

Sunnyside Coal Mine Community Consultative Committee Meeting #10

Environmental Monitoring Report March 2011 – 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 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 19th May 2011 with results outlined below:

Sunnyside Noise Monitoring Results – 19 May 2011 (Day)				
Location	Time	dB(A), Leq	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	4:19 pm	41	1.2m/s S	Birds & insects (40), SCM (33)
Ferndale	4:55 pm	43	1m/s S	Birds & insects (40), traffic (39), SCM (30)
Plain View	4:00 pm	40	2m/s SSW	Birds & insects (38), traffic (36), SCM inaudible
Lilydale	3:40 pm	40	2m/s SSW	Traffic (39), birds (32), SCM inaudible

Sunnyside Noise Monitoring Results – 19 May 2011 (Evening)				
Location	Time	dB(A), Leq	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	8:24 pm	34	0.3m/s S	Birds (30), SCM (29) , traffic (28)
Ferndale	9:05 pm	32	Calm	SCM (32) , insects (23)
Plain View	7:58 pm	35	0.8m/s S	Traffic (33), insects (30), SCM (<25)
Lilydale	7:40 pm	26	0.8m/s S	Insects (26), SCM inaudible

The results indicate compliance at all receivers throughout the monitoring period. Monitoring was also conducted at the "Glendower" residence on the 19th May 2011 to confirm if mine noise remained within compliance limits at that residence, with results confirming compliance as per the table below:

Sunnyside Noise Monitoring Results – 19 May 2011 - Glendower				
Date	Time	dB(A), Leq	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
19 May	4:38 pm	46	1.2m/s S	Birds & insects (45), traffic (38), SCM (31)
19 May	8:44 pm	33	Calm	SCM (31) , traffic (26), birds (26)

Road noise monitoring was not undertaken, as no haulage was being carried out from Sunnyside during the monitoring period.

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 Ferndale	SD3 Plainview	SD4 Lilydale	SD5 Ivanhoe	SD6 Illili	SD7 Innisvale	SD8 Woodlawn
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
February 2011	7.4	N/A	2.6	0.7	0.6	0.8	1.0
March 2011	2.7	0.8	1.1	0.6	0.8	0.7	0.5
April 2011	0.7	0.8	0.8	1.0	0.6	2.1	0.7
Annual Average	3.1	1.0	5.1	2.6	1.7	1.9	1.1

The deposited dust monitoring over the reporting period has showed that the annual average at all sites is below the 4g/m²/month criterion, excluding “Lilydale” where contamination in December 2010 and January 2011 caused elevated results. Over time the annual average at “Lilydale” is expected to decrease. It’s noted also that SD1 at “Ferndale” had elevated results in January and February, due to sample contamination (organic matter). The results from March and April have shown a dramatic decrease in deposited dust at this site.

PM₁₀ Data

Compliance with the 24hr criterion of 50µg/m³ has been maintained during the reporting period.

PM₁₀ measurements taken for the "Illili" High Volume Air Sampler (HVAS) are returning a running annual average of 8.31µg/m³, which is well below the annual average limit of 30µg/m³.

PM₁₀ measurements taken for the "Lilydale" HVAS are returning an annual average of 6.32µg/m³, which is also well below the annual average limit of 30µg/m³.

Blast Monitoring

Since the first shot there have been 30 blasts. On the 3rd of May, during blast 28, an exceedance of the overpressure criteria of 115.0dBL was recorded at monitoring points "Innisvale" (128.8dBL), "Plain View" (120.6dBL) and "Illili" (120.3dBL). A full investigation into the cause of the overpressure exceedance was carried out by the blasting contractor Orica, and identified a design fault to be the cause in the overpressure exceedance. Three main factors were identified in the blast design that were found to be the cause of the overpressure exceedance. These included:

