Mar-09	2.5	2.5	1.1	9.8	3.5	1.3	4.0
Apr-09	0.8	4.2	0.9	9.5	0.9	1.0	4.0
May-09	1.4	1.4	1.0	1.0	0.8	1.1	4.0
Jun-09	0.3	0.5	0.1	0.4	0.2	1.0	4.0
Jul-09	0.4	0.5	0.5	2.1	0.6	0.7	4.0
Aug-09	1.8	1.3	1.2	32.6	4.0	0.8	4.0
Sept-09	9.7	39.9	6.8	12.2	15.0	6.9	4.0
Oct-09	3.7	12.2	1.9	3.2	10.0	2.3	4.0
Nov-09	0.6	25.7	1.5	3.0	0.9	1.5	4.0
<b>Annual Average</b>	<b>2.3</b>	<b>8.0</b>	<b>1.7</b>	<b>9.2</b>	<b>3.5</b>	<b>2.0</b>	<b>4.0</b>

Results from August 2009 monitoring indicate normal deposited dust levels, with the exception of “Ivanhoe” which was influenced by sample contamination (insects, bird droppings, plant material). Deposited dust levels during September and October 2009 have been elevated at all sites. These results are attributable to the severe dust storm on the 23<sup>rd</sup> September 2009 and the dusty conditions in mid October. November 2009 results returned to normal levels with the exception of “Plain View” which was contaminated with insects, bird droppings and plant material.

The annual average for all sites remains below 4g/m<sup>2</sup>/month for all sites except “Plain View” and “Ivanhoe”. The annual average for “Plain View” has been heavily affected by the weather conditions over the last 3 months, with an increase from an annual average of 2.0g/m<sup>2</sup>/month in August 2009 to 8.0g/m<sup>2</sup>/month in November 2009. The “Ivanhoe” result continues to be affected by sample contamination.

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

PM<sub>10</sub> measurements taken to date for the “Illili” High Velocity Air Sampler are returning a running annual average of 17.60ug/m<sup>3</sup>, which is well below the annual average limit of 30ug/m<sup>3</sup>. The highest reading from this sampler is 48ug/m<sup>3</sup> (27<sup>th</sup> September 2009), which is below the 24 hour maximum criteria of 50ug/m<sup>3</sup>.

PM<sub>10</sub> measurements taken to date for the Lilydale High Velocity Air Sampler are returning a running annual average of 14.81ug/m<sup>3</sup> which is well below the annual average limit of 30ug/m<sup>3</sup>. The highest reading from this sampler was 36ug/m<sup>3</sup>, measured on 27<sup>th</sup> September 2009.

It is believed that dust deposited on the units during the dust storm on the 23<sup>rd</sup> September 2009 would have been collected on start-up during the monitoring event on the 27<sup>th</sup> September, thereby contributing to the higher than normal readings. This is supported by elevated results at all other PM<sub>10</sub> monitors operated by the Whitehaven group.

