

Narrabri Coal Mine Community Consultative Committee Meeting #17

Environmental Monitoring Report March – May 2012

Noise Monitoring

Attended noise monitoring was undertaken during 29 March to 1 April 2012 to verify if noise levels were within compliance limits. The results from this monitoring are detailed in the tables below.

Table 1 BCM Operational Noise Monitoring Results – 29 March 2012 (day)					
Location	Time	Total dB(A), Leq (15 min)	Wind speed/ direction	Temp Grad (°C/100m)	Identified Noise Sources
N1 Bow Hills	4:15 pm	43	2 m/s SE	n/a	Traffic (42), birds & insects (37), NCM inaudible
N3 Naroo	4:13 pm	54	2 m/s SE	n/a	Traffic (51), birds & insects (51), NCM inaudible

Table 2 BCM Operational Noise Monitoring Results – 29 March 2012 (evening)					
Location	Time	Total dB(A), Leq (15 min)	Wind speed/ direction	Temp Grad (°C/100m)	Identified Noise Sources
N1 Bow Hills	8:05 pm	42	Calm	+3	Insects (40), traffic (38), NCM inaudible
N3 Naroo	8:43 pm	48	Calm	+5.6	Traffic (47), insects (40), NCM inaudible
N5 Oakleigh	9:25 pm	39	Calm	+1.5	Insects (38), traffic (32), NCM inaudible
N6 Newhaven	8:04 pm	42	Calm	+3	Insects (41), NCM (33)* , traffic (30)
N7 Merriman	9:10 pm	46	Calm	+4.4	Traffic (46), birds & insects (30), NCM (<20)
N4 Greylands	8:40 pm	39	Calm	+5.6	Traffic (37), birds & insects (32), NCM (25)

*Noise from gas drainage wells

Table 3 BCM Operational Noise Monitoring Results – 29 March 2012 (night)					
Location	Time	Total dB(A), Leq (15 min)	Wind speed/ direction	Temp Grad (°C/100m)	Identified Noise Sources
N1 Bow Hills	10:01 pm	36	0.2 m/s SE	+2.7	Insects (33), traffic (33), NCM (<25)
N3 Naroo	10:00 pm	47	0.2 m/s SE	+2.7	Birds & insects (47), traffic (35), NCM inaudible
N5 Oakleigh	11:04 pm	32	0.2 m/s SE	+3.6	Insects (31), traffic (25), NCM inaudible
N6 Newhaven	12:20 am	38	Calm	+0.6	Insects (35), NCM (34)* , traffic (28)
N7 Merriman	11:07 pm	36	0.2 m/s SE	+3.6	Insects (33), traffic (33), NCM (<20)
N4 Greylands	12:15 am	32	Calm	+0.6	NCM (30) , insects (27)

*Noise from gas drainage wells

Table 4 BCM Operational Noise Monitoring Results – 30 March 2012 (day)					
Location	Time	Total dB(A), Leq (15 min)	Wind speed/ direction	Temp Grad (°C/100m)	Identified Noise Sources
N1 Bow Hills	10:03 am	31	0.5 m/s S	n/a	Traffic (29), birds & insects (25), NCM inaudible
N3 Naroo	11:40 am	45	1 m/s SW	n/a	Traffic (43), birds & insects (40), NCM (30)
N5 Oakleigh	1:18 pm	36	2 m/s SW	n/a	Birds & insects (36), traffic (28), NCM inaudible
N6 Newhaven	11:25 am	42	1 m/s SW	n/a	Birds & insects (42), NCM (20)*
N7 Merriman	9:50 am	39	0.5 m/s SW	n/a	Traffic (39), birds & insects (30), NCM inaudible
N4 Greylands	1:00 pm	53	2 m/s SW	n/a	Traffic (53), birds & insects (30), NCM inaudible

*Noise from gas drainage wells

Table 5 BCM Operational Noise Monitoring Results – 30 March 2012 (evening)					
Location	Time	Total dB(A), Leq (15 min)	Wind speed/ direction	Temp Grad (°C/100m)	Identified Noise Sources
N1 Bow Hills	7:08 pm	43	Calm	Lapse	Traffic (43), insects & birds (30), NCM inaudible
N3 Naroo	6:00 pm	39	Calm	Lapse	Traffic (37), birds & insects (35), NCM inaudible
N5 Oakleigh	6:34 pm	36	Calm	Lapse	Insects & birds (36), NCM inaudible
N6 Newhaven	6:02 pm	36	Calm	Lapse	Birds & insects (35), NCM (30)*
N7 Merriman	6:38 pm	45	Calm	Lapse	Traffic (45), birds & insects (35), NCM inaudible

*Noise from gas drainage wells

Table 6 BCM Operational Noise Monitoring Results – 30 March 2012 (night)					
Location	Time	Total dB(A), Leq (15 min)	Wind speed/ direction	Temp Grad (°C/100m)	Identified Noise Sources
N1 Bow Hills	12:10 am	41	Calm	+2.7	Traffic (41), insects (30), NCM (15)
N3 Naroo	10:01 pm	47	Calm	+1.5	Insects (46), traffic (40), NCM inaudible
N5 Oakleigh	11:05 pm	33	Calm	+2.1	Insects (33), traffic (22), NCM inaudible
N6 Newhaven	12:15 am	43	Calm	+2.7	Birds & insects (42), NCM (34)*
N7 Merriman	10:55 pm	45	Calm	+2.1	Traffic (45), insects (31), NCM (<25)

*Noise from gas drainage wells

Table 7 BCM Operational Noise Monitoring Results – 31 March 2012 (day)					
Location	Time	Total dB(A), Leq (15 min)	Wind speed/ direction	Temp Grad (°C/100m)	Identified Noise Sources
N1 Bow Hills	8:20 am	43	0.5 m/s, S	n/a	Traffic (43), birds & insects (30), NCM (25)
N3 Naroo	10:03 am	41	1 m/s, S	n/a	Traffic (39), birds & insects (36), NCM inaudible
N5 Oakleigh	11:40 am	38	1 m/s, S	n/a	Birds & insects (38), NCM inaudible
N6 Newhaven	11:40 am	40	0.5 m/s, S	n/a	Birds & insects (40), NCM (33)*
N7 Merriman	10:04 am	40	0.5 m/s, S	n/a	Traffic (38), birds & insects (35), NCM (29)

*Noise from gas drainage wells

Location	Time	Total dB(A), Leq (15 min)	Wind speed/ direction	Temp Grad (°C/100m)	Identified Noise Sources
N1 Bow Hills	6:02 pm	41	Calm	Lapse	Traffic (38), birds & insects (37), cattle (32), NCM inaudible
N3 Naroo	6:36 pm	47	Calm	Lapse	Birds & insects (46), traffic (40), dogs (36), NCM inaudible
N5 Oakleigh	7:10 pm	34	Calm	Lapse	Birds & insects (34), NCM inaudible
N6 Newhaven	6:00 pm	38	Calm	Lapse	Birds & insects (37), NCM (30)*
N7 Merriman	6:36 pm	49	Calm	Lapse	Traffic (49), birds & insects (36), NCM (<25)

