Monthly Environmental Monitoring Report

Yancoal Mount Thorley Warkworth

September 2025

CONTENTS

Figures

Tables

Revision History

Version No.	Version Details	Date
1.0	Final	26/02/2026

1.0 INTRODUCTION

This report has been compiled to provide a monthly summary of environmental monitoring results for Mount Thorley Warkworth (MTW). This report includes all monitoring data collected for the period 1 September to 30 September 2025.

2.0 AIR QUALITY

2.1 Meteorological Monitoring

Meteorological data is collected at MTW's 'Charlton Ridge' meteorological station (refer to **Figure 3**).

2.1.1 Rainfall

Rainfall for the reporting period is summarised in **Table 1**. The year-to-date monthly rainfall totals, 2025 monthly rainfall totals and historical average monthly rainfall trend are shown in **Figure 1**.

Table 1: Monthly Rainfall MTW

2025	Monthly Rainfall (mm)	Cumulative Rainfall (mm)
September	61.8	590.6

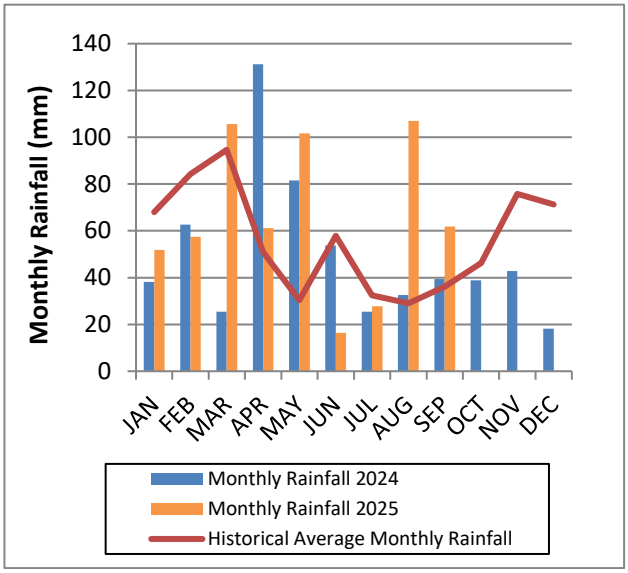

Figure 1: Rainfall Trend YTD

Note: The historical average monthly rainfall is calculated from 2007 to 2025 monthly totals

2.1.2 Wind Speed and Direction

Winds from the Northwest were dominant during the reporting period as shown in **Figure 2.**

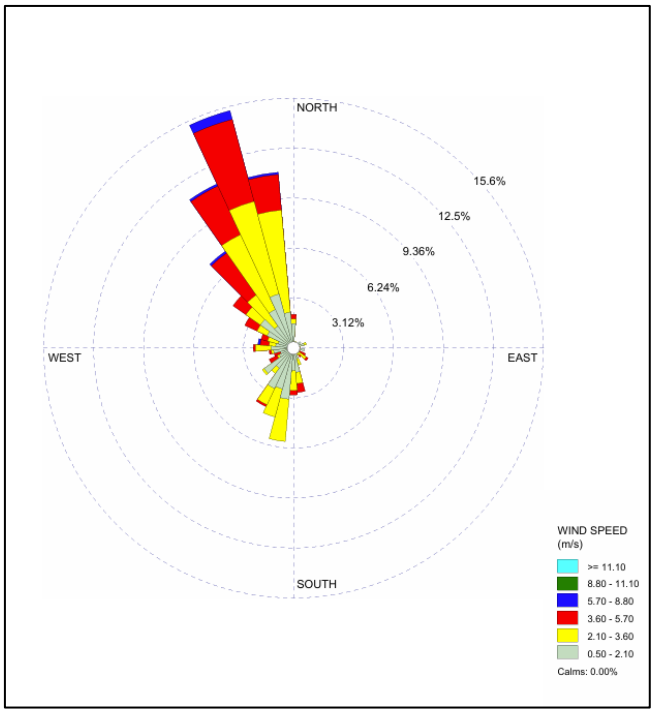

Figure 2: Charlton Ridge Wind Rose – September 2025

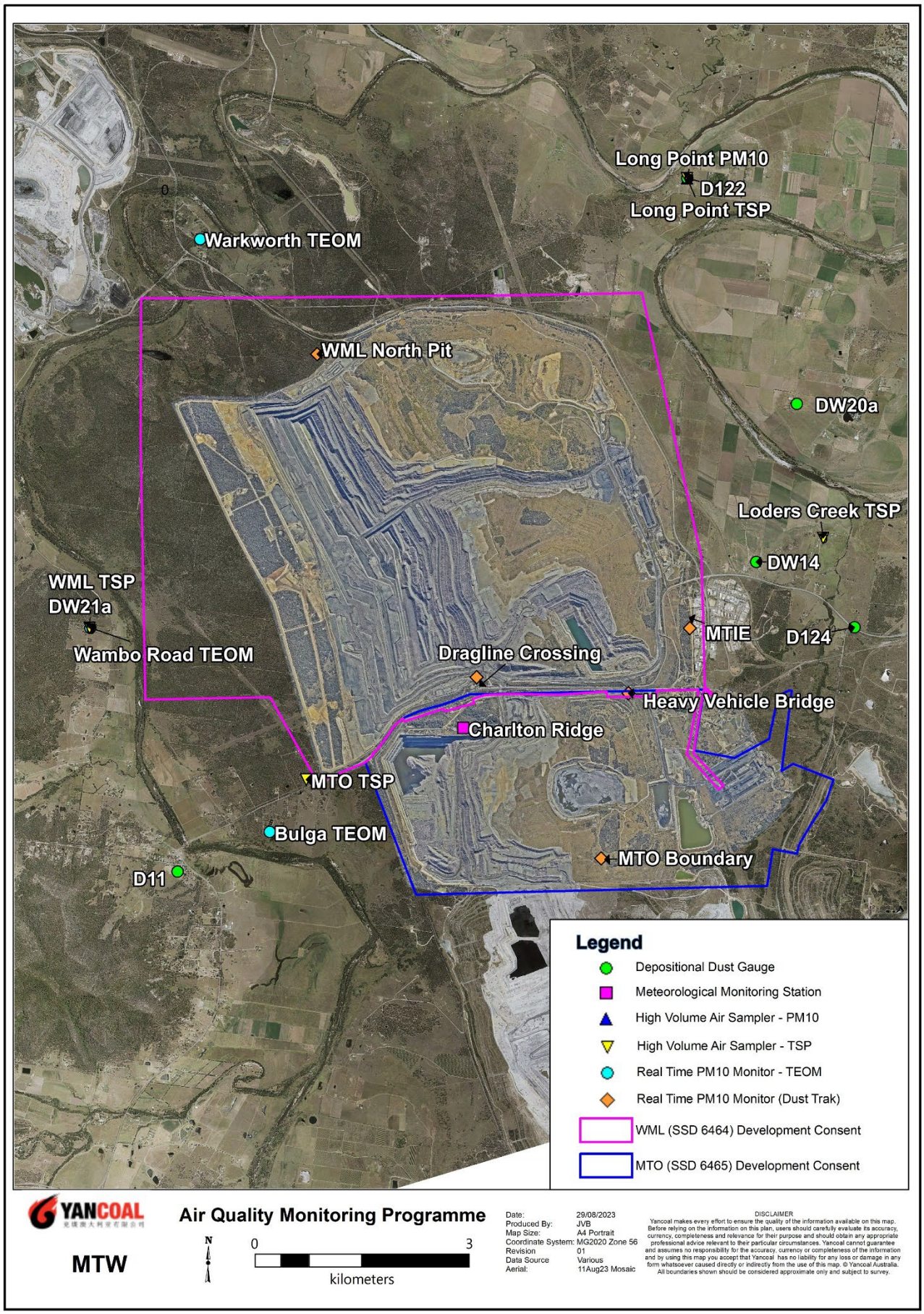

Figure 3: Air Quality Monitoring Locations

2.2 Depositional Dust

To monitor air quality, MTW operates and maintains a network of seven depositional dust gauges, situated on private and mine owned land surrounding MTW.

During the reporting period the Warkworth monitor recorded a monthly result above the long-term impact assessment criteria of 4.0 g/m2 per month. There is no evidence to suggest that the result is contaminated. Accordingly, the result will be included in the annual average calculation.

Figure 4 displays insoluble solids results from depositional dust gauges during the reporting period compared against the year-to-date average and the annual impact assessment criteria.

An annual assessment of MTW's compliance with the Long-Term Impact Assessment Criteria will be provided in the 2025 Annual Review Report.

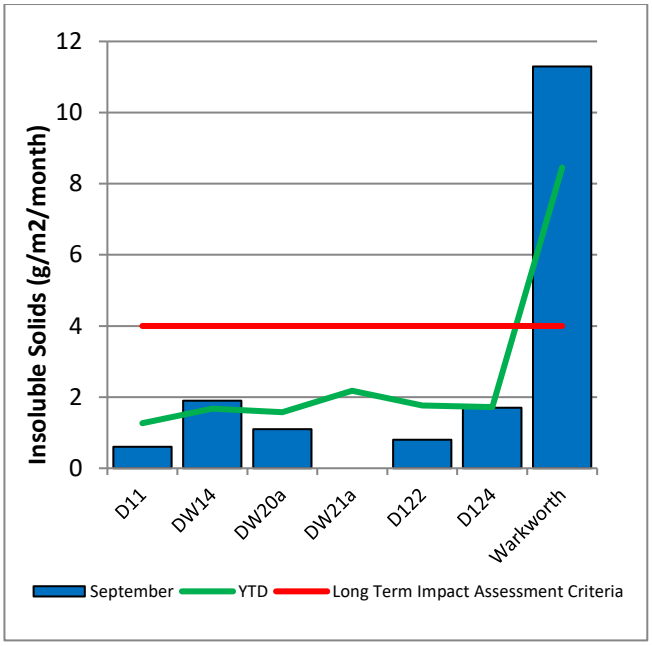

Figure 4: Depositional Dust – September 2025

2.3 Suspended Particulates

Suspended particulates are measured by a network of High Volume Air Samplers (HVAS) measuring Total Suspended Particulates (TSP) and Particulate Matter <10µm (PM_{10}). The location of these monitors can be found in **Figure 3**. Each HVAS was run for 24 hours on a six-day cycle in accordance with EPA requirements.

