Monitoring of the Nepean River and its associated tributaries is undertaken in accordance with the approved Appin Area 9 Extraction Plan (EP). Monitoring is conducted by the Illawarra Metallurgical Coal Environmental Field Team (IMCEFT) monthly prior to mining and weekly during mining. Water quality and surface water levels are measured along with photographic and observational records. Longwall 903 began extraction 1 November 2019 and as of 19 April 2020 had extracted approximately 1080m. During the latest inspection, undertaken on 23 April 2020, one new gas zone was identified as well as an update to an existing gas zone. 12 gas zones in total were active during the latest inspection (Figure 1).

AA9_LW903_001 (E 287602, N 6214639)

AA9_LW903_001 is a gas release zone on the Nepean River comprised of approximately 3 intermittent releases within an area of approximately 4m^2 (Photo 1). The site is approximately 460m from the closest point of Longwall 901 and 1140m from the closest point of Longwall 903 (Figure 1).

AA9_LW903_001 is a Level 1 Trigger as per the Trigger Action Response Plan (TARP) in the Appin Area 9 EP: Annex B - Subsidence Monitoring Program (Appendix A, Table 1):

- Identification of strata gas plume of flow rate < 3000 L/min.

Photo 1: Gas release zone *AA9_LW903_001* on the Nepean River. Taken on 23/04/2020.

Update: AA9_LW901_021 (E 288455, N 6214091)

AA9_LW901_021 is a gas release zone originally identified on 26 April 2017, during extraction of Longwall 901. Latest observations indicate an increase in activity of the gas zone. The zone now extends downstream from the original location and consists of approximately 25 light and intermittent releases (Photo 2). The site is approximately 700m upstream from the Douglas Park Weir.

AA9_LW901_021 remains at Level 1 Trigger as per the Trigger Action Response Plan (TARP) in the Appin Area 9 EP: Annex B - Subsidence Monitoring Program (Appendix A, Table 1):

- Identification of strata gas plume of flow rate < 3000 L/min.

Photo 2: Location of gas release zone *AA9_LW901_021* on the Nepean River. Taken on 23/04/2020.

Corrective Management Actions (CMAs)

Monitoring and reporting will continue as required by the EP. The following actions have been initiated:

- Continue monitoring program
- Submit an Impact Report to relevant stakeholders
- Report in the End of Panel Report
- Summarise actions and monitoring in the AEMR

Table 1: Latest active gas release zones on the Nepean River. Highlighted rows refer to recently identified/updated. Latest observations based on inspection date 23 April 2020.

Site	Identification Date	Activating Longwall	Type	Trigger Level	Comment
AA9_LW901_005	7/03/2016	LW901	Gas Zone	Level 1	Gas Zone in Nepean River
AA9_LW901_006	7/03/2016	LW901	Gas Zone	Level 1	Gas Zone in Nepean River
AA9_LW901_008	18/03/2016	LW901	Gas Zone	Level 1	Gas Zone in Nepean River
AA9_LW901_009	18/03/2016	LW901	Gas Zone	Level 1	Gas Zone in Nepean River
AA9_LW901_010	18/03/2016	LW901	Gas Zone	Level 1	Gas Zone in Nepean River
AA9_LW901_011	21/03/2016	LW901	Gas Zone	Level 1	Gas Zone in Nepean River
AA9_LW901_012	21/03/2016	LW901	Gas Zone	Level 1	Gas Zone in Nepean River
AA9_LW901_026	31/01/2018	LW901	Gas Zone	Level 1	Gas Zone in Nepean River
AA9_LW902_001	16/07/2018	LW902	Gas Zone	Level 1	Gas Zone in Nepean River
AA9_LW902_007	15/08/2019	LW902	Gas Zone	Level 1	Gas Zone in Nepean River
AA9_LW901_021	26/04/2017	LW901	Gas Zone	Level 1	Gas Zone in Nepean River
AA9_LW903_001	23/04/2020	LW903	Gas Zone	Level 1	Gas Zone in Nepean River

