

# Narrabri Coal Mine Community Consultative Committee Meeting #11

## Environmental Monitoring Report August 2010 – October 2010

### Noise Monitoring

Attended noise monitoring was undertaken on the 28<sup>th</sup> September 2010 to verify if noise levels were within compliance limits. The results from this monitoring are detailed in the tables below.

Noise Monitoring Results – 28 September 2010 (Day)				
Location	Time	dB(A), <sub>Leq</sub>	Wind speed/ direction	Identified Noise Sources
Bow Hills	2:30 pm	40	1.5 m/s NW	Traffic (40), birds (30), <b>NCM inaudible</b>
Naroo	2:48 pm	40	1.5 m/s NW	Birds & insects (39), <b>NCM (31)</b> , traffic (30)
Claremont*	3:07 pm	33	1.5 m/s NW	Birds & insects (29), <b>NCM (29)</b> , sheep (25)
Westhaven	No access due to construction activity			
Greylands	3:52 pm	41	1.5 m/s NW	Birds & insects (40), <b>NCM (35)</b>

\* Correction of 4-8dB to be subtracted from the *mine noise component only* measured at "Claremont" boundary to estimate levels at "Kurrajong".

Noise Monitoring Results – 28 September 2010 (Evening)				
Location	Time	dB(A), <sub>Leq</sub>	Wind speed/ direction	Identified Noise Sources
Bow Hills	8:32 pm	50	<1 m/s S	Traffic (49), birds & insects (41), <b>NCM (27)</b>
Naroo	8:12 pm	44	<1 m/s S	Frogs & insects (44), <b>NCM inaudible</b>
Claremont*	7:50 pm	34	<1 m/s S	Insects & frogs (34), <b>NCM inaudible</b>
Westhaven	9:02 pm	29	<0.5 m/s S	Insects & frogs (29), <b>NCM (&lt;20)</b>
Greylands	9:25 pm	40	<0.5 m/s S	Insects (40), <b>NCM (30)</b>

\* Correction of 4-8dB to be subtracted from the *mine noise component only* measured at "Claremont" boundary to estimate levels at "Kurrajong".

Noise Monitoring Results – 28 September 2010 (Night)				
Location	Time	dB(A), <sub>Leq</sub>	Wind speed/ direction	Identified Noise Sources
Bow Hills	10:01 pm	49	<0.5 m/s S	Traffic (48), birds & insects (42), <b>NCM (28)</b>
Naroo	10:20 pm	39	<0.5 m/s S	Frogs & insects (39), <b>NCM inaudible</b>
Claremont*	10:41 pm	30	<0.5 m/s S	Insects (30), <b>NCM barely audible</b>
Westhaven	11:03 pm	33	<0.5 m/s S	Frogs & insects (32), <b>NCM (27)</b>
Greylands	11:25 pm	38	<0.5 m/s S	Birds & insects (37), traffic (30), <b>NCM (27)</b>

\* Correction of 4-8dB to be subtracted from the *mine noise component only* measured at "Claremont" boundary to estimate levels at "Kurrajong".

The results indicate that noise emissions from the mine were below the criterion of 35 dB(A), $L_{eq(15min)}$  at all receivers, with exception of “Greylands” day emission of 35 dB(A) recording equal to the limit.

During the day time survey construction activity in the vicinity of the “Westhaven” meant that safe access to the site was not possible. The day time monitoring was, therefore, not carried out. “Westhaven” is a project related residence.

In addition to the operational noise, the noise from the mine must not exceed 45 dB(A)  $L_{1(1 min)}$  between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine. During the night time measurement circuit the  $L_{1(1 min)}$  noise from the mine did not exceed 45 dB(A) at any monitoring location.

### Deposited Dust Monitoring

Month	ND1 Turrabaa	ND2 Claremont	ND3 Bow Hills	ND4 Matoppo	ND5 Claremont	ND6 Willarah	ND7 Claremont	ND8 Claremont
November 2009	7.0	1.9	1.5	2.2	1.9	1.9	2.8	1.5
December 2009	15.4	10.3	2.3	3.1	1.9	1.9	1.7	1.8
January 2010	10.7	3.8	1.4	11.0	1.6	5.4	1.5	5.0
February 2010	5.2	1.3	1.2	2.9	1.6	2.3	0.9	2.0
March 2010	1.3	1.5	1.0	26.3	2.9	4.3	5.2	2.6
April 2010	1.4	1.0	1.4	36.1	1.4	0.8	4.5	2.1
May 2010	1.3	2.2	1.0	8.0	18.3	3.3	1.6	1.0
June 2010	1.0	1.4	4.8	16.0	7.8	2.2	3.0	1.2
July 2010	1.4	0.8	3.0	21.0	4.2	0.6	11.1	0.9
August 2010	0.6	1.6	4.7	19.4	1.7	1.0	0.6	0.4
September 2010	0.9	2.0	2.8	17.9	4.7	0.5	3.2	0.9
October 2010	0.7	4.9	1.0	24.9	3.2	1.4	0.9	0.8
<b>Annual Average</b>	<b>3.9</b>	<b>2.7</b>	<b>2.2</b>	<b>15.7</b>	<b>4.3</b>	<b>2.1</b>	<b>3.1</b>	<b>1.7</b>

Deposited dust results have remained at relatively low levels since the last meeting. The annual average has dropped at each location with the exception of ND4 (Matoppo).