2.3.1 HVAS PM_{10} Results

Figure 5 shows the individual PM_{10} results at each monitoring station against the short-term impact assessment criteria of 50µg/m³.

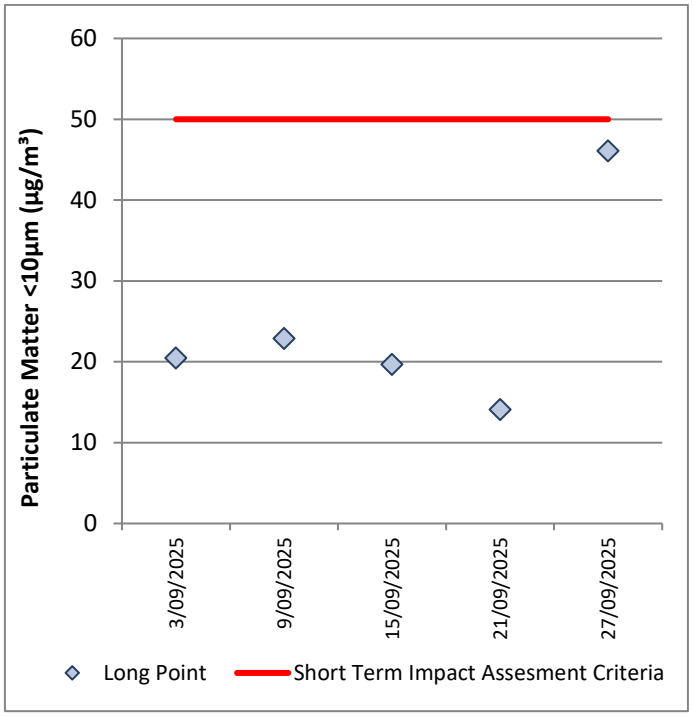

Figure 5: Individual PM10 Results – September 2025

Figure 6 shows the annual average PM10 result against the long-term impact assessment criteria.

An assessment of MTW's compliance with the Long-Term Impact Assessment Criteria will be provided in the 2025 Annual Review Report.

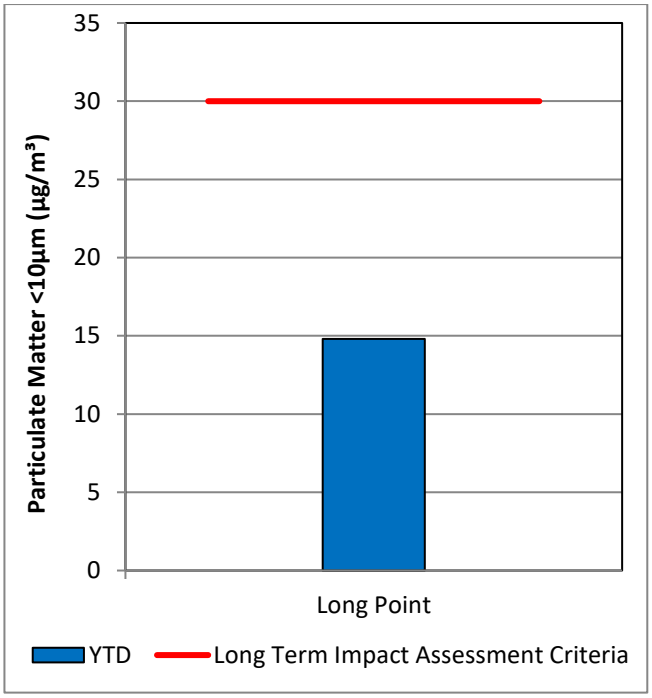

Figure 6: Annual Average PM10 – September 2025

2.3.2 TSP Results

Figure 7 shows the annual average TSP results compared against the long-term impact assessment criteria of 90µg/m³.

An assessment of MTW's compliance with the Long-Term Impact Assessment Criteria will be provided in the 2025 Annual Review Report.

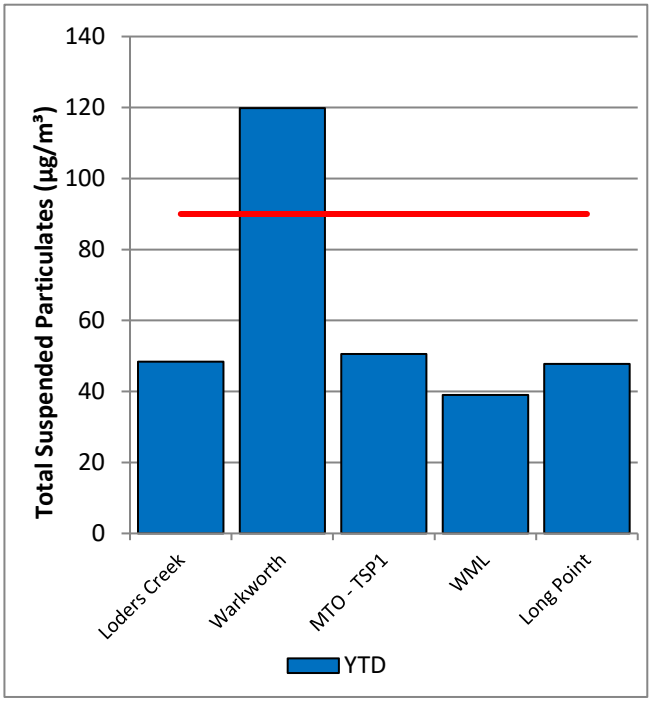

Figure 7: Annual Average Total Suspended Particulates – September 2025

2.3.3 Real Time PM_{10} Results

MTW maintains a network of real time PM_{10} monitors. The real time air quality monitoring stations continuously log information and transmit data to a central database, generating internal alerts when particulate matter levels exceed internal trigger limits.

Results for real time dust sampling are shown in **Figure 8**, including the daily 24-hour average PM_{10} result and the annual PM_{10} average.

On 8 September 2025, the Warkworth TEOM Data (71.0 ug/m3) exceeded the short term (24hr) criteria. The measurement was assessed for MTW's potential contribution based on meteorological conditions and background PM_{10} levels on the day resulting in a maximum estimated contribution of 0 ug/m3. Accordingly, no further action is required (as per the approved Air Quality Monitoring Programme).

On 16 September 2025, the Warkworth TEOM Data (52.2 ug/m3) exceeded the short term (24hr) criteria. The measurement was assessed for MTW's potential contribution based on meteorological conditions and background PM_{10} levels on the day resulting in a maximum estimated contribution of 0 ug/m3. Accordingly, no further action is required (as per the approved Air Quality Monitoring Programme).

On 26 September 2025, the Warkworth TEOM Data (70.0 ug/m3) exceeded the short term (24hr) criteria. The measurement was assessed for MTW's potential contribution based on meteorological conditions and background PM_{10} levels on the day resulting in a maximum estimated contribution of 0 ug/m3. Accordingly, no further action is required (as per the approved Air Quality Monitoring Programme).

On 27 September 2025, the Warkworth TEOM Data (66.7 ug/m3) exceeded the short term (24hr) criteria. The measurement was assessed for MTW's potential contribution based on meteorological conditions and background PM_{10} levels on the day resulting in a maximum estimated contribution of 0 ug/m3. Accordingly, no further action is required (as per the approved Air Quality Monitoring Programme).

On 28 September 2025, the Warkworth TEOM Data (52.3 ug/m3) exceeded the short term (24hr) criteria. The measurement was assessed for MTW's potential contribution based on meteorological conditions and background PM_{10} levels on the day resulting in a maximum estimated contribution of 12.6 ug/m3, that was 24.1% contribution to the result. Accordingly, no further action is required (as per the approved Air Quality Monitoring Programme).

2.3.4 Real Time Alarms for Air Quality

During September, the real time monitoring system generated 207 automated air quality related alerts, including 13 alerts for adverse meteorological conditions and 194 alerts for elevated PM_{10} level.

