Narrabri Mine Community Consultative Committee Meeting Minutes

Meeting No: 42

Date: Wednesday 12th September 2018

Time: 5:05pm

Location: Narrabri Mine Site Office

Present: Russell Stewart (RS) – Independent Chair
Peter Webb (PW)
James Stieger (JS)
Mark Foster (MF)
Geoff Hunter (GH)
Rodney Dunlop (RD)
Owen Salisbury (OS) – Narrabri Mine Technical Services Manager
Steve Farrar (SF) – Narrabri Mine Environmental Superintendent

1. APOLOGIES

Steve Bow, David Ellwood and Ron Campbell.

2. DECLARATION OF PECUNIARY OR OTHER INTERESTS

MF leases land from the mine.

3. PREVIOUS MINUTES

GH asked for wording in Section 3.1 to be updated. With the update the following moved the minutes:

Moved: GH Seconded: MF

3.1 BUSINESS ARISING FROM PREVIOUS MINUTES

SF handed out copies of the 2017 Annual Review for the mine.

SF went through the noise monitoring and inversion conditions data for the last 12 months. GH asked SF to explain the graphs which he did. RD asked about the measurements that were affected by inversions and SF explained the graph colours and then summarised the data. GH asked about the numbers in the report last meeting and SF explained they are the worst 15-min period and the other data is not included. JS asked about the noise in winter and SF explained they are likely affected by inversion conditions. SF explained the other meteorological noise enhancing condition is wind speeds >3m/s.

SF presented the current Stage 3 mine plan. GH asked about the underground conveyor which SF confirmed. MF asked about different levels of mining which SF said it is all the one coal seam, i.e. one level. GH asked about the depth which OS explained relating to the existing operation. GH asked about property purchase and SF explained the current progress and the status of the other properties. GH asked about when a definitive plan would be ready and SF explained the current process and a decision should be made this year. GH said some of the residences don't have much certainty and SF explained once the Gateway application is submitted then the other modelling work will commence to inform any impacts to properties around the mine plan. MF asked about purchasing certain properties which SF said no unless noise modelling indicates otherwise. GH asked about the noise sources which SF explained. MF asked about the drilling and JS said the degassing holes will be needed which SF confirmed. RD asked if the mine had achieved a water surplus and SF said no. GH asked about the water being imported which SF explained including the licence amounts. RD asked about the groundwater modelling and SF said it will be updated.

4. GENERAL BUSINESS

4.1 OPERATIONS PROGRESS REPORT

The operations update was provided as follows:

Mine Progress Report (to 31 August 2018)

Coal produced (t):	August 2018	44,345
	FY-to-date	211,207
Coal Railed (t):	August 2018	134,801
	FY-to-date	622,708
Average workforce numbers (August 2018):		
	NCO	Waged – 120
		Salary – 119
		Total – 239
	Contractors	Total – 241
Safety Update (FY to August 2018):		
	Lost Time Injury (LTI)	0
	Days LTI Free:	63
	Total Recordable Injuries:	2
	Planned Task Observations:	2,075
	Take 5 Assessments:	33,842
	Work Hours (Aug-18):	151,007

OS went through the operations report. RD asked about production and OS explained the mine was behind by a couple of weeks at this stage. OS explained the activities associated with the longwall move and the gradual ramp up in production when the longwall starts again. MF asked about the longwall and SF explained where the mine was moving from/to. JS asked how many to go and SF explained. GH asked about the fire underground and OS explained the heating of the coal that occurred, what was done and it is all under control now. RD asked about the spon com propensity of the coal which OS explained. MF asked about monitoring which OS explained. OS explained the process to monitor the area and what the mine has done to stop oxygen getting into the area.

4.2 ENVIRONMENTAL OVERVIEW

SF went through the environmental report. GH asked about the coal and organic matter in the dust gauges and SF explained the combustible and organic matter components. GH asked the difference between wood smoke and coal dust in the gauges and SF explained the high volume air sampler would be best to measure wood smoke etc as it is weighed before and after. RD explained the dust gauges are total of anything that falls into the funnel. SF explained the samplers note what is in the dust gauges, e.g. organic matter. GH asked about the maximum subsidence compared to mining height and SF explained the initial model and the modelling done now is based off of data from the mine.

5. NEW BUSINESS

RD asked if the mine would consider bussing people to work to limit traffic/rubbish etc. SF said the mine utilises a couple of contractors that do have small busses but only a small amount. JS said at the start the mine said it would bus people in as most were contractors and would be bussed in but this never happened. RS stated that the road of an evening heading back to Narrabri is very busy. GH asked why it doesn't happen. SF said it is part of Maules Creek's development consent but not part of this mines' consent. GH said he thought with the shift work it would be easy to do. SF said he wasn't sure if they like the freedom of leaving when they want and RS asked if we can investigate and SF said we can ask the question. MF said some people at the end of the shift would need to do paperwork and SF said that's right but the majority would be leaving around the same time. RD said it would be a cultural shift but it could be done. RS asked where people drive from for work and SF said the furthest he knows is from Manilla. SF said he knows of a couple from Tamworth that work at Maules Creek. RD said that Whitehaven have the 100km policy and RS said that's why Tamworth Council want the Rangari Rd fixed up to allow people from Tamworth to get to the mines and Narrabri Council have said they wouldn't back it. RS suggested a survey of staff to see if they would use it.

GH asked about rehabilitation and SF explained where it is up to. GH asked about the staff numbers etc with the new plan and SF said it is the same at this stage. OS stated the plan is to maintain current levels of people and coal production. GH asked about the inland rail line and potential coal use and SF said he didn't believe it would be feasible but may offer an alternative to Newcastle. RS outlined the current project and detailed the end of the line near Brisbane and the issues there. JS said it would be hard to get a line through Brisbane and RS said you may be able to go north and JS said it would have to be up near Gladstone which would be a bottle neck with Adani coal. RS said the cost of the last section through Brisbane would be more than the rest of the rail project. JS said it is being built to go to Toowoomba for freight and RS said 80% of the freight is Coles/Woolworths and exports from China go around the west coast by ship ending up in Melbourne. RS said there is a big freight terminal in Toowoomba and Warwick. JS said they aren't worried about coal it will go to Newcastle and the rail line will end up in Toowoomba for freight. JS said they could do grain out of Brisbane but you still have to truck it in.

6. NEXT MEETING

Wednesday 5th December 2018 at 5:00pm at the Railway Hotel, Baan Baa.

7. CLOSURE OF MEETING

Meeting closed at 6:07pm.

Narrabri Mine Community Consultative Committee Meeting #42

Environmental Monitoring Report: June – August 2018

Noise Monitoring

Attended noise monitoring was undertaken between Tuesday 19th to Thursday 21st June 2018 (Table 1) to verify if noise levels were within compliance limits. The draft results from this monitoring are detailed in the table below.

Table 1: Monitoring Results

EPL ID	Monitoring Date	Daytime Measured L_{Aeq} dB	Evening Measured Levels L_{Aeq} dB	Night Measured Levels L_{Aeq} dB	Night Measured Level $L_{A1,1minute}$ dB	Noise Limit(s)	Compliance
N5 Oakleigh	19/06/2018	20	<20	NM	NM	Day/Evening/Night $L_{Aeq,15minute}$: 35 dB Night $L_{A1,1minute}$: 45 dB	Yes
N5 Oakleigh	20/06/2018	NM	IA	IA	IA		Yes
N5 Oakleigh	21/06/2018	23	34	IA	IA		Yes
N6 Newhaven	19/06/2018	<25	31	33	43		Yes
N6 Newhaven	20/06/2018	33	28	30	41		Yes
N6 Newhaven	21/06/2018	27	33	28	41		Yes
N1 Bow Hills	19/06/2018	<25	27	33	38		Yes
N3 Ardmona	19/06/2018	IA	IA	IA	IA		Yes
N7 Merriman	19/06/2018	NM	20	27	38		Yes
N8 Matilda	19/06/2018	IA	IA	IA	IA		Yes

Notes:

1. *Noise levels provided in these columns are highest NAR only contributions, where criteria were applicable, during each period;*
2. *Bolded results indicate exceedance of criteria;*
3. *As detailed in the EPL, noise emission limits apply under all meteorological conditions except:*
   - *Wind speeds greater than 3 m/s at 10 metres above ground level; or*
   - *Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or*
   - *Stability class G temperature inversions;*
4. *'NM' denotes not measureable.*
5. *'IA' denotes inaudible.*

During the June 2018 monitoring, under the operating and meteorological conditions at the time, for the worst-case 15-minute compliance measurement periods, the mine noise was compliant at all locations.