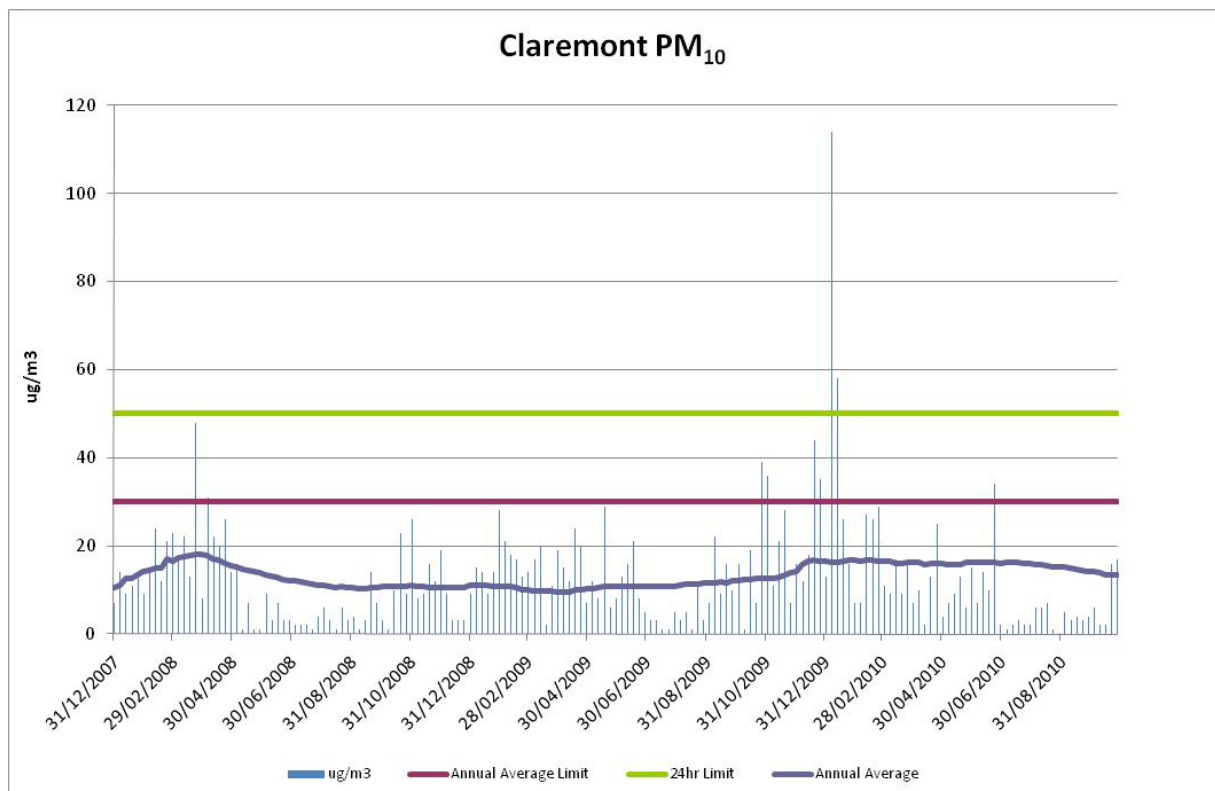
ND4 at Matoppo has returned elevated dust levels since January 2010. As previously discussed a burning drum located in close proximity to the dust gauge was thought to be the cause of the elevated levels. The burn drum has since been moved to the other side of the house. Despite this dust levels remained elevated at the monitor over August, September & October 2010. The residents have previously indicated that they do not find dust to be an issue so it has been suggested that the monitor be moved to a new location away from the house. It is expected that with a new location the monitor will provide more accurate results without interfering with the resident’s activities.

Slightly elevated results were received at ND2 “Claremont” during October 2010 and ND3 “Bow Hills” during August 2010. However both sites remained well below the annual average limit of 4 g/m<sup>2</sup>/month.

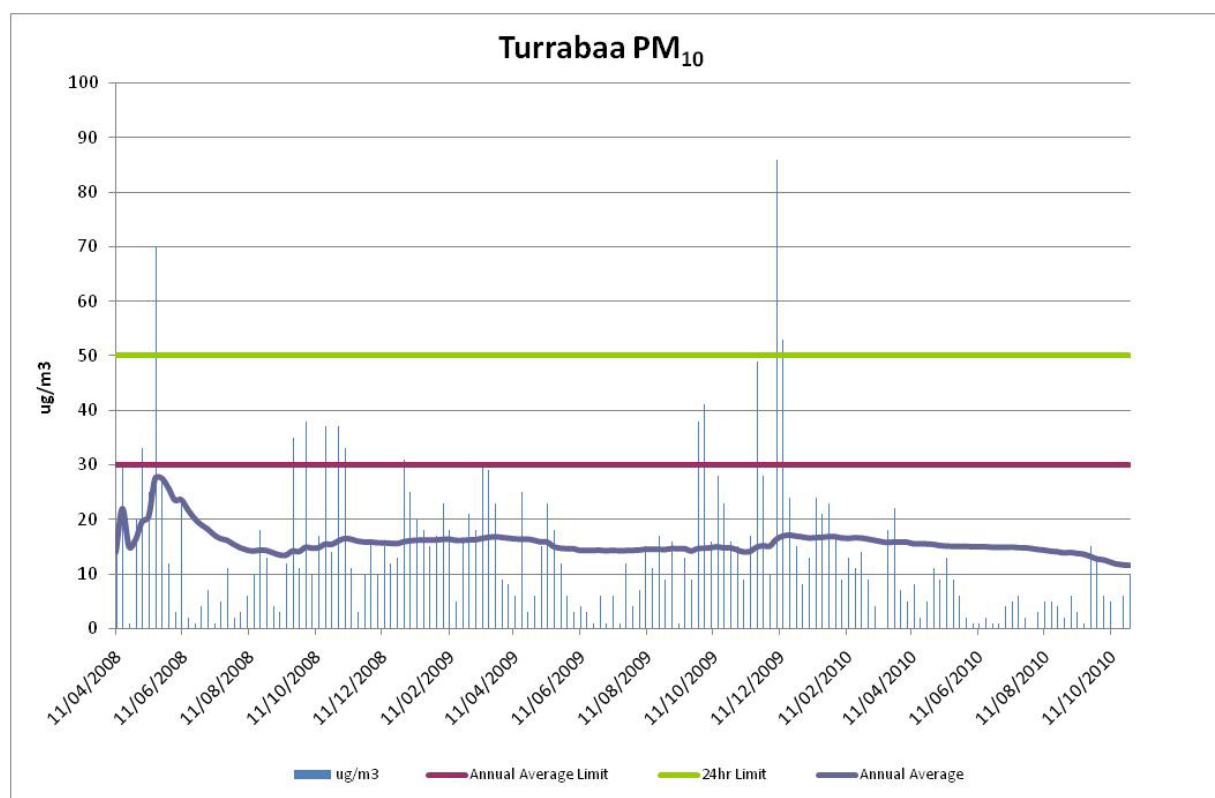
Currently, only two sites (ND4 & ND5) have an annual average that exceeds the annual average limit, compared to 5 sites at the last meeting. ND5 “Claremont” is only slightly in exceedance (4.3 g/m<sup>2</sup>/month) which can be explained by the elevated results over May to July 2010 caused by nearby earthworks at the time. The reduction in the number of monitoring locations exceeding the annual average criteria has shown that the now redundant September 2009 results (which were affected by regional dust storms) had a significant influence on elevating the average result calculation.

### High Volume Air Sampling (PM<sub>10</sub>)

PM<sub>10</sub> measurements taken to date for the “Claremont” High Volume Air Sampler is returning a running annual average of 13.38 µg/m<sup>3</sup> which is well below the annual average limit of 30 µg/m<sup>3</sup>.



PM<sub>10</sub> measurements taken to date for the “Turrabaa” High Volume Air Sampler is returning a running annual average of 11.54 µg/m<sup>3</sup> which is also well below the annual average limit of 30 µg/m<sup>3</sup>.