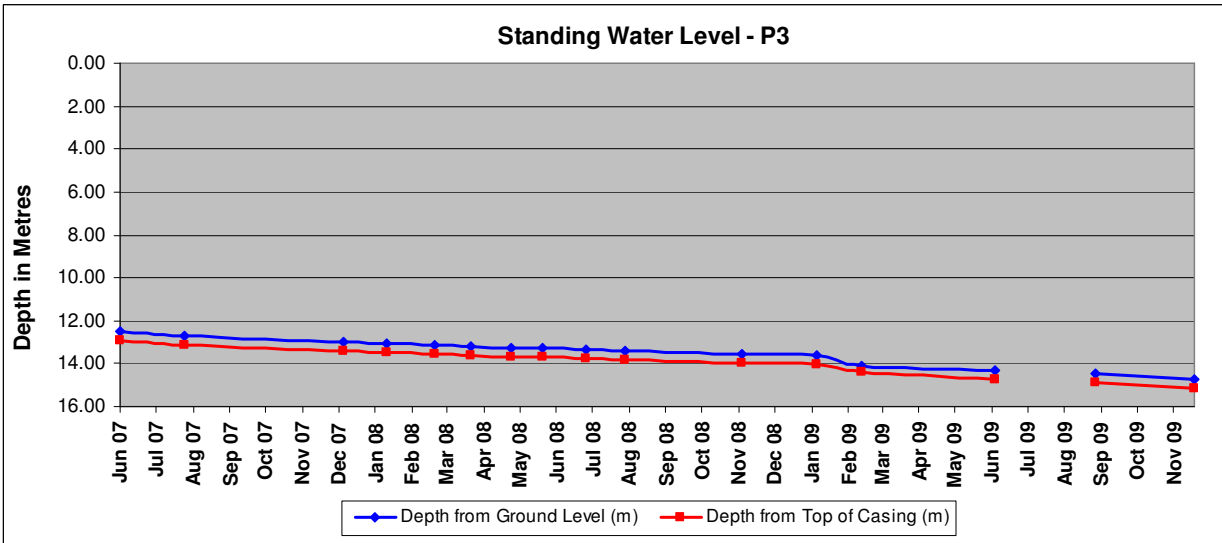
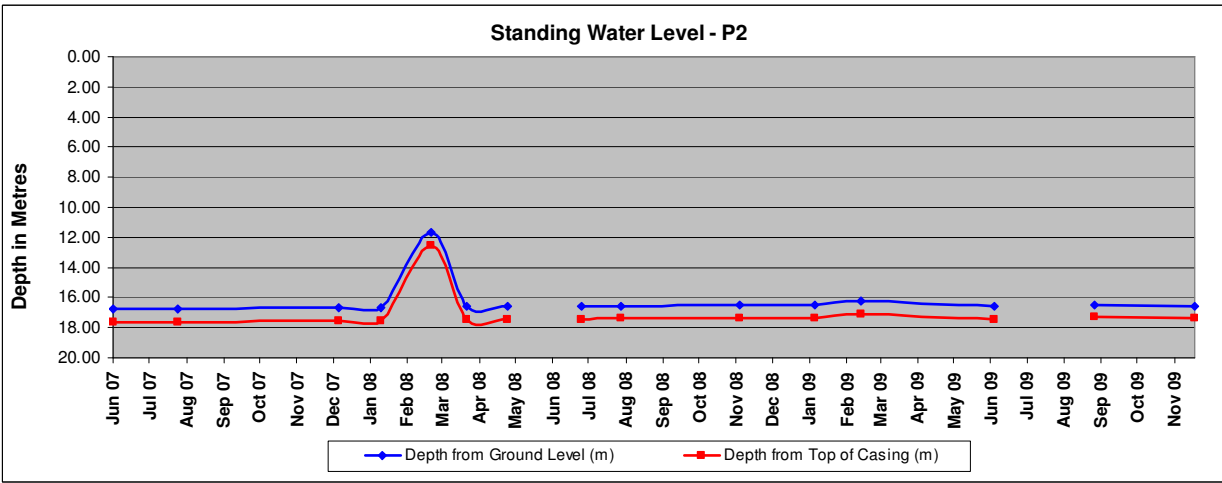
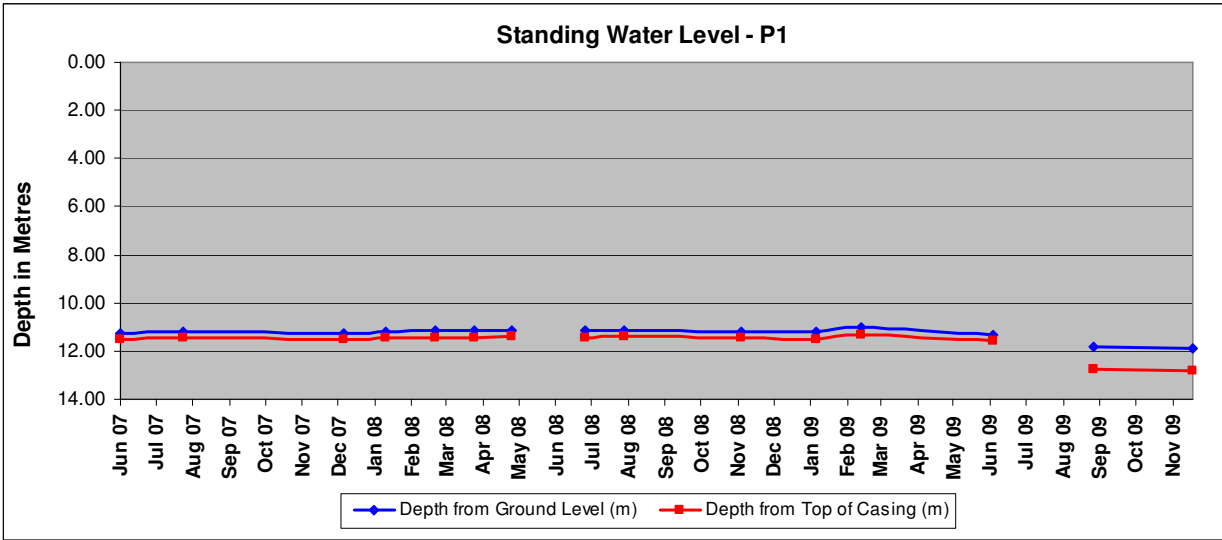
## **Blast Monitoring**

