Narrabri Mine Community Consultative Committee Meeting Minutes

Meeting No: 40
Date: Wednesday 7th March 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)
Ron Campbell (RC) – Narrabri Shire Council Representative (Arrived late)
Steve Bow (SB) – Narrabri mine General Manager
Dave Ellwood (DE) – Narrabri Mine Technical Services Superintendent

1. APOLOGIES

Rodney Dunlop and Steve Farrar.

2. DECLARATION OF PECUNIARY OR OTHER INTERESTS

TBA

3. PREVIOUS MINUTES

Moved: TBA Seconded: PW

3.1 BUSINESS ARISING FROM PREVIOUS MINUTES

Exploration and approvals update given by DE.

DE gave an update on the rubbish collection along the highway. JS said it looked good for a while but is coming back again. RC stated that most of it was litter. MF asked when it was last done. JS said about 3 years ago and SB said that's right for the highway but the area out the front of the mine is done a bit more frequently. DE said the collection will be done every quarter and include the highway. RC said a bin out the front would potentially create more issues. MF stated that instead of going to Baan Baa tip they would just use that. RC said you can only go the RTA after that and they would put a couple of wheelie bins there that would never get picked up and create a mess. JS said at Gins Leap there is a bit that goes in the bins which RC agreed but he said they don't pick them up often enough and it ends up scattered around the bins. RC said you wouldn't make much of a difference with a wheelie bin you would need an industrial one and that creates more issues with people trying to avoid tip fees. DE said the area around Jacks Creek Road is a dumping ground. JS said when they started charging for the tip people dumped rubbish anywhere.

4. GENERAL BUSINESS

4.1 OPERATIONS PROGRESS REPORT

The operations update was provided as follows:

Mine Progress Report (to 28 February 2018)

Coal produced (t):	February 2018	343,039
	FY-to-date	4,666,848
Coal Railed (t):	February 2018	356,963
	FY-to-date	4,610,581

Average workforce numbers (February 2018):

	NCO	Waged – 132
		Salary – 119
		Total – 251
	Contractors	Total – 208
Safety Update (FY to February 2018):		
	Lost Time Injury (LTI)	1
	Days LTI Free:	217
	Total Recordable Injuries:	10
	Planned Task Observations:	7,054
	Take 5 Assessments:	99,713
	Work Hours (Feb-18):	122,844

SB went through the operations report. MF asked what the problem was underground and SB said gravity which is generating roof falls. SB said we are getting deeper and we have gone from being quite stable to unstable in a short period and it takes longer to recover. SB said it has been a tough 4 months. MF asked if the plan is to go further west which SB confirmed. RS asked if tougher meant more inconsistency in the underground strata and SB confirmed it is to do with the integrity of the roof which is softer just above the seam and as we get deeper gravity and depth of cover create a slow mode of failure but at this mine it appears the nature of the strata has led from stable conditions to unstable conditions quickly. SB said there were some learnings from this but hopefully we are on top of it now. JS asked when we will finish this cut as it was originally now and SB said it is now probably around May with the next panel starting June/July. JS asked if the mine has considered going back to 300m wide and SB said no and DE explained the width isn't the driver for the problems. JS said he thought it would be quicker and SB explained that it would be quicker but you would still have the same issues and we just have to manage it as best we can.

MF asked about the lease towards Narrabri and DE explained that the application was denied by the State Government as they believe it is part of a larger resource that justifies its own mine. DE explained that it will take 3-5 years for them to investigate the area with the idea of a standalone mine which we would be welcome to bid for. RS asked why the Government would want to setup a new mine to annoy more people when there is one already here and DE said there were a range of issues including an increased depth of cover. DE explained the coal goes all the way to Moree but no one would mine under the river. DE explained the coal seam quality and depth restricts the area to be mined but the Government looks at the whole resource. RC asked how that affects this mine but SB said it would have been nice to mine to the north while we were mining the northern sections but we could get back there at a later date. RC asked if it was going to be a standalone mine and we tendered for it, would we just keep going which SB confirmed and RS agreed. RS said he didn't understand why they would want someone to build all this again. DE said it would be taken off the lease registry. GH asked what they say about the tonnes and DE said he wasn't sure. SB said we are mining engineers so we look at it from an economical point of view to work out what we can take and what would be left behind but the Government takes a geological view which means all the coal identified is the resource without taking into account if it is mineable. MF said he thought if we had that we would just go through the current mine which SB agreed. JS asked if we would then leave areas open to access these areas later which DE confirmed.

4.2 ENVIRONMENTAL OVERVIEW

DE went through the environmental report.

RC asked if we had any noise complaints and DE explained that we hadn't but we have had 1 dust complaint. GH asked if this was a good way to do it with the restrictions of the inversions and pick a day with no inversions and DE explained that it is hard to predict the inversions but the EPL monitoring is over a longer period. GH asked about the results for N5 and if they were all affected by inversions and DE went through the results. GH asked if there were no levels recorded outside inversion conditions at N6 over the 3 days and DE said he would follow the results up, including the IA noted in the report. RS asked if the mine could get back to GH in the interim and GH said he could wait and DE said he would get back to them. GH asked if we could take samples when there weren't inversions and SB said they are a feature of winter. GH said it is a bit of waste of time if they occur a lot and DE said he would get back to them.

MF asked where ND6 was located and DE explained the location. GH asked about the timing of the sampling and if they were done on the same day and DE explained that they are. GH said he was surprised that they are so low due to the winds and the dry weather we've had which DE agreed.

GH asked about the volume taken from the mine which SB explained we pump out about a 1.5ML/day but we use about a 1.5ML/day underground. JS asked about P11 as it seems to have dried out and DE said he would check and get back to him. JS asked what property it was on and DE explained it was on mine owned land.

5. NEW BUSINESS

DE gave an update on the Narrabri South Stage 3 approvals progress including the submission of the Gateway Certificate followed by an application for Secretary's Environmental Assessment Requirements (SEAR's). DE said he thinks the whole process would take about 3 years including the Federal Government application. JS asked does it start like this one with a public meeting and SB explained the consultation process. JS asked if we would do a community meeting and DE explained there is a consultation strategy. JS said he thought the community should be bought in earlier say at Baan Baa hall for a show and tell day. SB explained the strategy for the landholders down there and also that community consultation is part of this and JS said he thinks this would be a good idea. GH asked if we're approaching landholders down there for purchase and SB said we want to start that process. GH asked if the 3 years is to develop the EIS and DE said no it should be approved by then. GH asked where the EIS is up to and SB confirmed we are working on it now and explained that SEAR's are required first and the EIS is done following that. GH asked if we expect any different issues down there and SB explained that native title is a consideration as it is in the State Forest and DE explained that for the mining side of things we are not expecting too much difference down there. DE explained the native title application requirements. GH asked about property prices and DE explained the process and that the mine has engaged someone to act on the mine's behalf. MF asked if we would still use the valuer we use and DE explained the mine would but the new person is there to negotiate on the mine's behalf. MF asked about a landholder to the south and DE explained where it is up to. GH said he would like to suggest more conditions on the properties as the leasee's seem to flog the mine-owned land. MF said all leased country is flogged and GH said he thinks the prices are quite reasonable but it is just a pure observation. MF asked about the blocks being tendered and SB explained they do tender these days. DE explained there were a lot of legacy contracts that may be like that but now they go out to market.

RS said he recently had a company advertising for cleanskins and they approached the Chamber. RS said following that meeting they haven't heard much back and asked where it was up to and SB said he wasn't aware of the detail but the instructions to all contractors is to use local people and the rule of thumb is within an hour's drive from the mine. RS said earlier efforts were not great but if the right people aren't putting their hands up then there's not much you can do about that. SB said the mine is still recruiting and operators are fine but the trades are harder to find. SB said they are going further to places like Tamworth and Inverell. RC said he has being talking to a couple of electricians in towns and they seem concerned with the shift work and underground work. SB said it is not for everybody and they like to ply their trade and working underground requires other work as well and some don't like that. DE said that new guys are taken underground as they have to be comfortable as well. RC asked if the pay is higher than operator cleanskins for trade cleanskins and SB said he was sure it was. GH asked if we're putting on apprentices and SB said yes. GH asked if this was a better way to deal with the shortage and SB said yes but we only have 6 or 7 onsite in total and aim for a couple a year and we also have the cadet program this year for those want to study. MF asked what apprenticeships do they do and SB explained electricians and fitters. RS said that the Chamber would seek Whitehaven's support for the university centre by looking at what the mine's require. SB said the mine doesn't specify what Uni but there are specific courses to do.