*Noise from gas drainage wells

Location	Time	Total dB(A), Leq (15 min)	Wind speed/ direction	Temp Grad (°C/100m)	Identified Noise Sources
N1 Bow Hills	10:01 pm	38	0.5 m/s S	+4.2	Traffic (37), insects (31), NCM inaudible
N3 Naroo	11:07 pm	40	Calm	+4.9	Traffic (39), insects (33), NCM barely audible
N5 Oakleigh	12:15 am	31	Calm	+2.7	NCM (28), insects (24), traffic (23)
N6 Newhaven	10:03 pm	35	Calm	+4.2	NCM (34)*, traffic (27), birds & insects (25)
N7 Merriman	11:08 pm	42	Calm	+4.9	Traffic (42), insects (30), NCM (25)

*Noise from gas drainage wells

Location	Time	Total dB(A), Leq (15 min)	Wind speed/ direction	Temp Grad (°C/100m)	Identified Noise Sources
N5 Oakleigh	8:11 am	39	1 m/s, S	n/a	Birds & insects (39), traffic (30), NCM inaudible
N6 Newhaven	9:37 am	42	1 m/s, S	n/a	Birds & insects (42), NCM (29)*
N7 Merriman	8:00 am	44	1 m/s S	n/a	Traffic (44), birds & insects (35), NCM (25)

*Noise from gas drainage wells

The results in Tables 1 to 10 show that, under the operating and meteorological conditions at the times, for the worst case 15 minute compliance measurement periods, the mine noise was at variable levels but did not exceed the operational noise criterion at any location or time.

The L_1 (1 min) noise from mining did not exceed the 45 dB(A) criterion at any monitoring location during the night periods. As there were no exceedances of any noise criteria no noise management actions were necessary.

The March/April monitoring also assessed the incidence of temperature inversions by placing two temperature loggers, attached to stakes, at different elevations. At the time of measurement, some slight temperature inversions were present, but no impact on noise propagation was noted.

The real time noise monitor is reporting results to date indicating no noise exceedance events attributable to site operations.

Deposited Dust Monitoring

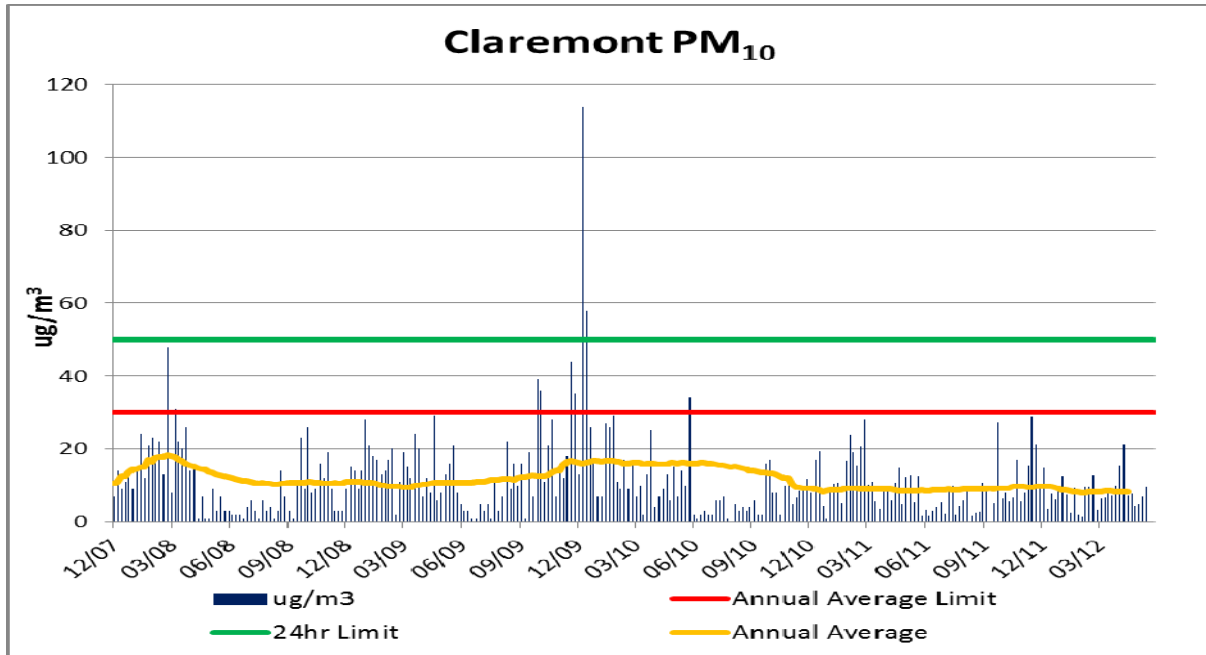
Month	ND1 Turrabaa	ND2 Claremont	ND3 Bow Hills	ND4a New Matoppo	ND5 Claremont	ND6 Willarah	ND7 Claremont	ND8 Claremont	ND11 Oakleigh
Jun-11	0.8	0.9	2.2	4.3	4.0	1.5	1.3	3.1	0.8
Jul-11	1.3	0.6	2.6	1.5	1.6		3.8	0.2	0.2
Aug-11	0.4	2.3	1.8	0.6	12.4	1.9	1.5	1.2	0.5
Sep-11	0.8	3.3	1.7	0.5	2.9	1.0	1.2	0.6	0.6
Oct-11	1.0	1.5	2.1	0.7	7.5	1.0	2.0	0.7	0.4
Nov-11	5.0	1.0	3.8	2.1	2.9	1.0	1.4	0.7	1.6
Dec-11	4.7	2.8	2.3	0.6	5.7	4.9	1.8	3.5	3.5
Jan-12	3.6	2.2	2.0	1.1	2.5	1.2	1.8	2.0	2.9
Feb-12	0.9	0.9	0.5	3.0	8.1	9.3	0.7	2.1	0.7
Mar-12	1.4	6.7	0.7	21.6	2.8	29.3	2.9	1.6	
Apr-12	6.7	8.1	2	7.6	2.6	8.5	2.4	3.6	0.8
May-12	2.9	10.3	1.5	0.7	3.8	0.4	1	6.1	1.3
Annual Average	2.5	3.4	1.9	3.7	4.7	5.5	1.8	2.1	1.2

Deposited dust results have remained at relatively low levels since the last meeting, with the exception of ND5 “Claremont” and ND6 “Willarah”. ND4 has been replaced with ND4a which is closer to site operations. The high results reported in August 2011 in ND5 and March 2012 in ND6 has adversely affected the annual average for these gauges. All other annual average results have generally declined or remain stable.