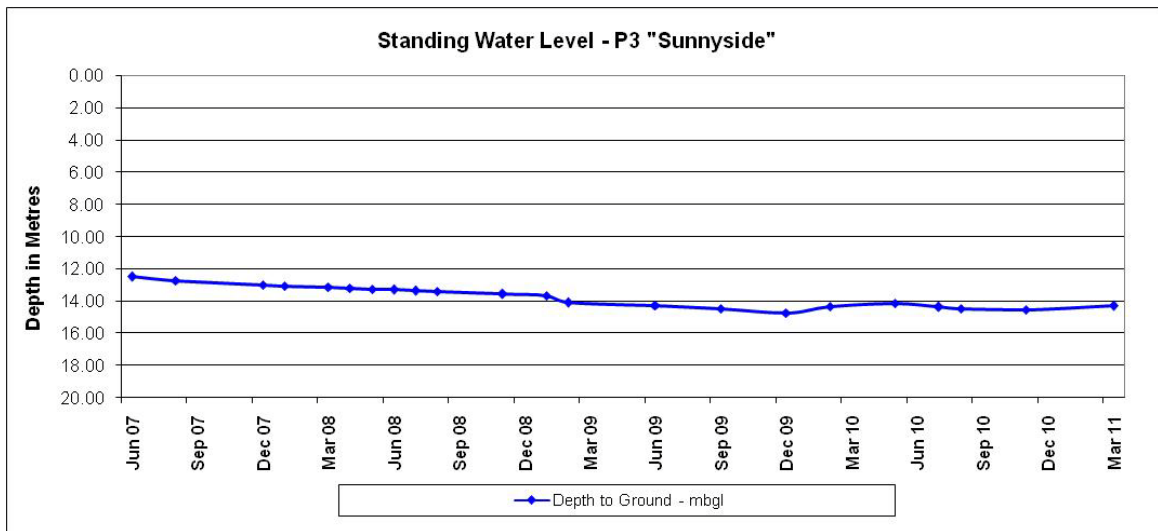
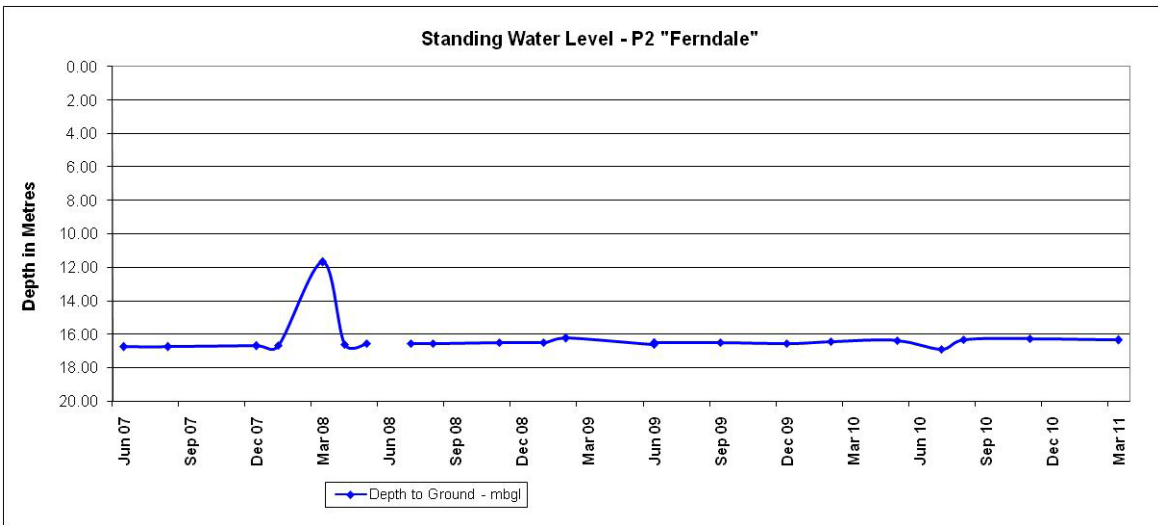
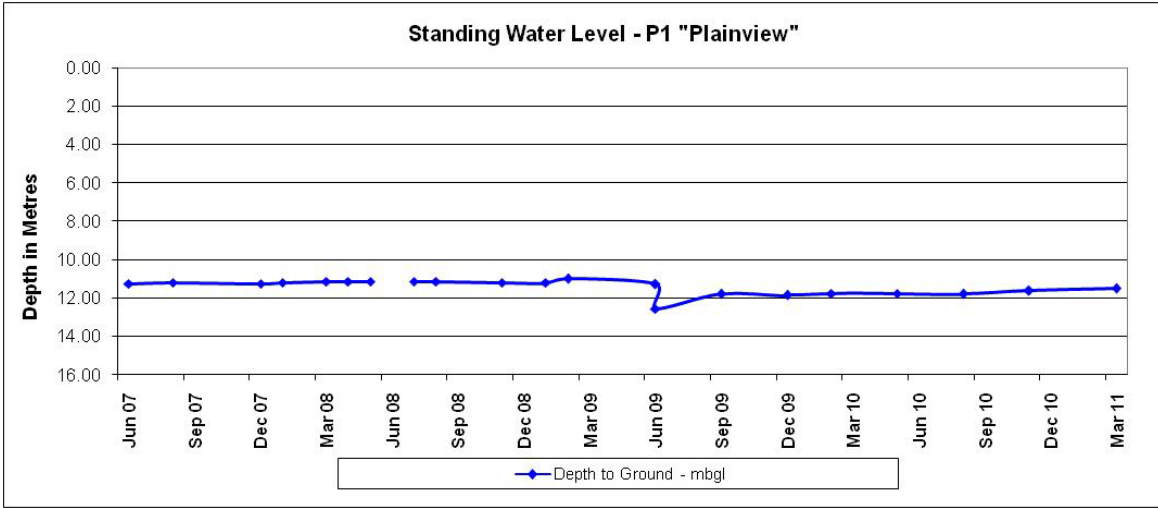
1. Holes having a lower than recommended stemming height and pocket charges which was done in an attempt to reduce oversize;
2. The row in which the ejection occurred had groups of 2 holes initiating very close together in time and space;
3. The area in which the ejection occurred was double stitched, giving a high powder factor close to the surface where the holes converge.

