



Licensee: Perilya Broken Hill Limited

Environmental Protection Licenses: 2688 and 2683

Locations: Southern, Northern and Potosi Operations

Blast Monitoring

Perilya Broken Hill Limited (PBHL) has six blast monitors which are located at “noise sensitive locations” surrounding their operations. These locations include; residential dwellings, schools and/or nursing homes that are within close proximity to PBHL operations (Southern and Potosi). The monitors are also compliant with the Australian Standard: AS 2187.2:2006 and are routinely calibrated to ensure representative data is collected.

The monitors have been strategically placed to record peak particle velocity (PVS) and overpressure (Potosi only). PBHL EPL’s stipulate that >95% of blasting conducted at both operations over each reporting period must have a PVS of less than 10 mm/sec. Overpressure is only recorded at one of the operations as required by the EPL’s.

Overpressure is not recorded at PBHL’s Southern Operation’s as it will have no significant impact on surrounding neighbour’s due to being conducted deep underground. However, overpressure is recorded for blasting conducted on the Potosi Operation. This is a relatively new operation and blasting may still be conducted close to the surface. As development moves further underground, overpressure will become less relevant. The overpressure level must not exceed 130dB for the period 7am to 7pm, and during 7pm to 7am the level must not exceed 110dB.

Results

Southern Operation (EPL 2688)

A total of 31 production blasts were conducted under EPL 2688 (Southern Operation). Date, time, blast duration, peak particle velocity and overpressure (EPL 2683 only) were recorded for each blast. All blasts conducted at the Southern Operation were within license conditions for the month of June (Table 1).

Table 1 All relevant blast information for all production blasts conducted at the Southern Operations (EPL 2688).

Monitoring frequency required by licence:
 Date results received:
 Published on website:

All blasts carried out in or on the premises
 All results are recieved immediately following each blast.

Date	Time (24hr)	Blast Duration (ms)	Peak Particle Velocity Limit (mm/s)	Peak Particle Velocity (mm/s)			
				Nursing Home	Rainbow Ave	Westside Drive	Gaffney St
2/06/2012	18:58	10450	10	0.911	0.379	0.323	1.08
2/06/2012	18:58	15000	10	0.911	0.379	0.323	1.08
4/06/2012	6:46	1675	10	0.41	0.481	0.327	0.899
4/06/2012	6:46	8050	10	0.41	0.481	0.327	0.899
4/06/2012	18:54	400	10	0.299	0.49	<0.2	<0.2
6/06/2012	6:47	1717	10	0.769	0.318	0.237	0.901
7/06/2012	18:48	7250	10	0.42	0.402	0.626	3.25
7/06/2012	18:48	1225	10	0.42	0.402	0.626	3.25
9/06/2012	NR	11542	10	0.351	0.211	1.41	3.29
11/06/2012	6:45	1950	10	0.941	0.454	<0.2	0.304
11/06/2012	6:45	8050	10	0.941	0.454	<0.2	0.304
12/06/2012	6:45	7250	10	0.311	0.408	0.651	1.75
12/06/2012	6:45	5900	10	0.311	0.408	0.651	1.75
13/06/2012	6:46	7250	10	<0.2	<0.2	<0.2	<0.2
14/06/2012	18:48	7250	10	<0.2	<0.2	0.742	1.09
15/06/2012	6:50	8050	10	<0.2	<0.2	<0.2	0.332
15/06/2012	18:45	7250	10	0.354	0.455	0.418	0.679
16/06/2012	6:46	7250	10	<0.2	0.251	0.265	0.472
17/06/2012	6:48	2100	10	0.408	0.282	0.833	2.64
17/06/2012	18:47	1400	10	0.464	0.436	0.388	0.291
17/06/2012	18:47	7250	10	0.464	0.436	0.388	0.291
18/06/2012	18:48	600	10	<0.2	0.34	<0.2	<0.2
21/06/2012	6:47	2650	10	0.735	0.334	0.366	<0.2
23/06/2012	6:55	4350	10	0.411	0.499	2.02	1.91
23/06/2012	6:55	1400	10	0.411	0.499	2.02	1.91
24/06/2012	6:45	4350	10	0.963	0.39	0.316	0.287
24/06/2012	6:45	1225	10	0.963	0.39	0.316	0.287
25/06/2012	18:51	14500	10	0.347	0.54	0.864	0.377
27/06/2012	6:47	3050	10	<0.2	<0.2	<0.2	<0.2
28/06/2012	18:45	4415	10	0.302	0.497	2.58	2.28
29/06/2012	6:46	11650	10	0.241	<0.2	0.283	0.442