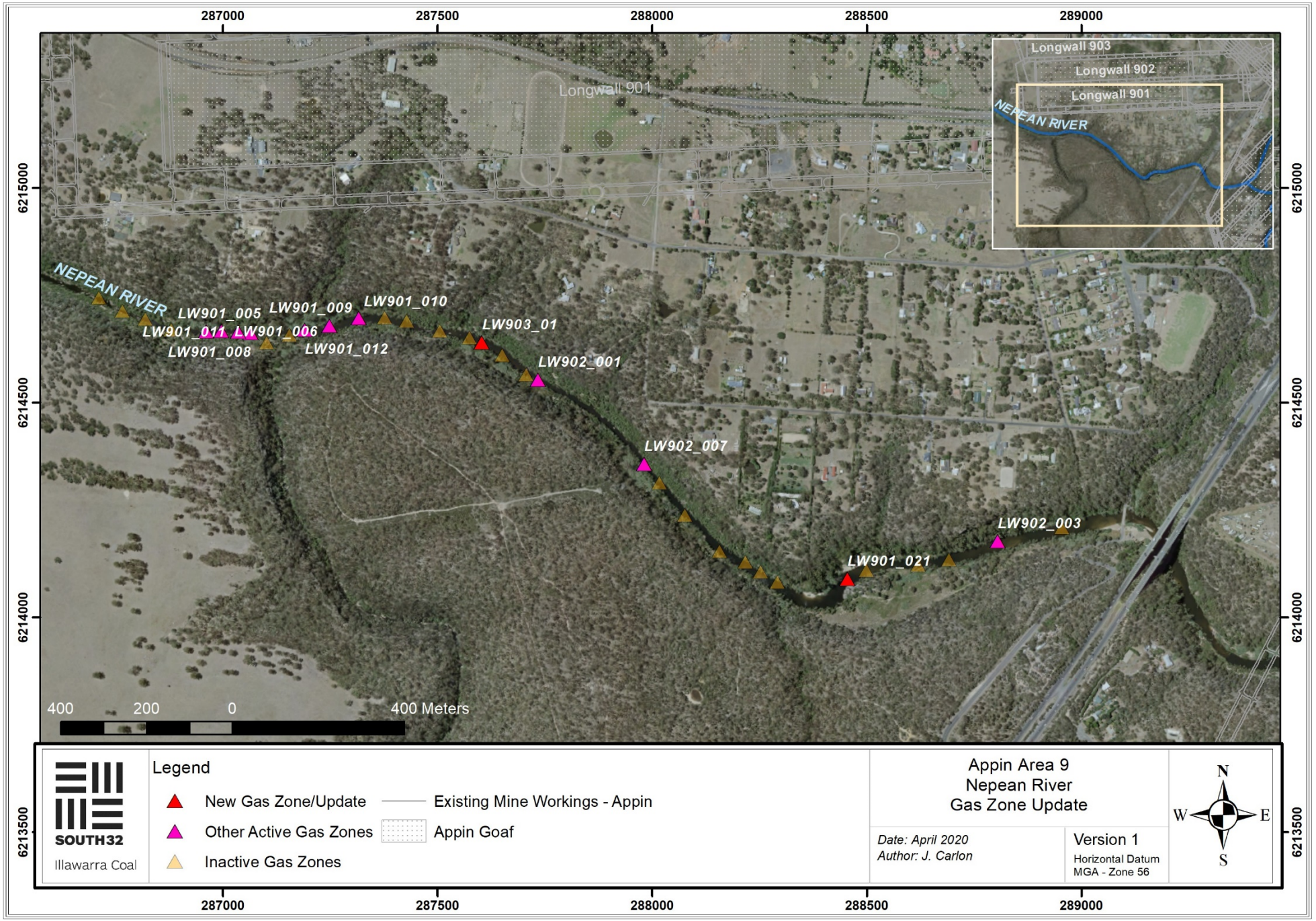


Figure 1: Gas zones on Nepean River in relation to Appin Area 9.