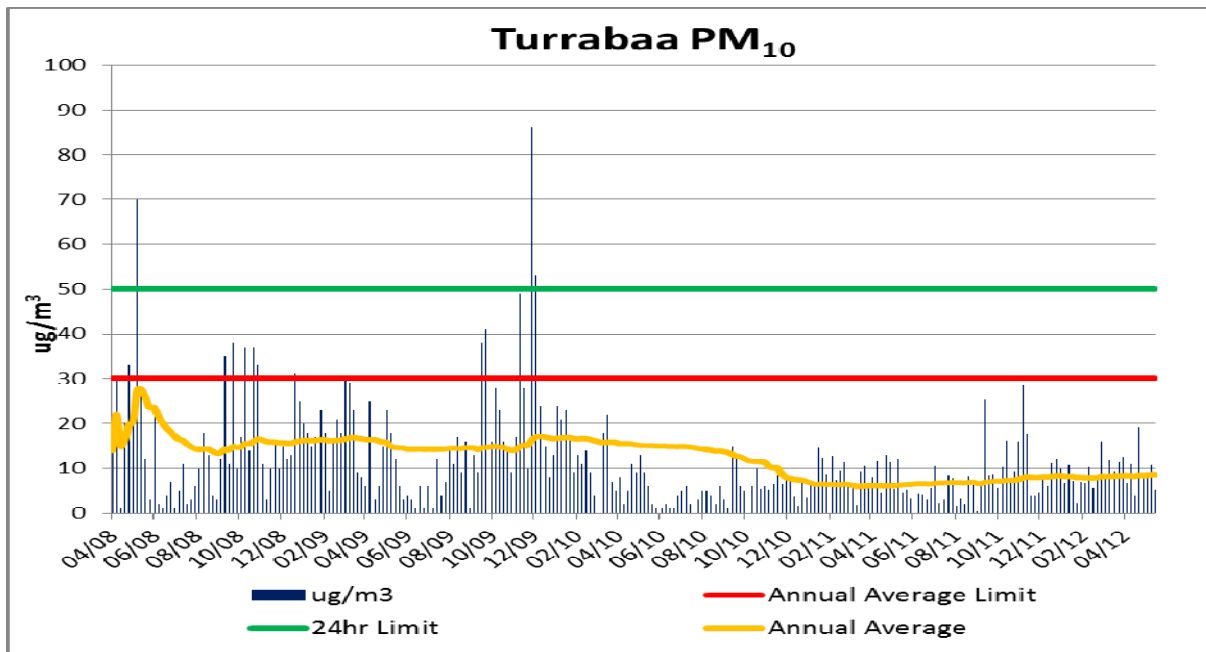
Monitor ND11, located at “Oakleigh”, continues to report results well within compliance limits.

High Volume Air Sampling (PM₁₀)

PM₁₀ measurements taken to date for the “Claremont” High Volume Air Sampler are returning a running annual average of 8.15 µg/m³ which is well below the annual average limit of 30 µg/m³.



PM₁₀ measurements taken to date for the “Turrabaa” High Volume Air Sampler are returning a running annual average of 8.52 $\mu\text{g}/\text{m}^3$ which is also well below the annual average limit of 30 $\mu\text{g}/\text{m}^3$

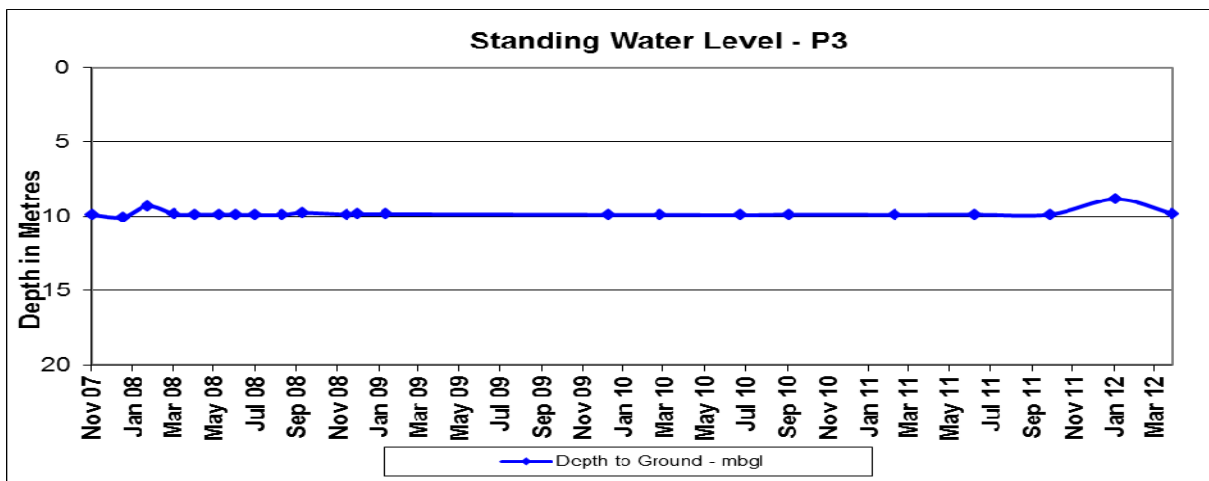
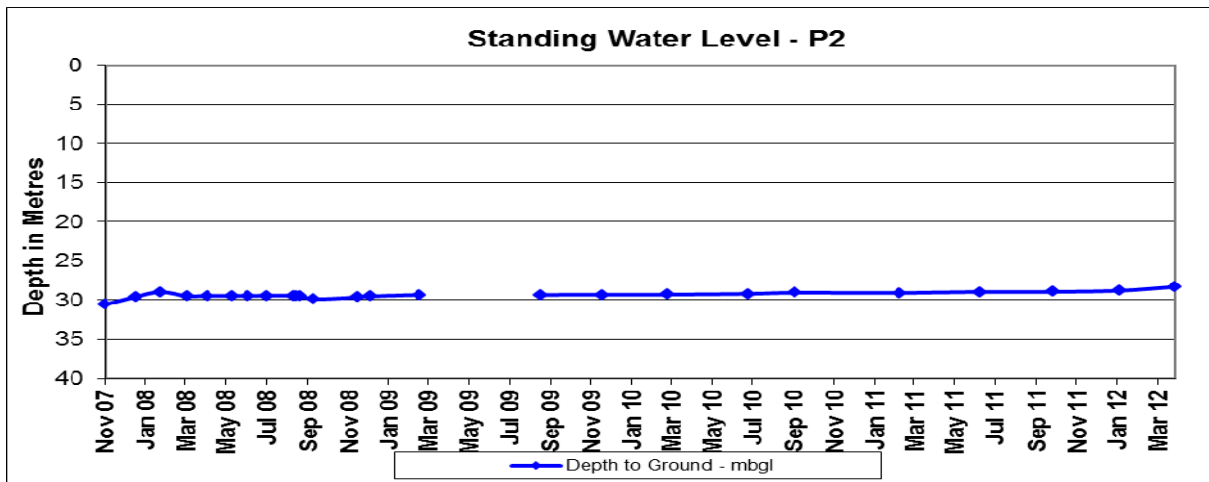
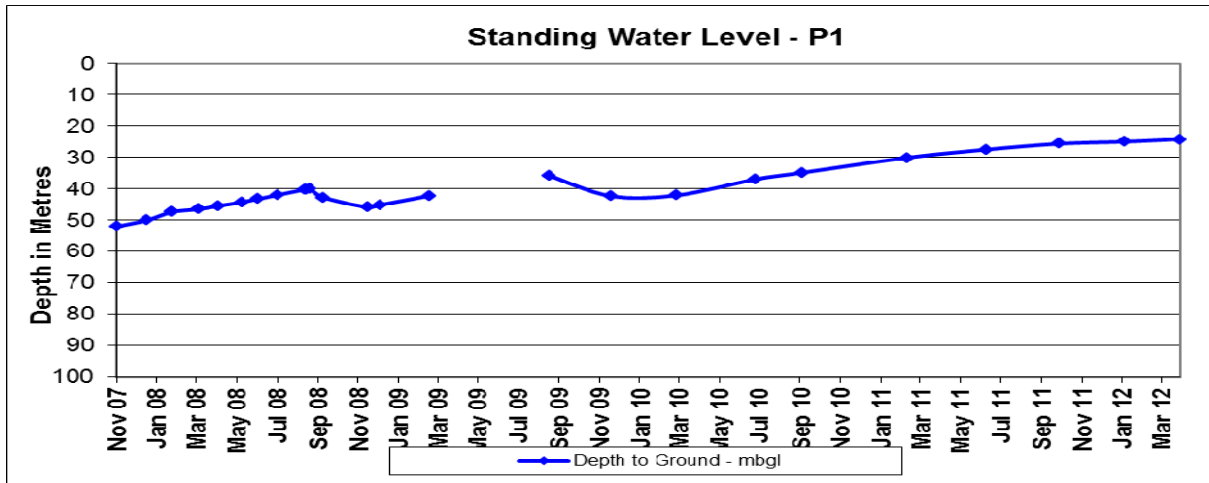


