

Nepean River Impact Report - Gas Zones

05 October 2012

Monitoring of the Nepean River is undertaken in accordance with SMP requirements for Longwall 704 and in accordance with the approved Appin Area 7 Water Management Plan. These inspections are conducted weekly along the Nepean River and relevant tributaries. Water quality and water levels are recorded along with photographic records and observational notes. Water samples are taken from nominated monitoring sites for analysis.

Longwall 704 extraction began 7th May 2011 and was completed on the 28th July 2012. Longwall 705 commenced extraction on 7th September 2012 and had extracted approximately 80m by 29th September 2012.

A routine inspection of the Nepean River was carried out on the 4th October 2012 by the Illawarra Coal Environmental Field Team. During the inspection one new gas release was identified (Gas Zone 16, **Figures 1, 2, and Map 1**). Four active gas zones were also observed continuing to release (Zones 4, 5, 14, and 15. **Map 1**).

New Active Gas Release – Gas Zone 16

Gas Zone 16 (Location: E290956, N6215645)

Gas Zone 16 consists of five constant release points and three intermittent release points. The zone extends across an area of approximately 4m by 10m. The release is predominantly clustered along the outside (western) bank of the River. The gas zone is closet in proximity to the southern edge of Longwall 703 at 243m distance. Mining of Longwall 704 was completed on the 28th July 2012. The gas zone is 615m from the closest point of this longwall.



Figure 1: Gas Zone 16 – 4th October 2012



Figure 2: Gas Zone 16 – 4th October 2012

Table 1: Previously active gas zones

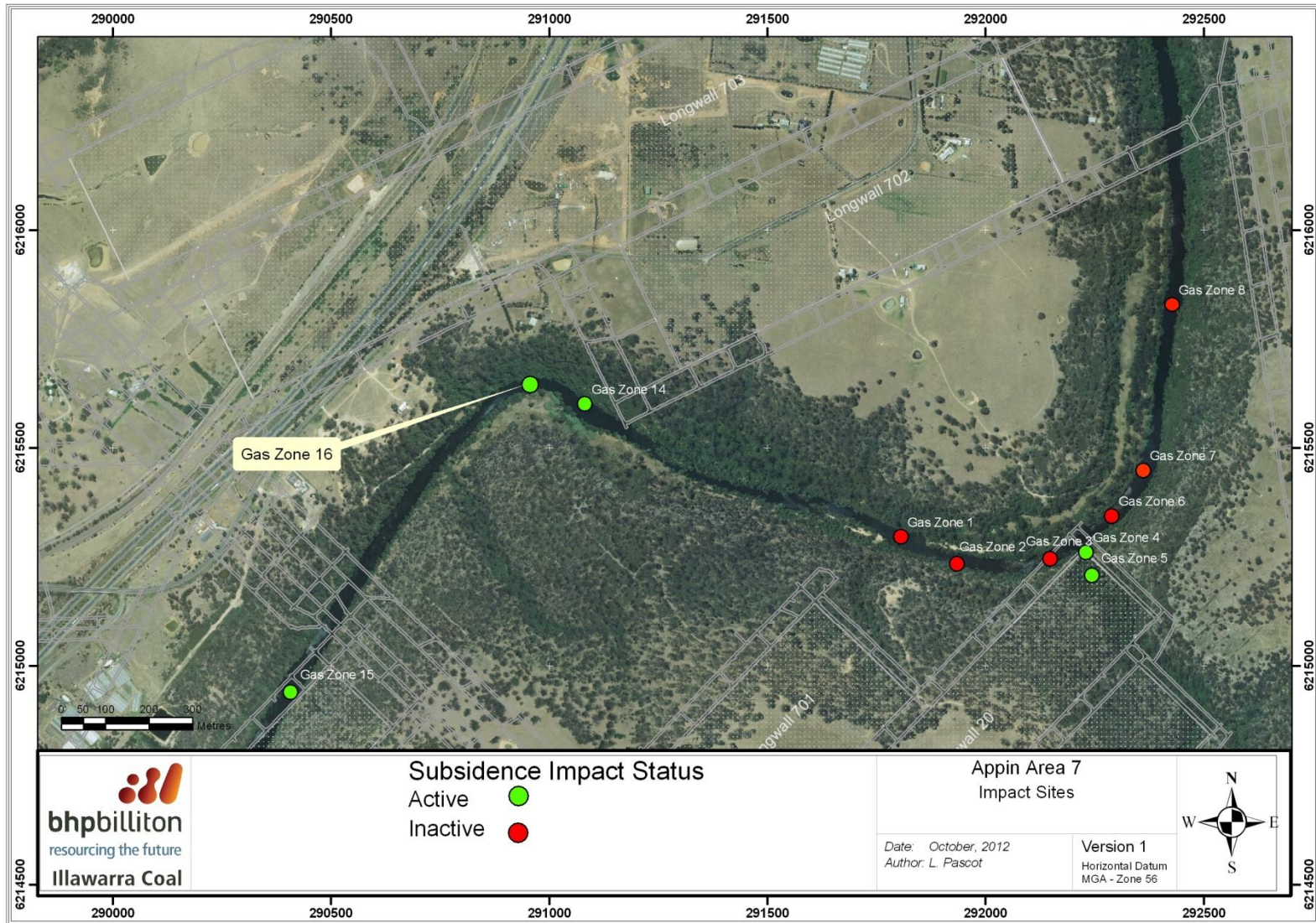
Site ID	Date observed	Activating longwall	Last active	Description on last observation date
AA7LW701 Gas Zone 2	16/01/2008	LW701	11/06/2008	Constant release, iron staining along bank close to gas zone.
AA7LW701 Gas Zone 3	16/01/2008	LW701	21/05/2008	Light and constant release in a 5 x 5m area
AA7LW702 Gas Zone 6	9/12/2008	LW702	9/12/2008	10-15 light and intermittent releases over a 20m x 30m area
AA7LW702 Gas Zone 7	9/12/2008	LW702	9/12/2008	10 light and intermittent releases over a 20m x 40m area.
AA7LW702 Gas Zone 8	27/02/2009	LW702	27/2/2009	4-6 light and intermittent releases over a 10m x 30m area.