APPENDIX A

Table 2: Extract from Appin Area 9 Trigger Action Response Plan

Monitoring	Trigger	Action
WATER QUALITY		
Adjacent and downstream sites: • Nepean River: – NR0 – SW3 (NR1) – NR2 – If and where strata gas emission plumes above 3000 L/min are detected	***Level 1**** Impact monitoring sites when comparing the baseline period to the mining period for that site: • 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	• Continue monitoring program • Submit an Impact Report to OEH, DoPI, DPI and other relevant resource managers • Report in the End of Panel Report • Summarise actions and monitoring in AEMR
	Level 2* Impact monitoring sites when comparing the baseline period to the mining period for that site: • 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	• *Actions stated for Level 1* • Review monitoring program • Notify relevant technical specialists and seek advice on any CMA required • Implement agreed CMAs as approved *Note: CMAs are to be proposed based on appropriate management of environmental and other consequences of mining impacts i.e. water quality changes with insignificant consequences may not require specific CMAs other than ongoing monitoring to confirm there are no ongoing impacts* *Strata Gas Emission Plume:* • Estimate gas emission flow rates. Re-estimate should significant change be observed • Take sample of plume (if possible) for: – chemical composition – dissolved methane from exactly above gas plume and at established downriver monitoring site – dissolved sulfide and total phenols from exactly above gas plume and at nearest downriver monitoring site
	Level 3* Impact monitoring sites when comparing the baseline period to the mining period for that site: • Level 2-type reduction in water quality resulting from the mining observed for more than 6 consecutive months	• *Actions stated for Level 2* • Notify OEH, DP&I, NoW, DPI, DRE, relevant resource managers and technical specialists and seek advice on any CMA required • Invite stakeholders for site visit • Develop site CMA (subject to stakeholder feedback) • Completion of works following approvals, including monitoring and reporting on success • Review the TARP and Management Plan in consultation with key stakeholders *Note: CMAs are to be proposed based on appropriate management of environmental and other consequences of mining impacts i.e. water quality changes with insignificant consequences may not require specific CMAs other than ongoing monitoring to confirm there are no ongoing impacts*

Monitoring	Trigger	Action
	Exceeding Performance Measures • Mining results in more than negligible gas releases, iron staining or water cloudiness	• *Actions stated for Level 3* • Investigate reasons for the exceedance • Update future predictions based on the outcomes of the investigation • Provide environmental offset if CMAs are unsuccessful
GROUNDWATER		
Groundwater flow into the mine **Registered Bores:** GW 34425 GW 35033 GW 72249 GW 100673 GW 101133 GW 102043 GW 102584 GW 102798 GW 103161 GW 104068 GW 104602 GW 104661 GW 110671 **BHPBIC Piezometers:** EAW9 EAW18 EAW58 PROSP A PROSP B	***Level 1**** • Increase in water flow from the goaf between 2.7 to 3 ML/day (over 20 day average) • 5.0 – 7.5 m reduction in the Hawkesbury Sandstone greater than predicted standing water level or pressure (outside of pumping influences in private bores) over a minimum 2 month period	• Continue monitoring program • Submit an Impact Report to OEH, DoPI, DPI and other relevant resource managers • Report in the End of Panel Report • Summarise actions and monitoring in AEMR
	Level 2* • Increase in water flow from the goaf between 3 to 3.4ML (over 20 day average) • 7.5 – 10 m reduction in the Hawkesbury Sandstone greater than predicted standing water level or pressure (outside of pumping influences in private bores) over a minimum 2 month period	• *Actions stated for Level 1* • Review monitoring program • Notify relevant technical specialists and seek advice on any CMA required • Implement agreed CMAs as approved *Note: CMAs are to be proposed based on appropriate management of environmental and other consequences of mining impacts i.e. cracking at the surface with insignificant consequences may not require specific CMAs other than ongoing monitoring to confirm there are no ongoing impacts*
	Level 3* • Abnormal increase in water flow from the goaf >3.4ML (20 day average) • >10m reduction in the Hawkesbury Sandstone standing water level or pressure (outside of pumping influences in private bores) over a minimum 2 month period • Mining results in groundwater bores unsafe, unserviceable or damaged	• *Actions stated for Level 2* • Notify OEH, DP&I, DPI, NoW, DRE, relevant resource managers and technical specialists and seek advice on any CMA required. • Invite stakeholders for site visit • Develop site CMA (subject to stakeholder feedback). This may include: – Make area safe – Any actions agreed to in the Property Subsidence Management Plan – Provisions of alternate water supply where this has been impacted by mining – MSB to repair any infrastructure damaged by mining • Completion of works following approvals, including monitoring and reporting on success • Review the Groundwater Model, TARP and Management Plan in consultation with key stakeholders *Note: CMAs are to be proposed based on appropriate management of environmental and other consequences of mining impacts i.e. cracking at the surface with insignificant consequences may not require specific CMAs other than ongoing monitoring to confirm there are no ongoing impacts*

Monitoring of Hawkesbury Sandstone (HBSS) water levels/pressures is undertaken in selected boreholes to identify subsidence impacts. Monitoring is conducted in accordance with the Appin Area 9 Longwalls 901 to 904 Extraction plan, Annex C – Water Management Plan.