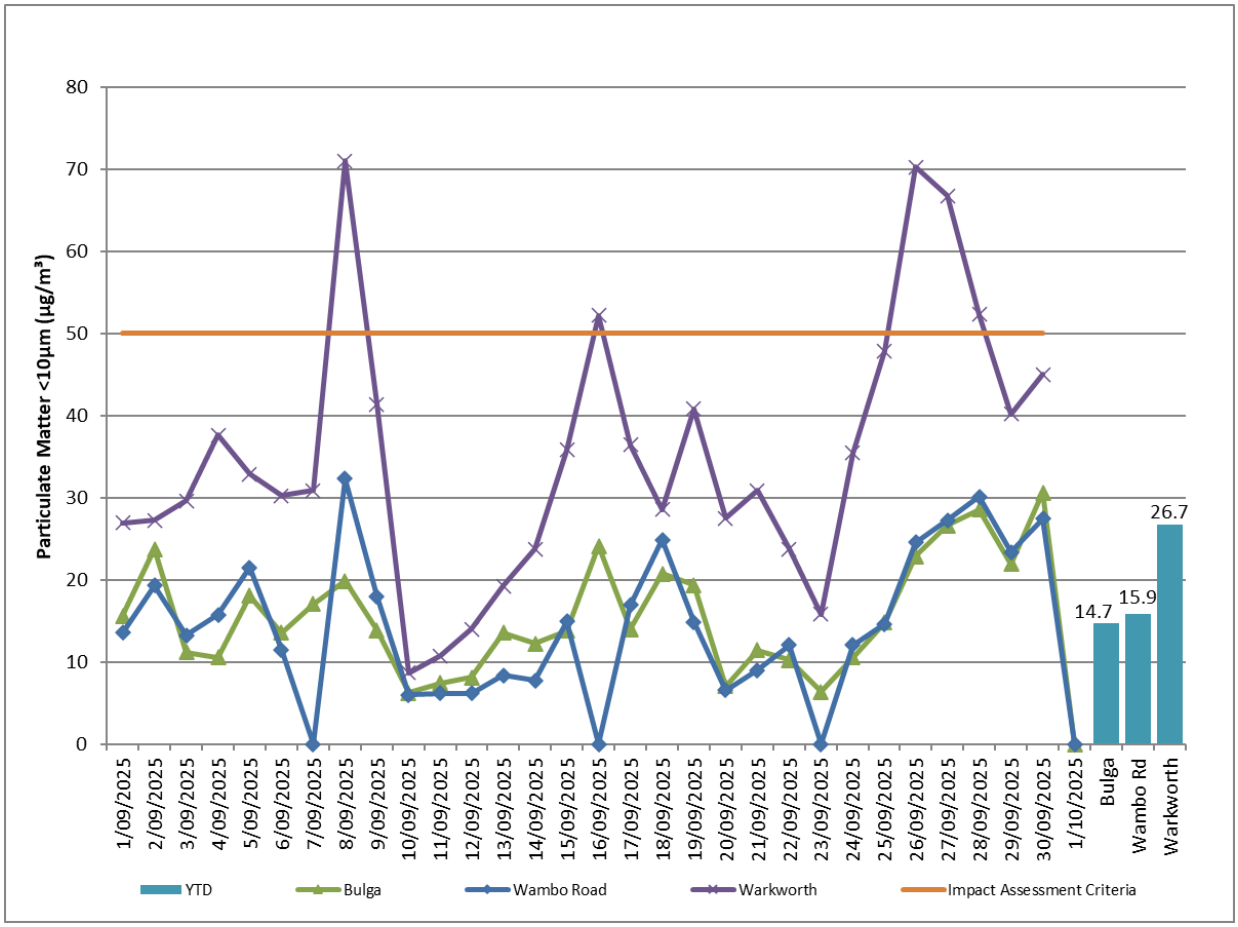

Figure 8: Real Time PM_{10} daily 24hr average (line graphs) and YTD annual average (column graphs) – September 2025

3.0 WATER QUALITY

MTW maintains a network of surface water and groundwater monitoring sites.

3.1 Surface Water

Monitoring is conducted at mine site dams and surrounding natural watercourses. The surface water monitoring locations are outlined in **Figure 15**.

Surface water courses are sampled on a monthly or quarterly sampling regime. Water quality is evaluated through the parameters of pH, Electrical Conductivity (EC) and Total Suspended Solids (TSS). The Hunter River and the Wollombi Brook are sampled both upstream and downstream of mining operations, to record background water quality and to monitor the potential impact of mining on the river system. Other Hunter River tributaries are also monitored.

3.1.1 Surface Water Monitoring results

Figure 9 to **Figure 11** show the long-term surface waste trend (2022 – current) within MTW mine dams. **Figure 12** to **Figure 14** show the long-term surface water trend (2022 – current) in surrounding watercourses.