Table 2: Gas zones activated and re-activated during Longwall 704.

Site ID	Activation date	Activating longwall	Date last active	Description on last observation date
AA7LW704 Gas Zone 1	16/01/2008	LW701	19/04/2011	One intermittent release.
AA7LW704 Gas Zone 4	16/01/2008	LW701	4/10/2012	Four light and intermittent releases over a 20m ² area.
AA7LW704 Gas Zone 5	2/02/2008	LW701	4/10/2012	One light and intermittent release over a 0.5m x 0.5m area.
AA7LW704 Gas Zone 9	22/11/2011- reactivation	LW703	2/08/2012	Light, 10x15 second interval releases, in an area 15 x 40m. 15 releases, 5 constant and 10 intermittent.
AA7LW704 Gas Zone 10	21/05/2010	LW703	27/9/2011	Three intermittent releases.
AA7LW704 Gas Zone 11	18/07/2012	LW703	18/07/2012	Several light releases at 30 second intervals, 5 x 5m area.
AA7LW704 Gas Zone 12	30/11/2011 - reactivation	LW703	18/07/2012	9 light releases at 30 second intervals over an area 25 x 15m
AA7LW704 Gas Zone 13	22/11/2011	LW703	18/07/2012	Three light releases at 40 second interval over an area 5 x 6m
AA7LW704 Gas Zone 14	12/04/2012	LW702	4/10/2012	Three light and intermittent releases over a 0.5m x 0.5m area.
AA7LW704 Gas Zone 15	2/08/2012	LW704	4/10/2012	5 light intermittent releases at 10 to 15 second intervals over an area of 40m x 15m.

Monitoring of Active Gas Zones

Minor gas releases have been observed during routine monitoring of the Nepean River. Monitoring is being undertaken through weekly observations. The impacts identified have minor consequences in accordance with the Approved SMP (Appendix A). No active mitigation measures are required or proposed at this stage. Monitoring will continue as required. Included in the monitoring will be a water sample collected in the vicinity of Gas Zone 16 in accordance with actions required by the approved SMP (See Appendix A).



Map 1: Location of currently active and previously active gas zones close to Gas Zone 16. Location of relevant longwalls in relation to the gas zones.

Appendix

<i>Nepean River</i>									
Aspect	MONITORING				TRIGGER				
	Sites	Parameters	Frequency	Purpose	Level	Action	Responsibility	Timing	Purpose
Strata Gas	7 sampling sites in Nepean River (NR2, NR4, NR6, NR7, NR9, NR11, NR20)	Strata gas observed	Observation weekly	To identify potential impacts to water quality due to strata gas	Strata gas observed to be released from river or banks – from visual or audible signs e.g. hissing, bubbling, plume	Make area safe with barriers and signage as required Inform landholder and relevant agencies	Mgr Environment	Report to relevant agencies and adjacent landholder within 24 hours	Identify and report on gas releases in Nepean River
	4 sampling sites in tributaries (NR3, NR5, NR8, NR10)	Strata gas smell	As required by any report from the community/landholders	To identify any safety hazards	Strata gas smell within gorge	Collect water quality sample in vicinity of release Take gas sample and measure release rate where applicable Report in the End of Panel Report		Secure site safety and report to landholder and agencies immediately EoP Report within 4 months of longwall completion	To manage any safety hazards
	Observations along entire length of Nepean River between Cataract River and Ousedale Creek)								
	Ref: EIS Appendix E Drawing 2)								

Appendix A: Trigger/ Responses for mining induced impacts on the Nepean River from Longwall 704. Taken from the 'Appin Area 7 Water Management Plan'.