Potosi Operation (EPL 2683)

A total of 89 development blasts were initiated under EPL 2683 (Potosi Operations). Date, time, blast duration, peak particle velocity and overpressure (EPL 2683 only) were recorded for each blast. Two blasts conducted on the Potosi Operation were outside of the license conditions (Table 2). The offending blasts occurred on the 5/06/2012 and 21/06/2012 and the corresponding overpressures recorded were 111.5 and 110.6 dB. After analyzing the event reports it is apparent that the recorded overpressures were not blast related. The likely cause of the result is the wind. The average wind speed on the 5/06/2012 was 35 km/hr and 33 km/hr on the 21/06/2012.

Table 2 All relevant blast information for all production blasts conducted at the Northern Operations (EPL 2683).

Date	Time (24hr)	Peak Particle Velocity Limit (mm/s)	Peak Particle Velocity (mm/s)		Overpressure Limit (dB)	Overpressure Recorded (dB)	
			Potosi	Hall St		Potosi	Hall St
1/06/2012	2:21	10	0.103	<0.2	110	97.5	<110
1/06/2012	6:30	10	0.151	<0.2	110	95.9	<110
1/06/2012	6:46	10	0.244	<0.2	110	94	<110
1/06/2012	18:33	10	0.253	<0.2	130	<88	<110
2/06/2012	3:09	10	NR	<0.2	110	NR	<110
2/06/2012	6:28	10	0.15	<0.2	110	91.5	<110
2/06/2012	6:39	10	0.216	<0.2	110	<88	<110
2/06/2012	16:19	10	0.112	<0.2	130	100	<110
2/06/2012	18:49	10	0.163	<0.2	130	94	<110
3/06/2012	6:38	10	0.255	<0.2	110	94	<110
3/06/2012	18:19	10	0.132	<0.2	130	<88	<110
4/06/2012	6:19	10	0.087	<0.2	110	91.5	<110
4/06/2012	6:39	10	0.162	<0.2	110	<88	<110
4/06/2012	17:19	10	0.144	<0.2	130	<88	<110
5/06/2012	3:46	10	0.372	0.048	110	103.5	110.6
5/06/2012	4:47	10	0.079	<0.2	110	101.9	<110
5/06/2012	13:17	10	1.1	NR	130	91	NR
5/06/2012	17:23	10	0.12	NR	130	104.9	NR
6/06/2012	2:36	10	0.16	NR	110	<88	NR
6/06/2012	18:52	10	0.38	NR	130	118	NR
7/06/2012	3:32	10	0.098	NR	110	<88	NR
7/06/2012	7:01	10	0.13	NR	130	<88	NR
7/06/2012	9:04	10	0.079	NR	130	91.5	NR
7/06/2012	13:00	10	0.21	NR	130	91.5	NR
7/06/2012	19:02	10	0.3	<0.2	130	<88	<110