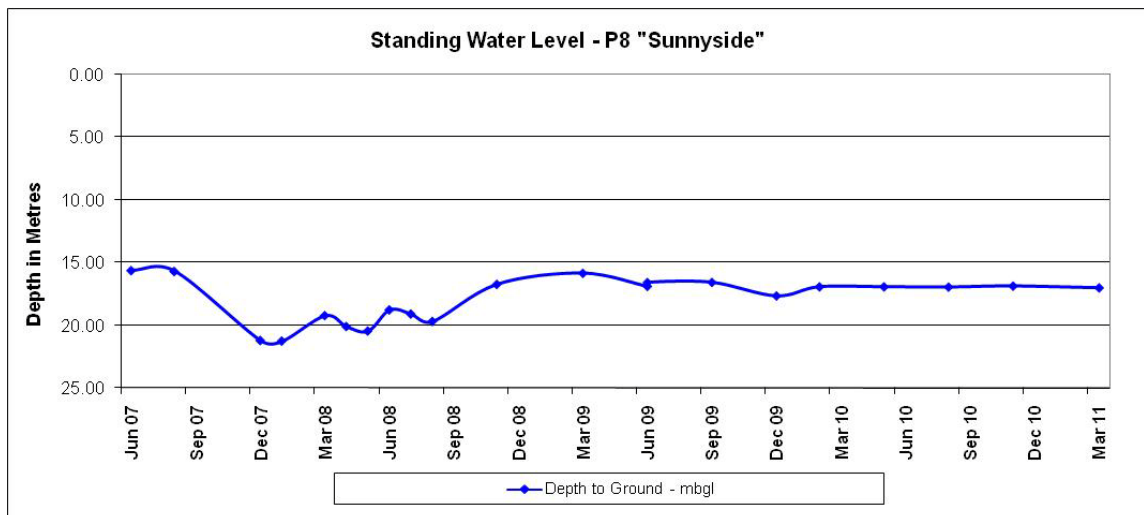
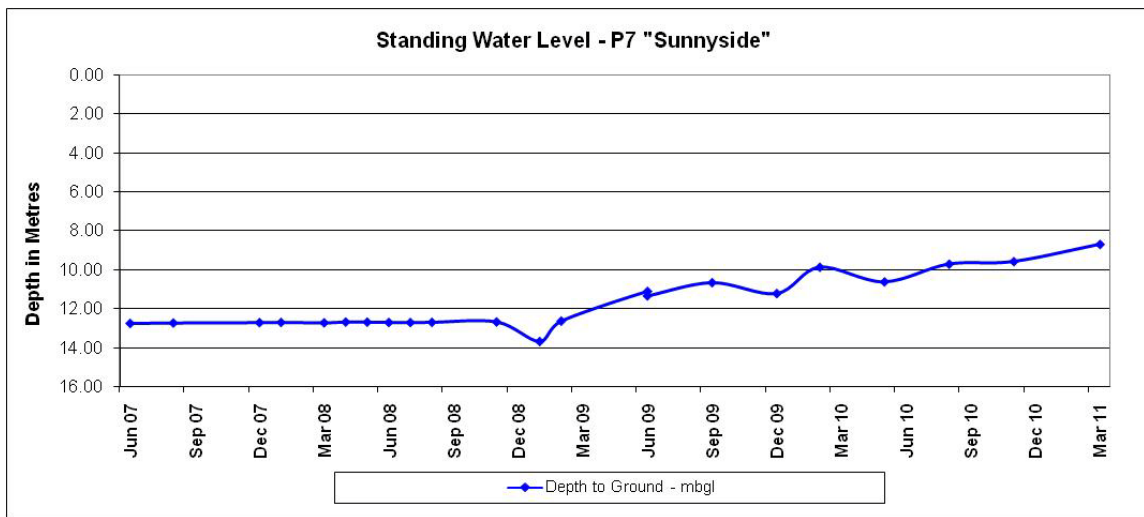
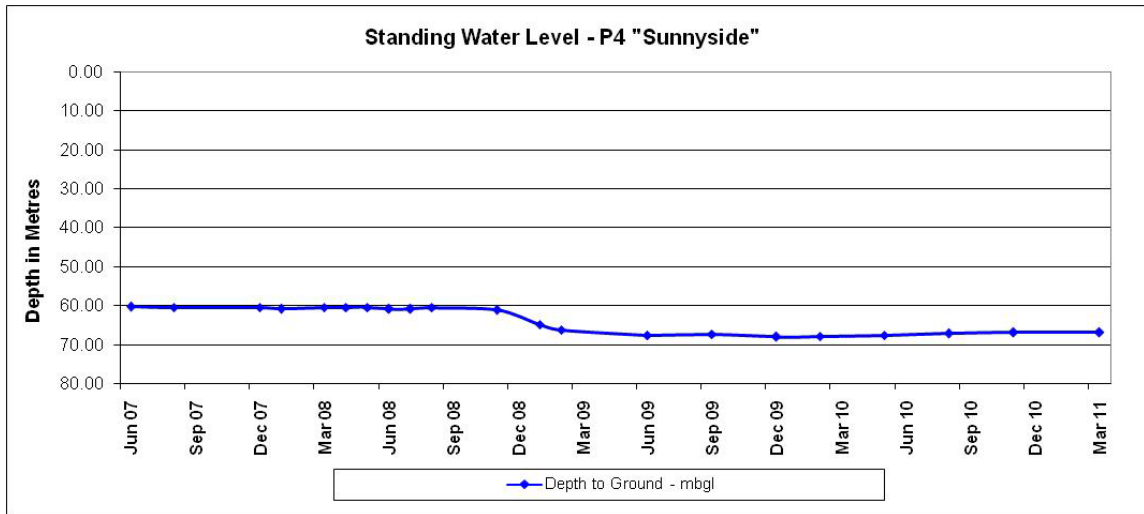
Whitehaven and the blasting contractor will work closely to ensure this fault does not occur in future. Advice has issued to the Department of Planning and Department of Environment, Climate Change and Water advising of the exceedance in blast criteria. Whitehaven is currently awaiting a formal response from these agencies as to any additional actions required. Advice also issued to the residents of the monitoring locations which recorded the overpressure exceedance.