Extraction of Longwall 903 began 01 November 2020 and as of 30 August 2020 the longwall had progressed approximately 1,328 m (**Figure 1**). A groundwater level/pressure trigger was recorded in borehole *S1941 (EAW9)*. Borehole *S1941* is located 290 m from Longwall 903 at its closest point.

Borehole S1941 (EAW9)

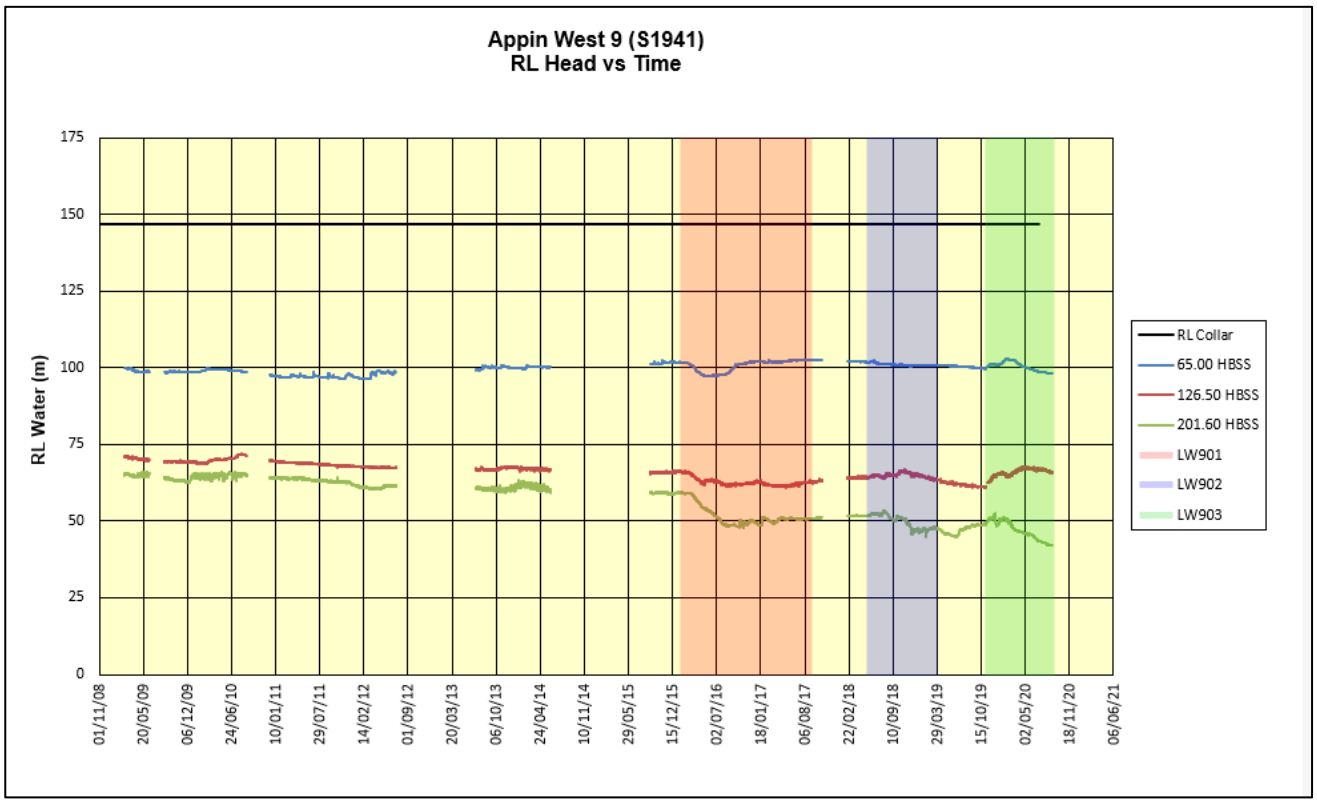
A groundwater trigger was recorded in borehole *S1941* during recent analysis of piezometer data in HBSS (**Graph 1**). The borehole has three piezometers installed in HBSS, at the depths of 65.00 m, 126.50 m and 201.60 m. The Level 1 trigger was recorded in the piezometer located at 201.60 m.