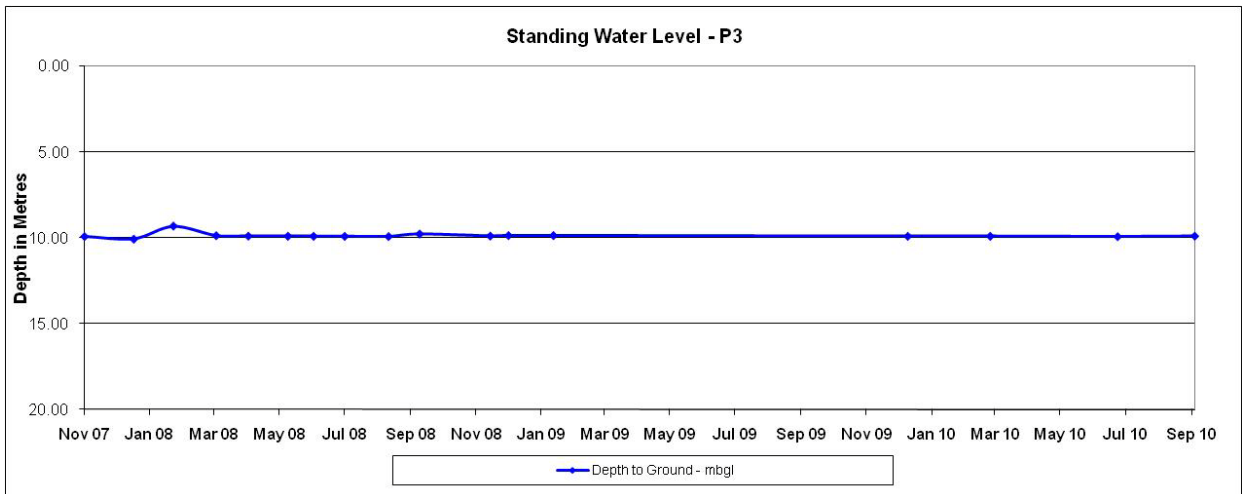
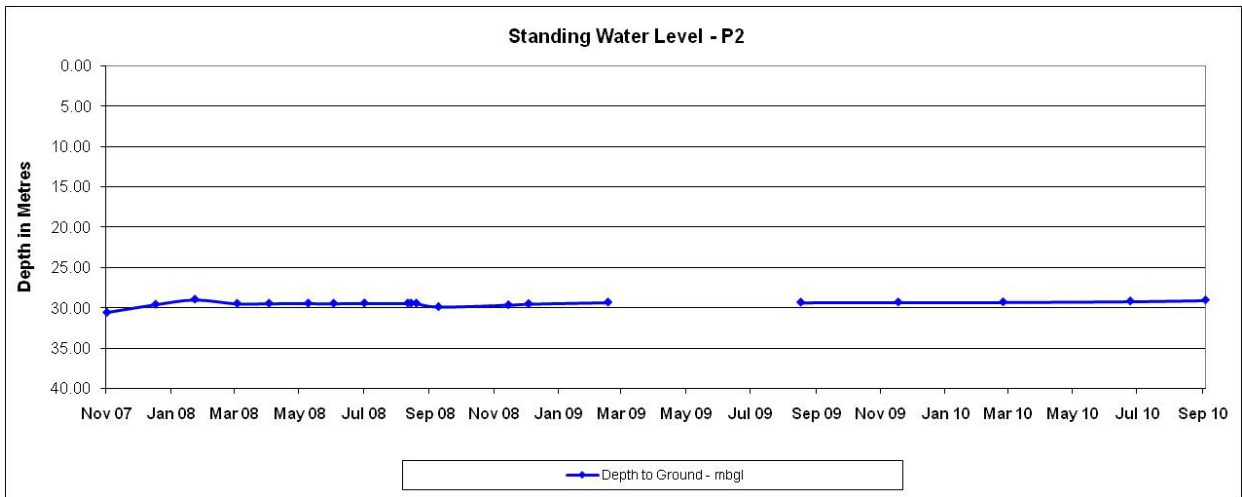
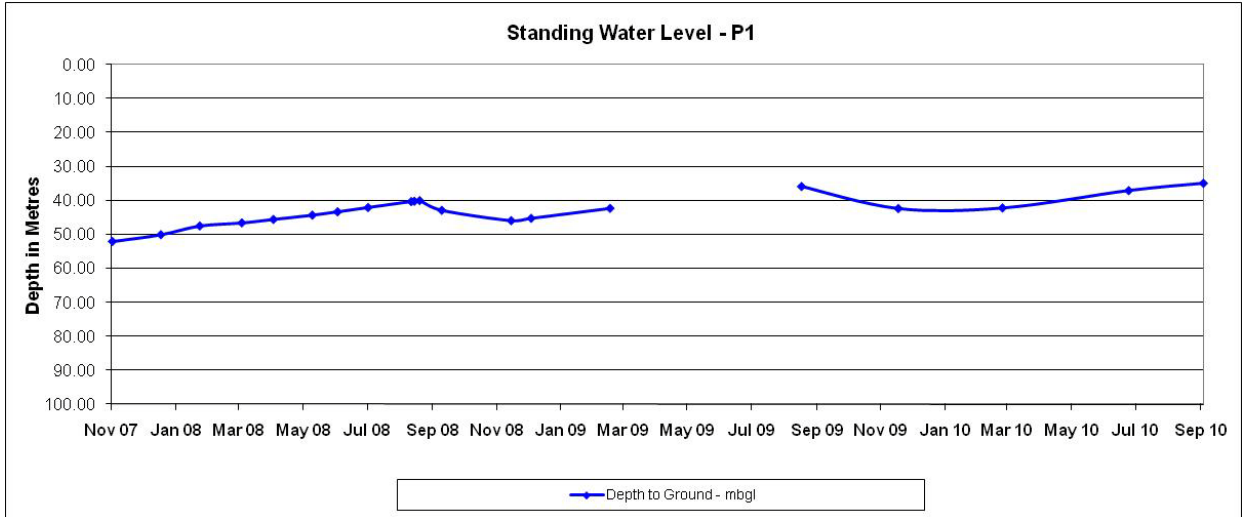