Deposited Dust Monitoring

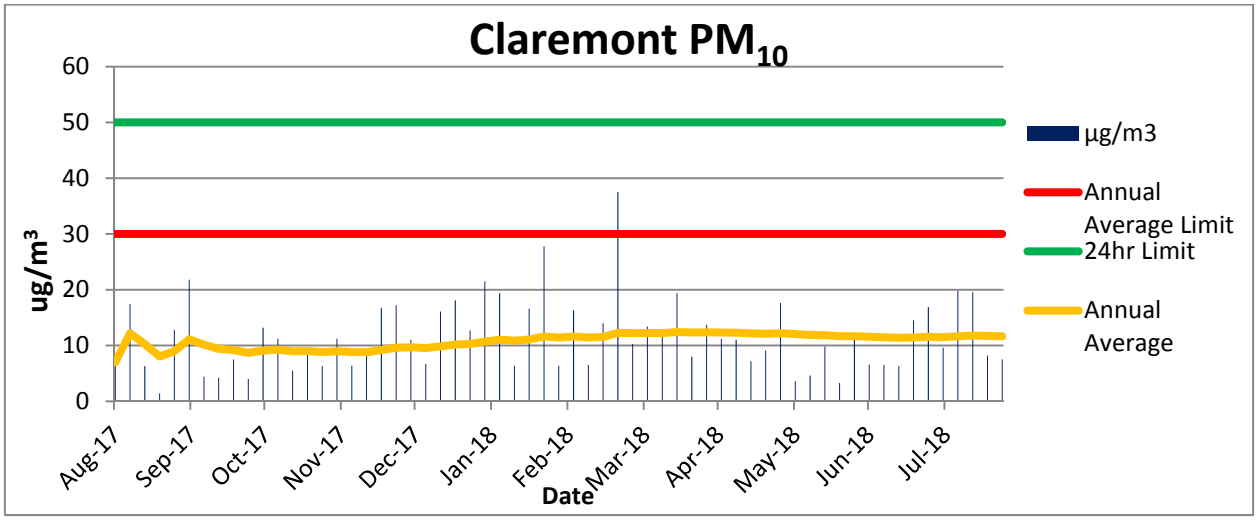
Month	ND1 Turrabaa	ND2 Claremont	ND3 Bow Hills	ND4a New Matoppo	ND5 Claremont	ND6 Willarah	ND7 Claremont	ND8 Claremont	ND11 Oakleigh	ND12 Merriman
Sep-17	1.7	1.2	1.2	1.1	3.2	1.5	2.1	3.6	0.9	1.0
Oct-17	4.0	1.8	2.0	2.2	4.0	2.2	2.5	2.5	3.2	1.1
Nov-17	0.9	6.1	1.0	3.2	3.8	1.6	0.8	3.1	0.7	1.2
Dec-17	3.9	1.0	7.3	2.7	3.2	0.9	1.5	3.1	1.0	1.0
Jan-18	3.0	2.9	0.6	6.9	2.9	54.7	1.3	1.3	1.0	1.4
Feb-18	2.5	0.9	2.8	5.2	2.7	0.9	7.5	1.6	2.4	1.0
Mar-18	3.2	1.5	2.9	5.4	3.0	1.1	1.2	2.5	3.1	2.1
Apr-18	3.6	4.0	0.9	3.1	2.1	1.2	0.8	2.5	9.0	0.7
May-18	2.8	2.0	3.0	0.4	0.5	0.4	0.4	1.1	1.0	0.6
Jun-18	20.7	0.5	4.6	1.4	3.4	2.4	1.5	0.7	0.6	3.1

Month	ND1 Turrabaa	ND2 Claremont	ND3 Bow Hills	ND4a New Matoppo	ND5 Claremont	ND6 Willarah	ND7 Claremont	ND8 Claremont	ND11 Oakleigh	ND12 Merriman
Jul-18	3.6	0.6	2.7	0.6	2.1	0.4	0.8	1.4	0.7	1.2
Aug-18	1.8	0.9	3.3	1.6	3.4	1.5	1.1	2.3	1.5	1.6
Annual Average	**4.3**	**2.0**	**2.7**	**2.8**	**2.9**	**5.7**	**1.8**	**2.1**	**2.1**	**1.3**

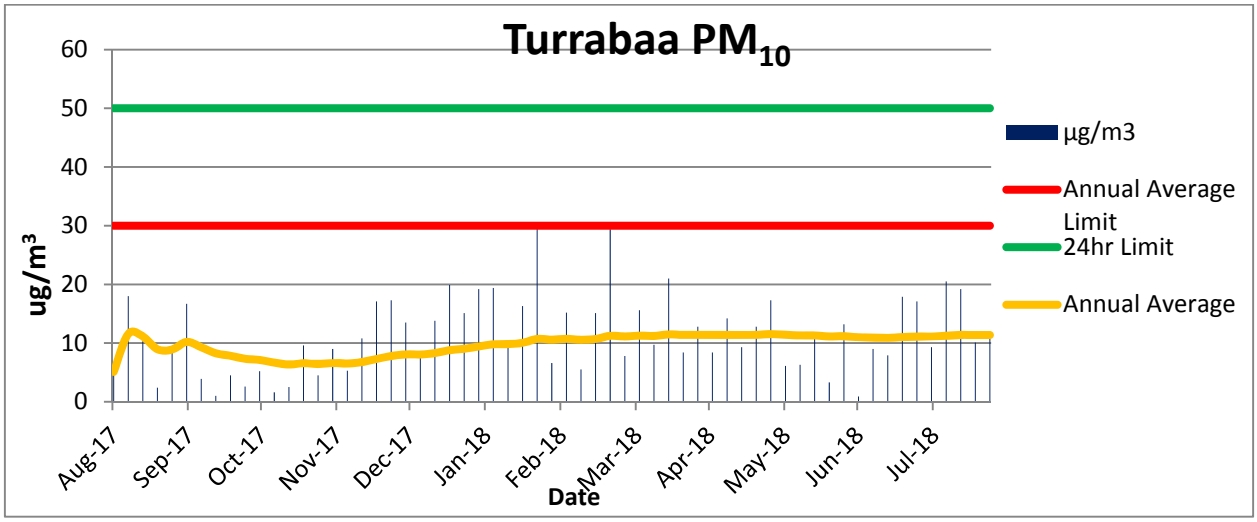
All deposited dust levels are within the compliance limit of 4 g/m^2/mth with the exception of ND1 and ND6. Both of these gauges annual ash limit, i.e. the component of the deposited dust attributable to mining, are well below the annual limit being 2.9 and 0.9 g/m^2/mth, respectively.

High Volume Air Sampling (PM10)

PM10 measurements taken to 23 August 2018 for the "Claremont" High Volume Air Sampler (HVAS) are returning a running annual average of 11.66 µg/m^3, which is well below the annual average limit of 30 µg/m^3.



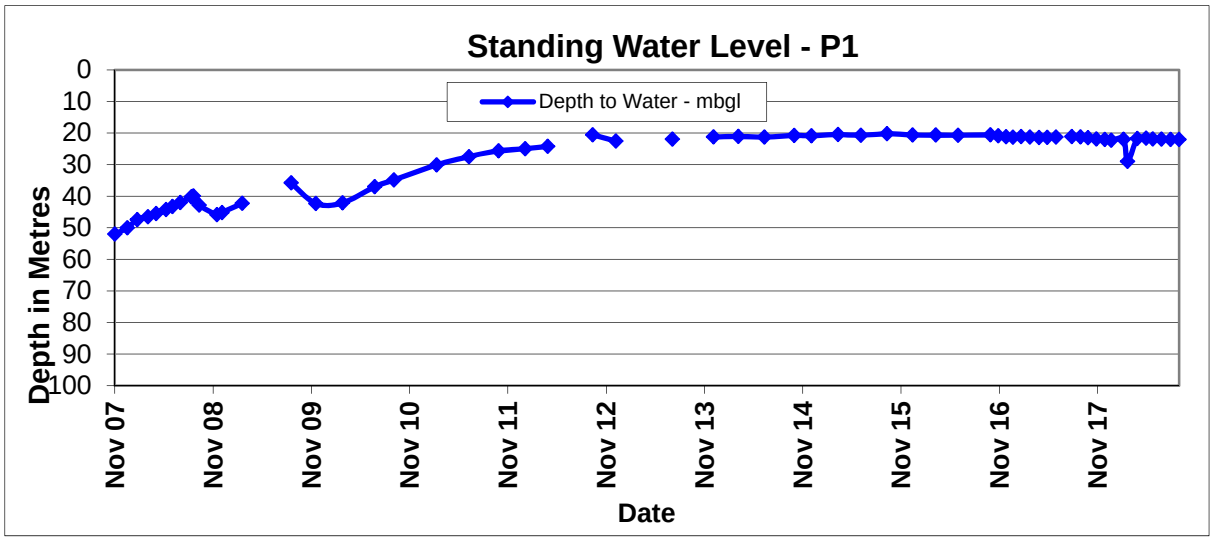
PM10 measurements taken to 23 August 2018 for the "Turrabaa" High Volume Air Sampler are returning a running annual average of 11.37 µg/m^3, which is also well below the annual average limit of 30 µg/m^3.