Nepean River Impact Report – Gas Release

14 February 2013

Monitoring of the Nepean River and its associated tributaries is undertaken in accordance with the SMP for Longwall 705 and the approved Appin Area 7 Water Management Plan. Inspections of the Nepean River and its relevant tributaries are conducted weekly. During these inspections water quality and water levels are recorded along with photographic records and observational notes.

Longwall 705 commenced extraction on 7th September 2012 and had extracted approximately 680m by 9th February 2013.

During a weekly inspection on 12th February 2013 the Illawarra Coal Environmental Field Team identified an area of Gas Release in the Nepean River on its north-western side. This Gas Release has been identified as Gas Zone 17 (**Photos 1, 2 and 3**) and is outlined below. Four gas zones that have been active on recent inspections were also observed to be active during this inspection (Gas Zones 5, 14, 15 and 16 (**Table 1**)).

New Active Gas Release – Gas Zone 17(*Location: E290815, N6215562*)

Gas Zone 17 consists of six release sites in two zones (**Photo 1**) within two 2 x 3m areas (6m²) 12m apart. One of the individual gas releases was constant while the remaining five were intermittent with releases occurring in a range from 8-12 seconds. Gas Zone 17 is located approximately 750m downstream of Gas Zone 15 and approximately 160m upstream of Gas Zone 16 (**Map 1**) along the north-western side of the river. Longwall 703 is the closest longwall to the site at approximately 480m to the northwest. Longwall 705 is the closest active longwall to Gas Zone 17 and is approximately 1 770m to the northeast (9th February 2013).

Monitoring of Active Gas Zones

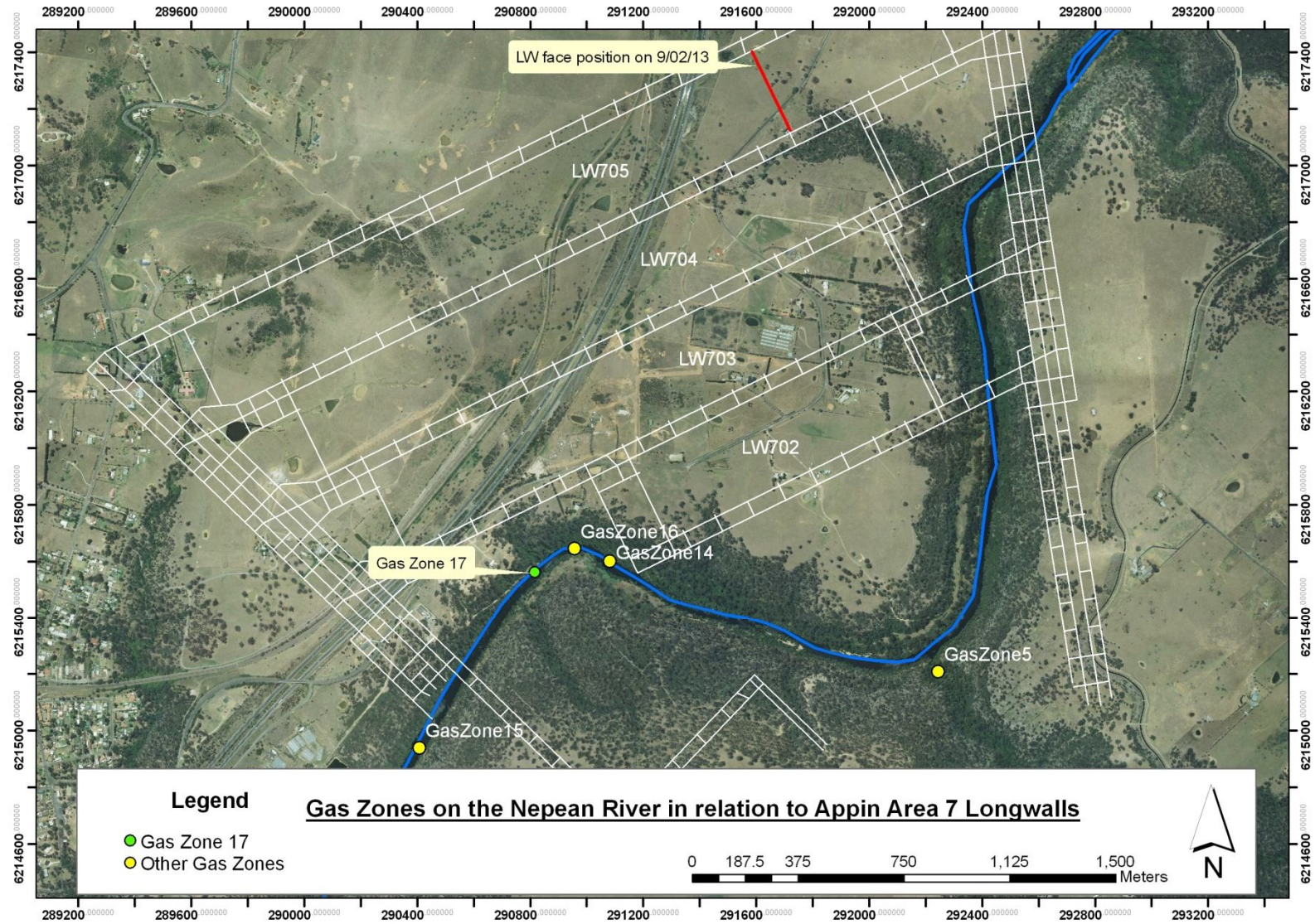
Gas releases have been observed during routine monitoring of the Nepean River. Monitoring is being undertaken weekly. As the flow rate of the gas release at Gas Zone 17 is less than 3000L/min this impact falls within a Level 1 trigger (**Appendix A**). No Corrective Management Actions are required or recommended at this stage. Monitoring of Gas Zone 17 will continue and will be reported in the End of Panel report.