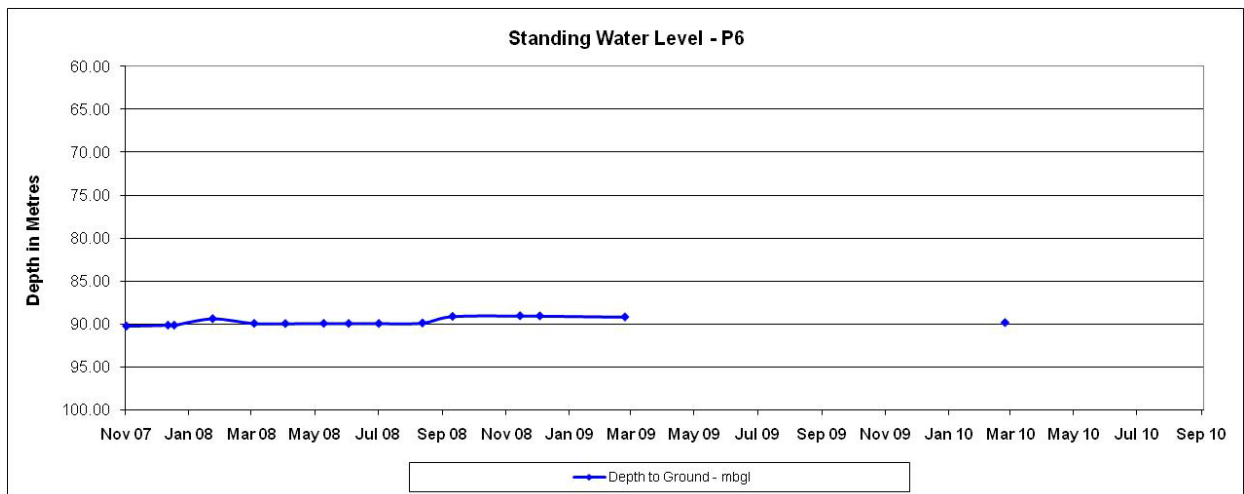
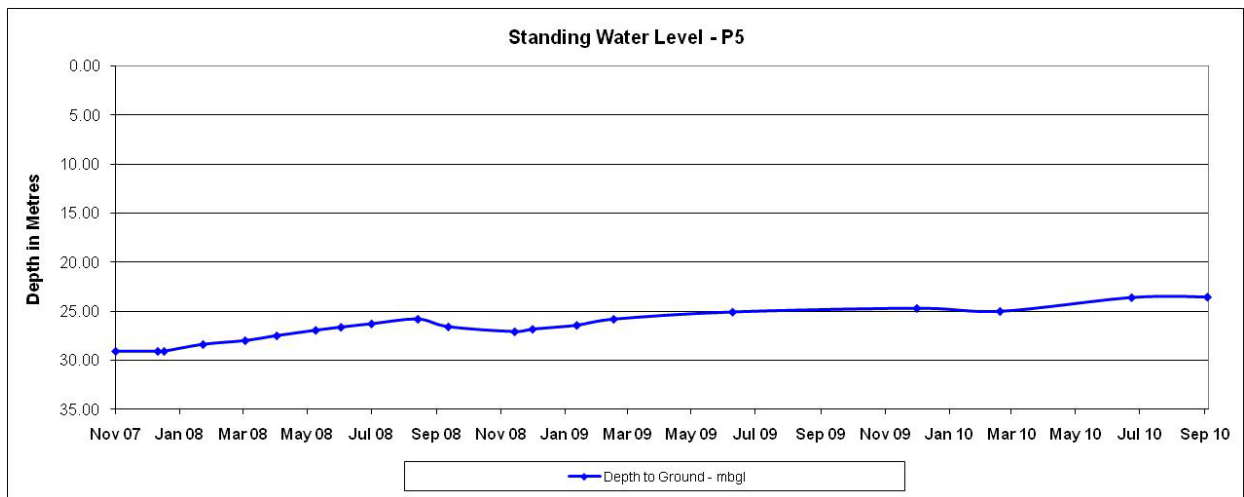
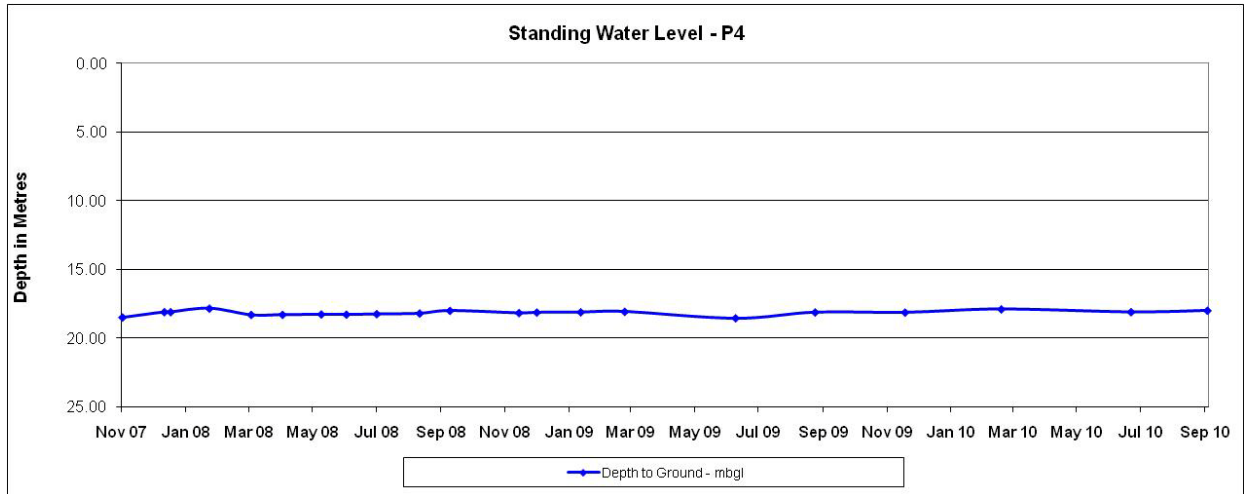
PM<sub>10</sub> levels have remained compliant over the past month.