6. NEXT MEETING

Wednesday 13th June 2018 at 5:00pm at the Narrabri Mine Site Office.

7. CLOSURE OF MEETING

Meeting closed at 6:00pm.

Narrabri Mine Community Consultative Committee Meeting #40

Environmental Monitoring Report: December 2017 – February 2018

Noise Monitoring

Attended noise monitoring was undertaken between Monday 18th to Wednesday 20th December 2017 (Tables 1 and 2) to verify if noise levels were within compliance limits. The draft results from this monitoring are detailed in the tables below.

Table 1: EPL Monitoring Location 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	18/12/2017	NA	NA	<30	33	Day/Evening/Night LAeq,15minute: 35 dB Night LA1,1minute: 45 dB	Yes
N5 Oakleigh	19/12/2017	NA	<25	<30	30		Yes
N5 Oakleigh	20/12/2017	NA	NA	NA	NA		Yes
N6 Newhaven	18/12/2017	NA	IA	NA	NA	Day/Evening/Night LAeq,15minute: 35 dB Night LA1,1minute: 45 dB	Yes
N6 Newhaven	19/12/2017	NA	NA	NA	NA		Yes
N6 Newhaven	20/12/2017	NA	NA	NA	NA		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. *'NA' denotes criteria were not applicable due to meteorological conditions for all measurements at this location during this period;*

Table 2: Noise Management Plan Monitoring Locations

Location	Monitoring Date/Time	Wind Speed m/s	Stability Class	VTG ˚C per 100m	Criterion dB	Criterion Applies	NAR $L_{Aeq,15min}$ dB	Exceedance
N1 Bow Hills	18/12/2017 14:50	5.1	A	-2.8	35	No	IA	NA
N1 Bow Hills	18/12/2017 21:00	2.2	F	1.8	35	No	<25	NA
N1 Bow Hills	18/12/2017 22:25	2.2	F	2.6	35	No	22	NA
N3 Ardmona	19/12/2017 11:22	6.1	A	-2.8	35	No	IA	NA
N3 Ardmona	19/12/2017 21:09	1.9	F	2.2	35	Yes	<25	Nil
N3 Ardmona	19/12/2017 23:12	2.6	F	2.8	35	No	23	NA
N7 Merriman	18/12/2017 17:04	5.2	A	-2.0	35	No	IA	NA
N7 Merriman	18/12/2017 21:24	2.5	F	2.2	35	No	IA	NA
N7 Merriman	18/12/2017 22:00	2.8	E	1.4	35	Yes	IA	Nil
N8 Matilda	19/12/2017 12:03	5.8	A	-2.6	35	No	IA	NA
N8 Matilda	19/12/2017 20:43	2.8	E	1.2	35	Yes	27	Nil
N8 Matilda	19/12/2017 23:40	3.3	F	2.2	35	No	26	NA

Notes:

1. *Atmospheric data is sourced from the NAR weather station and inversion tower;*
2. *In accordance with EPL and project approval, the noise criteria are to apply under all meteorological conditions except the following:*
   - *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 inversion conditions.*
3. *Criterion may or may not apply due to rounding of meteorological data values;*
4. *Estimated or measured LAeq,15minute attributed to NAR;*
5. *Bolded results indicate exceedance of criteria (if applicable);*

6. *'NA' in exceedance column means atmospheric conditions outside conditions specified in development consent and so criterion is not applicable; and*
7. *'IA' denotes inaudible.*

During the December 2017 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.

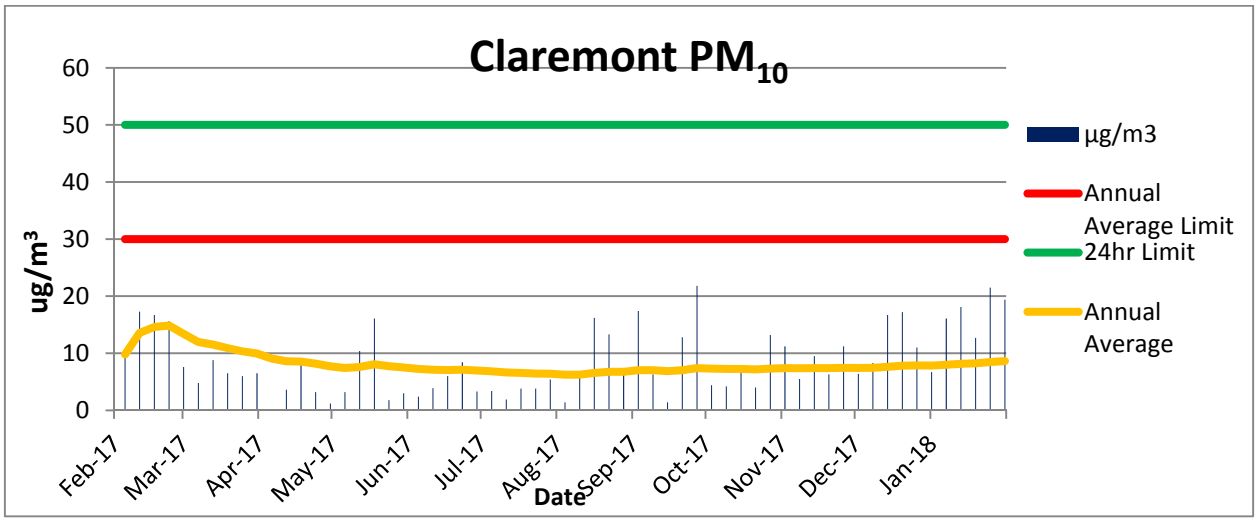
Deposited Dust Monitoring

Month	ND1 Turrabaa	ND2 Claremont	ND3 Bow Hills	ND4a New Matoppo	ND5 Claremont	ND6 Willarah	ND7 Claremont	ND8 Claremont	ND11 Oakleigh	ND12 Merriman
Mar-17	6.3	0.8	0.9	1.5	1.2	1.4	1.3	1.9	1.9	1.1
Apr-17	3.7	0.7	0.5	1.0	1.7	0.7	1.3	1.4	1.0	0.8
May-17	2.4	0.9	1.2	0.5	1.5	0.6	1.1	0.8	0.5	0.6
Jun-17	2.5	3.6	1.5	2.0	2.4	0.7	2.2	2.9	0.6	4.4
Jul-17	2.4	0.7	2.3	0.4	1.4	0.4	1.7	0.6	0.4	1.6
Aug-17	2.6	2.1	1.9	0.9	3.1	3.8	0.8	1.1	0.3	1.1
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
Annual Average	**3.0**	**1.9**	**1.9**	**2.3**	**2.6**	**5.8**	**2.0**	**2.0**	**1.2**	**1.4**

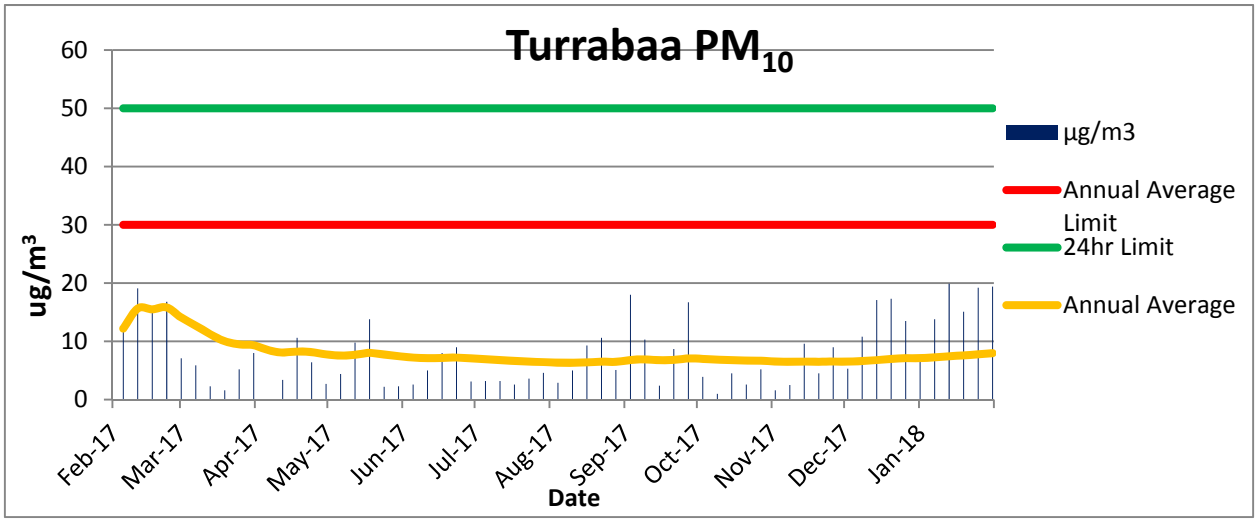
All deposited dust levels are within the compliance limit of 4 g/m2/mth with the exception of ND6 following a high result recorded in January 2018. This result was affected by significant contamination from organic matter (i.e. 98% of the deposited material), which is not attributable to site operations.