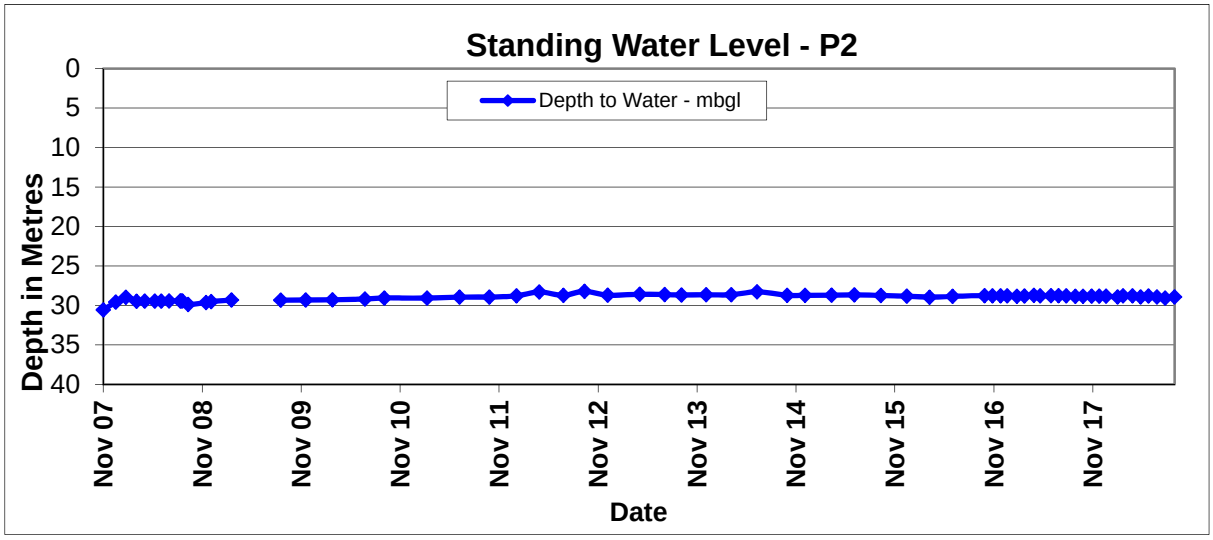


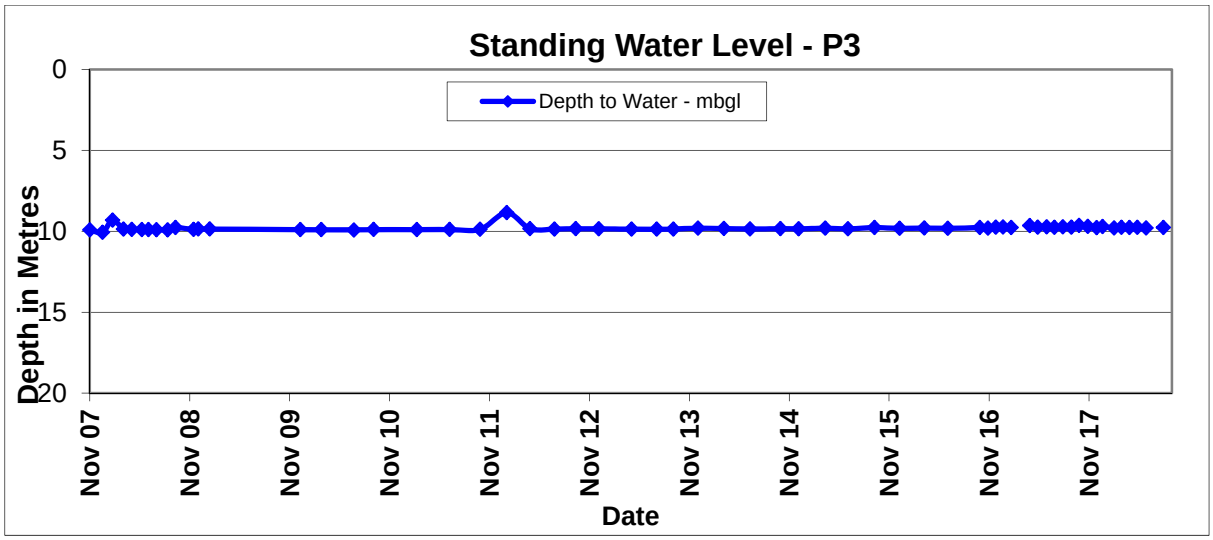
PM10 levels have remained compliant since the last meeting.

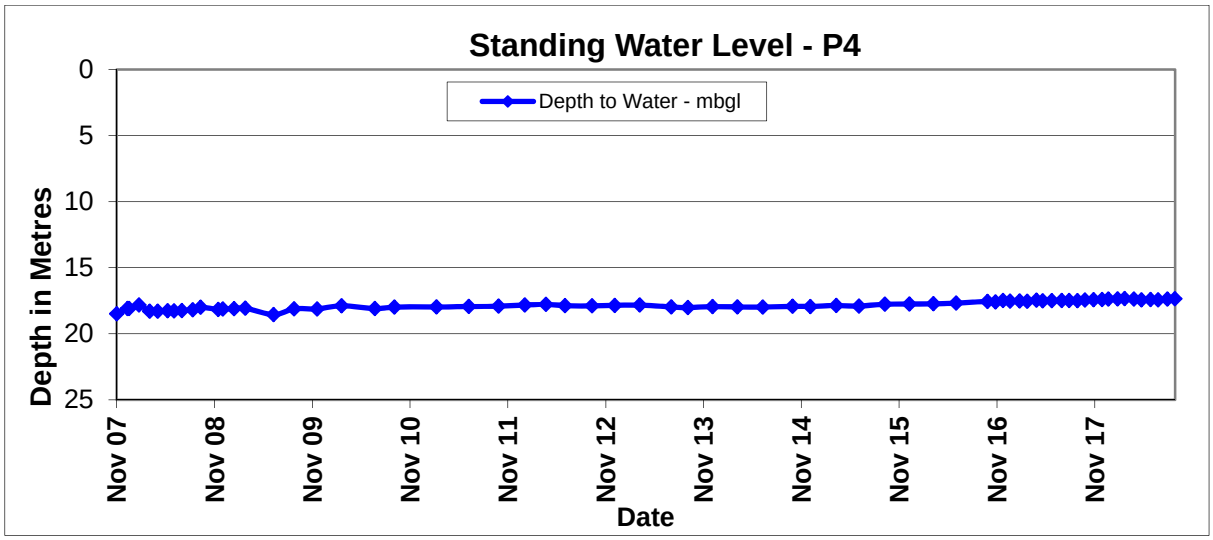
Groundwater Monitoring

Groundwater monitoring was completed in June 2018. Monitoring results are included below.





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Depth to Water - mbgl
Depth in Metres
0
5
10
15
20
25
Nov 07
Nov 08
Nov 09
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Nov 11
Nov 12
Nov 13
Nov 14
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Nov 16
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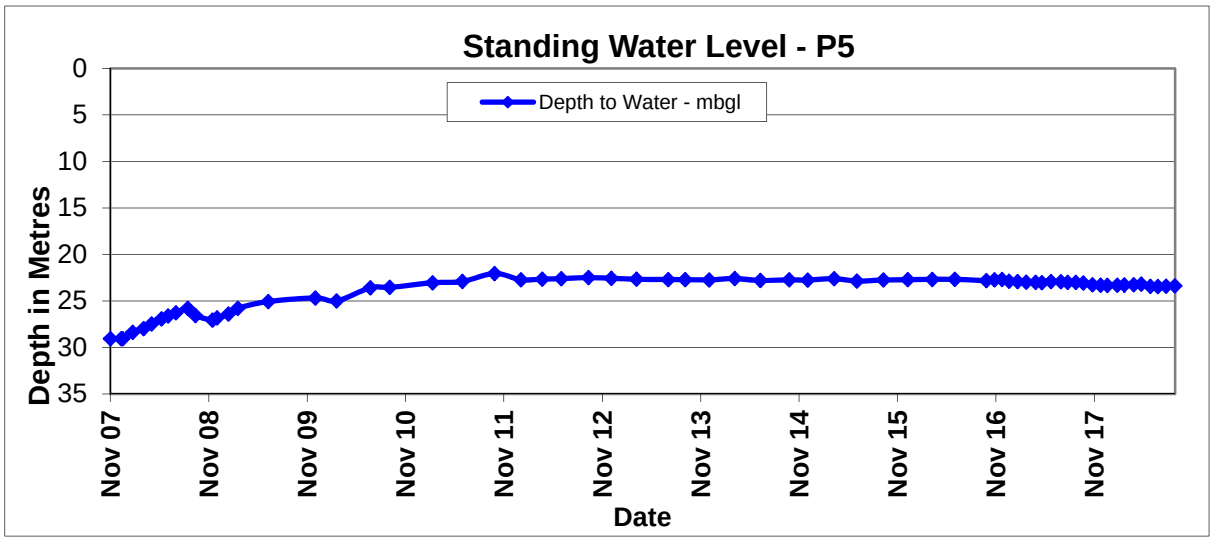
Date


Standing Water Level - P5
Depth to Water - mbgl
Depth in Metres
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10
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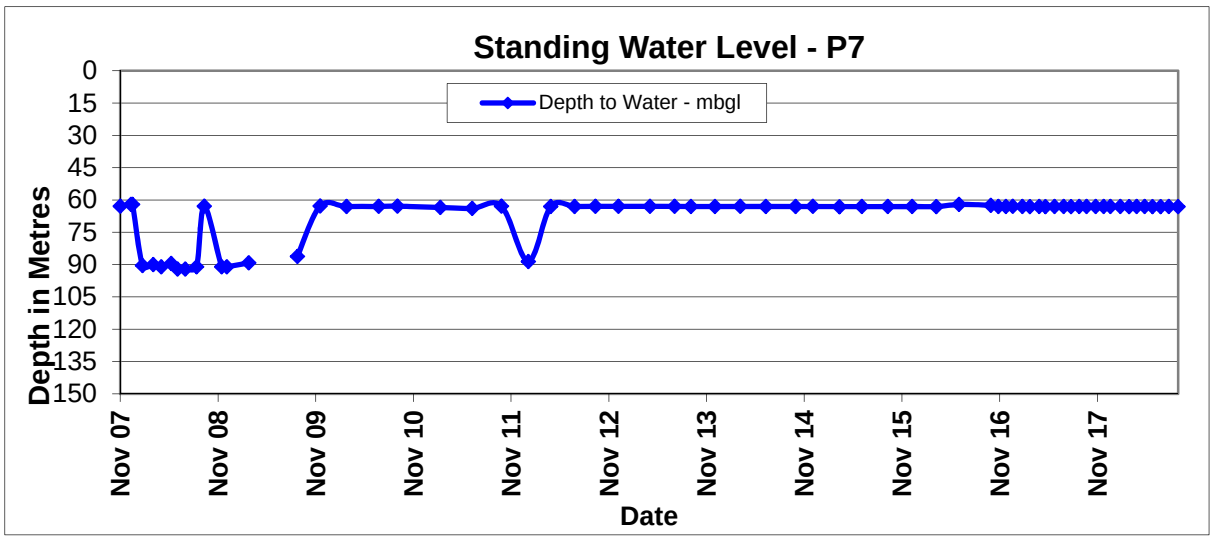
Nov 16
Nov 17
Date