### Groundwater Monitoring

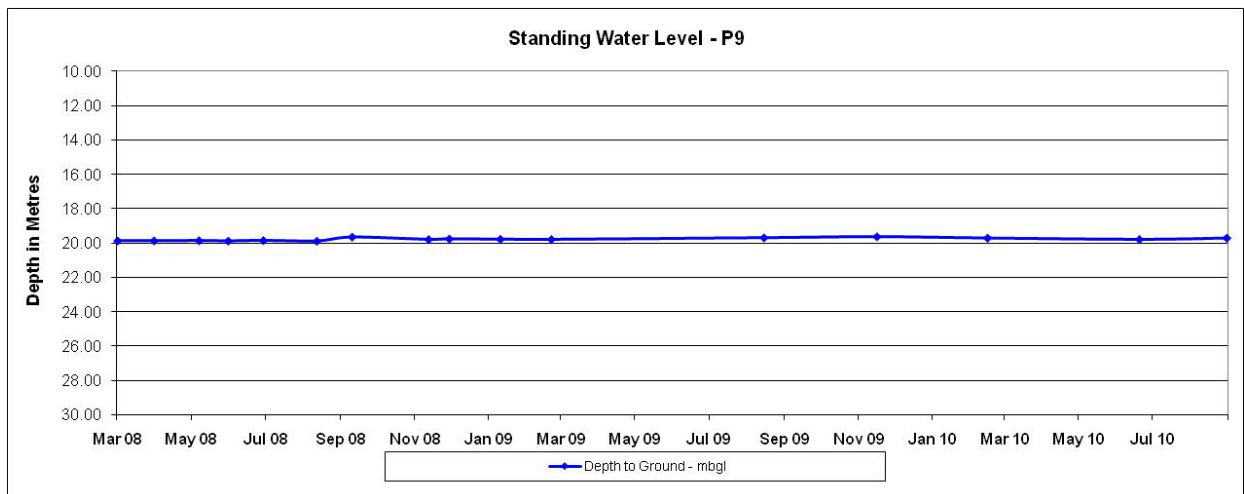
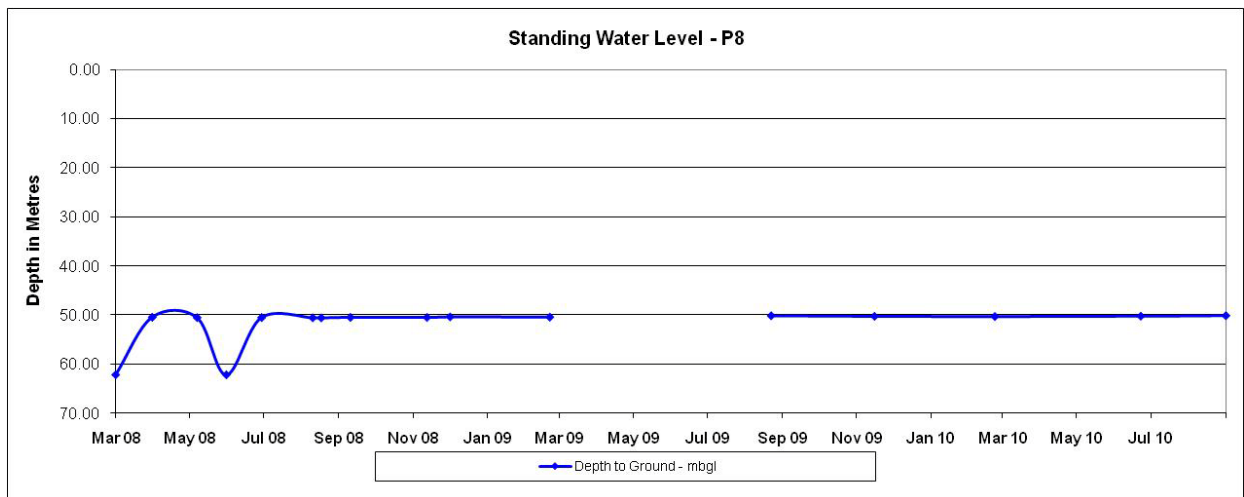
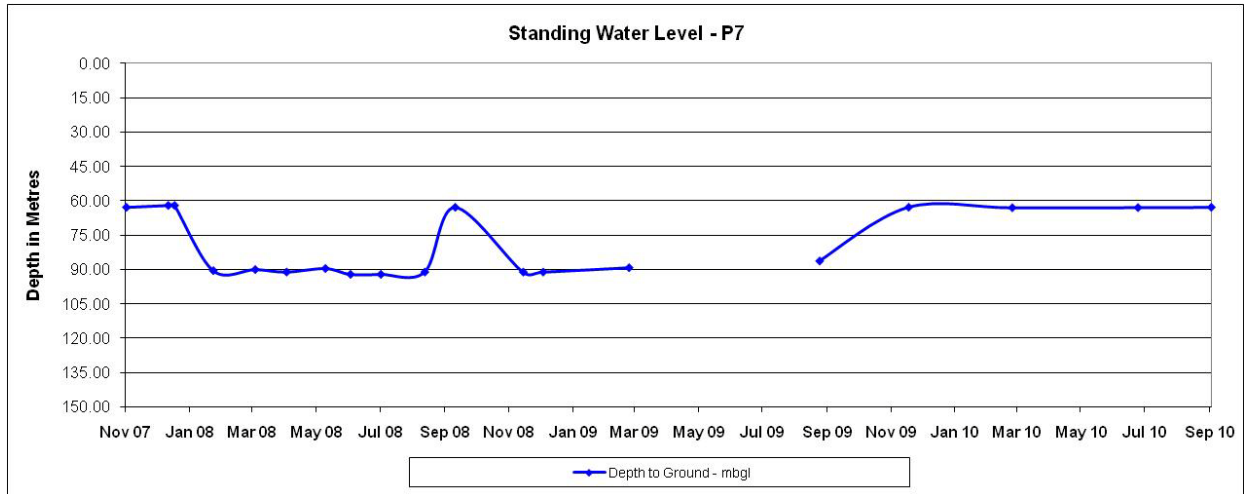
The graphs below show the SWL trends at each site since monitoring commenced. Groundwater levels have remained relatively constant over the last 9 months with the exception of P18 and P20. These piezometers are located approximately 1.5km north-east of the surface facilities and the drop in SWL is likely associated with water extraction from the coal seam.

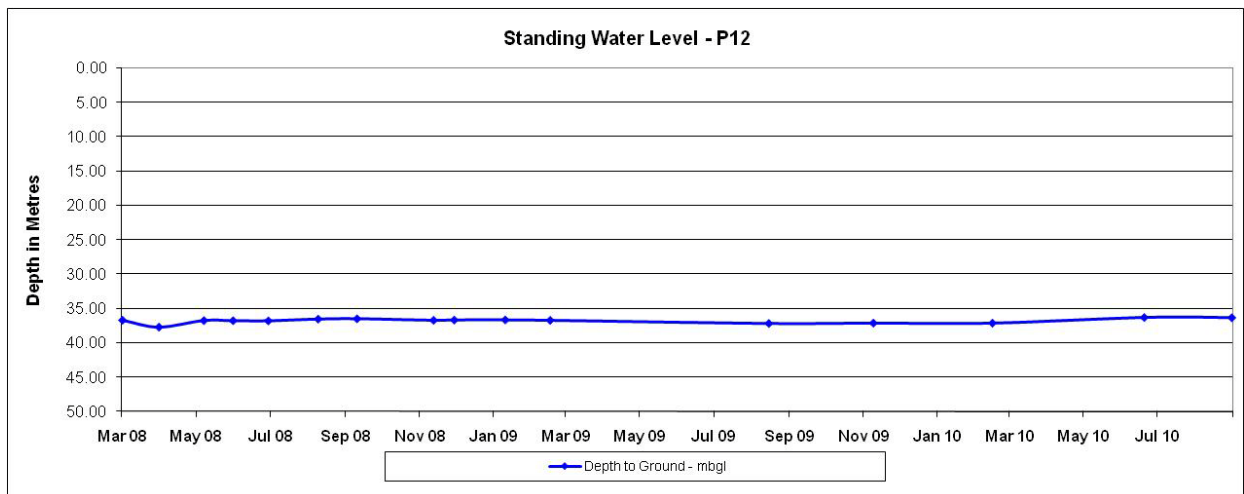
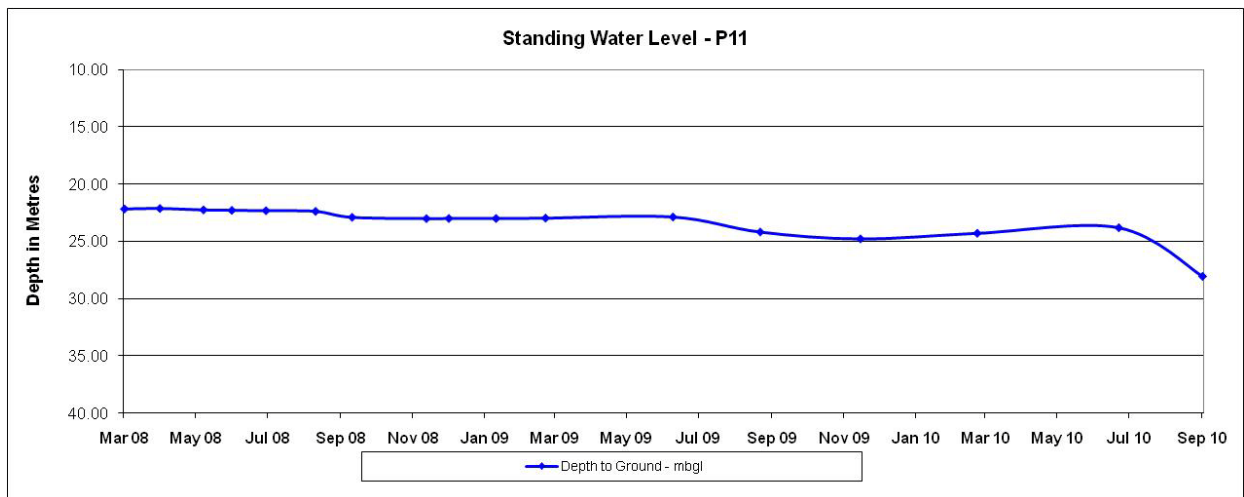
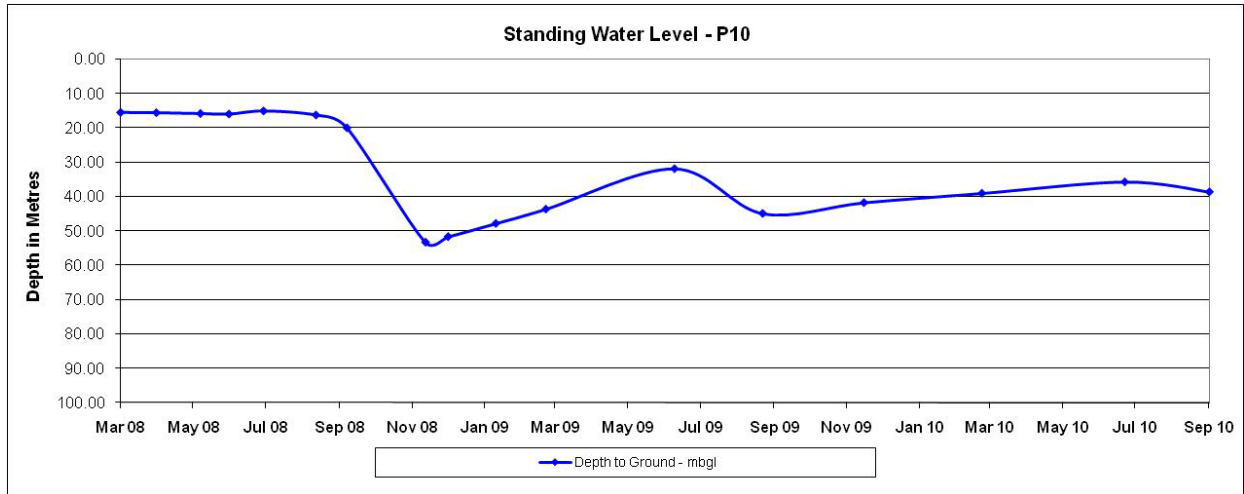
P1 has risen 15-20m since the start of the year which is likely due to recharge associated with the ongoing wet weather. In contrast, P10 has slightly dropped by 2.9m and P11 by 4.2m. The drop in SWL at these piezometers is not expected to be mining related with both locations being 5km south of the active mining area. It is therefore assumed that water from these points has been extracted for farm use over the period. Continued monitoring will determine any future trends with results displayed and discussed in the next report.