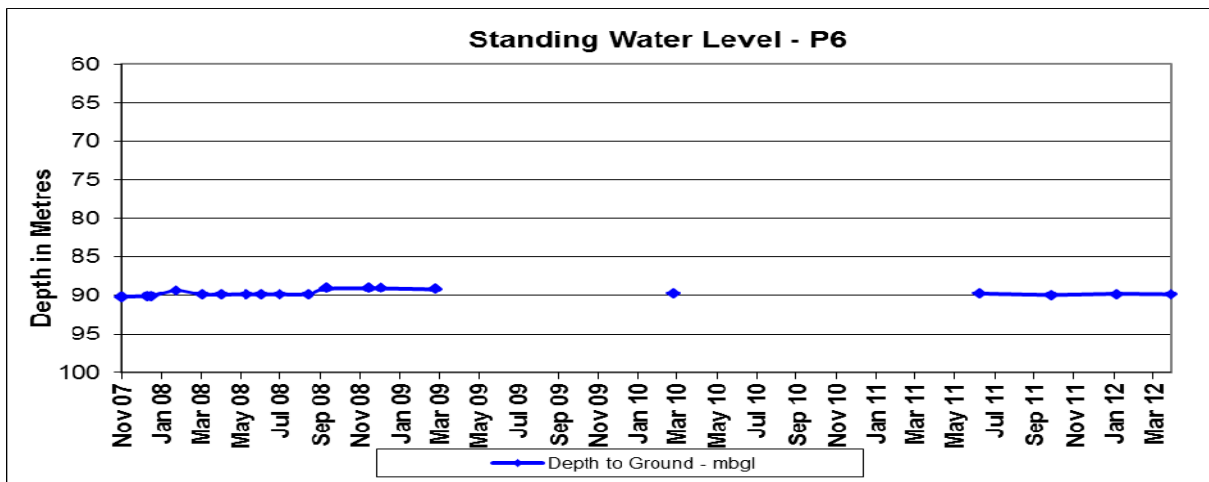
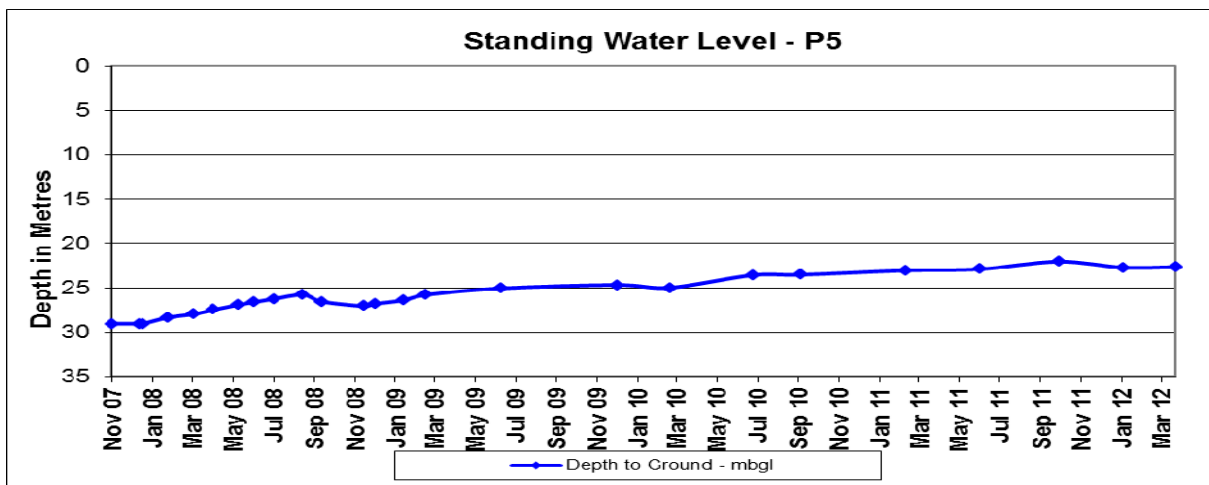
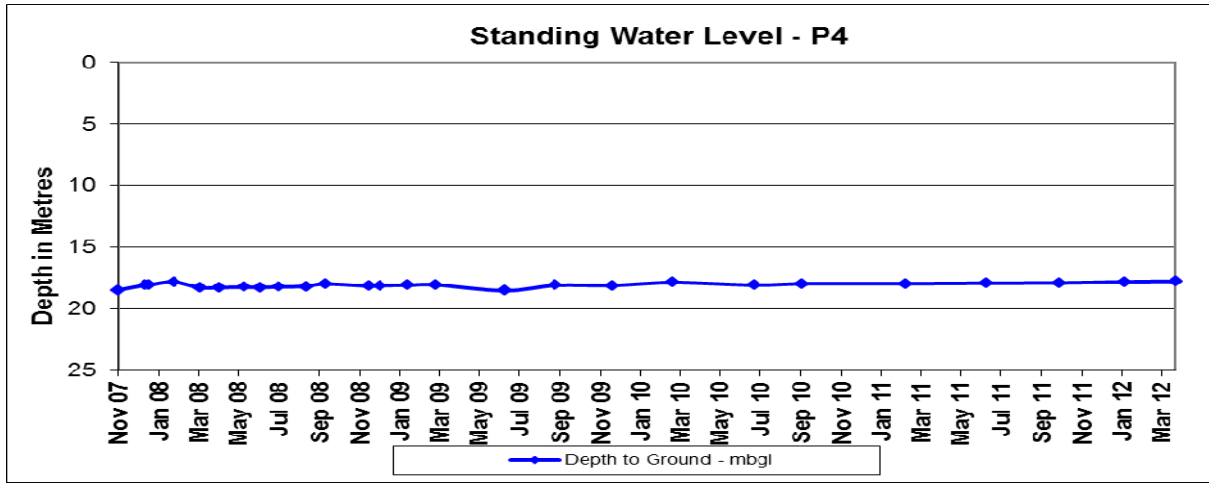
PM₁₀ levels have remained compliant since the last meeting with annual averages at both sites displaying a stabilising trend.