Standing Water Level - P7
Depth to Water - mbgl
Depth in Metres
0
15
30
45
60
75
90
105
120
135
150
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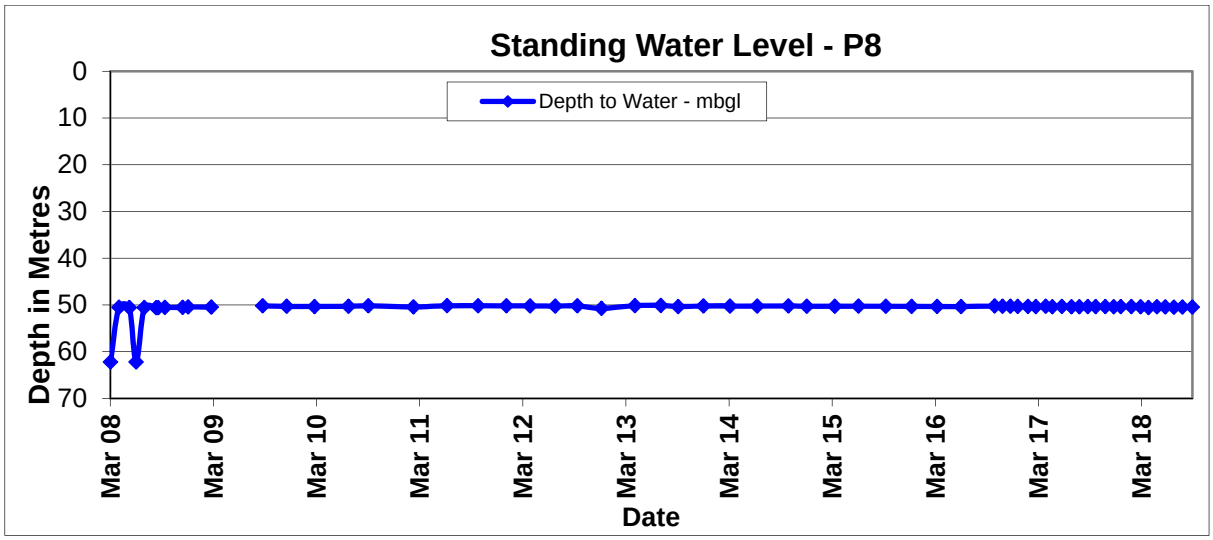
Nov 15
Nov 16
Nov 17
Date


Standing Water Level - P8
Depth to Water - mbgl
Depth in Metres
0
10
20
30
40
50
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70
Mar 08
Mar 09
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Mar 11
Mar 12
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Mar 14
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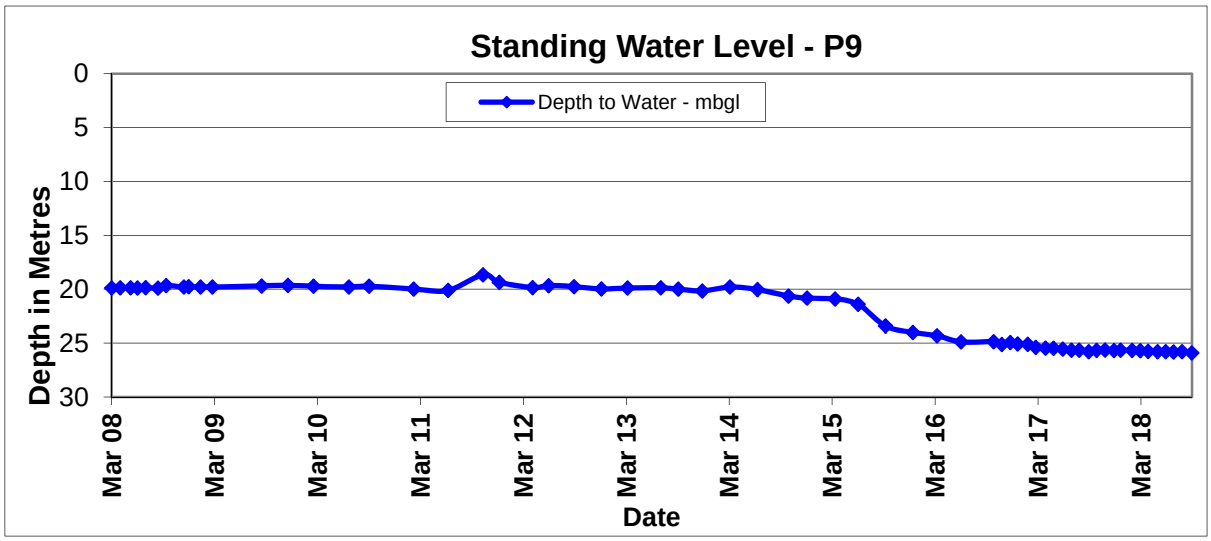
Mar 16
Mar 17
Mar 18
Date


Standing Water Level - P9
Depth to Water - mbgl
Depth in Metres
0
5
10
15
20
25
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Mar 08
Mar 09
Mar 10
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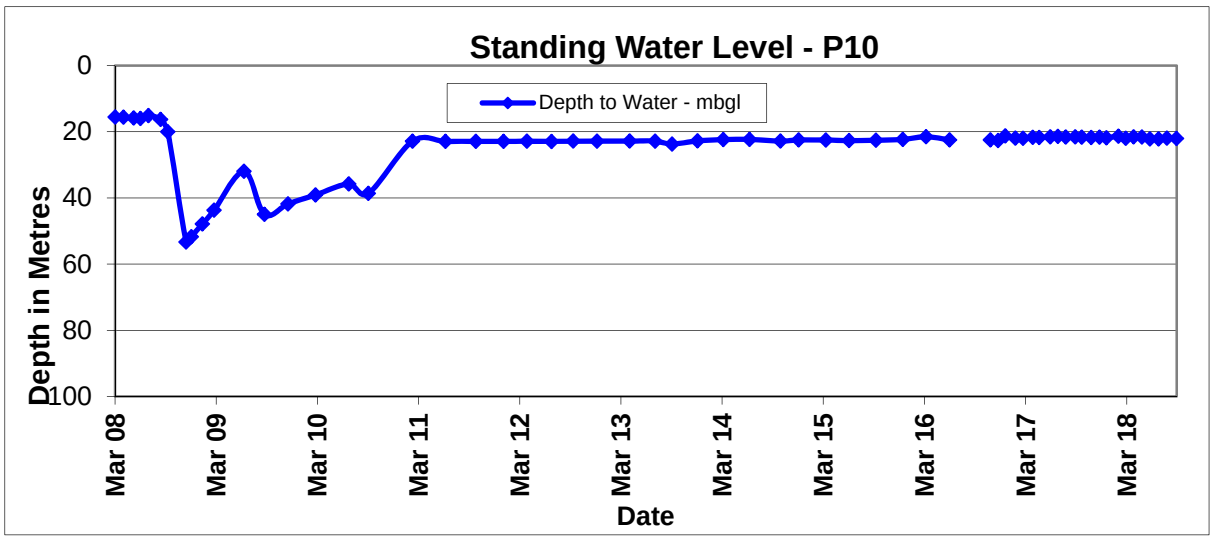
Mar 17
Mar 18
Date