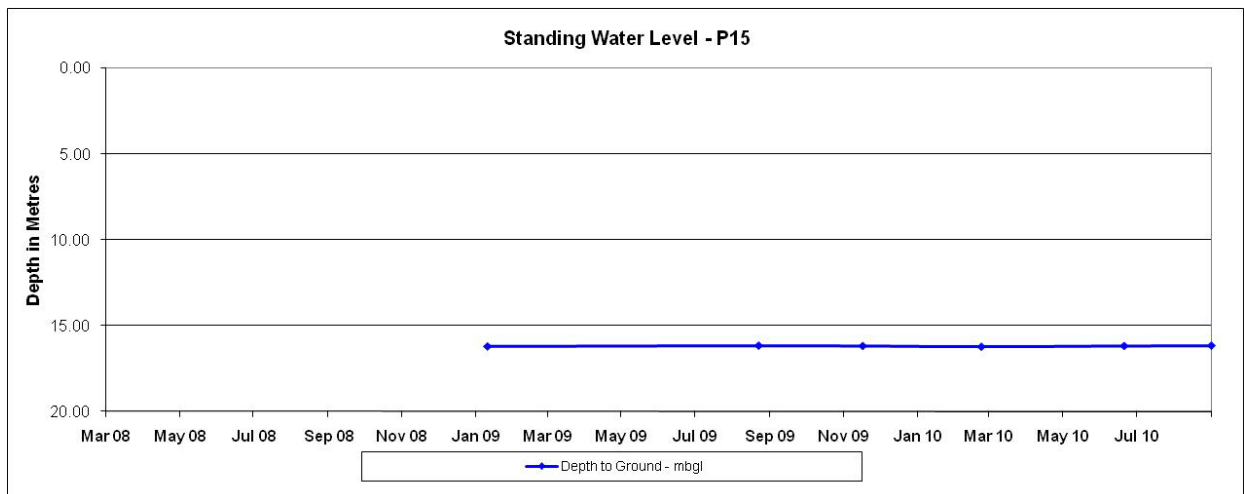
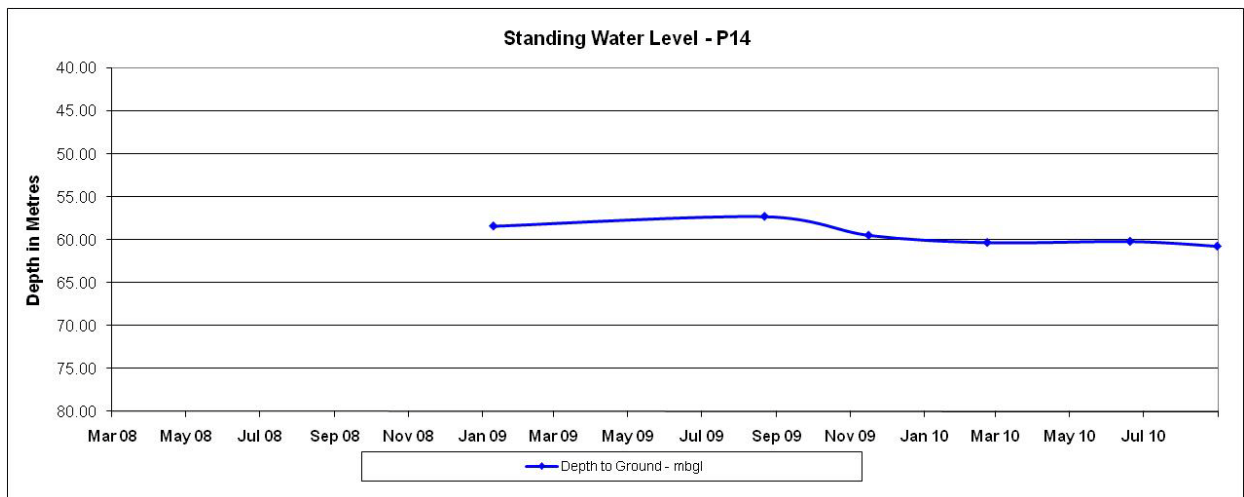
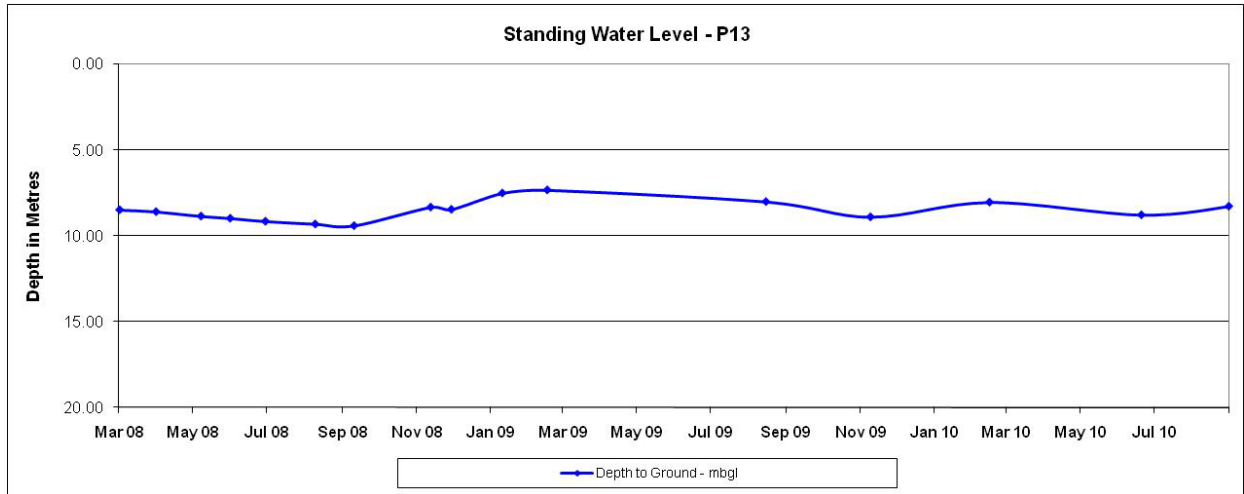