High Volume Air Sampling (PM10)

PM10 measurements taken to 31 January 2018 for the "Claremont" High Volume Air Sampler (HVAS) are returning a running annual average of 8.64 µg/m^3, which is well below the annual average limit of 30 µg/m^3.



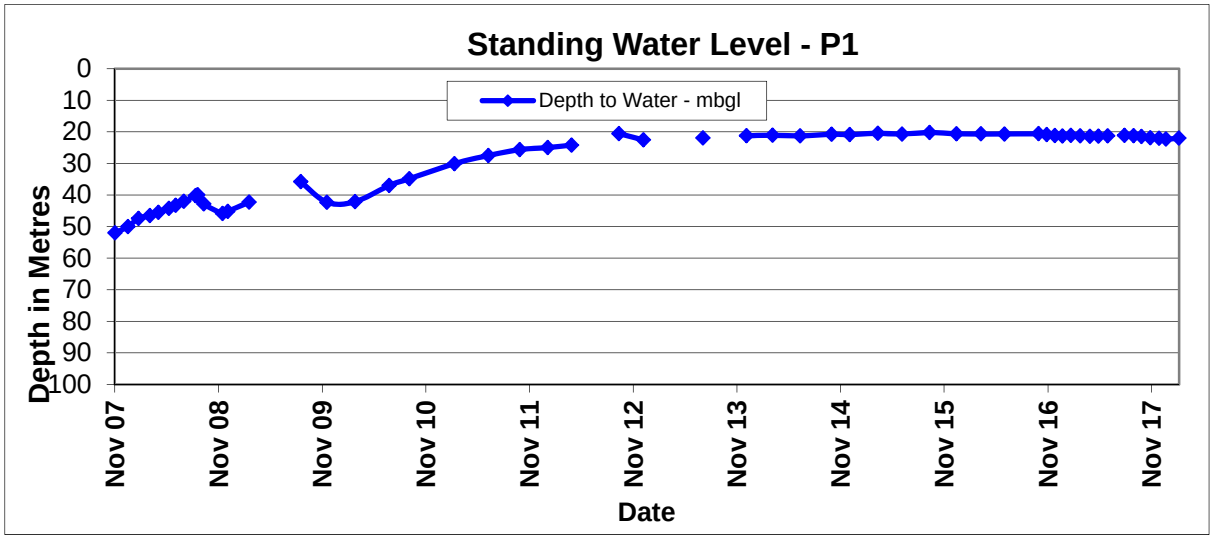
PM10 measurements taken to 31 January 2018 for the "Turrabaa" High Volume Air Sampler are returning a running annual average of 7.97 µg/m^3, which is also well below the annual average limit of 30 µg/m^3.

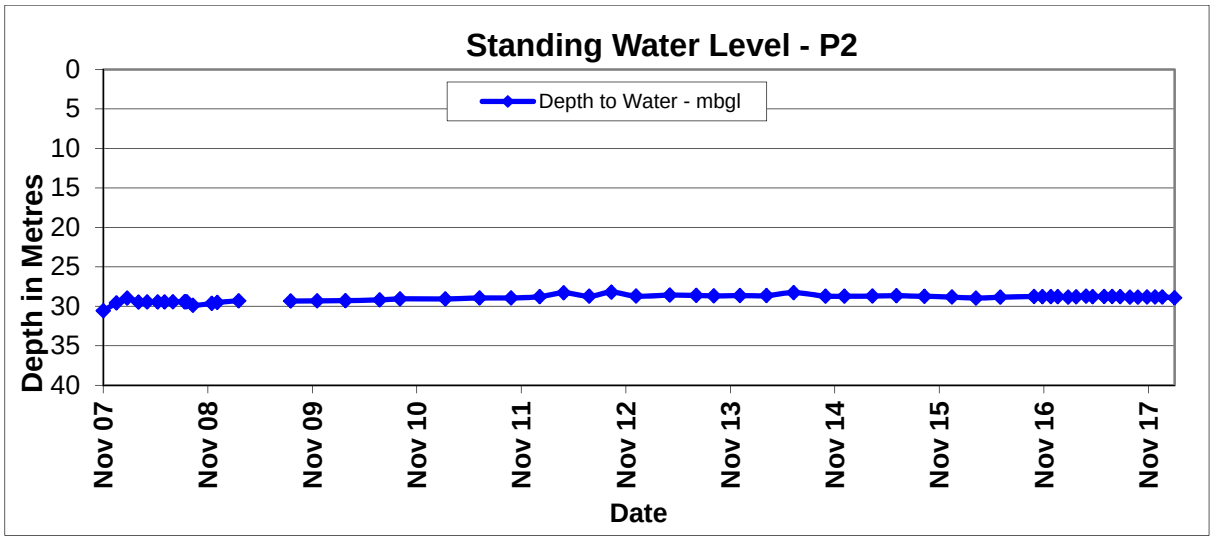


PM10 levels have remained compliant since the last meeting.