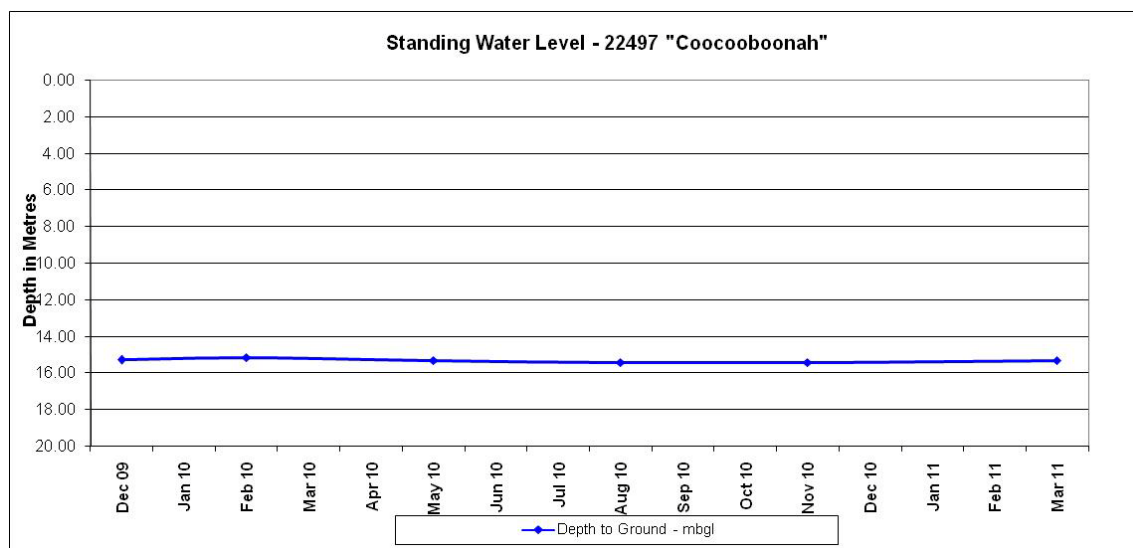
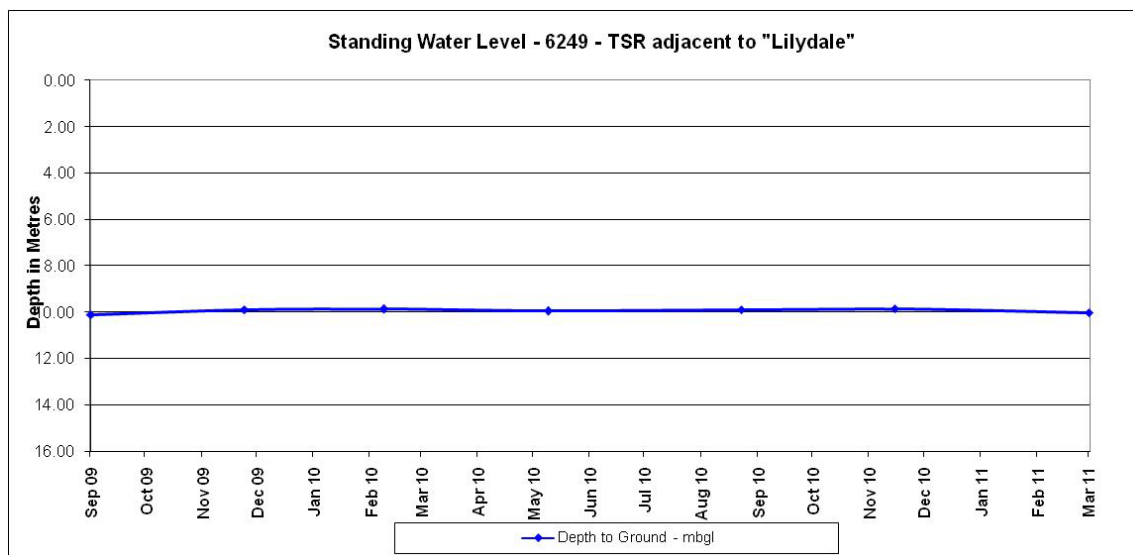
This exceedance now measures as the highest recorded overpressure, being 128.8 dBL as recorded at "Innisvale" on the 3rd May 2011. The highest ground vibration recorded is 2.39mm/s recorded at "Plain View" on the 17th April 2009.