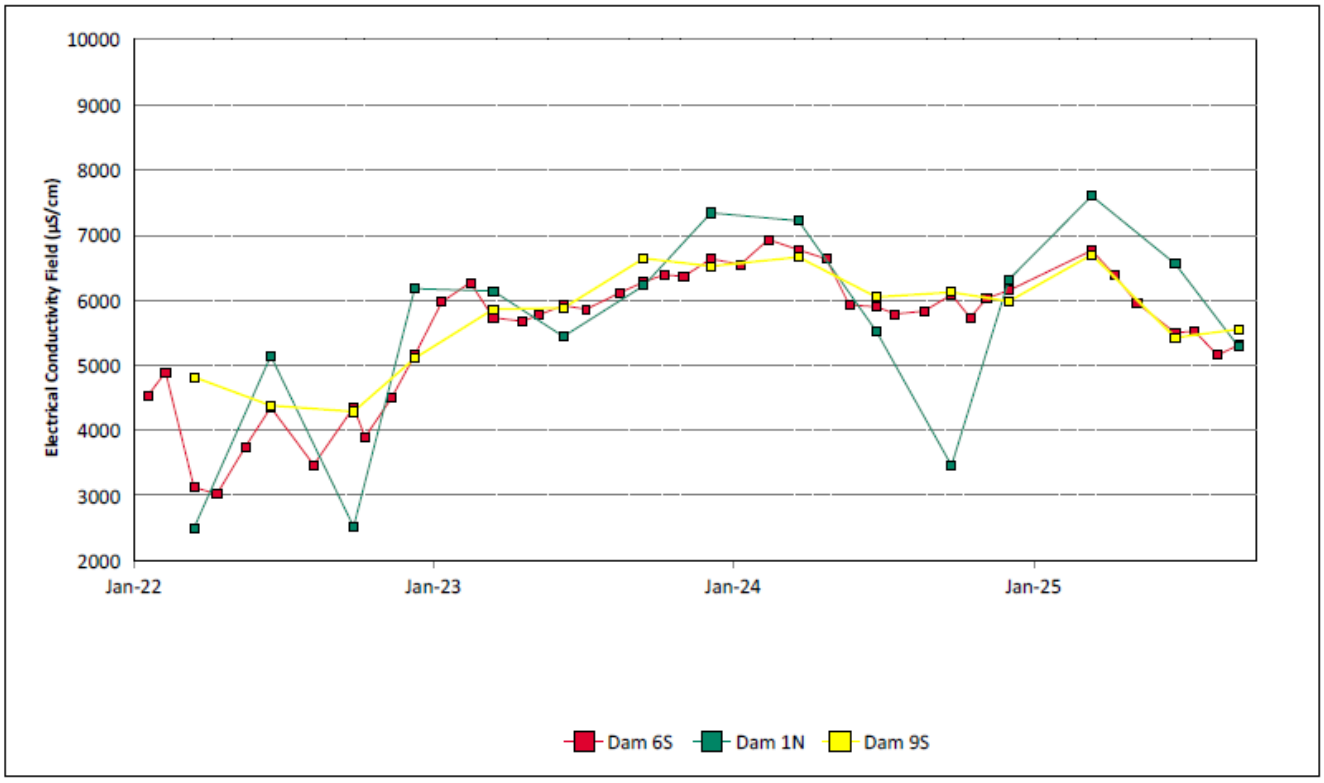

Figure 9: Site Dams Electrical Conductivity Field Trend – September 2025

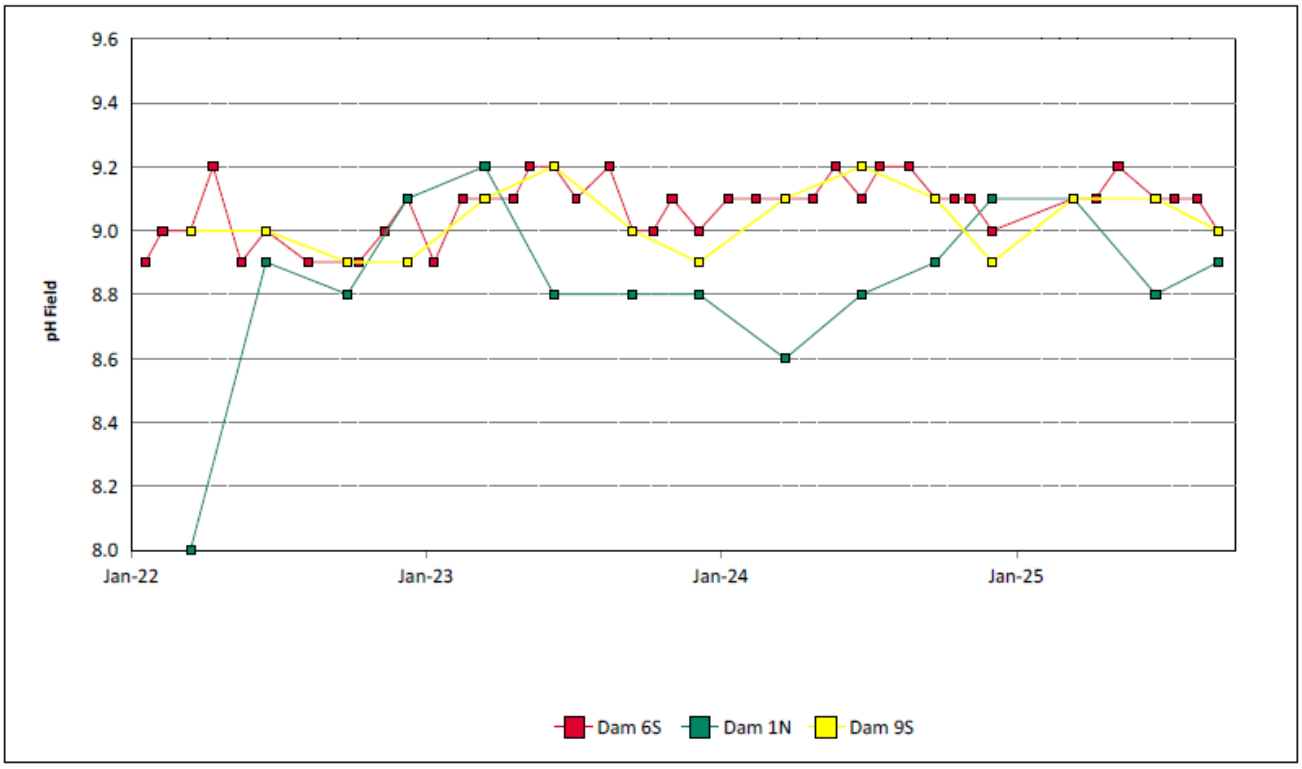

Figure 10: Site Dams pH Field Trend – September 2025

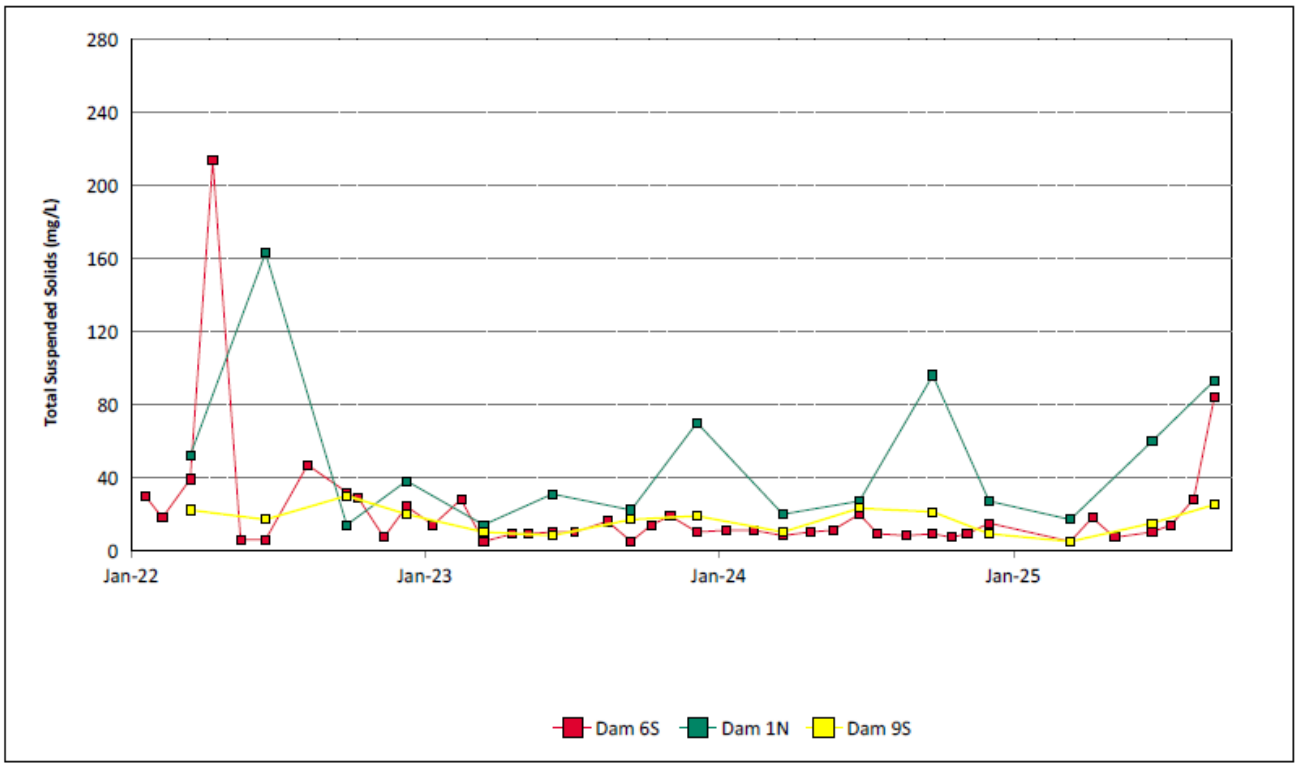

Figure 11: Site Dams Total Suspended Solids Trend – September 2025

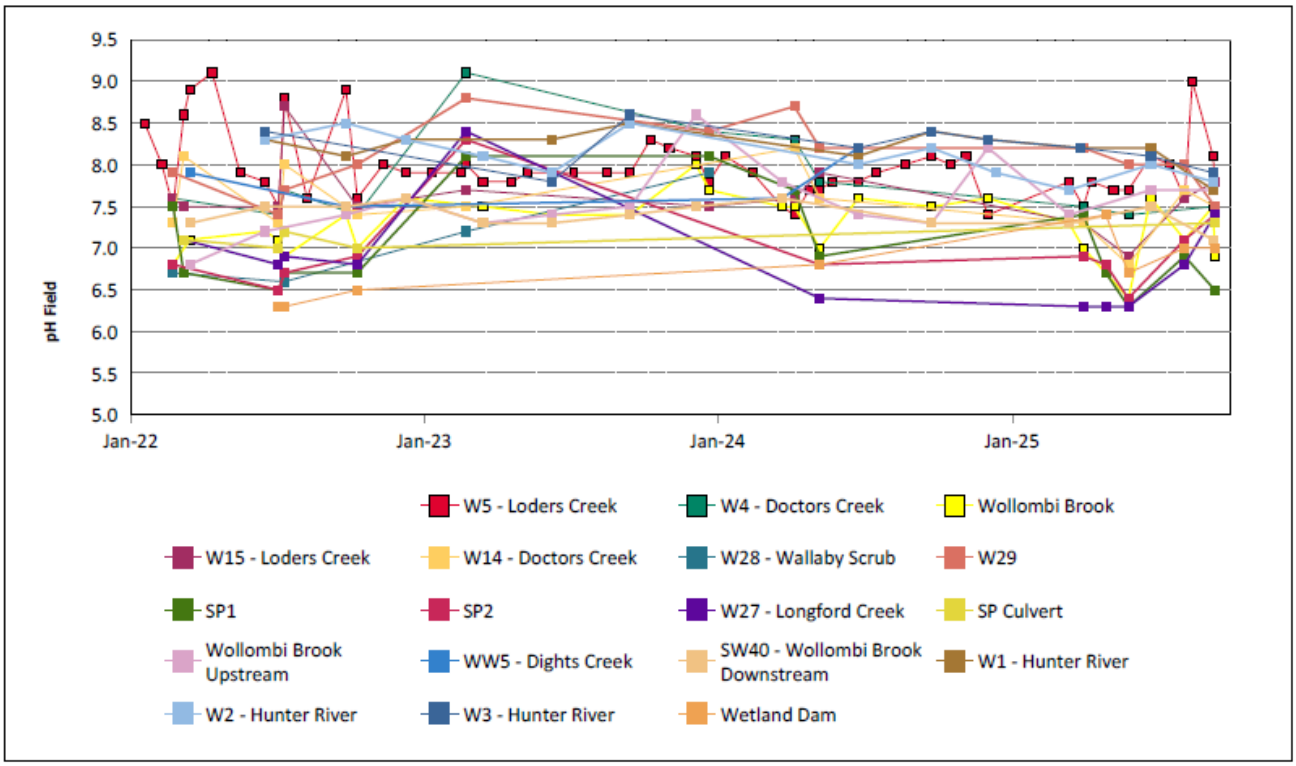

Figure 12: Watercourse pH Field Trend – September 2025

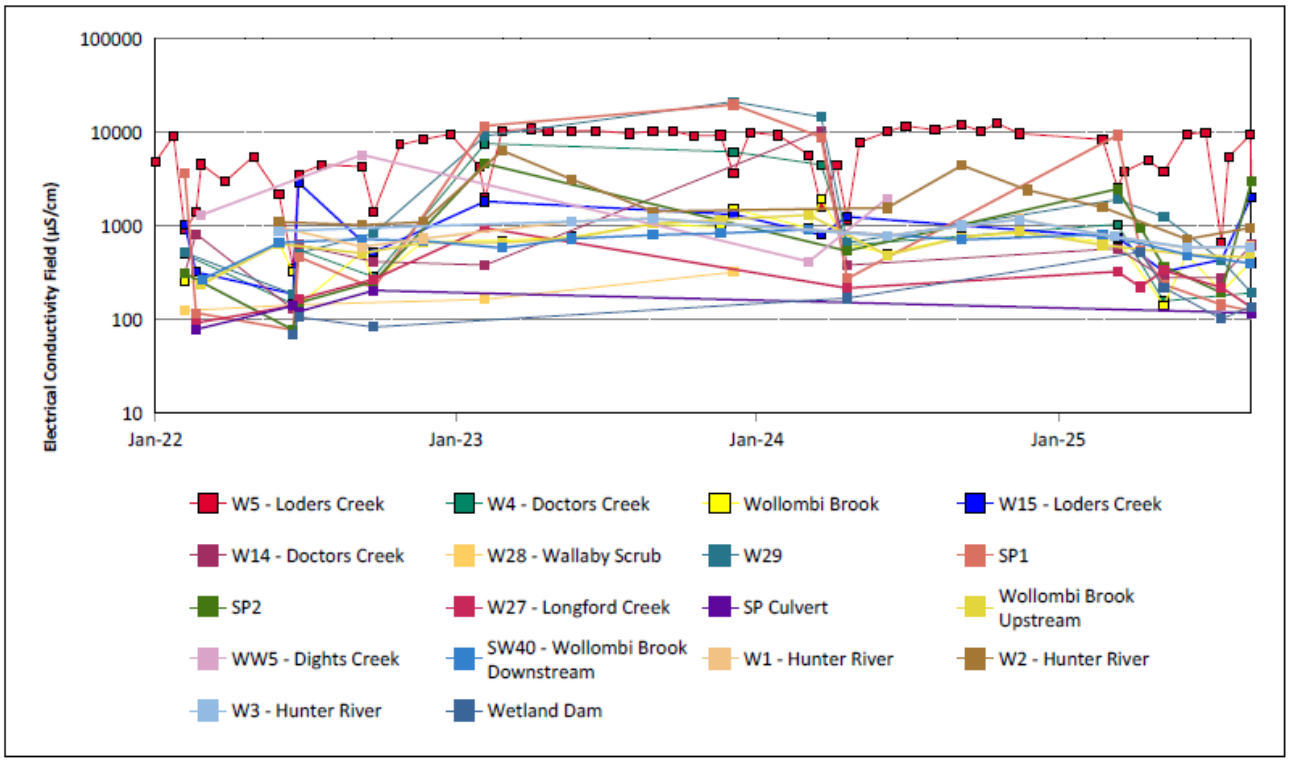

Figure 13: Watercourse Electrical Conductivity Field Trend – September 2025

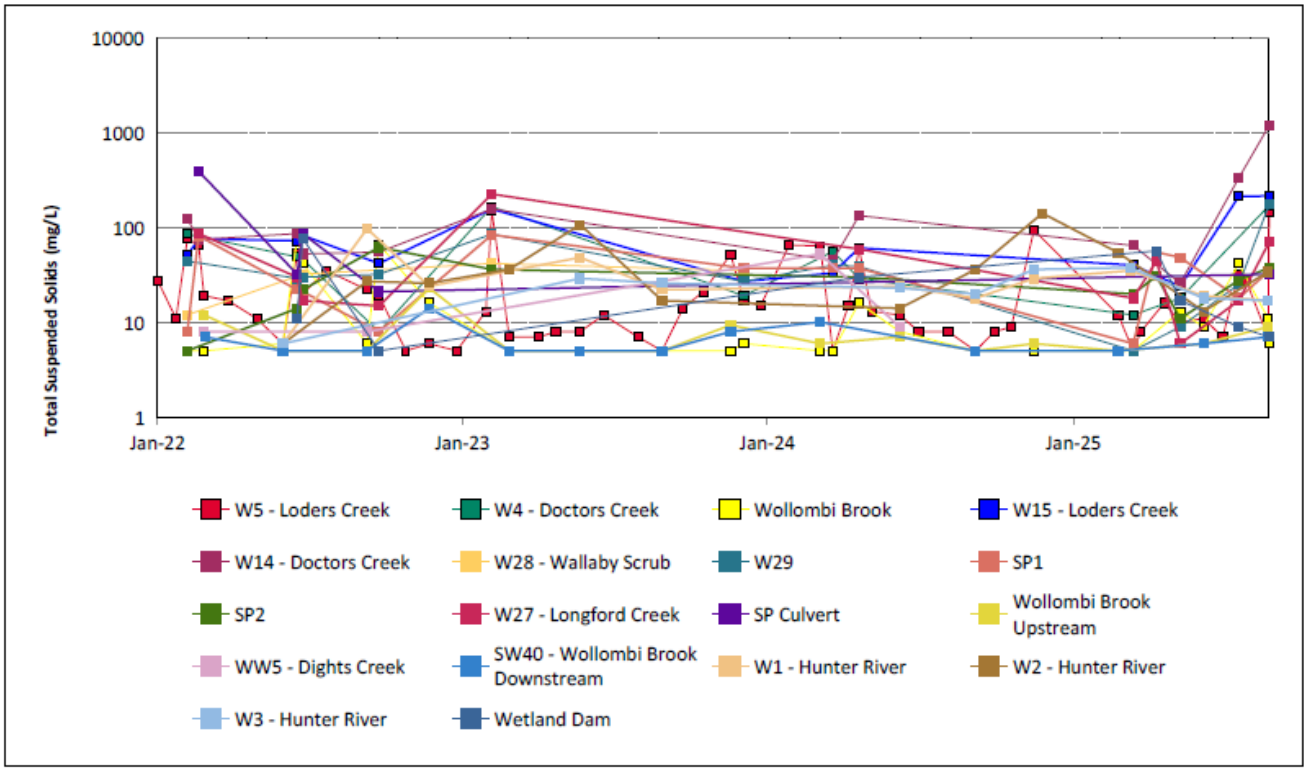

Figure 14: Watercourse Total Suspended Solids Trend – September 2025

3.1.2 Surface Water Trigger Tracking

Internal trigger limits have been developed to assess monitoring data on an on-going basis, and to highlight potentially adverse surface water impacts. The process for evaluating monitoring results against the internal triggers and subsequent responses are outlined in the MTW Water Management Plan.

Current internal surface water trigger limit breaches are summarised in **Table 2**.

Table 2: Surface Water Trigger Tracking – September 2025

Site	Date	Trigger Limit Breached	Action Taken in Response
W4	10/09/2025	TSS – 50mg/L (ANZECC criteria)	No MTW site sources of sediment identified. Sampling completed in response to rain event greater than 30mm. Elevated TSS likely related to rainfall event.
W5	8/01/2025 10/09/2025	TSS – 50mg/L (ANZECC criteria)	Unlikely to be associated with MTW mining related impacts. Elevated TSS results most likely attributable to sampling from water with no flow (pool of water) and not considered to be a valid representation given that there was no flow at the time of sampling. TSS returned to within trigger level for 12 x subsequent routine and rain event sampling completed including September annual analysis on 8/09/2025. Sample 10/09/2025 above trigger level, Watching Brief*