Standing Water Level - P10
Depth to Water - mbgl
Depth in Metres
0
20
40
60
80
100
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Mar 18
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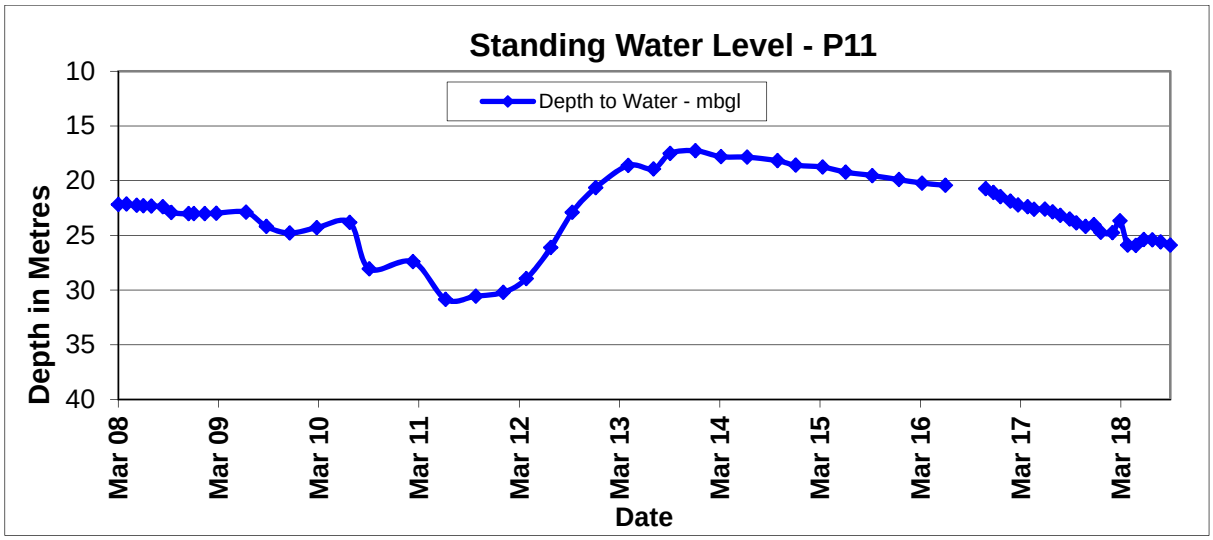
Standing Water Level - P11
Depth to Water - mbgl
Depth in Metres
10
15
20
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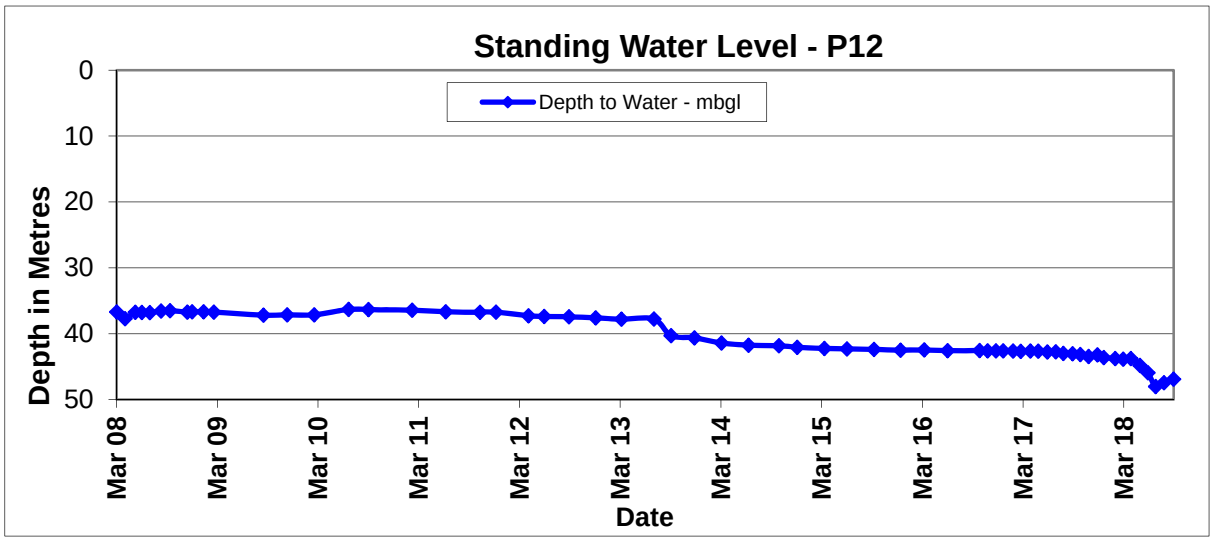
Mar 16
Mar 17
Mar 18
Date


Standing Water Level - P12
Depth to Water - mbgl
Depth in Metres
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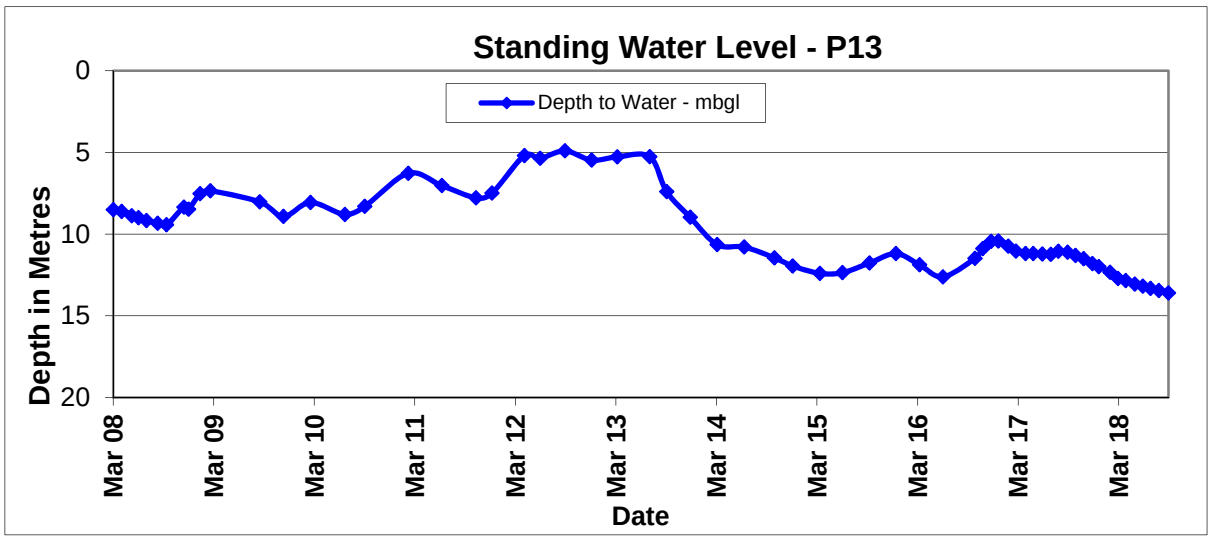
Date


Standing Water Level - P13
Depth to Water - mbgl
Depth in Metres
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Mar 12
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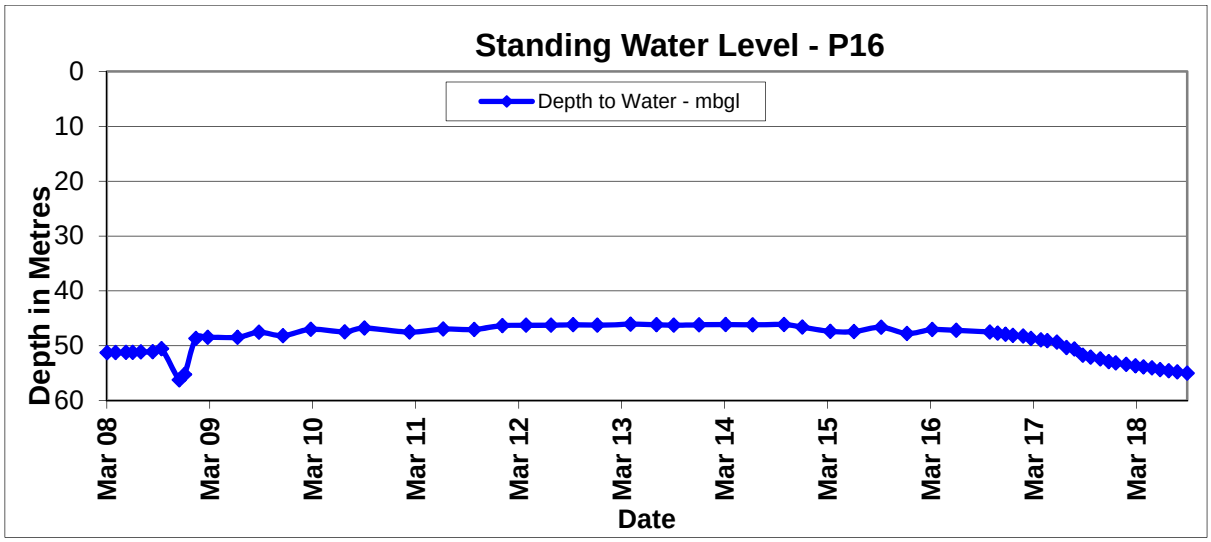
Mar 16
Mar 17
Mar 18
Date


Standing Water Level - P16
Depth to Water - mbgl
Depth in Metres
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10
20
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60
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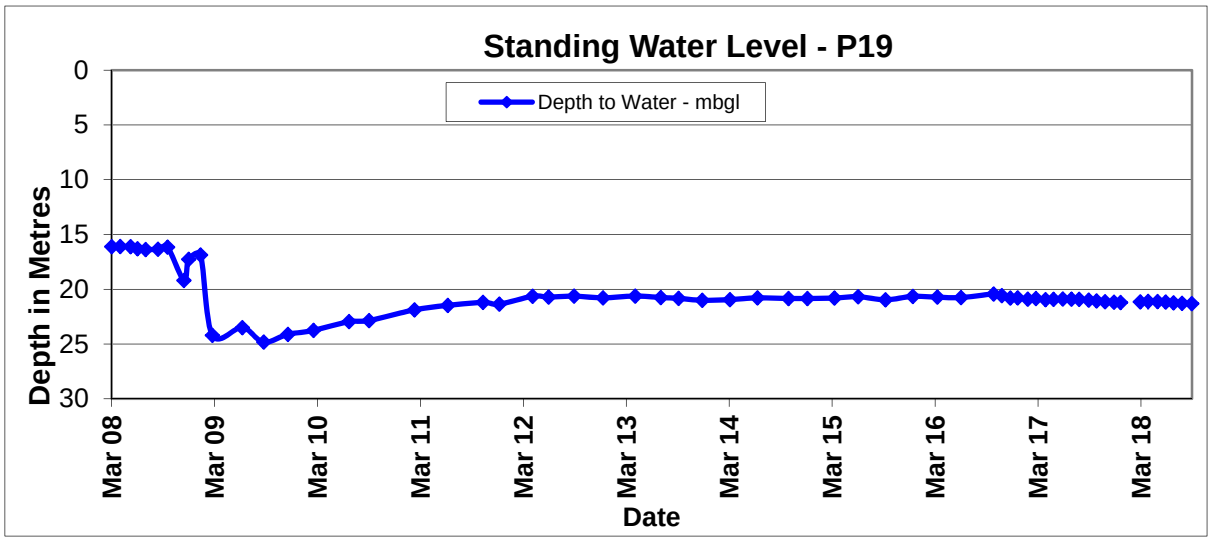
Mar 16
Mar 17
Mar 18
Date