Photos 1- 3: Gas Zone 17 – 12th February 2013

Table 1: Gas zones activated and re-activated during Longwall 705.

Site ID	Activation date	Activating longwall	Date last active	Description on last observation date
AA7LW704 Gas Zone 5	2/02/2008	LW701	12/02/2013	Two light intermittent releases with intervals or approx.20seconds over a 1x1m area
AA7LW704 Gas Zone 14	12/04/2012	LW702	12/02/2013	Five light intermittent releases in a 5x3m area
AA7LW704 Gas Zone 15	2/08/2012	LW704	12/02/2013	6 light intermittent releases intervals of approx. 30 seconds over a 10x20m area.
AA7LW704 Gas Zone 16	4/10/2012	LW704	12/02/2013	Multiple releases on western side of river. Four of which are moderate and intermittent. Two of which are heavy and constant. The remainder of which are light and varying from constant to intermittent. This gas zone is spread over a 60x5m area.
AA7LW704 Gas Zone 17	12/02/2013	LW705	12/02/2013	Two release zones on northwestern side of river each covering a total area of approximately 6m ² , 10m apart.



Map 1: Location of currently active and inactive gas zones near Gas Zone 17 and relevant longwalls

Appendix

Monitoring	Trigger	Action
WATER QUALITY		
<p>Nepean River Impact monitoring sites adjacent to each Longwall:</p> <ul style="list-style-type: none"> ▪ NR11 ▪ NR12 ▪ NR13 ▪ NR20 ▪ NR30 <p>Refer Figure 1a</p> <p>Notes: <i>Baseline upriver sites will be used for cross-checking for upriver perturbations⁽³⁾</i> <i>Baseline Upriver site NR2 data to be updated at end of panel following completion of each longwall, subject to checks-for, and discard-of upriver perturbed data</i></p>	<p>Level 1 (Within Prediction)⁽¹⁾ Impact monitoring sites:</p> <ul style="list-style-type: none"> ▪ pH reduction greater than 1 standard deviation but less than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ DO reduction greater than 1 standard deviation but less than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ Identification of strata gas plume of flow rate < 3000 L/min⁽²⁾ 	<ul style="list-style-type: none"> ▪ Continue monitoring program ▪ Report impacts to key stakeholders ▪ Summarise impacts and record
	<p>Level 2 (Within Prediction – CMAs may be required)⁽¹⁾ Impact monitoring sites:</p> <ul style="list-style-type: none"> ▪ pH reduction greater than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ DO reduction greater than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ EC, total Fe and total Mn increases greater than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ Identification of strata gas plume of flow rate >3000 L/min⁽²⁾ 	<ul style="list-style-type: none"> ▪ Actions as stated for Level 1 plus: ▪ Review monitoring program ▪ Notify relevant specialists (BHPBIC) and develop and implement remedial action if necessary <p><i>Strata Gas Emission Plume:</i></p> <ul style="list-style-type: none"> ▪ Estimate gas emission flow rates. Re-estimate should significant change be observed ▪ Take sample of plume (if possible) for: <ul style="list-style-type: none"> - chemical composition - dissolved methane from exactly above gas plume and at established downriver monitoring sites - dissolved sulfide and total phenols from exactly above gas plume and at nearest downriver monitoring site(s)
	<p>Level 3 (CMAs likely to be required)⁽¹⁾ Impact monitoring sites:</p> <ul style="list-style-type: none"> ▪ Level 2-type reduction in water quality resulting from the mining observed for more than 6 consecutive months 	<ul style="list-style-type: none"> ▪ Actions as stated for Level 2 plus: ▪ Immediately notify OEH, D&PI, NoW & DRE and any other relevant specialist. ▪ Consultation with stakeholders. ▪ Collect laboratory samples and analyse for: <ul style="list-style-type: none"> - pH, EC, Total Fe and Mn - Suite of Filterable metals. - Dissolved methane, sulfide and total phenols (if relevant). ▪ Develop site management measures as soon as practically possible (pending stakeholder availability) and seek any approvals required to implement
	<p>Exceeding Prediction</p> <ul style="list-style-type: none"> ▪ More than negligible gas releases 	<ul style="list-style-type: none"> ▪ <i>Actions as stated for Level 3</i> ▪ Investigate reasons for the exceedance ▪ Update future predictions based on the outcomes of the investigation