W2	13/03/2025	TSS – 50mg/L (ANZECC criteria)	No MTW site sources of sediment identified. TSS returned to within trigger level for subsequent sampling on 23/06/25.
W14	31/03/2025, 28/04/2025 4/08/2025 10/09/2025	TSS – 50mg/L (ANZECC criteria)	No MTW site sources of sediment identified. TSS returned to within trigger level for subsequent sampling on 26/05/25. Sampling 4/08/2025 and 10/09/2025 above trigger level, Watching Brief*
W27	10/09/2025	TSS – 50mg/L (ANZECC criteria)	No MTW site sources of sediment identified. Sampling completed in response to rain event greater than 30mm. Elevated TSS likely related to rainfall event.
W29	10/09/2025	TSS – 50mg/L (ANZECC criteria)	No MTW site sources of sediment identified. Sampling completed in response to rain event greater than 30mm. Elevated TSS likely related to rainfall event.
SP1	28/04/2025	TSS – 50mg/L (ANZECC criteria)	No MTW site sources of sediment identified. TSS returned to within trigger level for subsequent sampling on 26/05/25.
Wetlands Dam	28/04/2025	TSS – 50mg/L (ANZECC criteria)	No MTW site sources of sediment identified. TSS returned to within trigger level for subsequent sampling on 26/05/25.

* = Watching brief established pending outcomes of subsequent monitoring events. No specific actions required.

3.2 HRSTS Discharge

MTW participates in the Hunter River Salinity Trading Scheme (HRSTS), allowing discharge from licensed discharge points located at Dam 1N and Dam 9S. Discharges can only take place subject to HRSTS regulations.

MTW did undertake HRSTS discharges. In September MTW discharged 190.8 ML from Dam 9S during the reporting period.