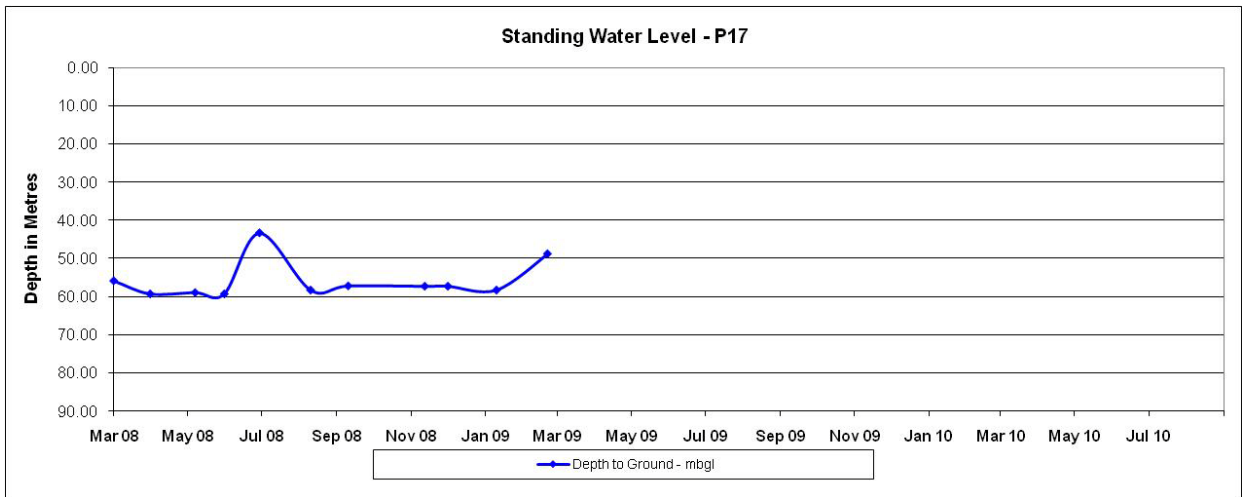
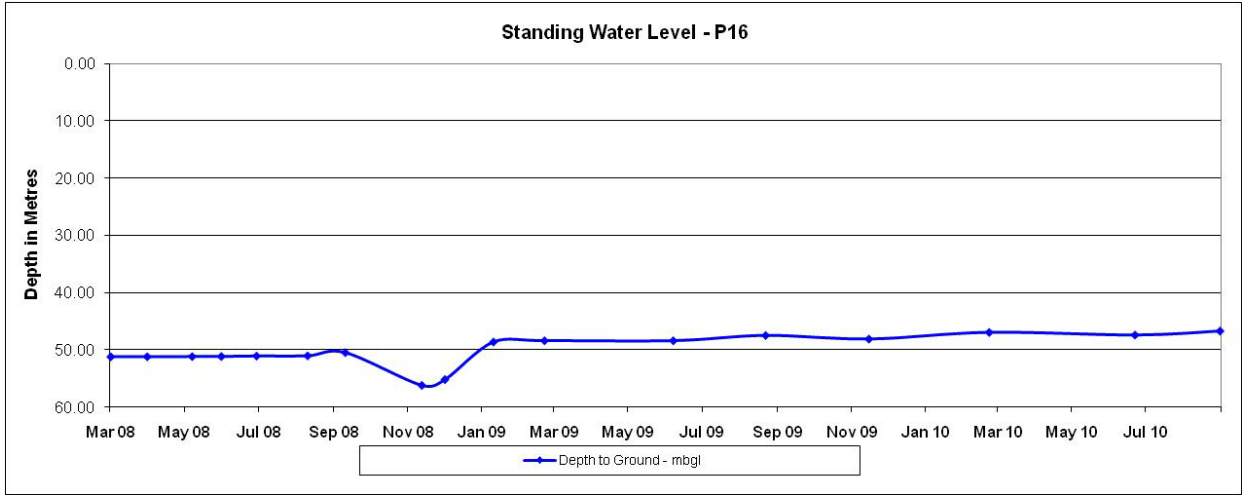