Appendix A: Appin Area 7 Trigger Action Response Plan (TARP) for mining induced impacts on the Nepean River from Longwalls 705 and 706.

Nepean River Impact Report – Gas Release

20 March 2013

Monitoring of the Nepean River and its associated tributaries is undertaken in accordance with the SMP for Longwall 705 and the approved Appin Area 7 Water Management Plan. Inspections of the Nepean River and its relevant tributaries are conducted weekly. During these inspections water quality and water levels are recorded along with photographic records and observational notes.

Longwall 705 commenced extraction on 7th September 2012 and had extracted approximately 837m by 9th March 2013.

During a weekly inspection on 18th March 2013 the Illawarra Coal Environmental Field Team identified an area of Gas Release in the Nepean River along the southeastern bank at GPS coordinates E290623, N6215275. This Gas Release has been identified as Gas Zone 18 and is described below.

Gas Zone 18 (E290623, N6215275)

The new gas zone consists of up to 20 releases with a combination of constant to intermittent release pattern. The zone is concentrated along the southeastern bank up to 5m away from the river bank (Photos 1 and 2). Up to four separate releases were located approximately 20m upstream closer to the river centerline (Photos 3 and 4). The total surface area of the gas zone is approximately 40m². The newly identified release is approximately 1990m (horizontal distance) from active mining and approximately 300m from Tower Longwall 17 which was completed 18th April 2000.

Monitoring of Active Gas Zones

Gas releases have been observed during routine monitoring of the Nepean River. As the flow rate of the gas release at Gas Zone 18 is less than 3000L/min, this impact falls within a Level 1 trigger (see **Appendix A**). No Corrective Management Actions are required or recommended at this stage. Monitoring of Gas Zone 18 will continue and will be reported in the End of Panel Report.



Photo 1: Gas Zone 18- looking east towards river bank. Taken on 18/03/2013.



Photo 2: Gas Zone 18- looking northeast. Taken on 18/03/2013.



Photo 3: Gas Zone 18- looking northeast. Taken on 18/03/2013.



Photo 4: Gas Zone 18- upstream releases, looking east. Taken on 18/03/2013.

Site ID	Activation date	Activating longwall	Date last active	Description on last observation date
AA7LW704 Gas Zone 5	2/02/2008	LW701	18/03/2013	Two light intermittent releases with approximately 10 second intervals.
AA7LW704 Gas Zone 16	4/10/2012	LW705	18/03/2013	Multiple releases on western side of river. Four of which are moderate and intermittent. One main release heavy and constant. The remainder of which are light and varying from constant to intermittent. This gas zone is spread over approximately 280m ² .
AA7LW704 Gas Zone 17	12/02/2013	LW705	18/03/2013	Up to 7 small, light intermittent releases.
AA7LW704 Gas Zone 18	18/03/2013	LW705	18/03/2013	Up to 20 light intermittent releases.

Table 1: Currently active gas zones.