Groundwater Monitoring

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

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Depth in Metres
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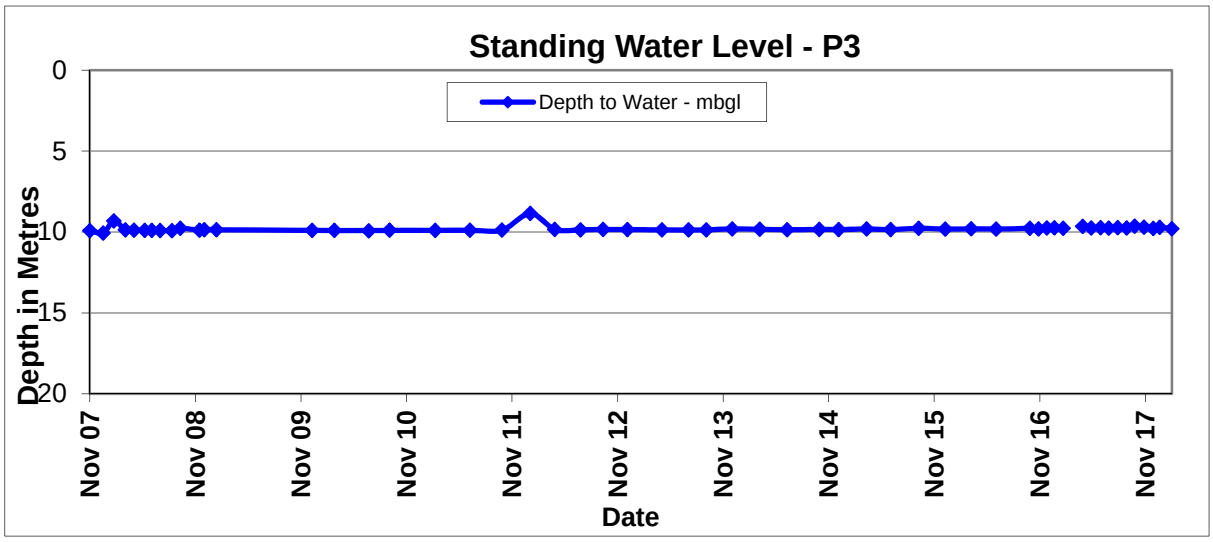
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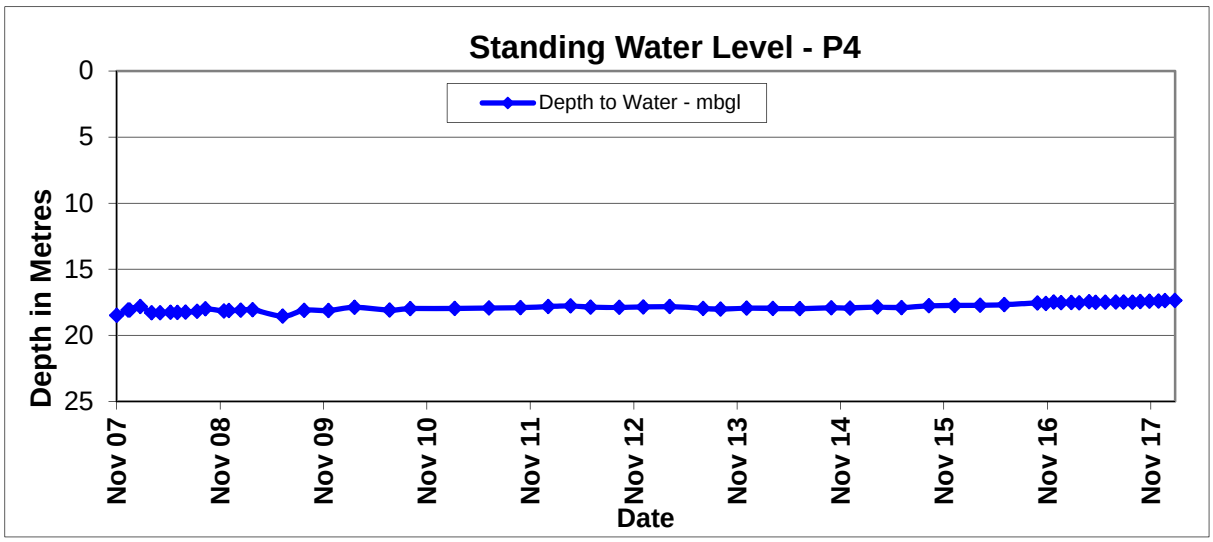
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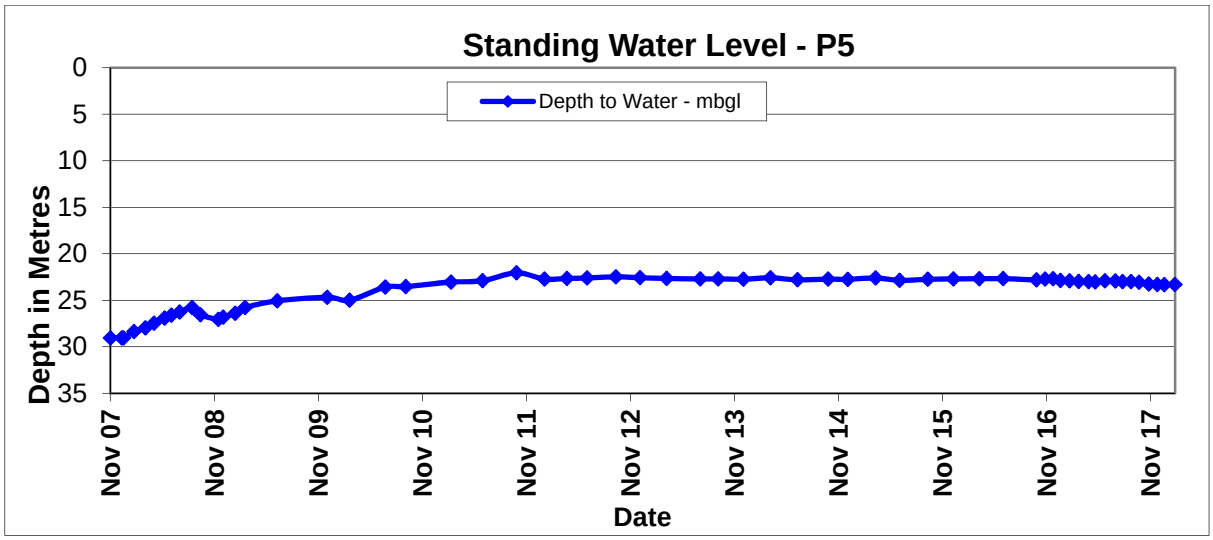