Standing Water Level - P19
Depth to Water - mbgl
Depth in Metres
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5
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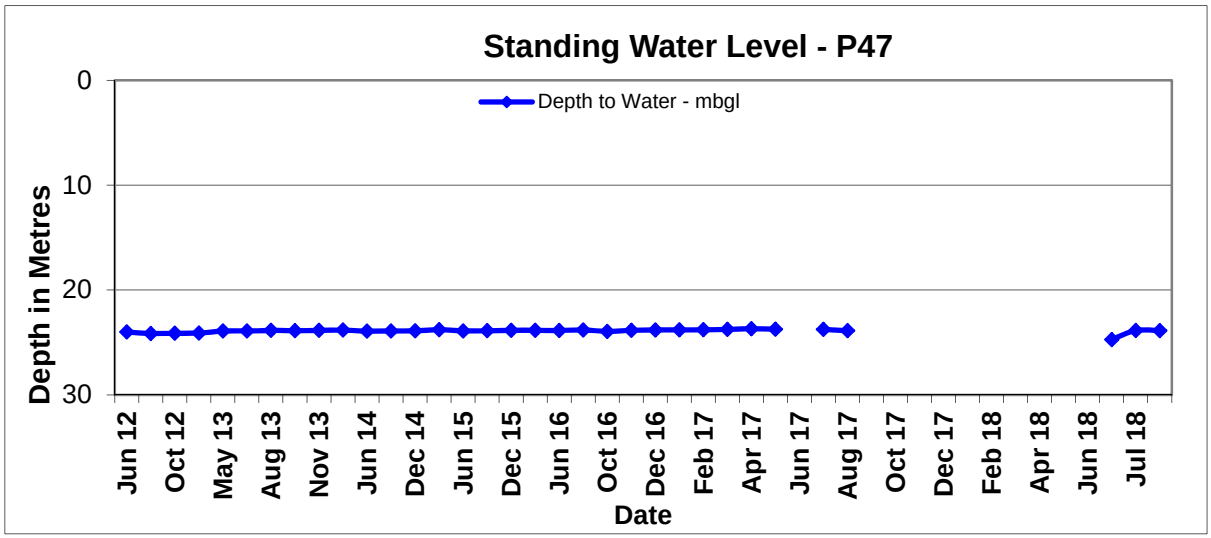
Mar 16
Mar 17
Mar 18
Date


Standing Water Level - P47
Depth to Water - mbgl
Depth in Metres
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10
20
30
Jun 12
Oct 12
May 13
Aug 13
Nov 13
Jun 14
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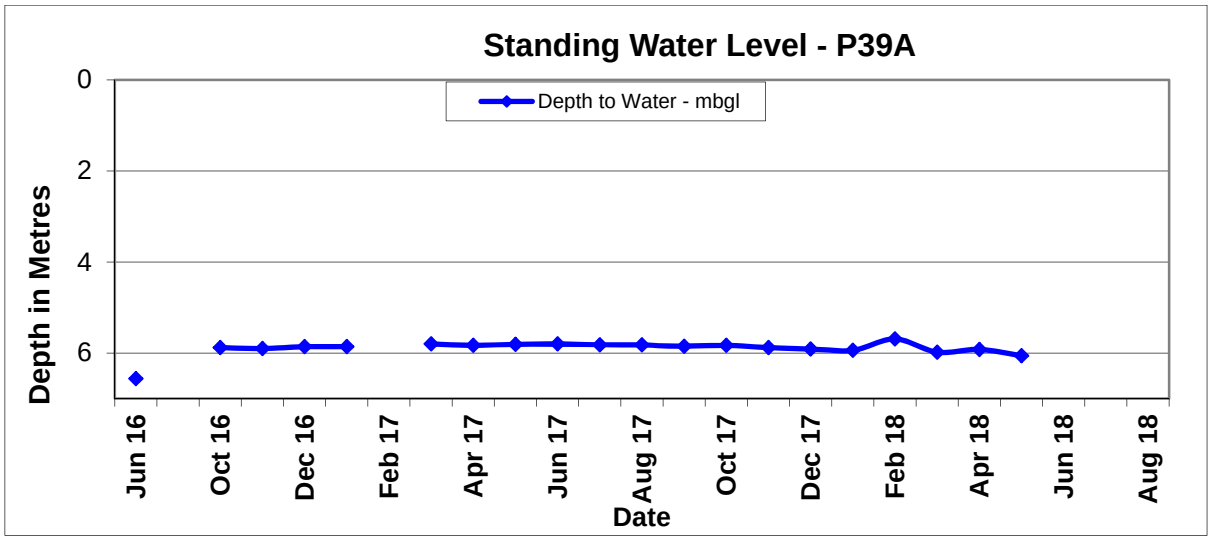
Apr 18
Jun 18
Jul 18
Date


Standing Water Level - P39A
Depth to Water - mbgl
Depth in Metres
0
2
4
6
Jun 16
Oct 16
Dec 16
Feb 17
Apr 17
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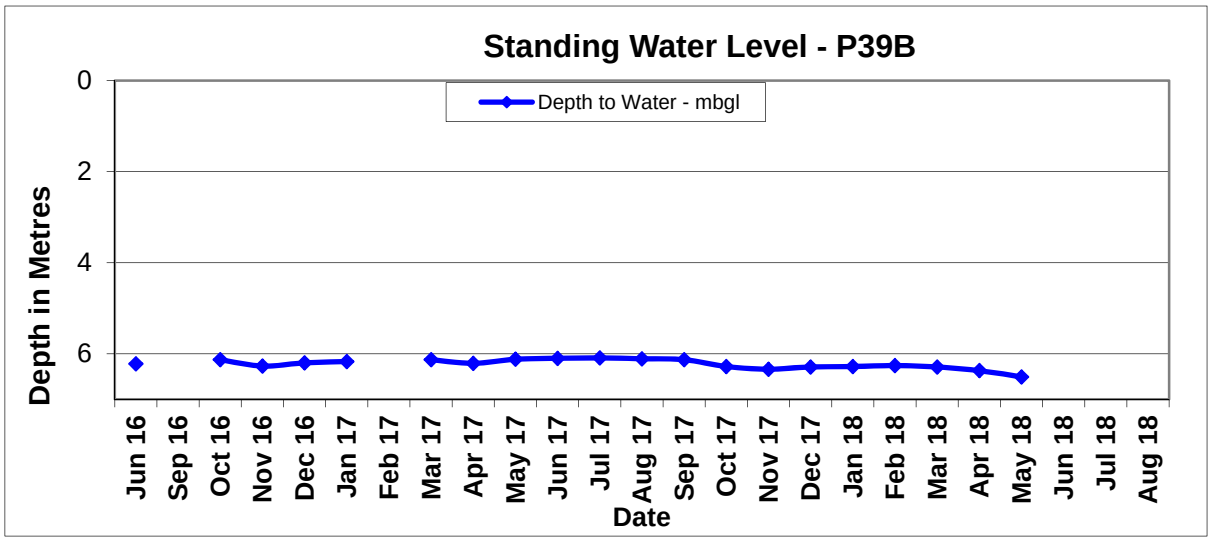
Oct 17
Dec 17
Feb 18
Apr 18
Jun 18
Aug 18
Date