\*P6 – Dry

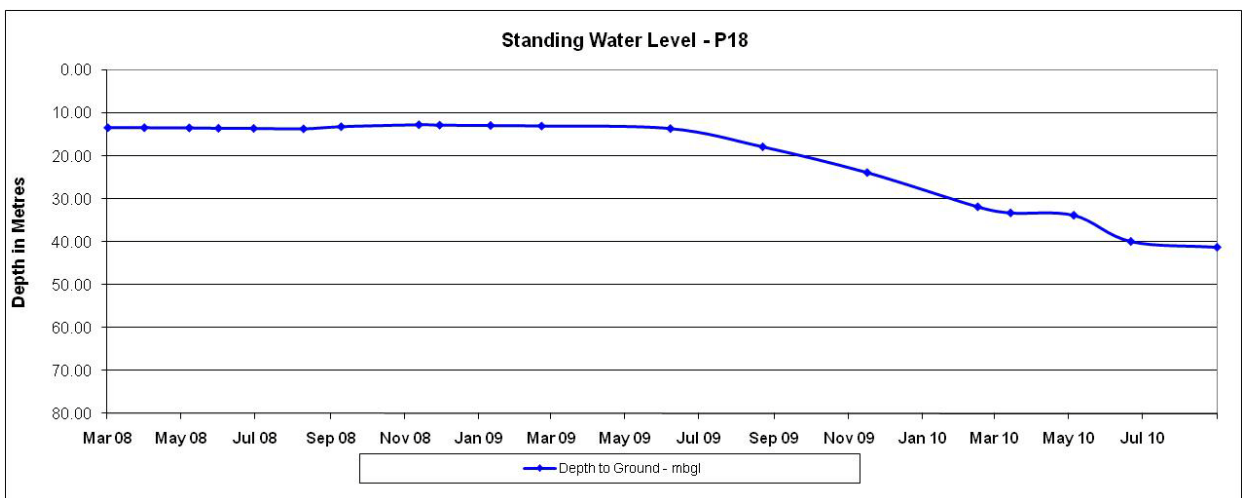


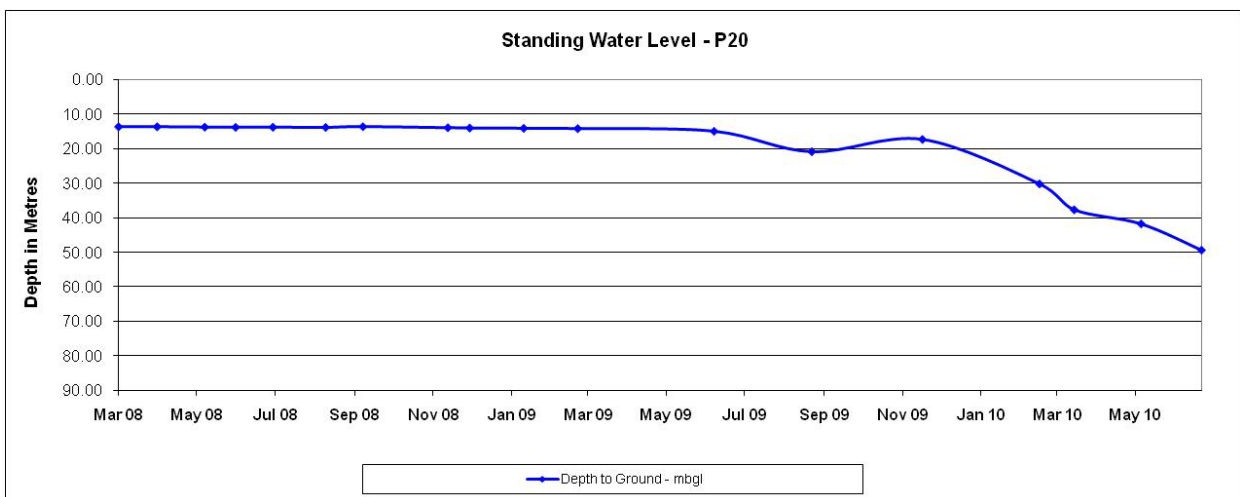
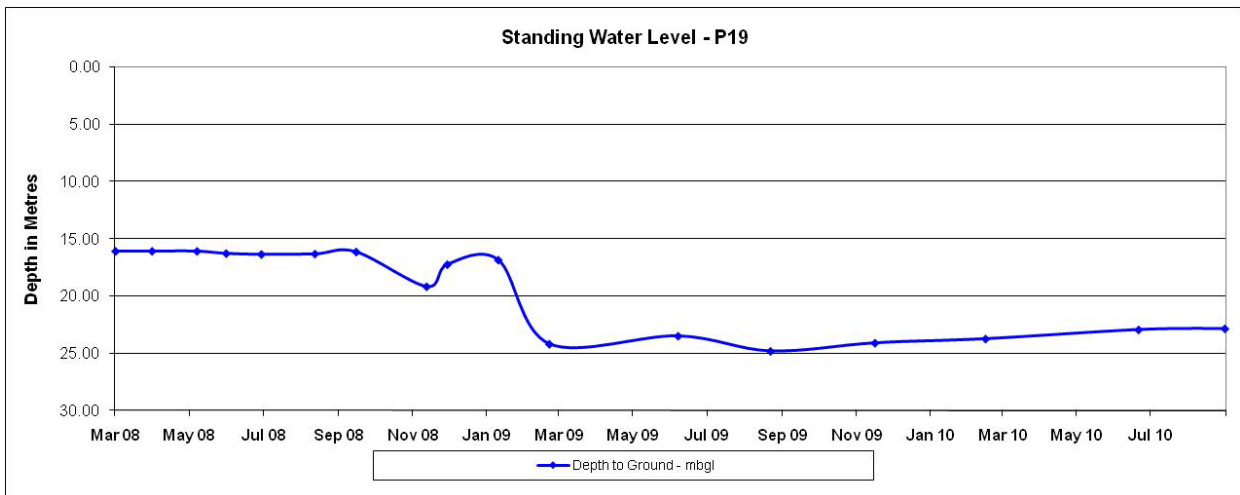






\*P17 - Dry





\*P20 Cemented up

### Surface Water Monitoring

No wet weather discharges have occurred during the last 3 months. However, monitoring of surrounding creek points whilst they are flowing has occurred to obtain baseline water quality data. Generally results from the upstream and downstream points remained consistent. Although no concentration limits apply to these points some elevated results were recorded for Total Suspended Solids (TSS) and Electrical Conductivity (EC).

On the 10<sup>th</sup> and 28<sup>th</sup> of August 2010 KC1US recorded a TSS of 2760 mg/L and 1600 mg/l respectively. Given the upstream location of the point the elevated TSS is not expected to be mining related and more likely a result of natural runoff from the landscape. This is further proven with corresponding downstream points recording a TSS of 380 mg/L and 146 mg/L respectively.

On the 10<sup>th</sup> September 2010 an elevated EC of 955 µS/cm was recorded at the downstream point KC1DS. In comparison the corresponding upstream point recorded only 154µS/cm. Because there have been no discharges on site the

increase in EC is unlikely to be caused by mining activities. Monitoring will continue to determine if the EC drops next time the creek is flowing.

Routine monitoring of onsite dams was conducted in August 2010 to obtain background water quality data. The results suggest acceptable levels of pH and Oil & Grease, however TSS levels at discharge points SD2 & SD4 were above 50mg/L. Although no concentration limits apply until discharge actually occurs, given recent rainfall a discharge event may occur if the site continues to experience wet weather. Arrangements have been made to take a pre sample at all dams. Upon receiving results a liquid flocculent may be used if required to bring TSS levels below criteria before the possibility of any discharge.

## **Complaints**

One complaint has been received since the last meeting, as detailed below.

### 9<sup>th</sup> September 2010:

The complaint involved a phone call to General Manager (Greig Duncan) about noise from the mine site. The complaint was immediately referred to the Environmental Manager (Danny Young) and the complainant was contacted by phone on the 10<sup>th</sup> September 2010. It was indicated that they had noticed a steady increase in noise levels from the mine and could clearly hear heavy machinery operating over the last couple of days. The complainant was satisfied with the Environmental Manager's proposal to undertake noise monitoring at the property. The monitoring will incorporate both attended noise monitoring and the use of a real time, portable noise monitor recently purchased by Whitehaven.

## **Rehabilitation**

The planting of 300 tubestock on "Bow Hills" and an avenue of 60 Kurrajongs along the permanent access road to the vent pad (near Claremont house) has occurred over the period. 160 Native Orange seedlings have been propagated from local seed source and will be planted on various locations around site in the near future. This will be the first step towards re-establishing the species within the area.