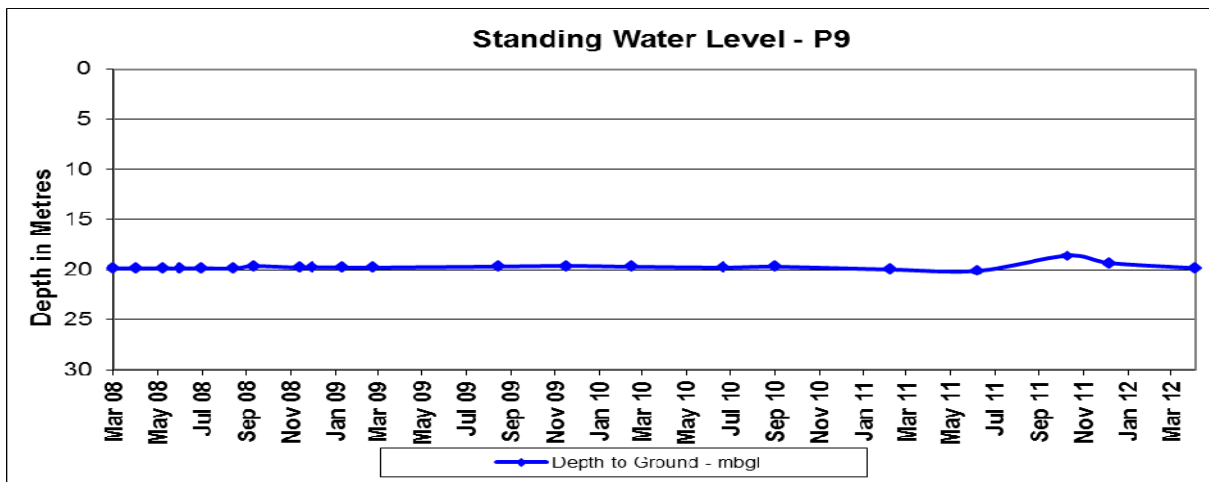
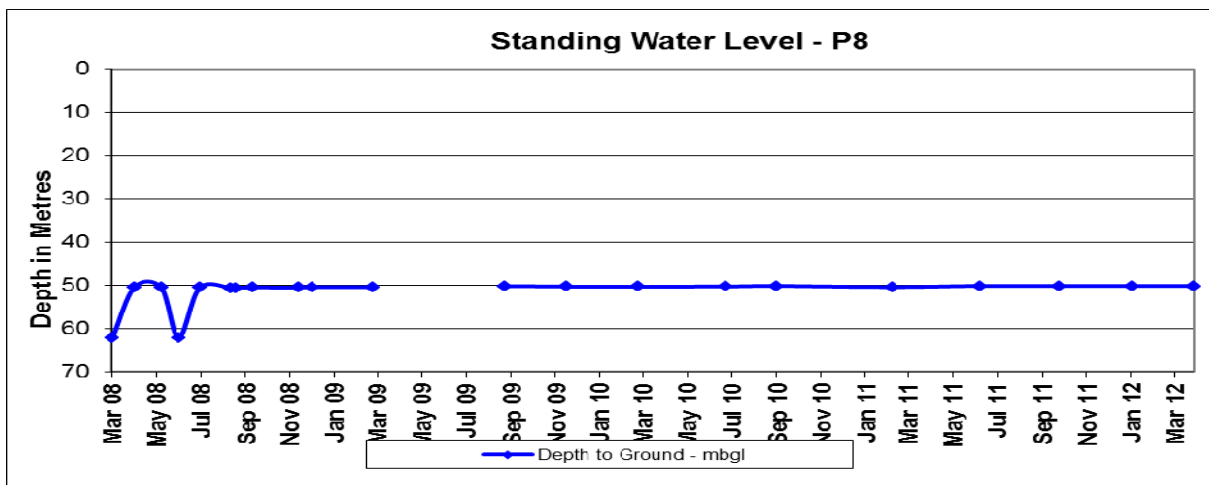
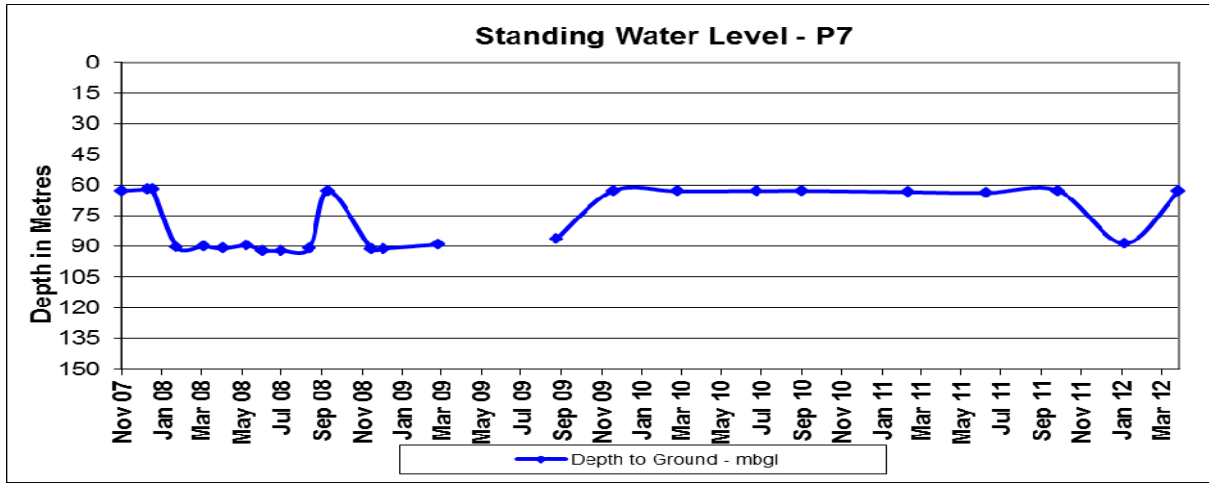
Groundwater Monitoring