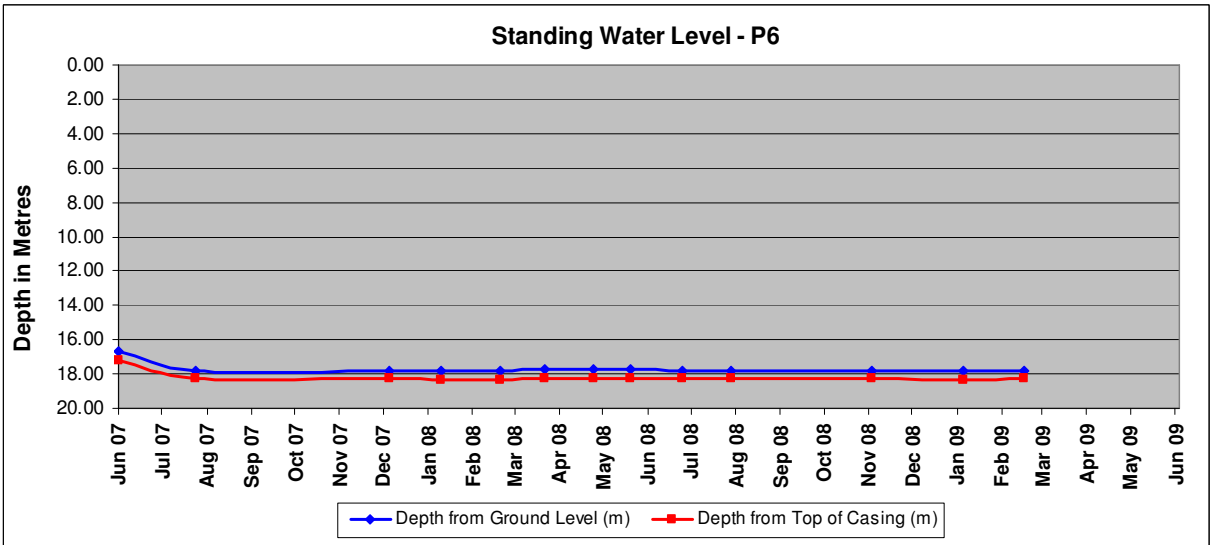
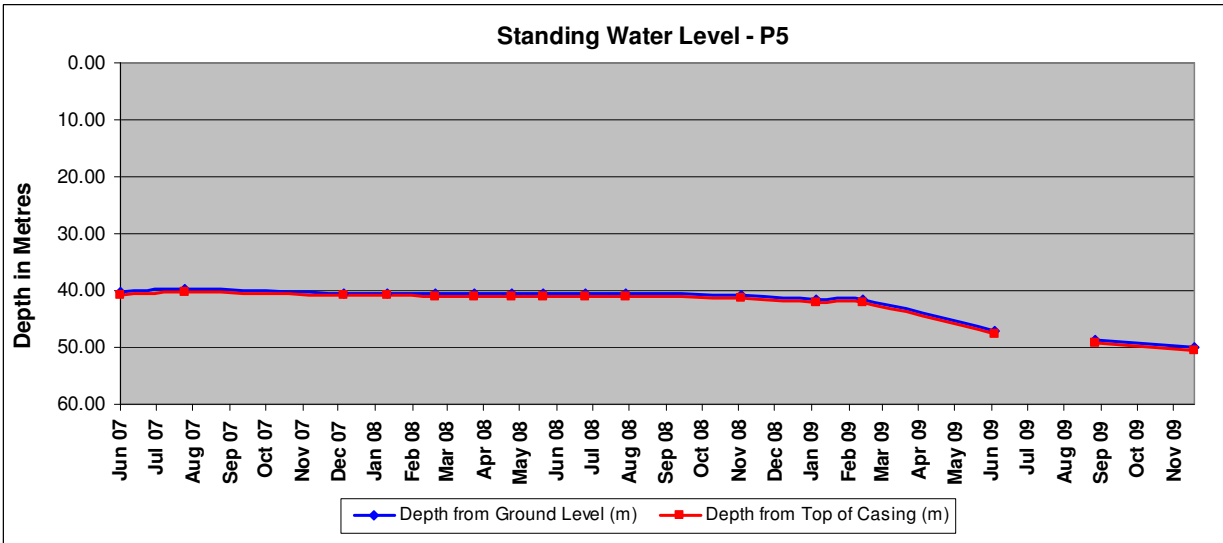
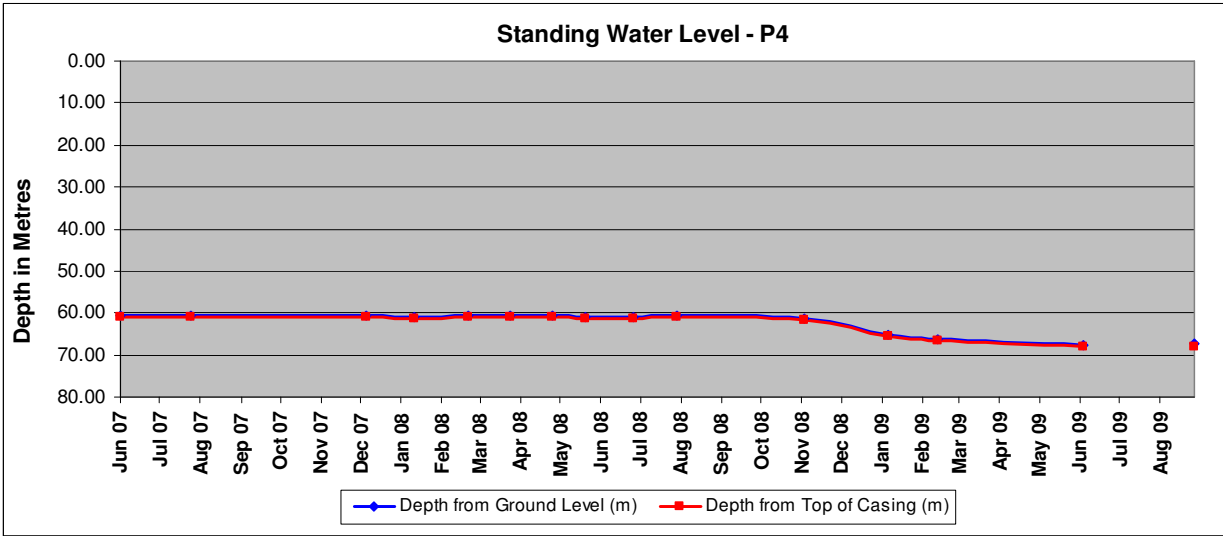
Since the first shot there have been 11 blasts. All blasts during this report period have been compliant within the limits of 115dBL and 5mm/s.