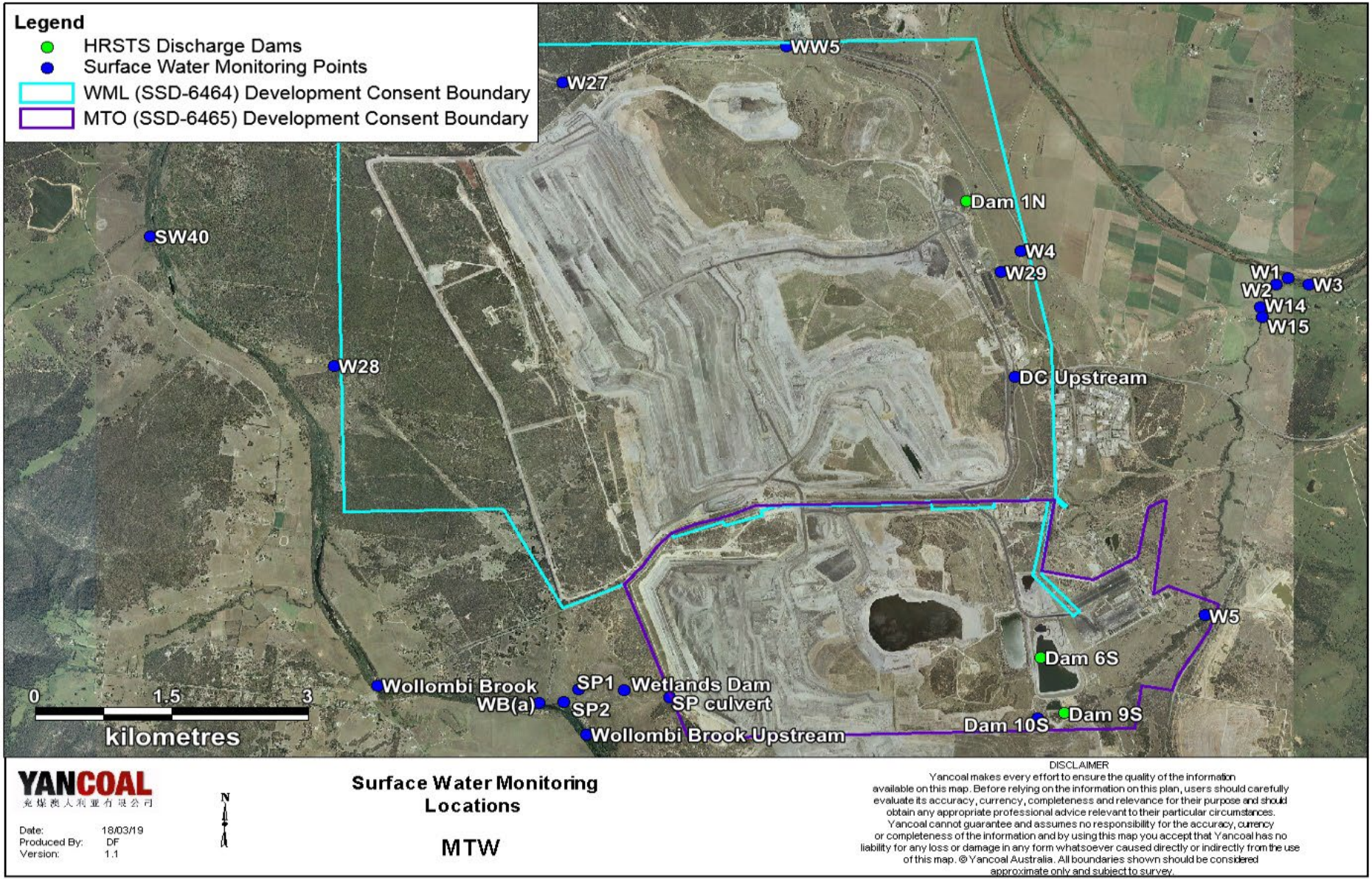

Figure 15: Surface Water Monitoring Location Plan

3.3 Groundwater Monitoring

Groundwater monitoring is undertaken on a quarterly basis in accordance with the MTW Groundwater Monitoring Programme.

Figure 16 to **Figure 64** show the long-term water quality trends (2022 - current) for groundwater bores monitored at MTW.