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 was undertaken on the 8th and 9th March 2011 with results for SWL shown below, with no significant impact/trend indicated from mining operations. The next round of monitoring is expected to be conducted during June 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

Surface water sampling was carried out in March and May. Results from the sampling were generally good compared to past monitoring; some elevated Total Suspended solids were detected in some of the sites sediment basins, however as the storages have dropped in storage level over an extended dry period, there is limited potential for any discharge of sediment laden water. No wet weather discharge has occurred during the reporting period.

Complaints

One complaint was received during this reporting period on the 5th May 2011 at 7:15am, via a phone call to the Sunnyside Complaints Line. The Complaint was in relation to the blast conducted on Tuesday 3rd May 2011 and impacts on their residence. The complainant described the blast as the worst they has ever encountered, not having felt Sunnyside blasts previously. It was explained to the complainant that the blast did not go as expected and that Orica blasting services were instructed to complete an investigation into the blast as to why the event occurred.

The outcome of the Orica investigation was discussed, including the identification of a fault in blast design which led to the enhanced overpressure felt at his property. It was also explained that monitors at adjoining properties had confirmed an exceedance in blast compliance criteria, and that advice had issued to the Department of Planning and Department of Environment, Climate Change and Water. The complainant was advised that Whitehaven would work closely with Orica Blasting Services to ensure the potential for poor blast designs could be avoided in future.

Rehabilitation

Approximately 5 hectares of the northern emplacement area was shaped and seeded with a winter pasture mix, which included Rye Grass, Oats and Arrow Leaf Clover. A contour bank was also constructed to combat the issue of erosion on the already rehabilitated lower tier of the northern emplacement. Tree rip lines were also installed in the lower tier rehabilitation, in preparation of a spring tree planting campaign.