8/06/2012	4:48	10	0.35	<0.2	110	<88	<110
8/06/2012	6:50	10	0.85	<0.2	110	<88	<110
8/06/2012	7:33	10	0.22	<0.2	130	<88	<110
8/06/2012	19:54	10	0.063	<0.2	110	<88	<110
9/06/2012	6:31	10	0.19	<0.2	110	<88	<110
9/06/2012	7:25	10	0.22	<0.2	130	<88	<110
10/06/2012	6:28	10	0.37	<0.2	110	<88	<110
10/06/2012	6:55	10	0.16	<0.2	110	<88	<110
10/06/2012	8:44	10	0.38	<0.2	130	<88	<110
11/06/2012	6:02	10	0.56	<0.2	110	91	<110
11/06/2012	7:20	10	0.14	<0.2	130	<88	<110
11/06/2012	22:33	10	0.25	<0.2	110	<88	<110
12/06/2012	5:55	10	0.063	<0.2	110	97.5	<110
12/06/2012	NR	10	0.79	NR	NR	<88	NR
13/06/2012	6:23	10	0.199	<0.2	110	<88	<110
13/06/2012	18:52	10	0.102	<0.2	130	<88	<110
14/06/2012	3:28	10	0.461	<0.2	110	102.8	<110
14/06/2012	9:32	10	0.103	0.05	130	103.5	110.6
14/06/2012	18:52	10	0.339	NR	130	<88	NR
14/06/2012	23:19	10	0.069	NR	110	<88	NR
15/06/2012	6:34	10	0.129	NR	110	<88	NR
15/06/2012	10:00	10	0.365	NR	130	100	NR
15/06/2012	15:05	10	0.479	NR	130	102.8	NR
16/06/2012	5:18	10	0.208	<0.2	110	<88	<110
16/06/2012	6:03	10	0.086	<0.2	110	<88	<110
16/06/2012	19:20	10	0.172	<0.2	110	<88	<110
17/06/2012	2:33	10	0.087	<0.2	110	<88	<110
17/06/2012	5:35	10	0.119	<0.2	110	<88	<110
17/06/2012	17:58	10	1.34	<0.2	130	91.5	<110
17/06/2012	18:23	10	0.131	<0.2	130	<88	<110
18/06/2012	0:45	10	0.069	<0.2	110	<88	<110
18/06/2012	6:34	10	0.125	<0.2	110	91.5	<110
18/06/2012	14:10	10	0.1	NR	130	<88	NR
18/06/2012	18:40	10	0.147	NR	130	<88	NR
19/06/2012	4:36	10	0.095	NR	110	<88	NR
19/06/2012	17:41	10	2.07	<0.2	130	108.8	<110
20/06/2012	6:33	10	0.52	<0.2	110	<88	<110
20/06/2012	18:37	10	0.435	NR	130	123.6	NR
20/06/2012	18:51	10	1.06	NR	130	102.8	NR
21/06/2012	6:50	10	0.268	NR	110	111.5	NR
21/06/2012	13:28	10	0.956	NR	130	127.2	NR

21/06/2012	15:53	10	0.218	NR	130	112.3	NR
22/06/2012	6:54	10	0.601	NR	110	98.8	NR
22/06/2012	18:32	10	0.202	NR	130	103.5	NR
23/06/2012	3:36	10	0.122	NR	110	91.5	NR
23/06/2012	17:59	10	0.067	NR	130	109.2	NR
24/06/2012	18:32	10	0.208	NR	130	105.5	NR
25/06/2012	13:25	10	0.16	NR	130	<88	NR
25/06/2012	16:21	10	0.144	<0.2	130	91.5	<110
26/06/2012	5:16	10	0.106	<0.2	110	<88	<110
26/06/2012	10:00	10	0.129	<0.2	130	<88	<110
26/06/2012	14:05	10	0.081	<0.2	130	91.5	<110
26/06/2012	18:06	10	0.137	<0.2	130	104.2	<110
27/06/2012	5:16	10	0.069	<0.2	110	<88	<110
27/06/2012	18:21	10	0.19	<0.2	130	<88	<110
28/06/2012	1:21	10	0.196	<0.2	110	<88	<110
28/06/2012	6:42	10	0.217	<0.2	110	<88	<110
28/06/2012	20:05	10	0.111	NR	130	<88	NR
29/06/2012	6:28	10	0.255	NR	110	95.9	NR
29/06/2012	14:21	10	0.102	NR	130	105.5	NR
30/06/2012	4:07	10	0.075	NR	110	<88	NR
30/06/2012	11:43	10	0.108	NR	130	103.5	NR
30/06/2012	13:12	10	0.15	NR	130	98.8	NR
30/06/2012	18:31	10	0.083	NR	130	<88	NR

*NR for Hall St Indicates the blast monitor memory was full.