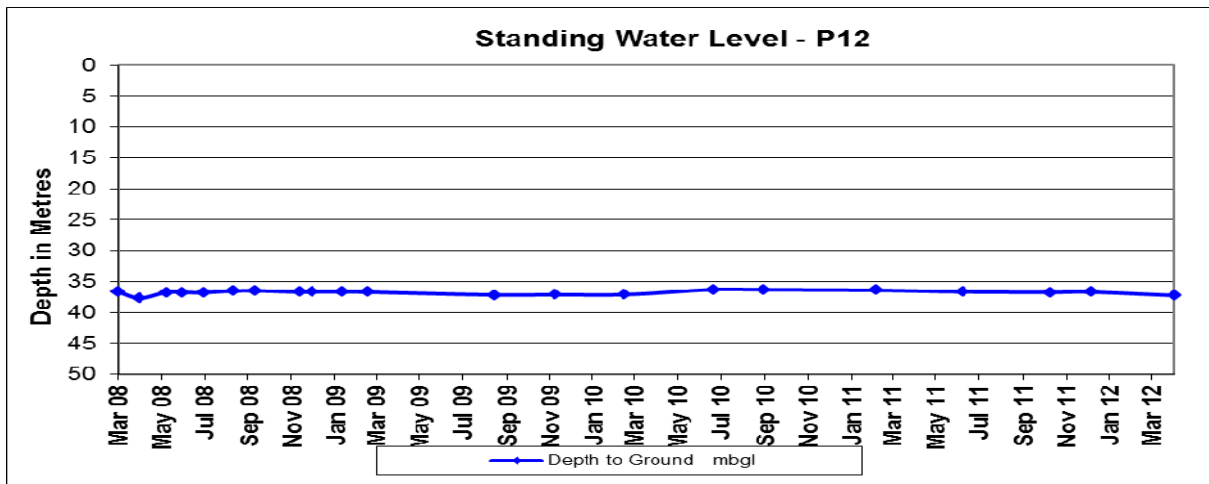
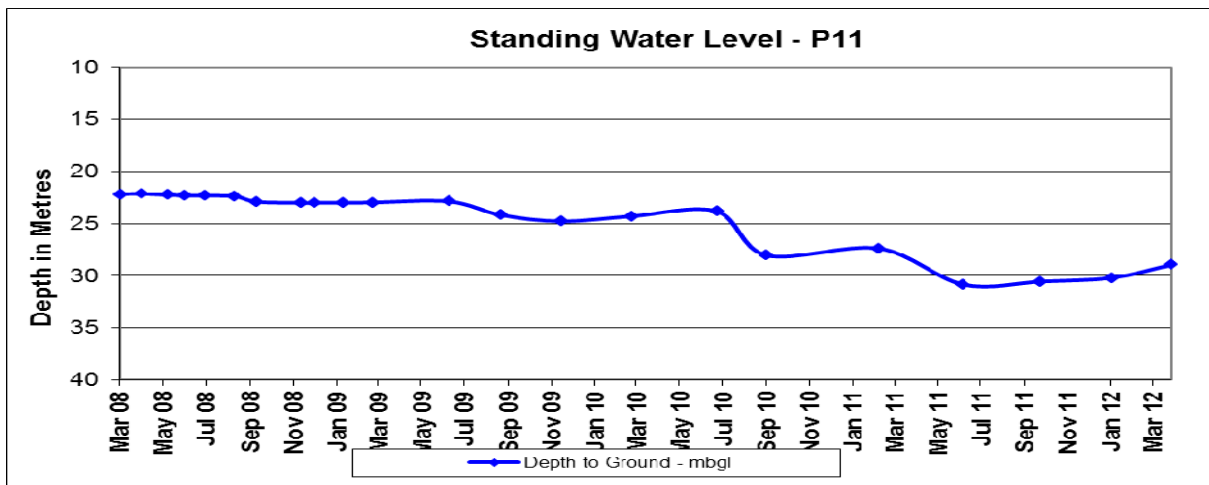
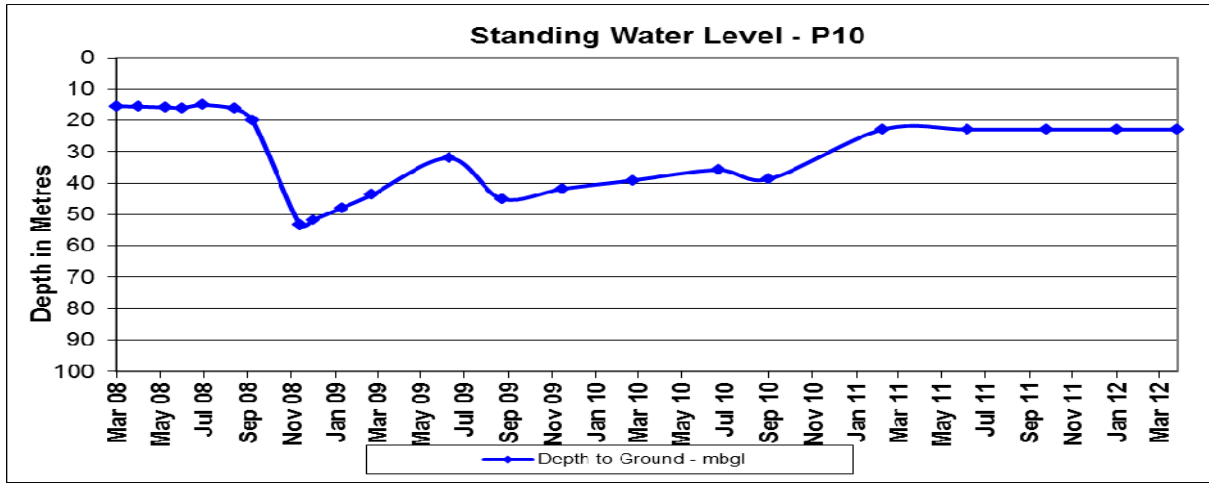
Groundwater monitoring was completed during March and April 2012. Results indicate that groundwater levels are remaining relatively consistent with prior measurements. P7, located in “Jacks Creek State Forest”, was noted as dropping over 15m during the previous sampling period, but has recovered prior to this