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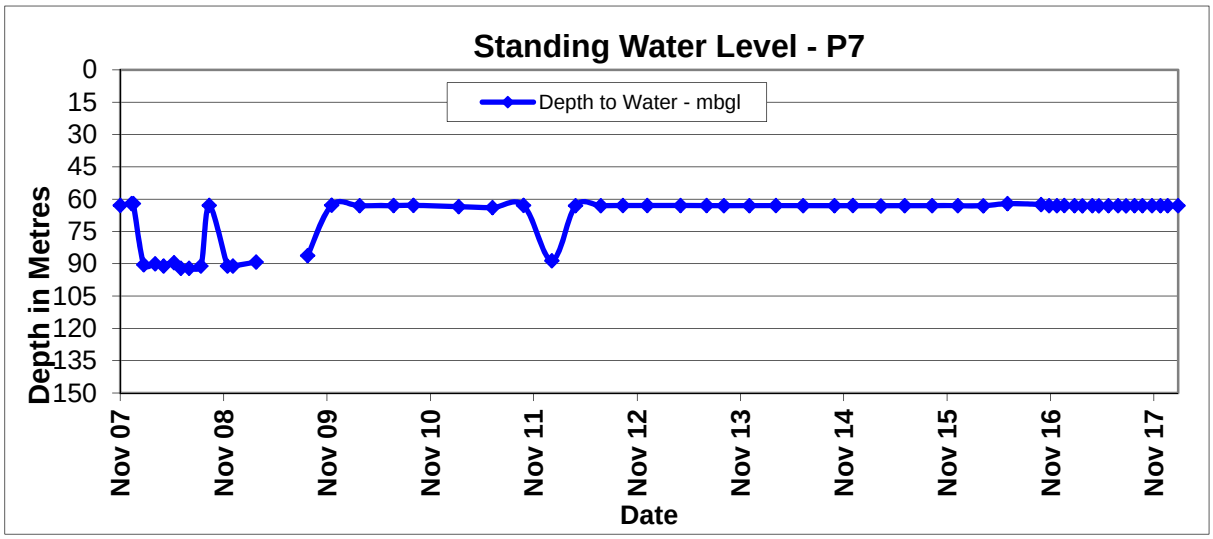
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Depth in Metres
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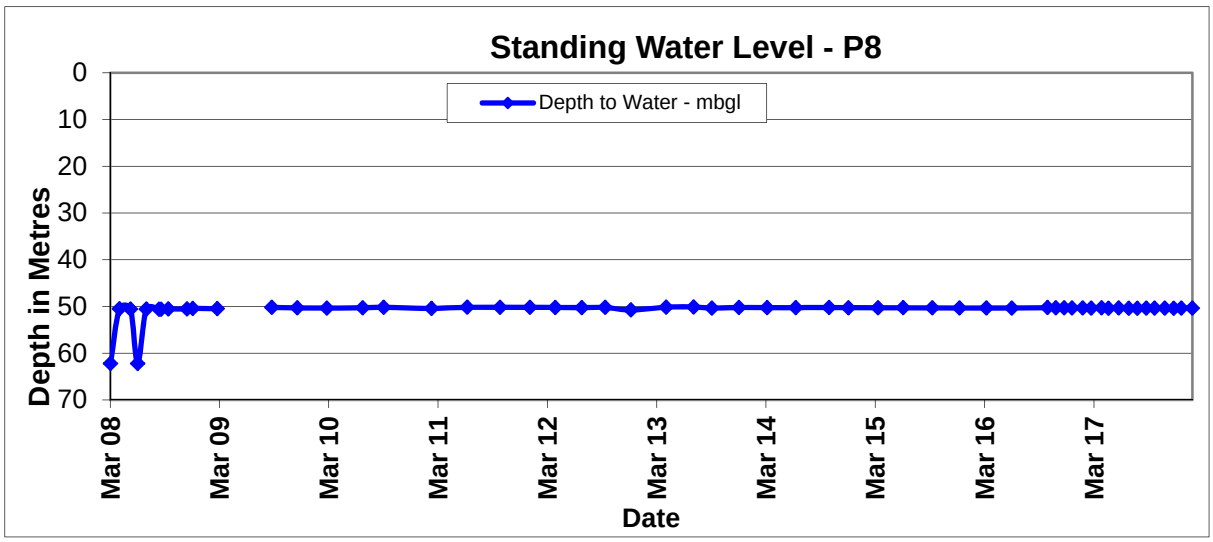
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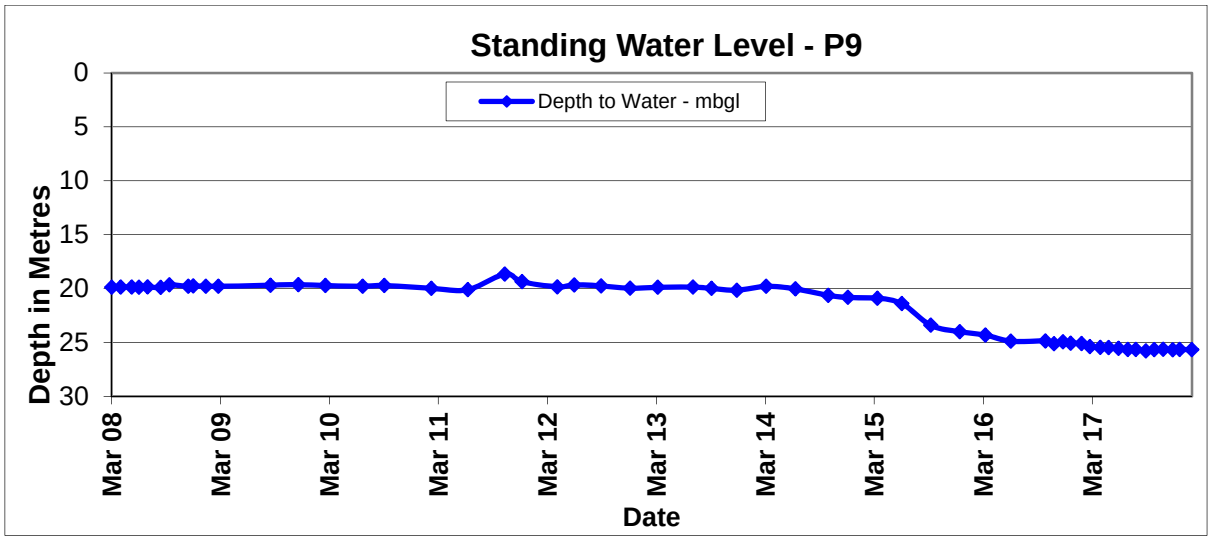
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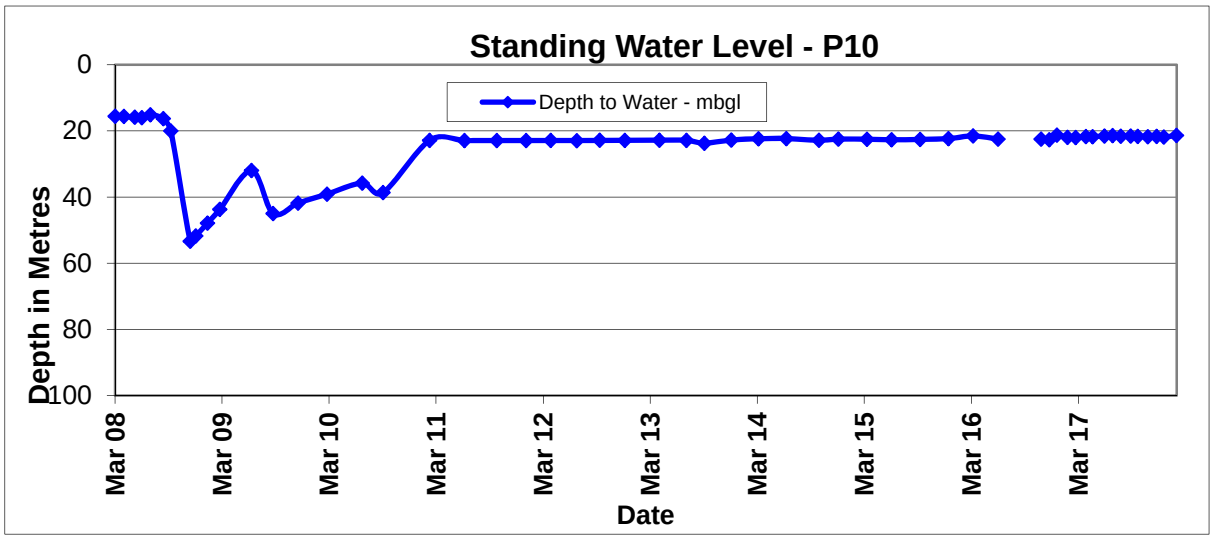