Standing Water Level - P39B
Depth to Water - mbgl
Depth in Metres
0
2
4
6
Jun 16
Sep 16
Oct 16
Nov 16
Dec 16
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Mar 17
Apr 17
May 17
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Jul 18
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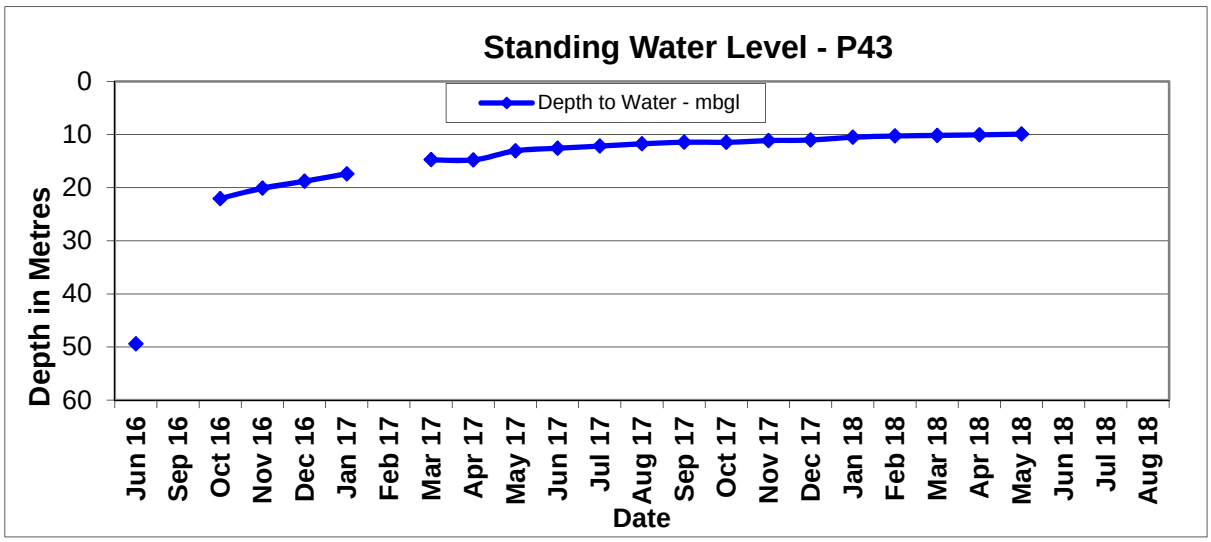
Standing Water Level - P43
Depth to Water - mbgl
Depth in Metres
0
10
20
30
40
50
60
Jun 16
Sep 16
Oct 16
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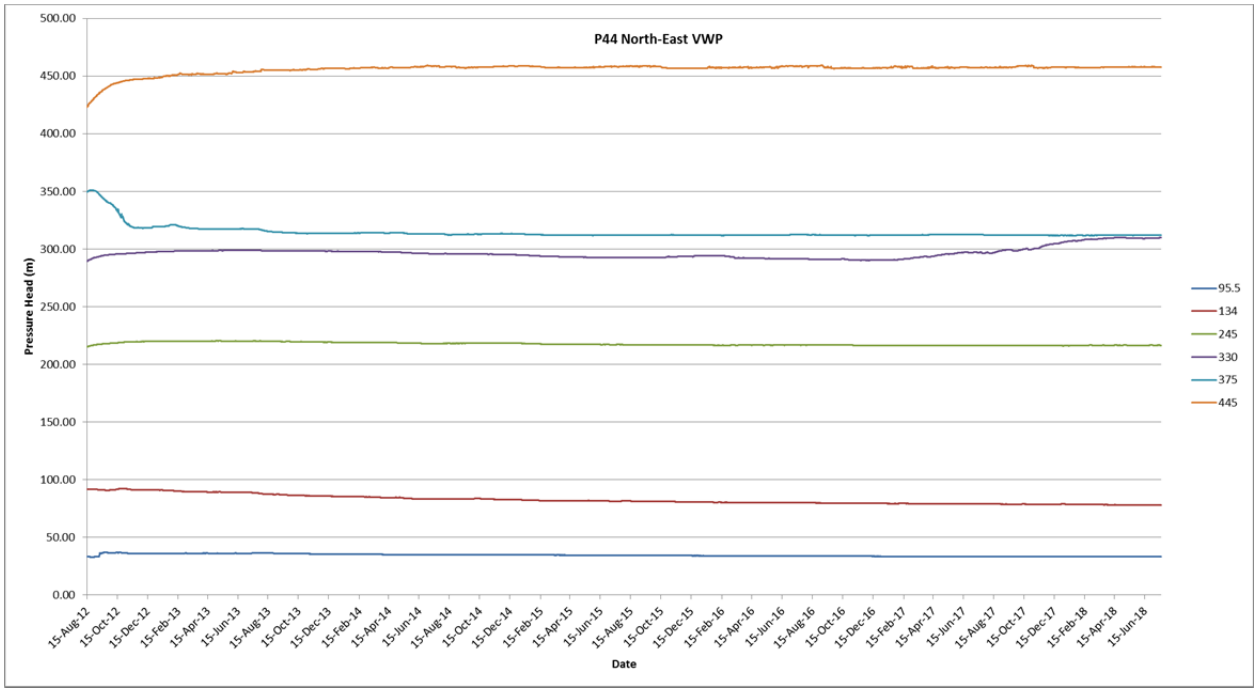
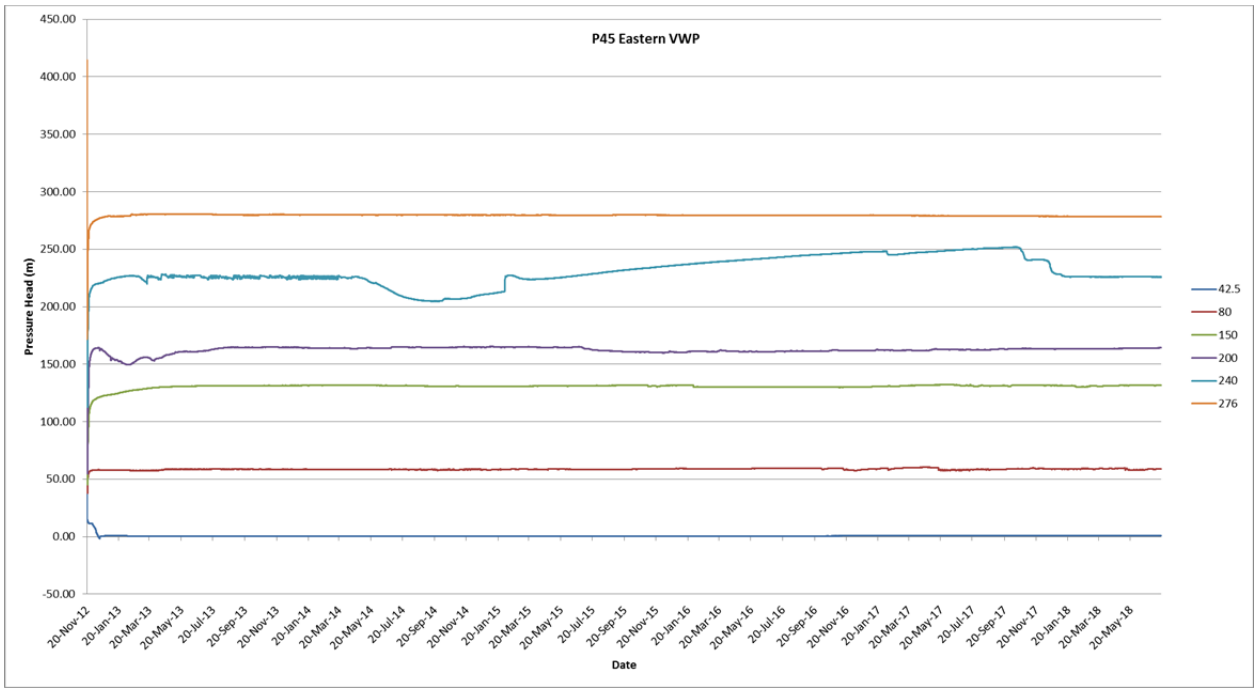
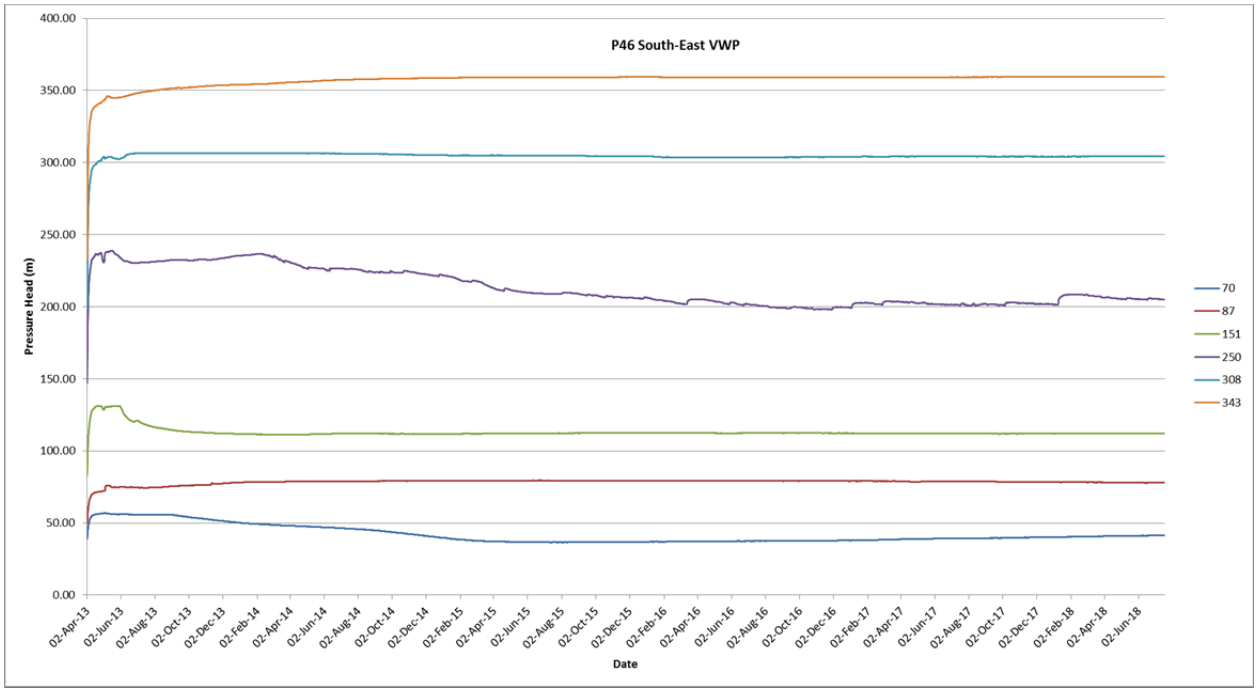
Jan 17
Feb 17
Mar 17
Apr 17
May 17
Jun 17
Jul 17
Aug 17
Sep 17
Oct 17
Nov 17
Dec 17
Jan 18
Feb 18
Mar 18
Apr 18
May 18
Jun 18
Jul 18
Aug 18
Date


P40 Western VWP
Pressure Head (m)
600.00
500.00
400.00
300.00
200.00
100.00
0.00
-100.00
Date
95
135
307
321.75
346
357


P44 North-East VWP
Pressure Head (m)
500.00
450.00
400.00
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00
Date
95.5
134
245
330
375
445





Monitoring results show the recent rounds have been relatively stable. As covered in previous reports, P13 is 30 m deep and targets the Garrawilla Volcanics. A production bore, WB2, is approximately 300 m to the south and targets the same aquifer and as such the drop in water level in P13 is likely associated with production from WB2.

Surface Water Monitoring

No wet weather discharges from licensed discharge points occurred during the June to August 2018 period.

Subsidence

Narrabri Mine has monitored the subsidence movement across the surface of LW103 to LW107 in accordance with the approved Extraction Plans (LW101 and LW102 are no longer monitored). The table below outlines the maximum subsidence parameters recorded as part of the subsidence monitoring program and a comparison with the maximum predicted subsidence parameters as outlined in the Extraction Plan.