The Level 1 trigger in Annex C – Water Management Plan is reached when there is *5.0 – 7.5 m reduction in the Hawkesbury Sandstone greater than predicted standing water level or pressure (outside of pumping influences in private bores) over a minimum 2 month period* (**Appendix A**). Section 4.2 of Water Management Plan predicts up to 10 m reduction in HBSS, therefore the level 1 trigger condition is a 15 - 17.5 m reduction for 2 months.

Prior to mining in Appin Area 9, pressure in the piezometer was stabilising at RL of 58.53 m.

On 30 June 2020 water pressure RL in borehole *S1941 (EAW9)* dropped to 43.53 m, i.e. 15 m below the baseline, and on 30 August 2020 (2 months later) the recorded pressure RL was 42,19 m, meeting the level 1 trigger conditions.

No groundwater triggers were observed in the HBSS piezometers installed in the borehole *S1941* at depths of 65.00 m and 126.50 m.



Graph 1: HBSS groundwater levels in S1941, date range: 01/11/2008 to 31/08/2020.

Table 1: Recent subsidence impacts and triggers. Highlighted row indicates impact featured in this report.

Site	Identification Date	Active Longwall	Type	Trigger Level	Comment	Featured in Report Dated
AA9_LW903_001	23/04/2020	LW903	Gas zone	1	Gas release in Nepean River.	24/04/2020
S1941	02/09/2020	LW903	Groundwater trigger	1	>15 m reduction over 2-month period.	This Report

Corrective Management Actions

- Continue monitoring program
- Submit an Impact Report to OEH, DoPI, DPI and other relevant resource managers
- Report in the End of Panel Report
- Summarise actions and monitoring in AEMR

APPENDIX A

Table 2- Excerpt from Water Management Plan, Table 7.1 - AA9 Trigger Action Response Plan (TARP)

Monitoring	Trigger	Action
	negligible gas releases, iron staining or water cloudiness	outcomes of the investigation • Provide environmental offset if CMAs are unsuccessful
GROUNDWATER		
Groundwater flow into the mine **Groundwater Level:** GW 34425 GW 35033 GW 72249 GW 100673 GW 101133 GW 102043 GW 102584 GW 102798 GW 103161 GW 104068 GW 104602 GW 104661 GW 110671 **BHPBIC Piezometers**: EAW5 EAW7 EAW9 EAW18 EAW58 S2280 S2281	***Level 1**** • Increase in water flow from the goaf between 2.7 to 3 ML/day (over 20 day average) • 5.0 – 7.5 m reduction in the Hawkesbury Sandstone greater than predicted standing water level or pressure (outside of pumping influences in private bores) over a minimum 2 month period ***Level 2**** • Increase in water flow from the goaf between 3 to 3.4ML (over 20 day average) • 7.5 – 10 m reduction in the Hawkesbury Sandstone greater than predicted standing water level or pressure (outside of pumping influences in private bores) over a minimum 2 month period ***Level 3**** • Abnormal increase in water flow from the goaf >3.4ML (20 day average) • >10m reduction in the Hawkesbury Sandstone standing water level or pressure (outside of pumping influences in private bores) over a minimum 2 month period • Mining results in groundwater bores unsafe, unserviceable or damaged	• Continue monitoring program • Submit an Impact Report to OEH, DoPI, DPI and other relevant resource managers • Report in the End of Panel Report • Summarise actions and monitoring in AEMR • *Actions stated for Level 1* • Review monitoring program • Notify relevant technical specialists and seek advice on any CMA required • Implement agreed CMAs as approved *Note: CMAs are to be proposed based on appropriate management of environmental and other consequences of mining impacts i.e. cracking at the surface with insignificant consequences may not require specific CMAs other than ongoing monitoring to confirm there are no ongoing impacts* • *Actions stated for Level 2* • Notify OEH, DoPE, DPI, NoW, DRE, relevant resource managers and technical specialists and seek advice on any CMA required. • Invite stakeholders for site visit • Develop site CMA (subject to stakeholder feedback). This may include: – Make area safe – Any actions agreed to in the Property Subsidence Management Plan – Provisions of alternate water supply where this has been impacted by mining – MSB to repair any infrastructure damaged by mining • Completion of works following approvals, including monitoring and reporting on success • Review the Groundwater Model, TARP and Management Plan in consultation with key stakeholders *Note: CMAs are to be proposed based on appropriate management of environmental and other consequences of mining impacts i.e. cracking at the surface with insignificant consequences may not require specific CMAs other than ongoing monitoring to confirm there are no ongoing impacts*