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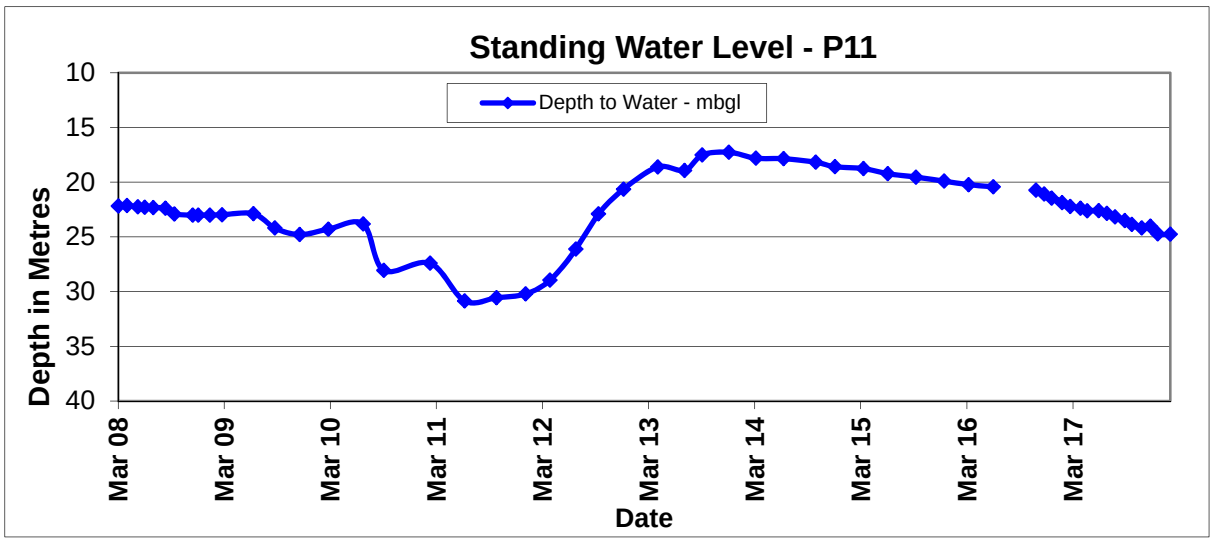
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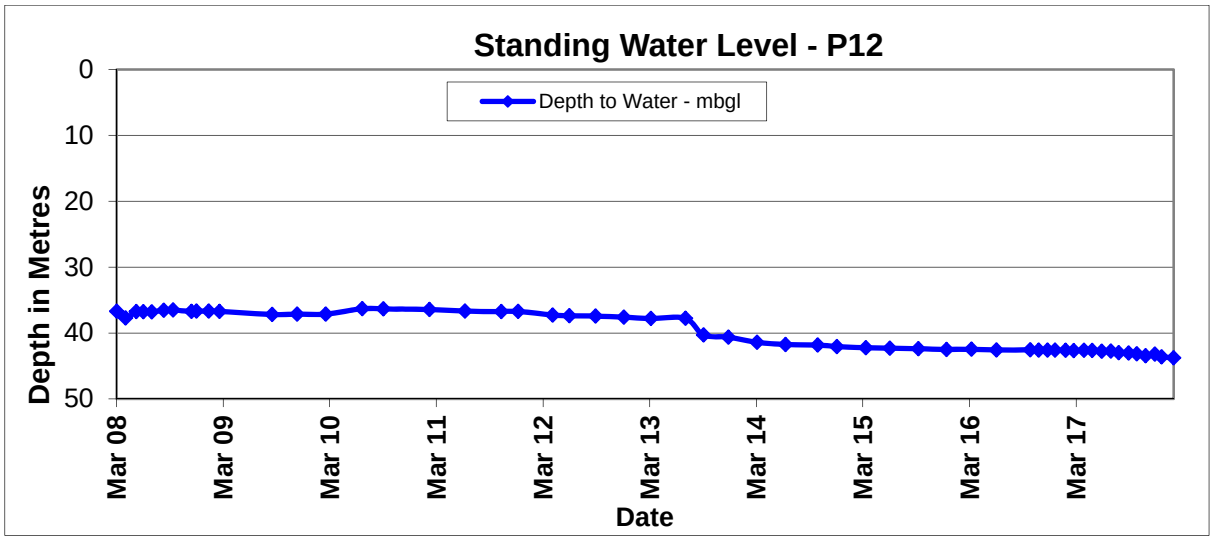
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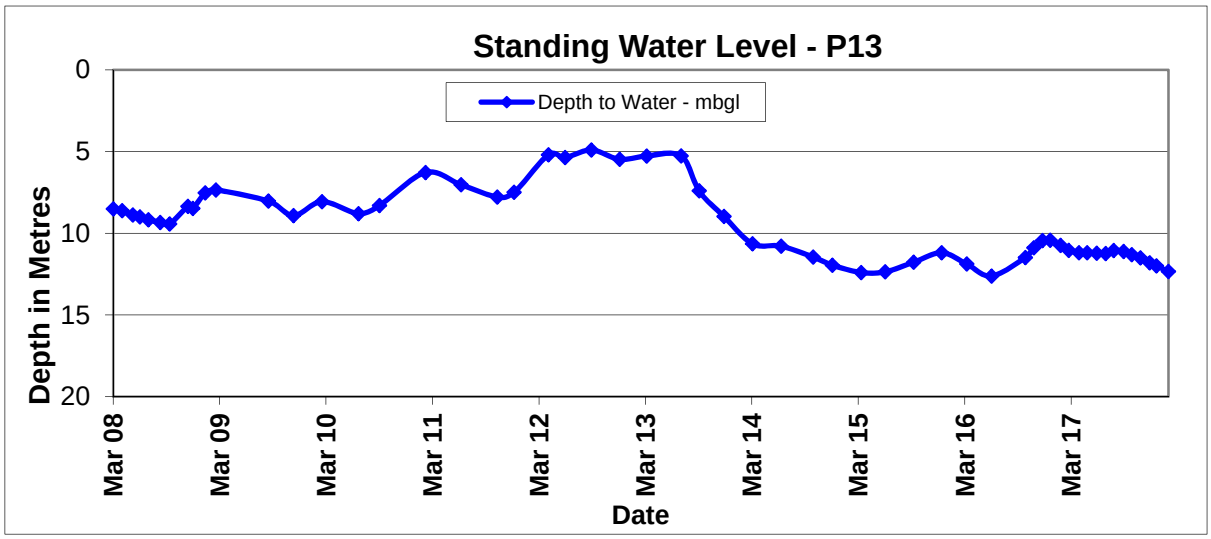
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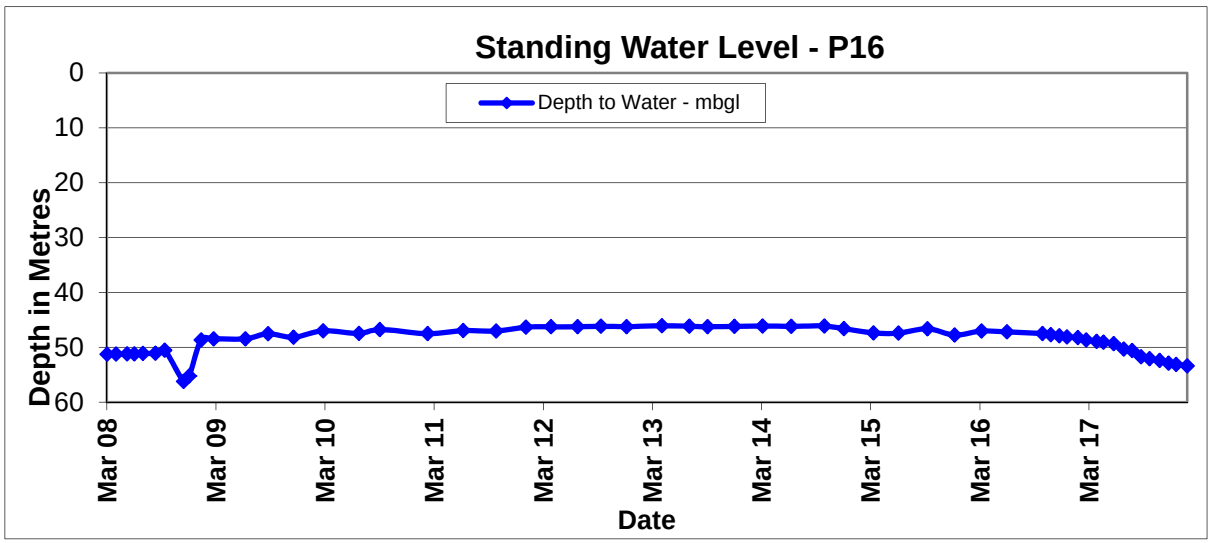
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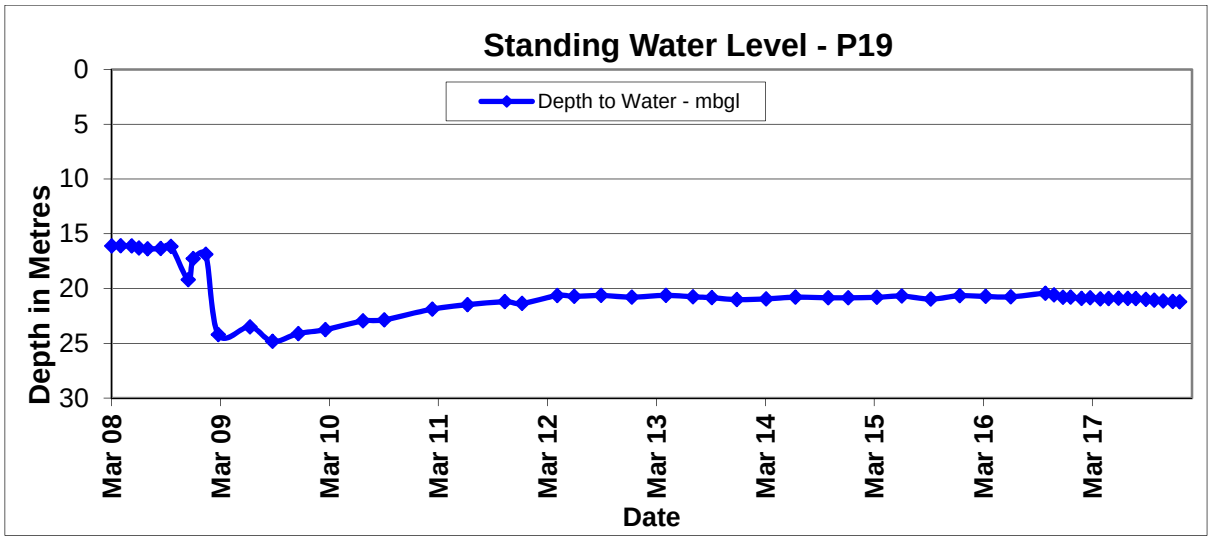