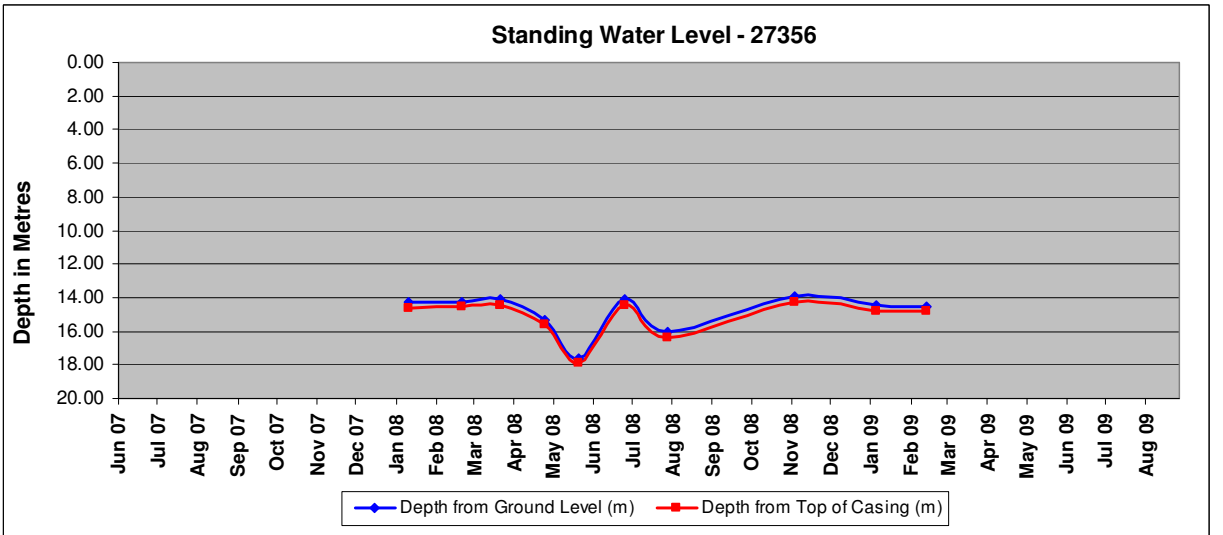
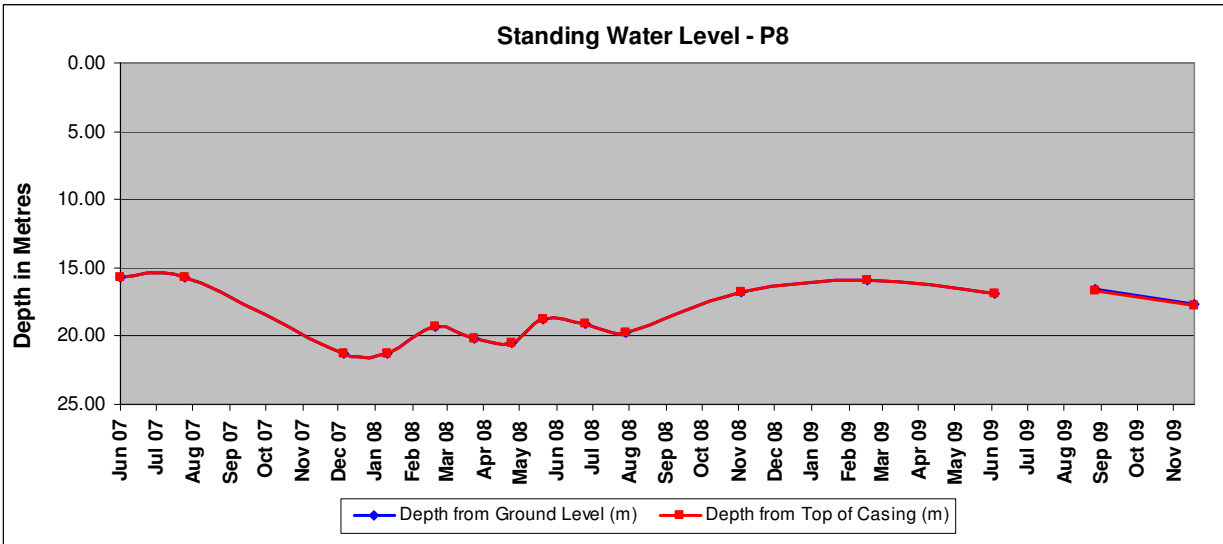
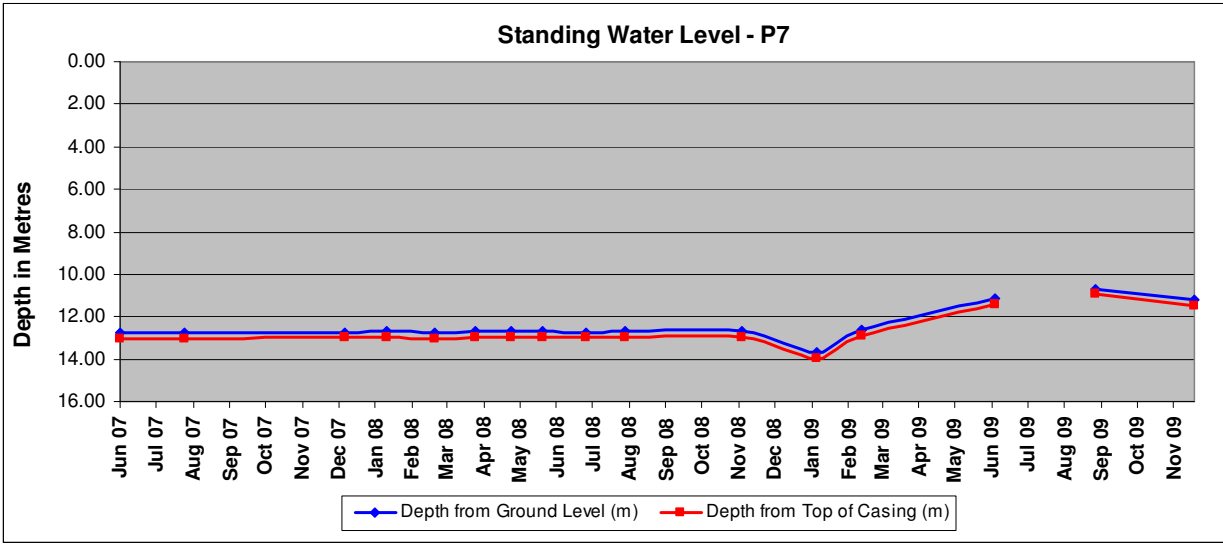
To date, the highest overpressure recorded is 112.3. dBL recorded at “Plain View” on the 28<sup>th</sup> November 2008. The highest ground vibration recorded is 1.24mm/s recorded at “Illili” on the 28<sup>th</sup> November 2008.