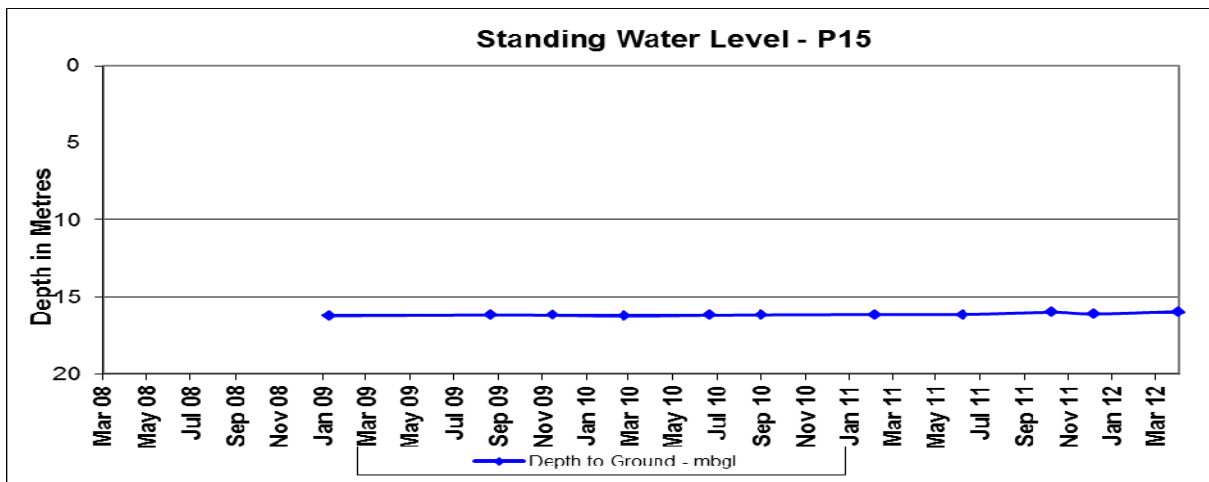
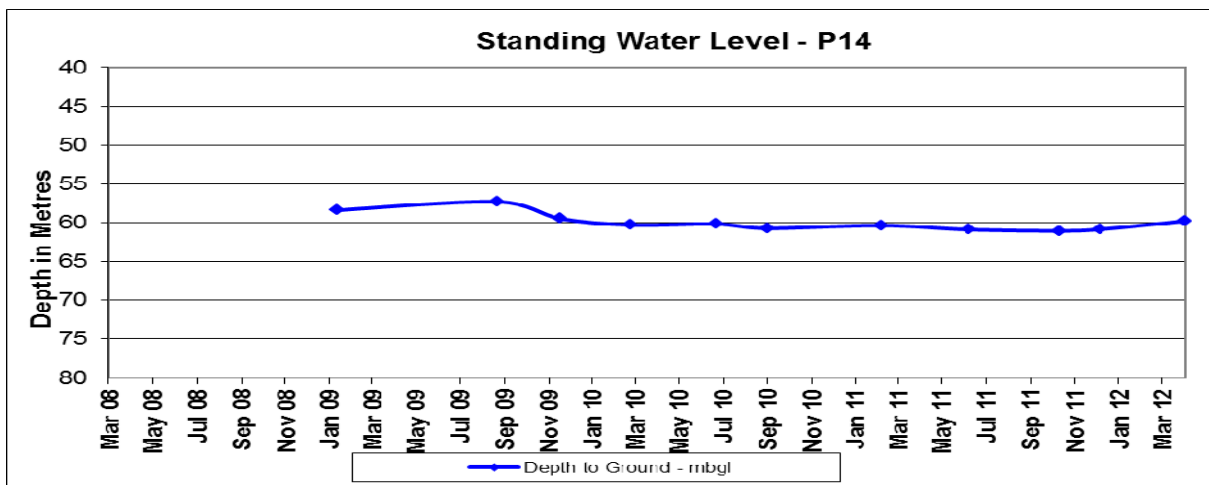
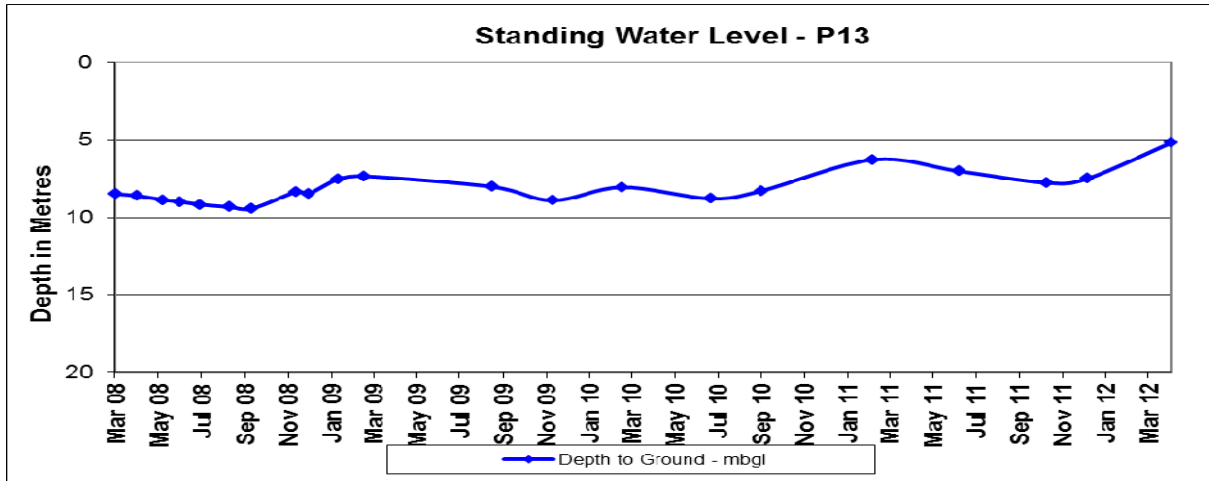
sampling event. P20, located adjacent to Longwall Panel 101, has shown steady decline which would be expected given its proximity to underground workings.