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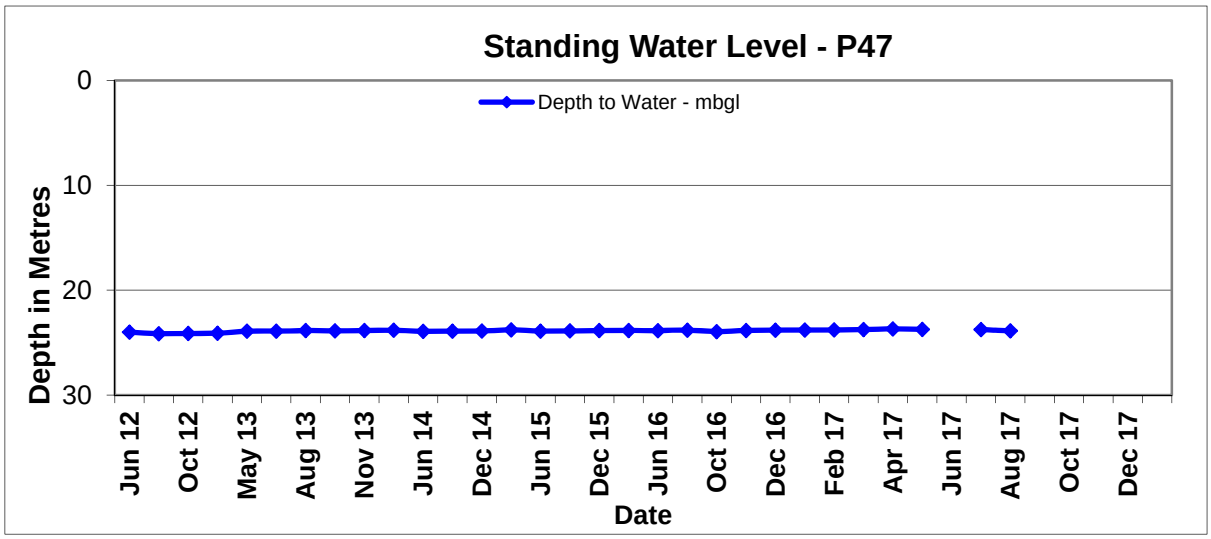
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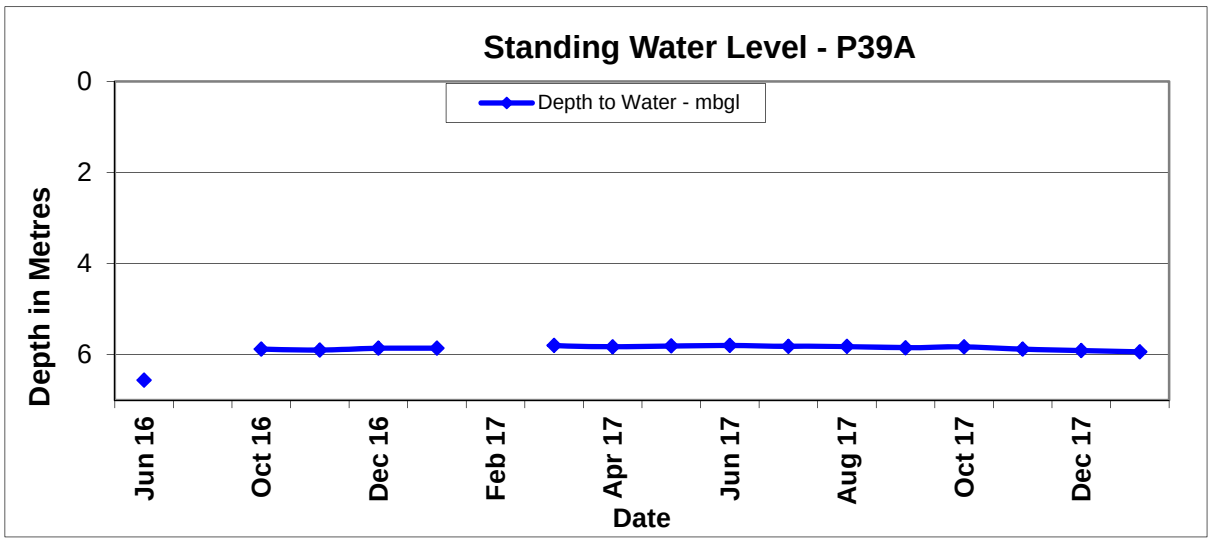
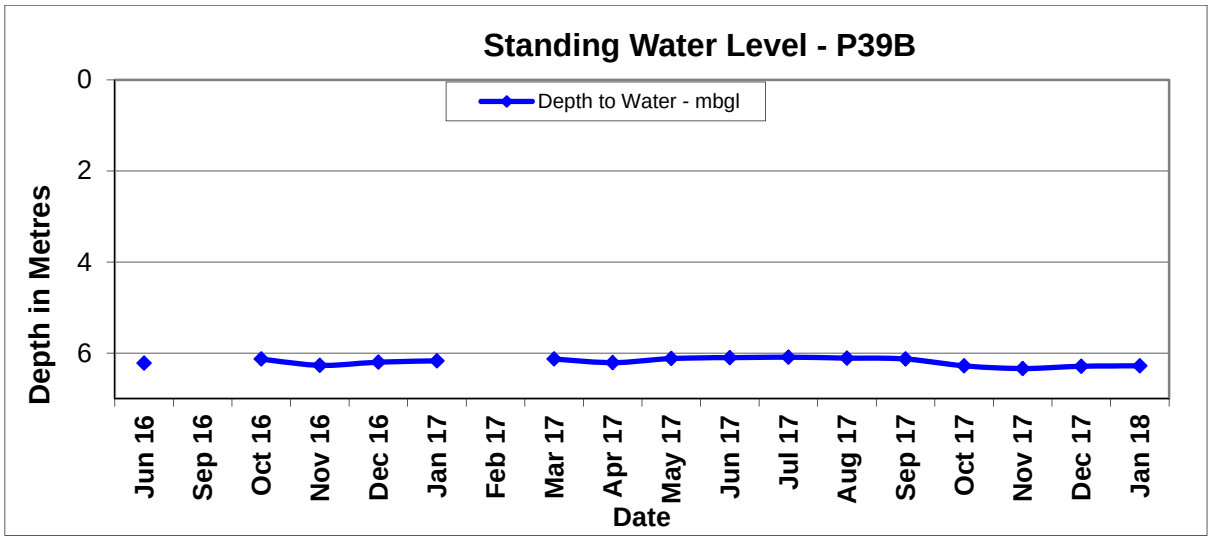
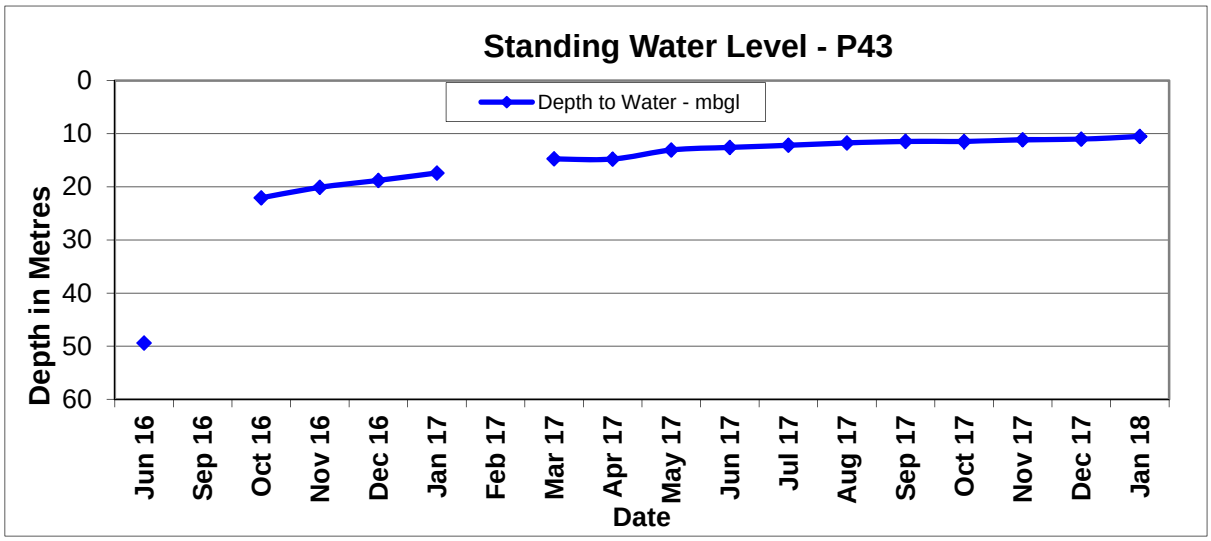
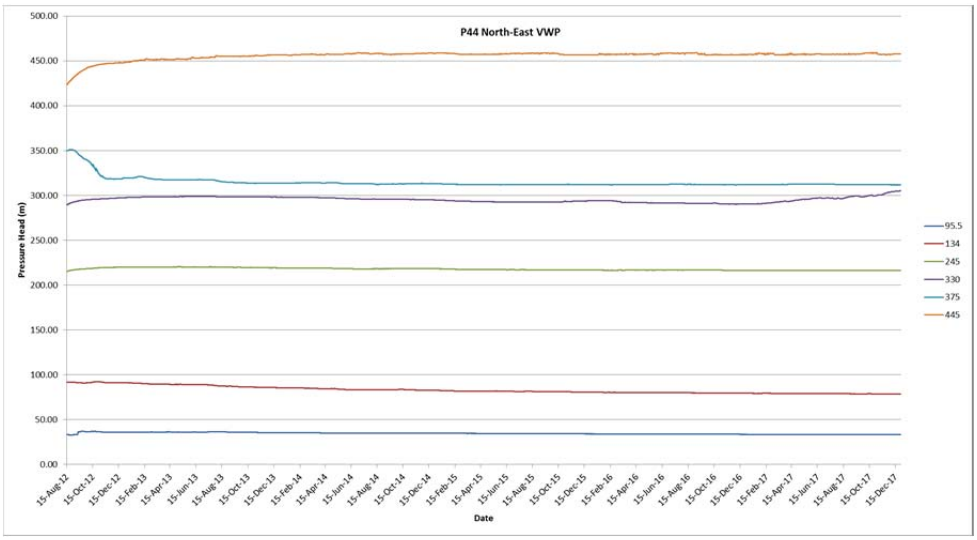
Aug 13
Nov 13
Jun 14
Dec 14
Jun 15
Dec 15
Jun 16
Oct 16
Dec 16
Feb 17
Apr 17
Jun 17
Aug 17
Oct 17
Dec 17
Date