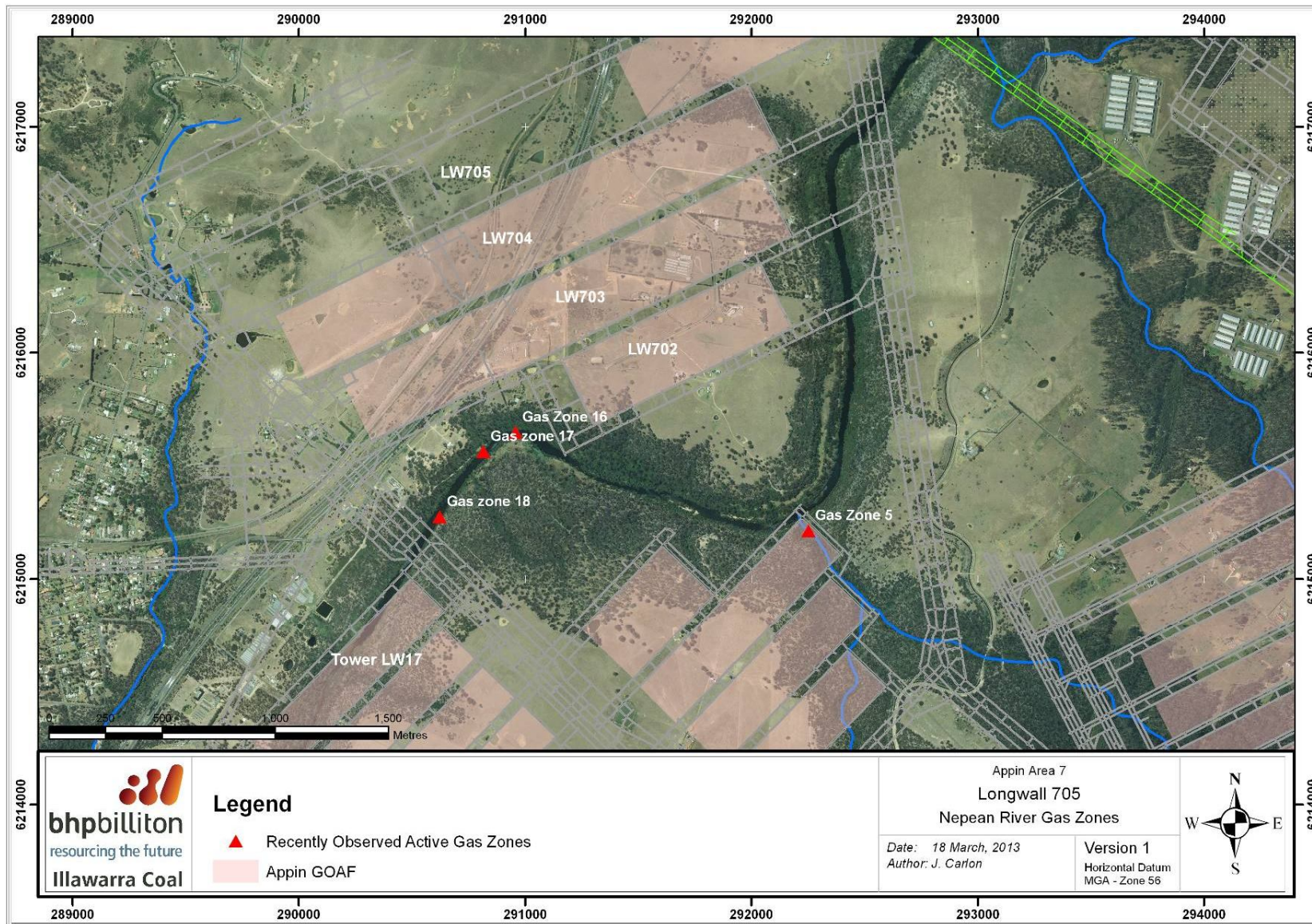


Figure 1: Location of currently active gas zones including the recently identified Gas Zone 18 and relevant longwalls