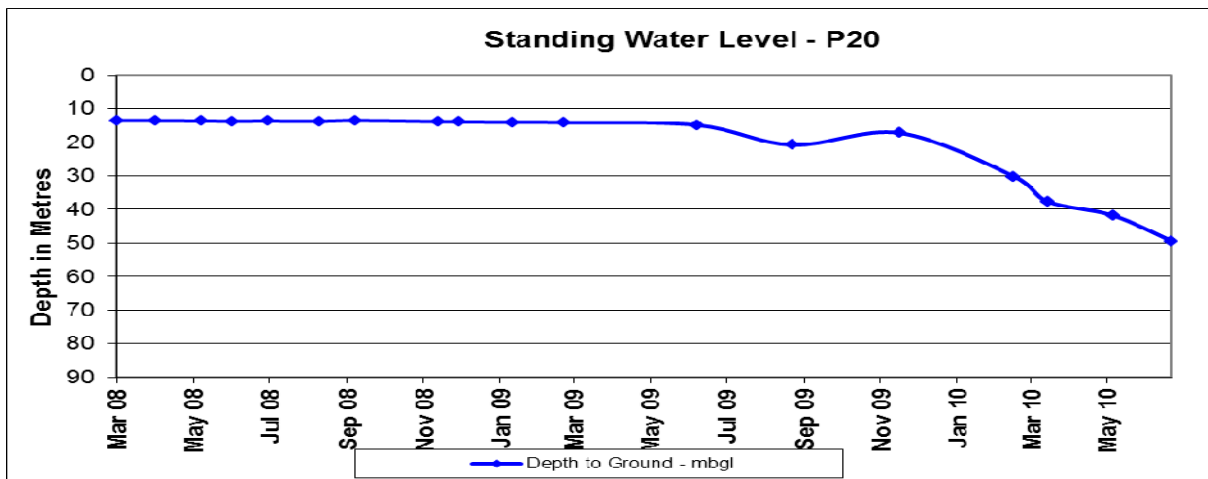
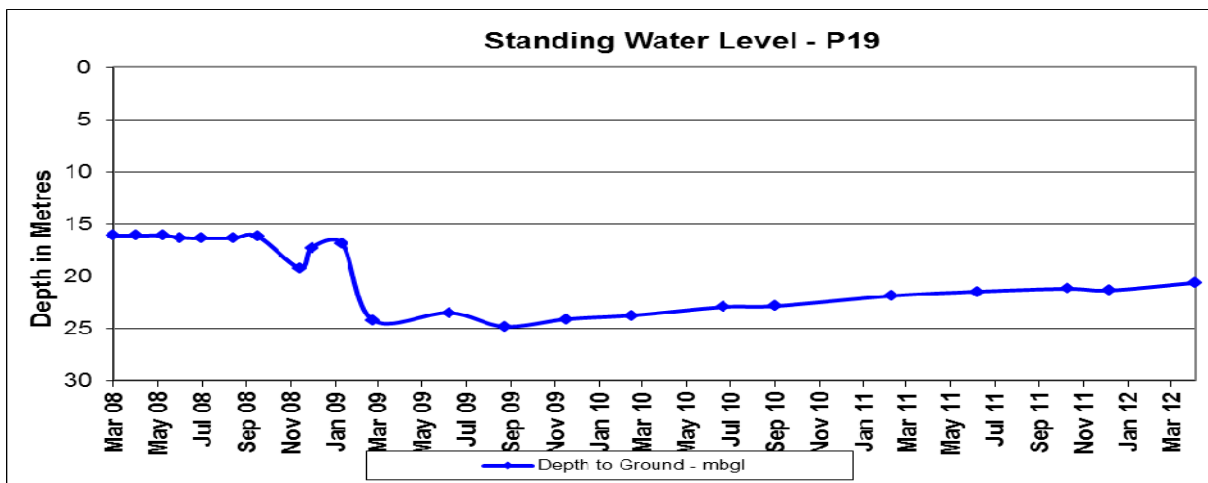
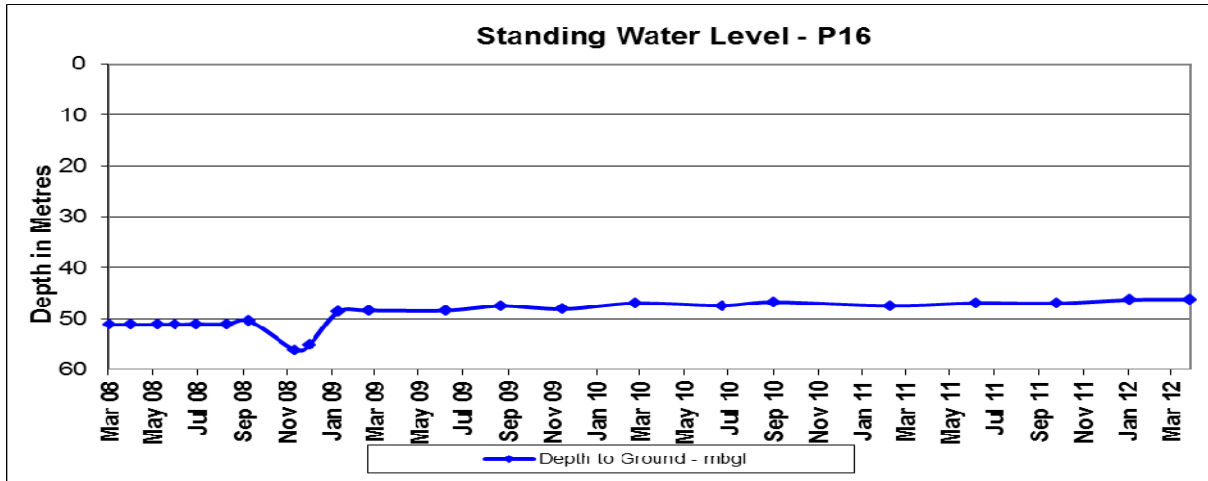












Surface Water Monitoring

No wet weather discharges have occurred during March to May 2012.

Complaints

One formal complaint was received during May 2012. Complaint relating to noise from the site. Noise sources include: hammering, reverse alarms, vehicular / machinery horns, general noise from CHPP and product tripper. Complainant also

noted that it was a very still and cool morning. **Investigation** determined that a continuous miner was located on the surface as it is being off-hired and cleaned. A generator is used to run the miner and it was emitting noise during the morning period. The miner is on tracks and not 'dragged' along the surface. **Actions** - downloaded noise files from the mobile noise monitor. Complainant noted noise from approx. 8am onwards. Listened to noise files for the 8:15-8:30 and 9:15-9:30 periods. Some banging noticeable around 9:16am that may be attributable to site but faint and not likely to be exceeding noise limits. The significant noise sources are either birds or train movements, both not attributable to site operations. Returned call at approx. 2pm to discuss as noises not easily identifiable from site. Complainant said he could definitely hear 'loud' noises from site. We have closely monitored levels recorded through the portable noise monitor and no significant noise sources relating to the mine site have been identified to date.

Environmental Incident(s)

One environmental incident occurred during the March to May 2012 period. The incident involved approximately 10,000 to 15,000 L of water from the pre-drainage water pipe network leaking as it was being transferred to the Pit Top Area. The leak occurred in two places, one contained by a contour bank, the other and most significant leak occurred in a previously farmed paddock. The leak was contained within the paddock and prevented from entering any nearby creeks. Narrabri Mine notified the EPA and the impacted area was immediately cleaned by stripping the impacted soil after the leaked water was recovered via vacuum truck. Within a week the stripped area was remediated with new topsoil and seeded. The leak occurred at a coupling which has now been replaced. All of the remaining couplings, with the exception of one, on the water pipe work of similar type have now been replaced. The last coupling will be replaced by end of this week, i.e. by 15 June 2012.

Previous Incidents – Narrabri Mine has been issued with Penalty Infringement Notices (PINs) from the EPA for four (4) previous incidents. These include: two discharges from SB1 and SB2 (coal processing area) in November 2011 and February 2012; discharge from SB3 in November 2011 (February 2012 incident still being investigated); and water discharge from vertical production well 26.

Corrective Actions – Catchment for SB3 has now been modified to only capture runoff from disturbed area and dam modified to allow more water to be pumped out. SB1 and SB2 have now been upgraded with a combined storage volume of approx. 50ML. A drain has also been installed to direct water from SB1 to SB2 and to exclude all other runoff. VPW26 spill was contained. Procedure updated for accessing wells to prevent re-occurrence.