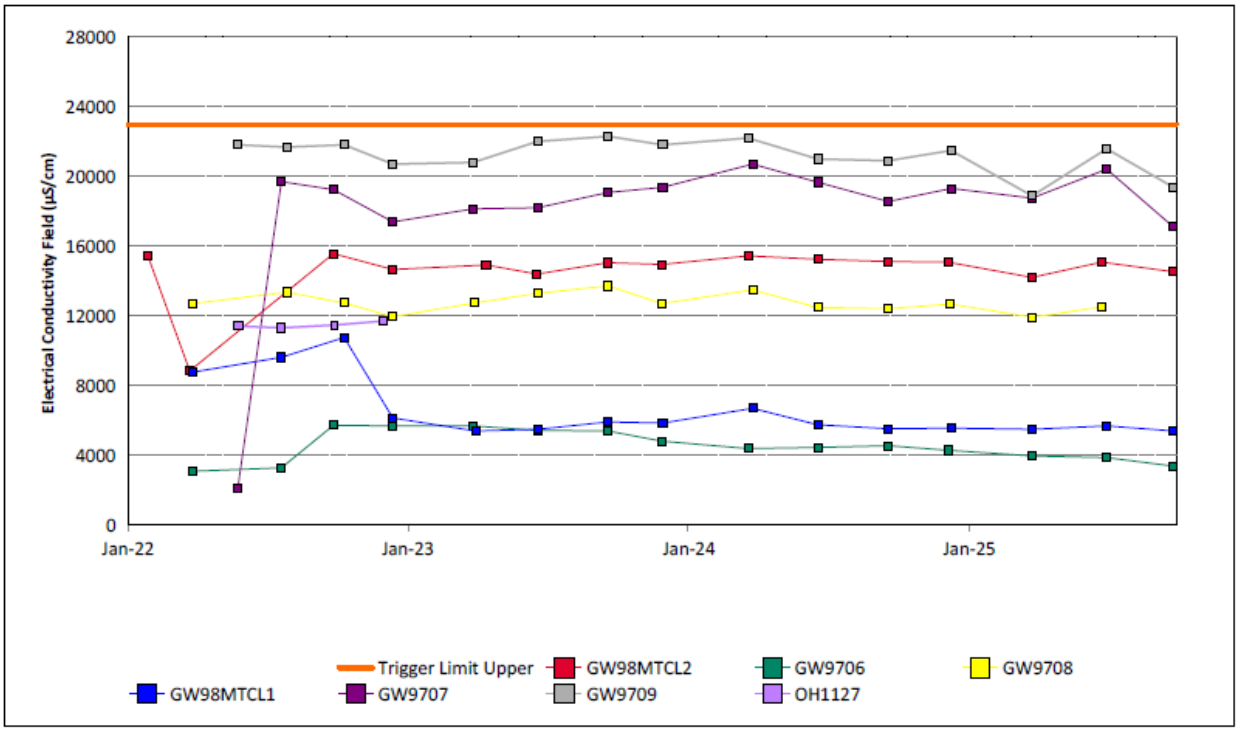

Figure 16: Bayswater Seam Electrical Conductivity Field Trend – September 2025

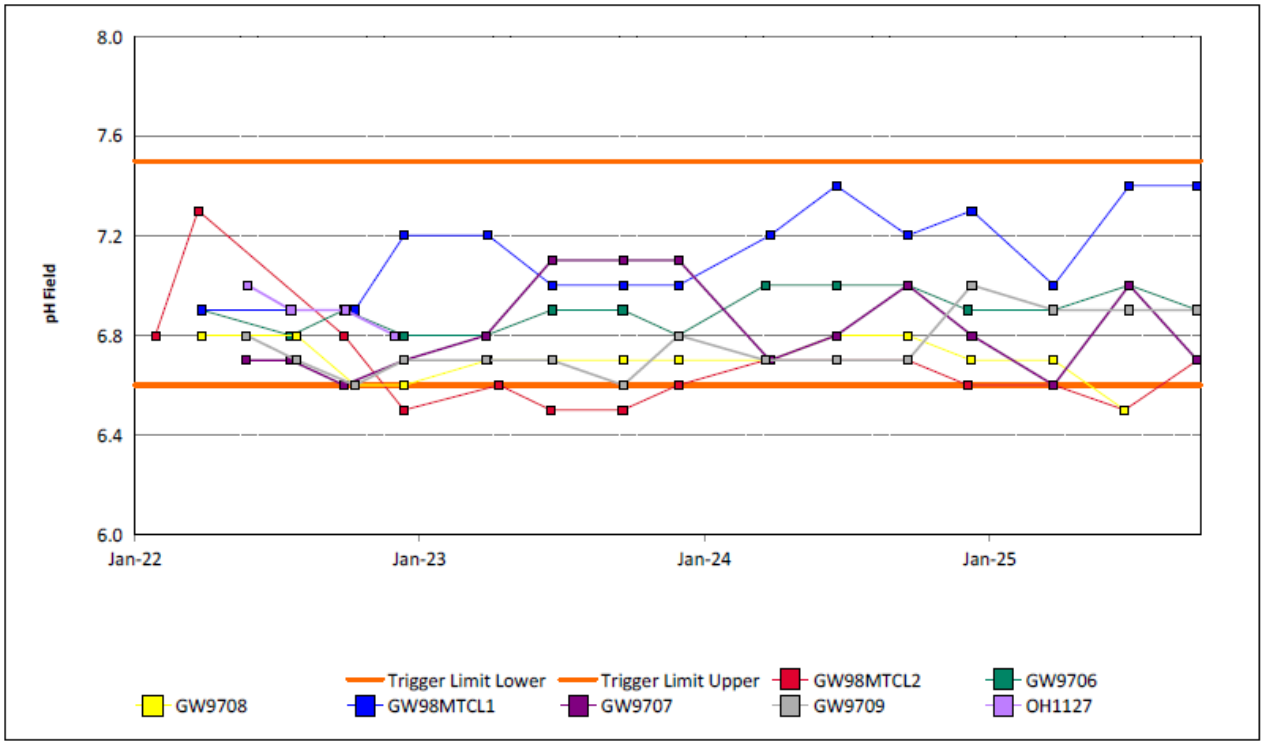

Figure 17: Bayswater Seam pH Field Trend – September 2025

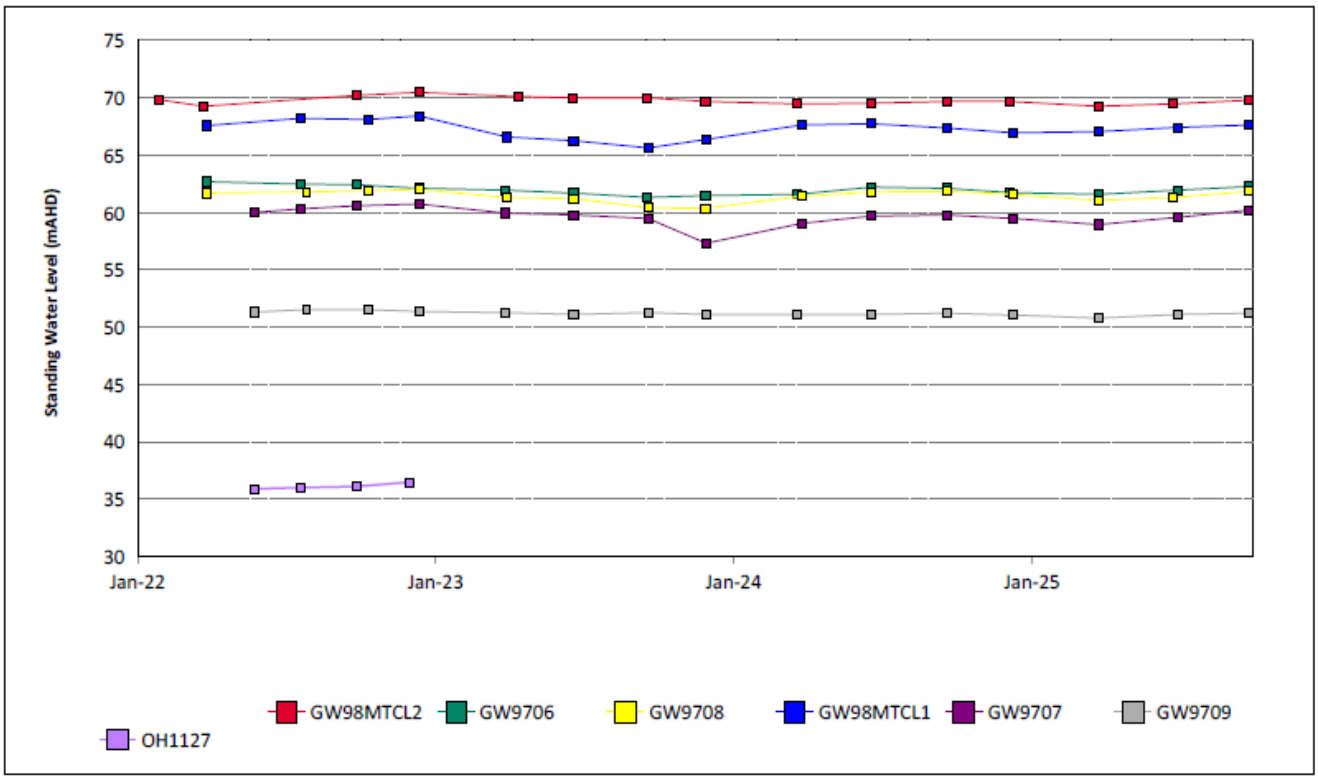

Figure 18: Bayswater Seam Standing Water Level Trend – September 2025

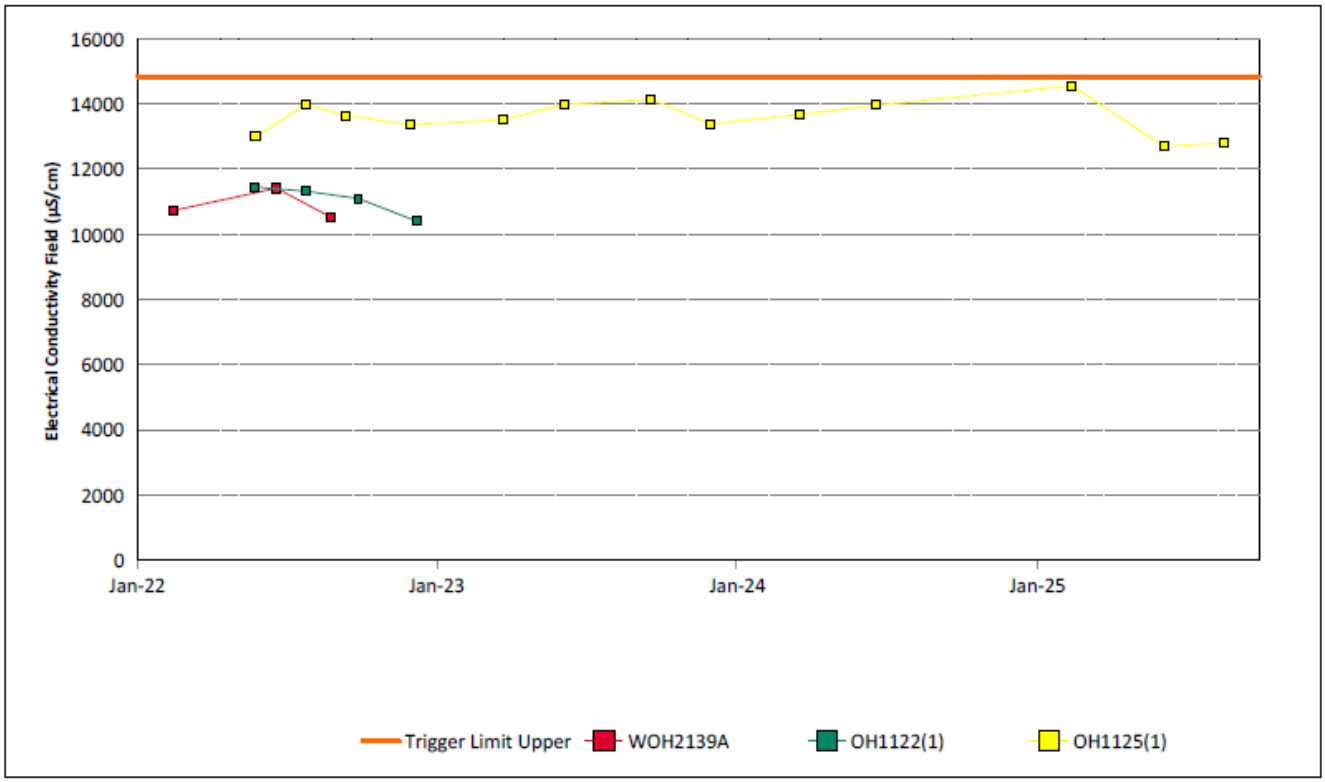

Figure 19: Blakefield Seam Electrical Conductivity Field Trend – September 2025