Appendix A

Monitoring	Trigger	Action
WATER QUALITY		
<p>Nepean River Impact monitoring sites adjacent to each Longwall:</p> <ul style="list-style-type: none"> ▪ NR11 ▪ NR12 ▪ NR13 ▪ NR20 ▪ NR30 <p>Refer Figure 1a</p> <p><i>Notes:</i> Baseline upriver sites will be used for cross-checking for upriver perturbations⁽³⁾ Baseline Upriver site NR2 data to be updated at end of panel following completion of each longwall, subject to checks-for, and discard-of upriver perturbed data</p>	<p>Level 1 (Within Prediction)⁽¹⁾ Impact monitoring sites:</p> <ul style="list-style-type: none"> ▪ pH reduction greater than 1 standard deviation but less than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ DO reduction greater than 1 standard deviation but less than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ Identification of strata gas plume of flow rate < 3000 L/min⁽²⁾ 	<ul style="list-style-type: none"> ▪ Continue monitoring program ▪ Report impacts to key stakeholders ▪ Summarise impacts and record
	<p>Level 2 (Within Prediction – CMAs may be required)⁽¹⁾ Impact monitoring sites:</p> <ul style="list-style-type: none"> ▪ pH reduction greater than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ DO reduction greater than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ EC, total Fe and total Mn increases greater than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ Identification of strata gas plume of flow rate >3000 L/min⁽²⁾ 	<ul style="list-style-type: none"> ▪ Actions as stated for Level 1 plus: ▪ Review monitoring program ▪ Notify relevant specialists (BHPBIC) and develop and implement remedial action if necessary <p><i>Strata Gas Emission Plume:</i></p> <ul style="list-style-type: none"> ▪ Estimate gas emission flow rates. Re-estimate should significant change be observed ▪ Take sample of plume (if possible) for: <ul style="list-style-type: none"> - chemical composition - dissolved methane from exactly above gas plume and at established downriver monitoring sites - dissolved sulfide and total phenols from exactly above gas plume and at nearest downriver monitoring site(s)
	<p>Level 3 (CMAs likely to be required)⁽¹⁾ Impact monitoring sites:</p> <ul style="list-style-type: none"> ▪ Level 2-type reduction in water quality resulting from the mining observed for more than 6 consecutive months 	<ul style="list-style-type: none"> ▪ Actions as stated for Level 2 plus: ▪ Immediately notify OEH, D&PI, NoW & DRE and any other relevant specialist. ▪ Consultation with stakeholders. ▪ Collect laboratory samples and analyse for: <ul style="list-style-type: none"> - pH, EC, Total Fe and Mn - Suite of Filterable metals. - Dissolved methane, sulfide and total phenols (if relevant). ▪ Develop site management measures as soon as practically possible (pending stakeholder availability) and seek any approvals required to implement
	<p>Exceeding Prediction</p> <ul style="list-style-type: none"> ▪ More than negligible gas releases 	<ul style="list-style-type: none"> ▪ <i>Actions as stated for Level 3</i> ▪ Investigate reasons for the exceedance ▪ Update future predictions based on the outcomes of the investigation

Appendix A: Appin Area 7 Trigger Action Response Plan (TARP) for mining induced impacts on the Nepean River from Longwalls 705 and 706.

Nepean River Updated Impact Report – Gas Release Zone 18

6 May 2013

Monitoring of the Nepean River and its tributaries is undertaken in accordance with the SMP for Longwall 705 and the Appin Area 7 Water Management Plan. Inspections of the Nepean River and its tributaries are conducted weekly. During these inspections water quality and water levels are recorded along with photographic records and observational notes. Longwall 705 commenced 7th September 2012 and had extracted approximately 1110 m by 27th April 2013.

During a weekly inspection on 18th March 2013 the Illawarra Coal Environmental Field Team identified Gas Release 18 in the Nepean River along the south-eastern bank at GPS coordinates E290623, N6215275. During an inspection on 1st April 2013 the Illawarra Coal Environmental Field Team identified an extended area of Gas Release 18 in the Nepean River on the eastern bank at GPS coordinates E290608, N6215256. This Gas Release has been identified as an extension of Gas Zone 18 and is described below.

Gas Zone 18 (E290623, N6215275 & E290608, N6215256)

Gas Zone 18 consisted of up to 20 release points concentrated along the south-eastern bank (Photos 1 and 2) and up to four releases located approximately 20m upstream closer to the river centreline. The total surface area of the gas zone was approximately 40m².

The gas zone has now extended to consist of an additional 30 release sites. The latest area of Gas Zone 18 is concentrated on the south-eastern side of the river up to 5m away from the river bank (Photos 3, 4 and 5). The total surface area of the gas zone is now approximately 160m² (Photo 6). The recently identified releases are approximately 1775m (horizontal distance) from the current Longwall 705 and approximately 300m from Tower Longwall 17 which was completed 18th April 2000.

Monitoring of Active Gas Zones

Gas releases have been observed during routine monitoring of the Nepean River. As the estimated flow rate of the gas release at Gas Zone 18 is less than 3000L/min, this impact falls within a Level 1 trigger (see **Appendix A**). No Corrective Management Actions are required or recommended at this stage. Monitoring of Gas Zone 18 will continue and will be reported in the End of Panel Report.



Photo 1: Gas Zone 18- looking northeast. Taken on 18/03/2013.



Photo 2: Gas Zone 18- upstream releases, looking east. Taken on 18/03/2013.



Photo 3: Gas Zone 18- looking southeast towards river bank. Taken on 1/05/2013.