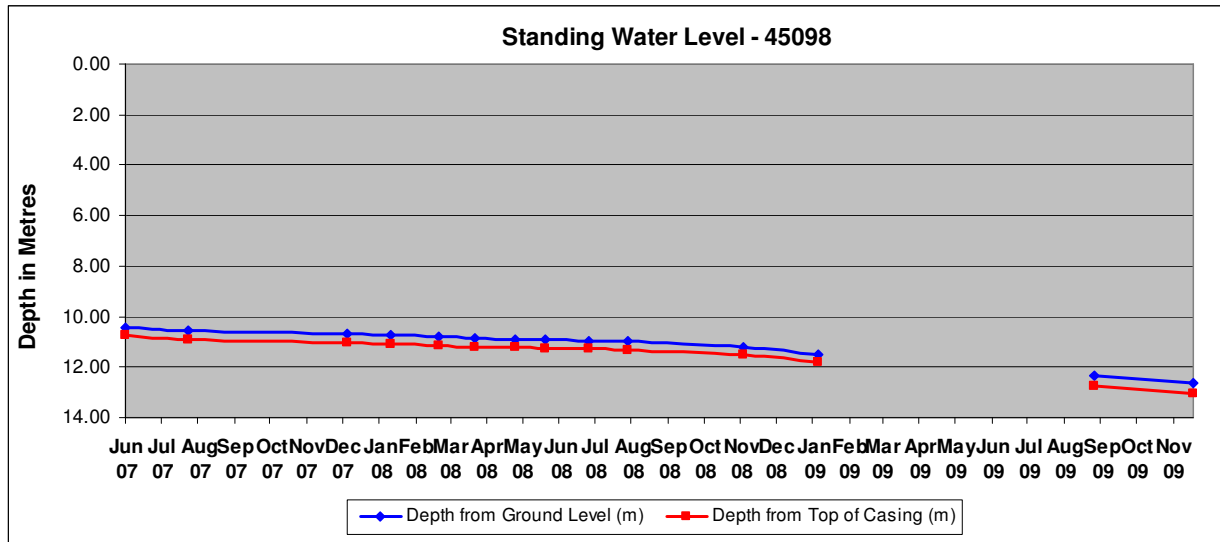
## **Groundwater Monitoring**

Groundwater monitoring is undertaken from a range of monitoring piezometers and water bores both within and surrounding the mine site. Standing Water Level checks are undertaken on a quarterly basis, with full water quality sampling to be undertaken on a 6 monthly basis. Monitoring results to date for Standing Water Level are shown below.









Results to date indicate minor variability in groundwater levels with no significant trend applicable at this early stage of the mine life. The slight drop in SWL associated with some monitoring sites is likely attributable to recent dry conditions rather than operations at the mine as the mine workings have intersected very little groundwater. There has been no requirement to pump any water from the pit to the pit water dam to date. Ongoing data collection will provide for longer term analysis of groundwater impact.

### Surface Water

No wet weather discharge events have occurred since the last CCC meeting.

### Complaints

Since the previous meeting there has been one formal complaint lodged pertaining to the Sunnyside operation. The complaint was lodged by DECCW, on behalf of the complainant, on the 22<sup>nd</sup> September 2009 and related to concern about the lime dust being generated on the Blackjack Road Intersection construction works.

The complaint was referred to Constructive Solutions, Project Manager for the intersection works. Loading of hydrated lime was subsequently relocated away from adjacent residential areas to minimise dust impacts and DECCW were advised on this action.

The complaints line number is: **0427 106 384**.