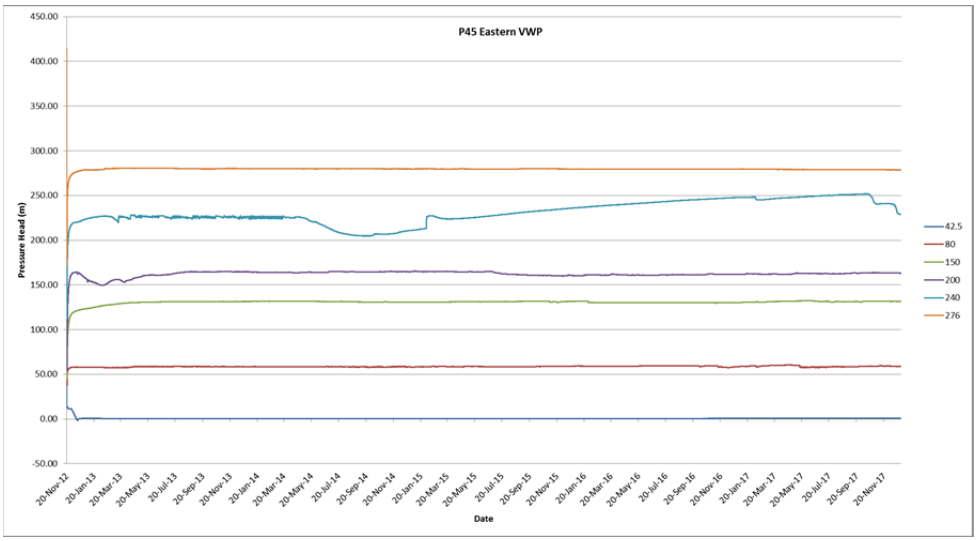

Standing Water Level - P39A
Depth to Water - mbgl
Depth in Metres
0
2
4
6
Jun 16
Oct 16
Dec 16
Feb 17
Apr 17
Jun 17
Aug 17
Oct 17
Dec 17
Date

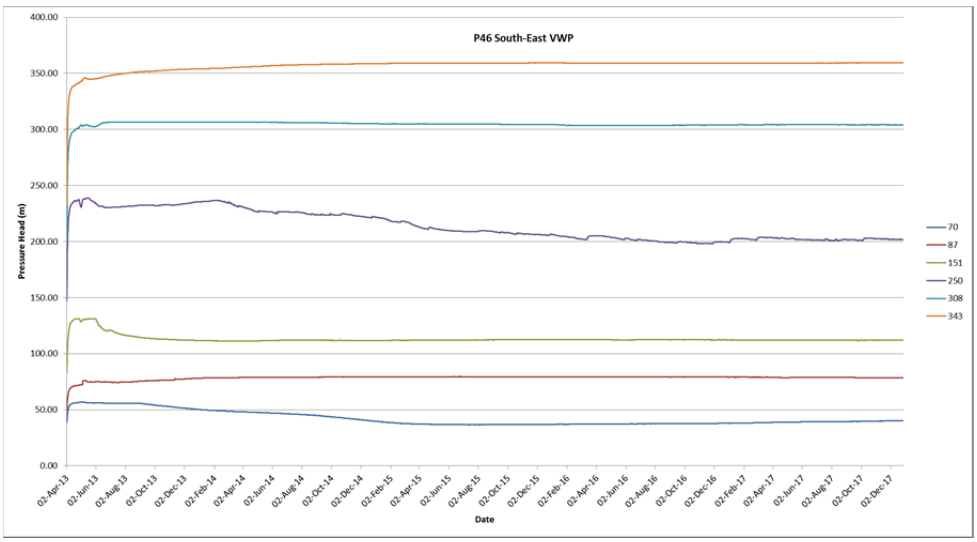

Standing Water Level - P39B
Depth to Water - mbgl
Depth in Metres
0
2
4
6
Jun 16
Sep 16
Oct 16
Nov 16
Dec 16
Jan 17
Feb 17
Mar 17
Apr 17
May 17
Jun 17
Jul 17
Aug 17
Sep 17
Oct 17
Nov 17
Dec 17
Jan 18
Date


Standing Water Level - P43
Depth to Water - mbgl
Depth in Metres
0
10
20
30
40
50
60
Jun 16
Sep 16
Oct 16
Nov 16
Dec 16
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
Date


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







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 December 2017 to February 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	18.7
Line 104 – Centre of LW104 – Southern		
Subsidence (m)	2.75	2.709
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	2.623

Longwall Panels (LW) 103 to LW107		
	Maximum Predicted Extraction Plan	Maximum Measured
Tilt (mm/m)	57	25.1
Tensile Strain (mm/m)	18 – 27^	6.5
Compressive Strain (mm/m)	23 – 35^	9.3
Angle of Draw (°, Degrees)	22.5 – 26.5	14.4
Line 106 – Centre of LW106 – Northern		
Subsidence (m)	2.75	2.584*
Tilt (mm/m)	47	41*
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^	10.7*
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.

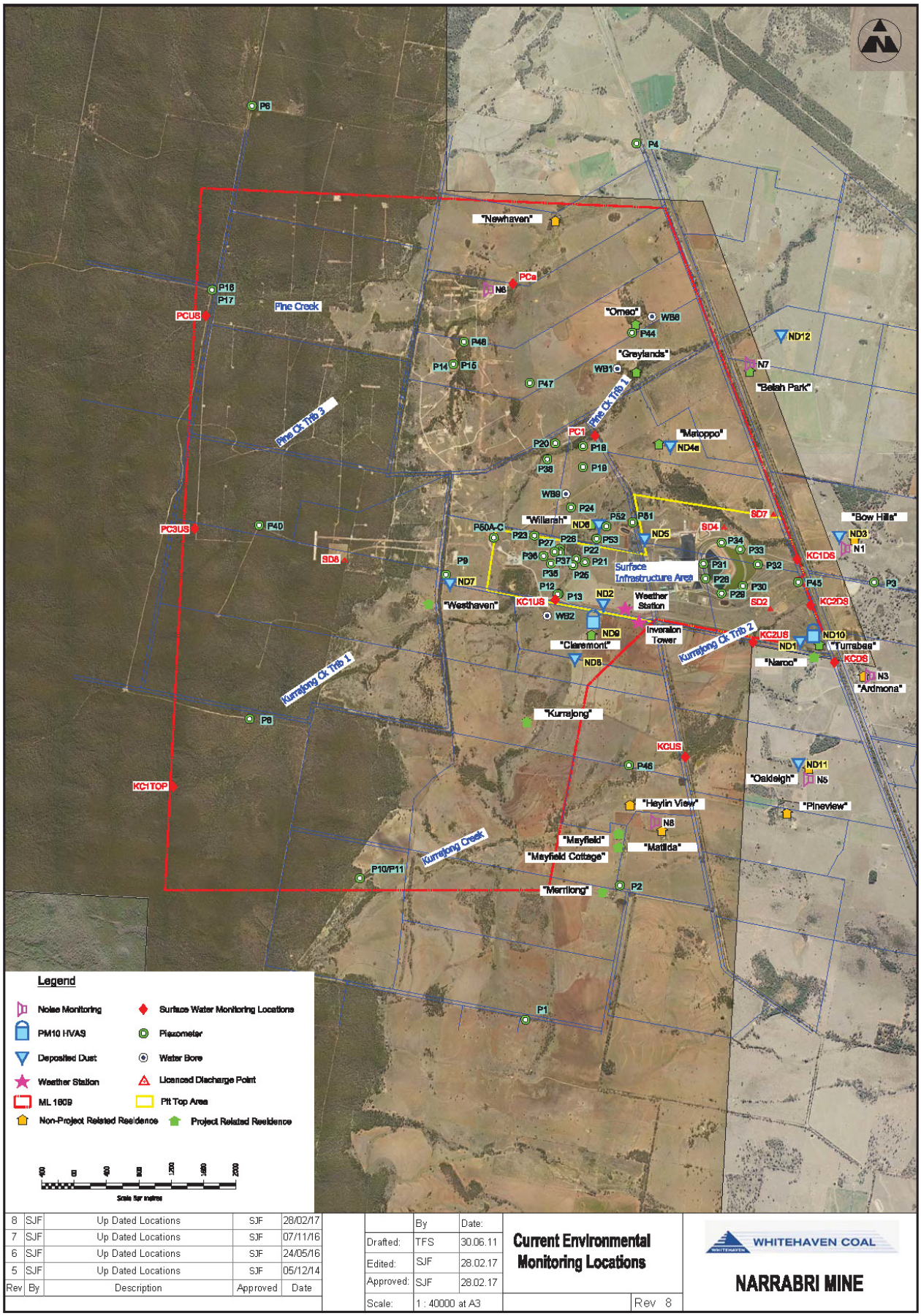
The centreline subsidence results for LW101 to LW107 indicate that the Garrawilla Volcanics and Basalt Sill have not reduced subsidence through spanning behaviour and that the maximum subsidence is also considered closer to 63% of the average mining height of 4.3m.

Complaints

One formal complaint was received during the period December 2017 to February 2018. The complaint was in relation to dust. The relevant parties were notified at the time and sprays activated.

Environmental Incident(s)

No environmental incidents occurred during the December 2017 to February 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