Longwall Panels (LW) 103 to LW107		
	Maximum Predicted Extraction Plan	Maximum Measured
Line 101 – Centre of LW101 – Monitoring has ceased		
Line 102 – Centre of LW102 – Monitoring has ceased		
Line 103 – Centre of LW103 – Northern		
Subsidence (m)	2.75	2.729
Tilt (mm/m)	62	40.2
Tensile Strain (mm/m)	20 – 30^	18.8
Compressive Strain (mm/m)	26 – 39^	32.0
Angle of Draw (°, Degrees)	22.5 – 26.5	15.2
Line 103 – Centre of LW103 – Southern		
Subsidence (m)	2.75	2.583
Tilt (mm/m)	62	30.3
Tensile Strain (mm/m)	20 – 30^	9.3
Compressive Strain (mm/m)	26 – 39^	10.2
Angle of Draw (°, Degrees)	22.5 – 26.5	20.2
Line 104 – Centre of LW104 – Northern		
Subsidence (m)	2.75	2.802
Tilt (mm/m)	65	48.4
Tensile Strain (mm/m)	22 – 33^	42.6
Compressive Strain (mm/m)	28 – 42^	42.3
Angle of Draw (°, Degrees)	22.5 – 26.5	15.8
Line 104 – Centre of LW104 – Southern		
Subsidence (m)	2.75	2.713
Tilt (mm/m)	65	31.3
Tensile Strain (mm/m)	22 – 33^	8.1
Compressive Strain (mm/m)	28 – 42^	6.7
Angle of Draw (°, Degrees)	22.5 – 26.5	13.2
Line 105 – Centre of LW105 – Northern		
Subsidence (m)	2.75	2.674
Tilt (mm/m)	57	46.5
Tensile Strain (mm/m)	18 – 27^	18.1
Compressive Strain (mm/m)	23 – 35^	44.6
Angle of Draw (°, Degrees)	22.5 – 26.5	17.9
Line 105 – Centre of LW105 – Southern		
Subsidence (m)	2.75	2.626
Tilt (mm/m)	57	25.2
Tensile Strain (mm/m)	18 – 27^	7.1
Compressive Strain (mm/m)	23 – 35^	9.9
Angle of Draw (°, Degrees)	22.5 – 26.5	16.6
Line 106 – Centre of LW106 – Northern		
Subsidence (m)	2.75	2.584
Tilt (mm/m)	47	41

Longwall Panels (LW) 103 to LW107		
	Maximum Predicted Extraction Plan	Maximum Measured
Tensile Strain (mm/m)	14 – 21^	11.8
Compressive Strain (mm/m)	18 – 27^	17.1
Angle of Draw (°, Degrees)	22.5 – 26.5	25.5
Line 107 – Centre of LW107 – Northern		
Subsidence (m)	2.75	2.738*
Tilt (mm/m)	53	28.0*
Tensile Strain (mm/m)	20	10.2*
Compressive Strain (mm/m)	24	12.4*
Angle of Draw (°, Degrees)	26.5	24.7*
Line A – Cross Panel Survey Line		
Subsidence (m)	2.75	2.680*
Tilt (mm/m)	65	56.3*
Tensile Strain (mm/m)	22 – 33^	39.0*
Compressive Strain (mm/m)	28 – 42^	33.0*
Angle of Draw (°, Degrees)	22.5 – 26.5	24.2*
Line B – Pine Creek Tributary 1 – Monitoring has ceased		
Line D – Pine Creek		
Subsidence (m)	2.75	2.842*
Tilt (mm/m)	65	45.5*
Tensile Strain (mm/m)	22 – 33^	10.8*
Compressive Strain (mm/m)	28 – 42^	15.2*
Gradient Change (%)	Up to 6	4.54*
Line E – Pine Creek Tributary 1 Crossline 1 – Monitoring has ceased		
Line F – Pine Creek Tributary 1 Crossline 2 – Monitoring has ceased		
Line G – Pine Creek Tributary 1 Crossline 3 – Monitoring has ceased		
Line H – Cross Panel Survey Line		
Subsidence (m)	2.75	2.410*
Tilt (mm/m)	53	29.9*
Tensile Strain (mm/m)	13 – 20^	7.4*
Compressive Strain (mm/m)	16 – 24^	5.6*

* - subsidence development incomplete.

^ - values for ‘smooth’ and ‘discontinuous’ (i.e. crack affected) subsidence profiles.

Based on the above table the subsidence predictions for the most recently completed survey, i.e. LW107 northern line, indicate:

- The maximum subsidence measurements were within the predicted value of 2.75 m with a maximum measured value of 2.738 m.
- The maximum tilt measurements recorded were within the predicted value of 44 mm/m with a maximum measured value of 28 mm/m.
- The maximum tensile strain measurements were within the predicted value of 20 mm/m with a maximum measured value of 10.2 mm/m.
- The maximum compressive strain measurements were within the predicted value of 24 mm/m with a maximum measured value of 12.4 mm/m.

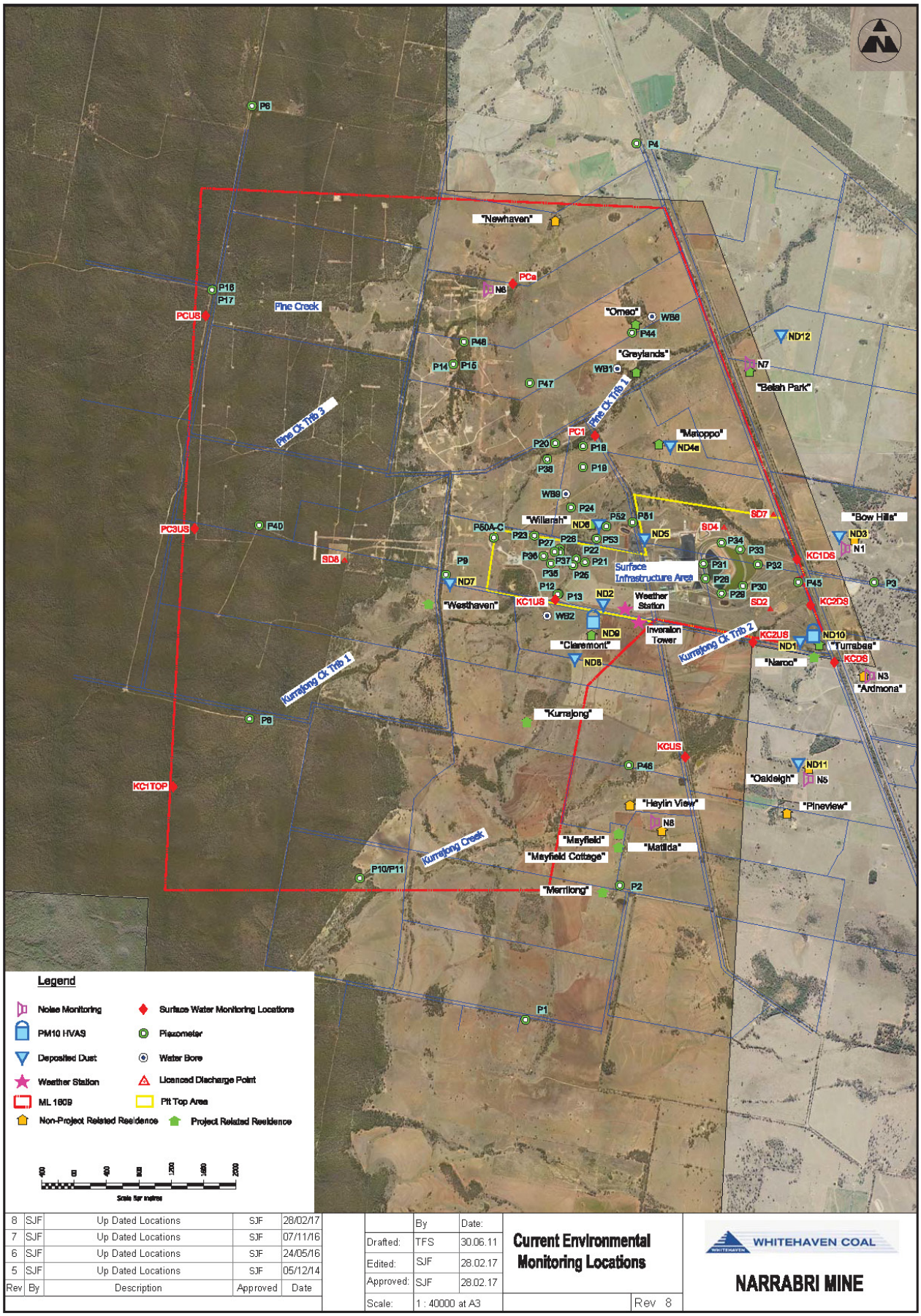
The centreline subsidence results for LW101 to LW107 indicate that the Garrawilla Volcanics and Basalt Sill have not reduced subsidence through spanning behaviour and that the maximum subsidence is also considered closer to 63% of the average mining height of 4.3m.

Complaints

Two formal complaints were received during the period June to August 2018. Both complaints were from the same complainant and related to noise. A mobile noise unit is located at the property with no alarms triggered for the first complaint. There alarms triggered for the second complaint with action taken by the CHPP. Inversion conditions were present at the time of both complaints.

Environmental Incident(s)

No environmental incidents occurred during the June to August 2018 period.



Rev	By	Description	Approved	Date
8	SJF	Up Dated Locations	SJF	28/02/17
7	SJF	Up Dated Locations	SJF	07/11/16
6	SJF	Up Dated Locations	SJF	24/05/16
5	SJF	Up Dated Locations	SJF	05/12/14

	By	Date:
Drafted:	TFS	30.06.11
Edited:	SJF	28.02.17
Approved:	SJF	28.02.17
Scale:	1 : 40000 at A3	

Current Environmental Monitoring Locations

Rev 8

WHITEHAVEN COAL

NARRABRI MINE