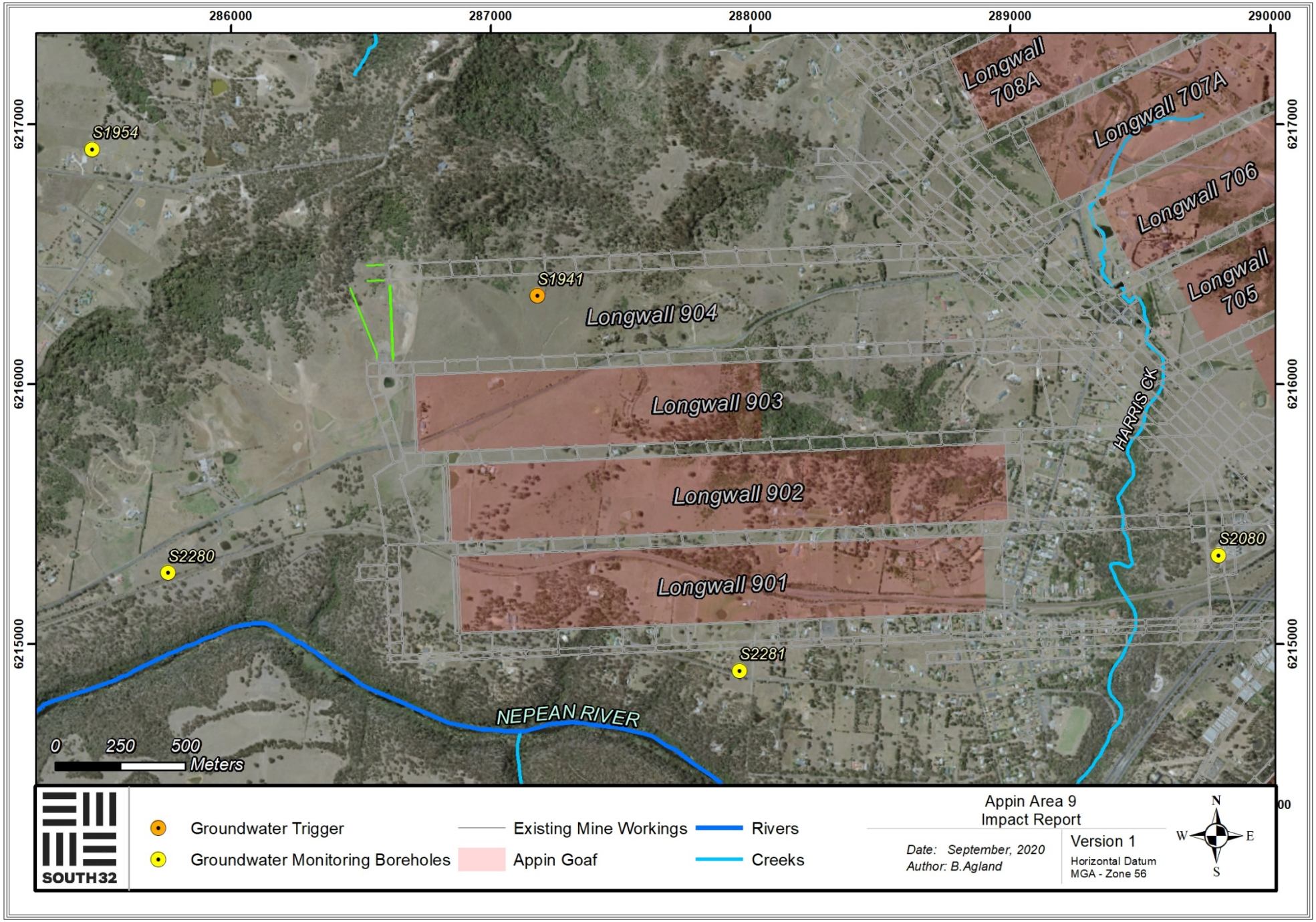


Figure 1: Map showing latest groundwater triggers relevant to Appin Area 9 mining operations.