Photo 4: Gas Zone 18- looking southeast. Taken on 1/05/2013.



Photo 5: Gas Zone 18 - 1/05/2013.



Photo 6: Gas Zone 18- upstream releases. Taken on 1/05/2013.

Table 1: Currently active gas zones.

Site ID	Activation date	Activating longwall	Date last active	Description on last observation date
AA7LW704 Gas Zone 5	2/02/2008	LW701	18/03/2013	Two light intermittent releases with approximately 10 second intervals.
AA7LW704 Gas Zone 15	2/08/2012	LW704	1/05/2013	6 light intermittent releases intervals of approx. 30 seconds over a 10x20m area.
AA7LW704 Gas Zone 16	4/10/2012	LW705	1/05/2013	Multiple releases on western side of river. Four of which are moderate and intermittent. One main release heavy and constant. The remainder of which are light and varying from constant to intermittent. This gas zone is spread over approximately 280m ² .
AA7LW704 Gas Zone 17	12/02/2013	LW705	1/05/2013	Up to 7 small, light intermittent releases.
AA7LW704 Gas Zone 18	18/03/2013	LW705	1/05/2013	Up to 50 light to moderate releases ranging from intermittent to constant.



Figure 1: Location of currently active gas zones including the recently extended Gas Zone 18 and relevant longwalls

Appendix A

Monitoring	Trigger	Action
WATER QUALITY		
<p>Nepean River Impact monitoring sites adjacent to each Longwall:</p> <ul style="list-style-type: none"> ▪ NR11 ▪ NR12 ▪ NR13 ▪ NR20 ▪ NR30 <p>Refer Figure 1a</p> <p><i>Notes:</i> Baseline upriver sites will be used for cross-checking for upriver perturbations⁽³⁾ Baseline Upriver site NR2 data to be updated at end of panel following completion of each longwall, subject to checks-for, and discard-of upriver perturbed data</p>	<p>Level 1 (Within Prediction)⁽¹⁾ Impact monitoring sites:</p> <ul style="list-style-type: none"> ▪ pH reduction greater than 1 standard deviation but less than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ DO reduction greater than 1 standard deviation but less than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ Identification of strata gas plume of flow rate < 3000 L/min⁽²⁾ 	<ul style="list-style-type: none"> ▪ Continue monitoring program ▪ Report impacts to key stakeholders ▪ Summarise impacts and record
	<p>Level 2 (Within Prediction – CMAs may be required)⁽¹⁾ Impact monitoring sites:</p> <ul style="list-style-type: none"> ▪ pH reduction greater than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ DO reduction greater than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ EC, total Fe and total Mn increases greater than 2 standard deviation from pre-mining mean resulting from the mining for two consecutive months ▪ Identification of strata gas plume of flow rate >3000 L/min⁽²⁾ 	<ul style="list-style-type: none"> ▪ Actions as stated for Level 1 plus: ▪ Review monitoring program ▪ Notify relevant specialists (BHPBIC) and develop and implement remedial action if necessary <p><i>Strata Gas Emission Plume:</i></p> <ul style="list-style-type: none"> ▪ Estimate gas emission flow rates. Re-estimate should significant change be observed ▪ Take sample of plume (if possible) for: <ul style="list-style-type: none"> - chemical composition - dissolved methane from exactly above gas plume and at established downriver monitoring sites - dissolved sulfide and total phenols from exactly above gas plume and at nearest downriver monitoring site(s)
	<p>Level 3 (CMAs likely to be required)⁽¹⁾ Impact monitoring sites:</p> <ul style="list-style-type: none"> ▪ Level 2-type reduction in water quality resulting from the mining observed for more than 6 consecutive months 	<ul style="list-style-type: none"> ▪ Actions as stated for Level 2 plus: ▪ Immediately notify OEH, D&PI, NoW & DRE and any other relevant specialist. ▪ Consultation with stakeholders. ▪ Collect laboratory samples and analyse for: <ul style="list-style-type: none"> - pH, EC, Total Fe and Mn - Suite of Filterable metals. - Dissolved methane, sulfide and total phenols (if relevant). ▪ Develop site management measures as soon as practically possible (pending stakeholder availability) and seek any approvals required to implement
	<p>Exceeding Prediction</p> <ul style="list-style-type: none"> ▪ More than negligible gas releases 	<ul style="list-style-type: none"> ▪ <i>Actions as stated for Level 3</i> ▪ Investigate reasons for the exceedance ▪ Update future predictions based on the outcomes of the investigation

Appendix A: Appin Area 7 Trigger Action Response Plan (TARP) for mining induced impacts on the Nepean River from Longwalls 705 and 706.