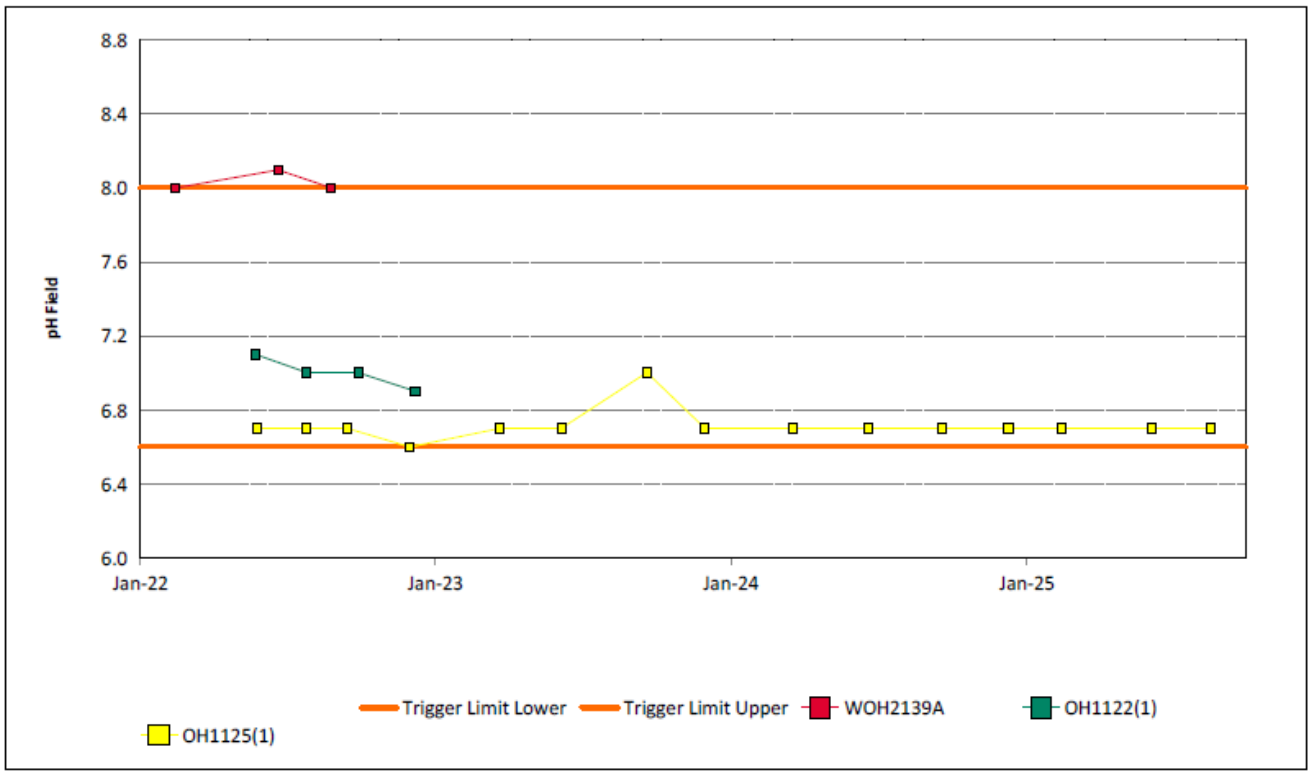

Figure 20: Blakefield Seam pH Field Trend – September 2025

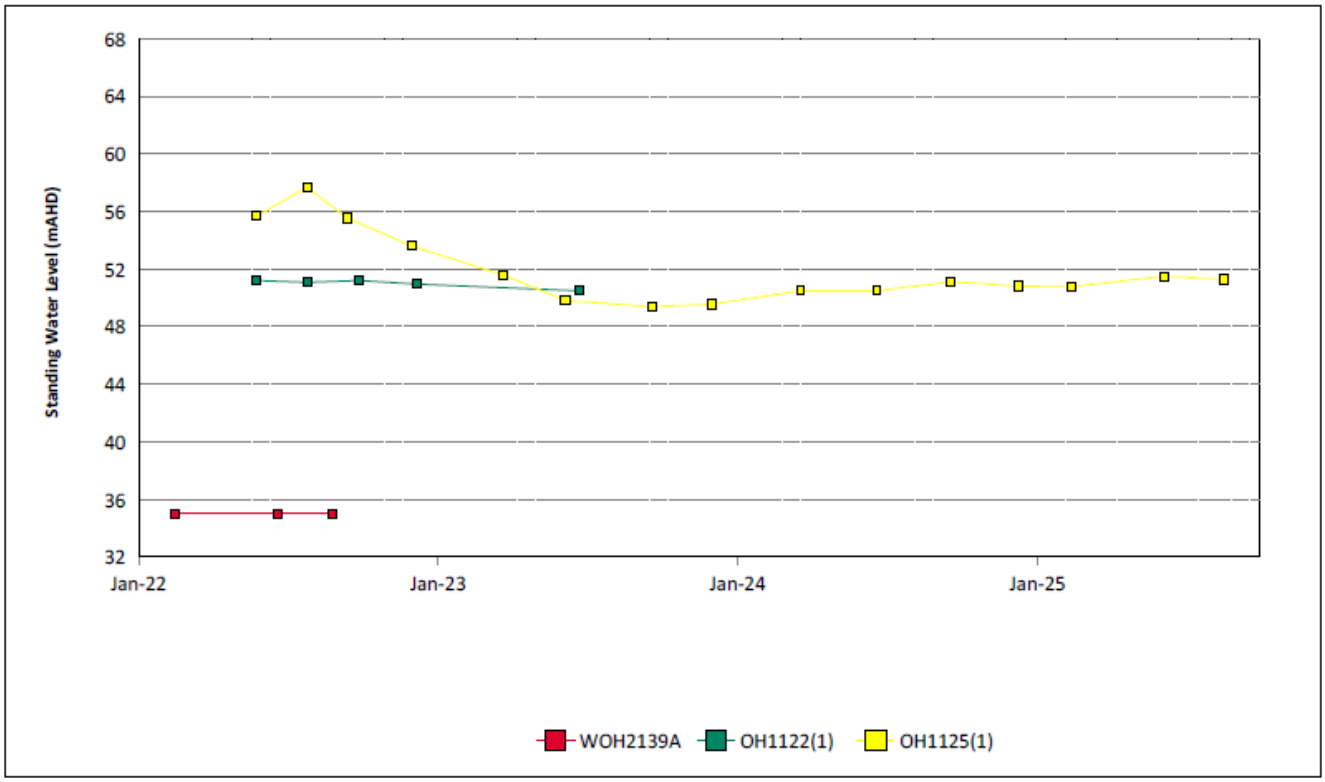

Figure 21: Blakefield Seam Standing Water Level Trend – September 2025

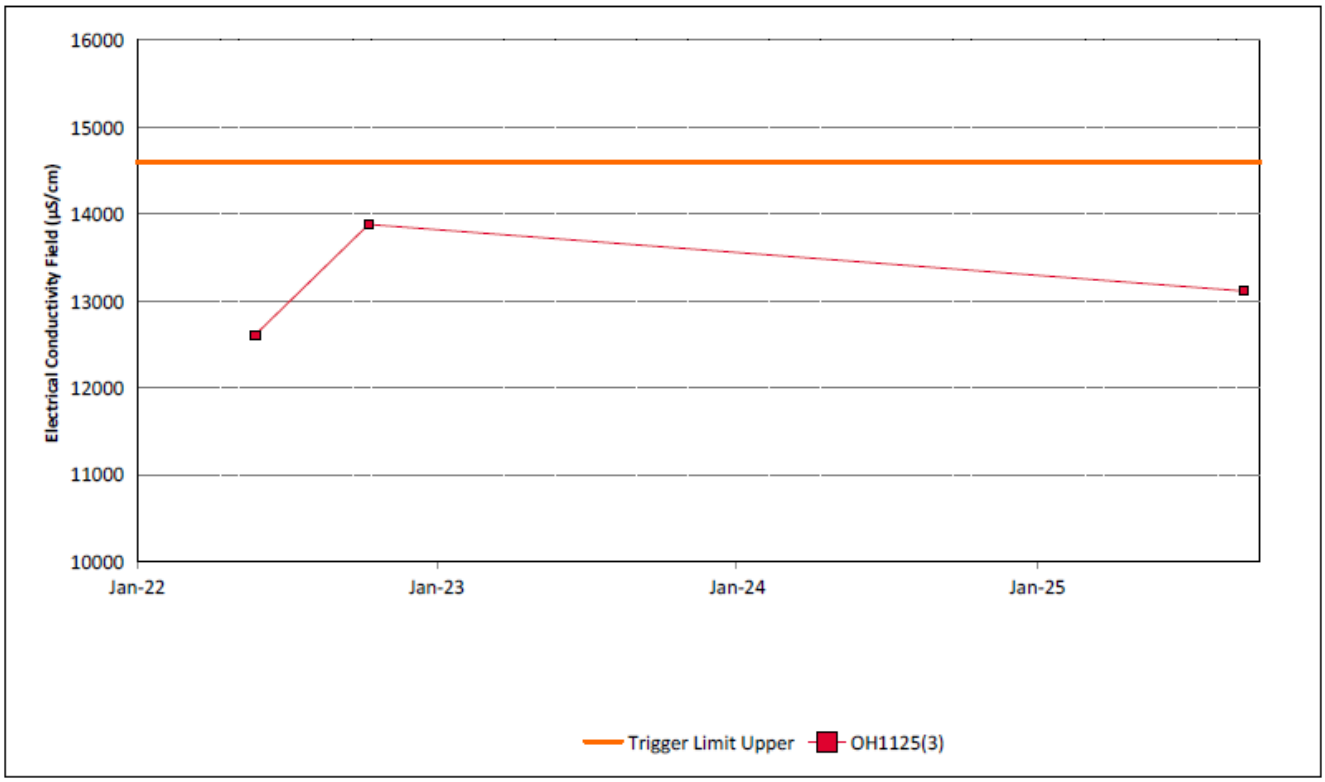

Figure 22: Bowfield Seam Electrical Conductivity Field Trend – September 2025

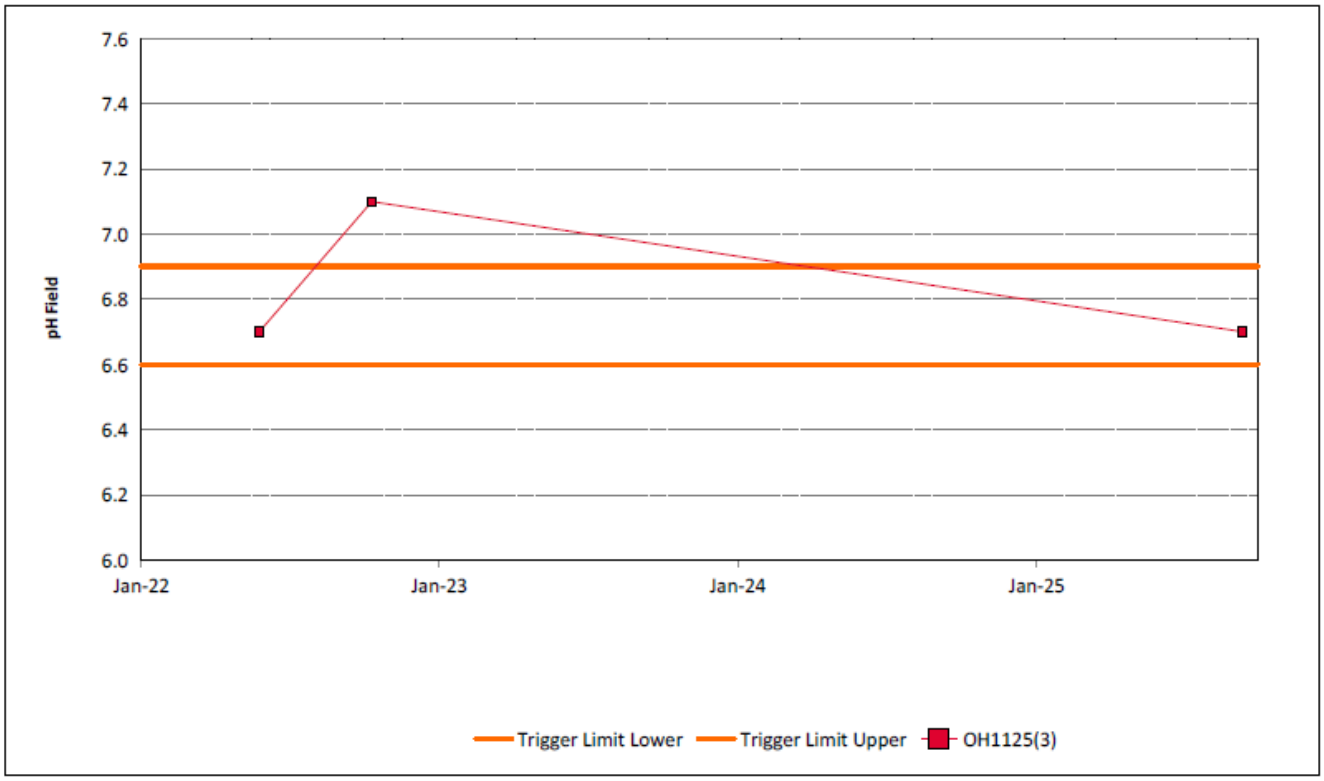

Figure 23: Bowfield Seam pH Field Trend - September 2025

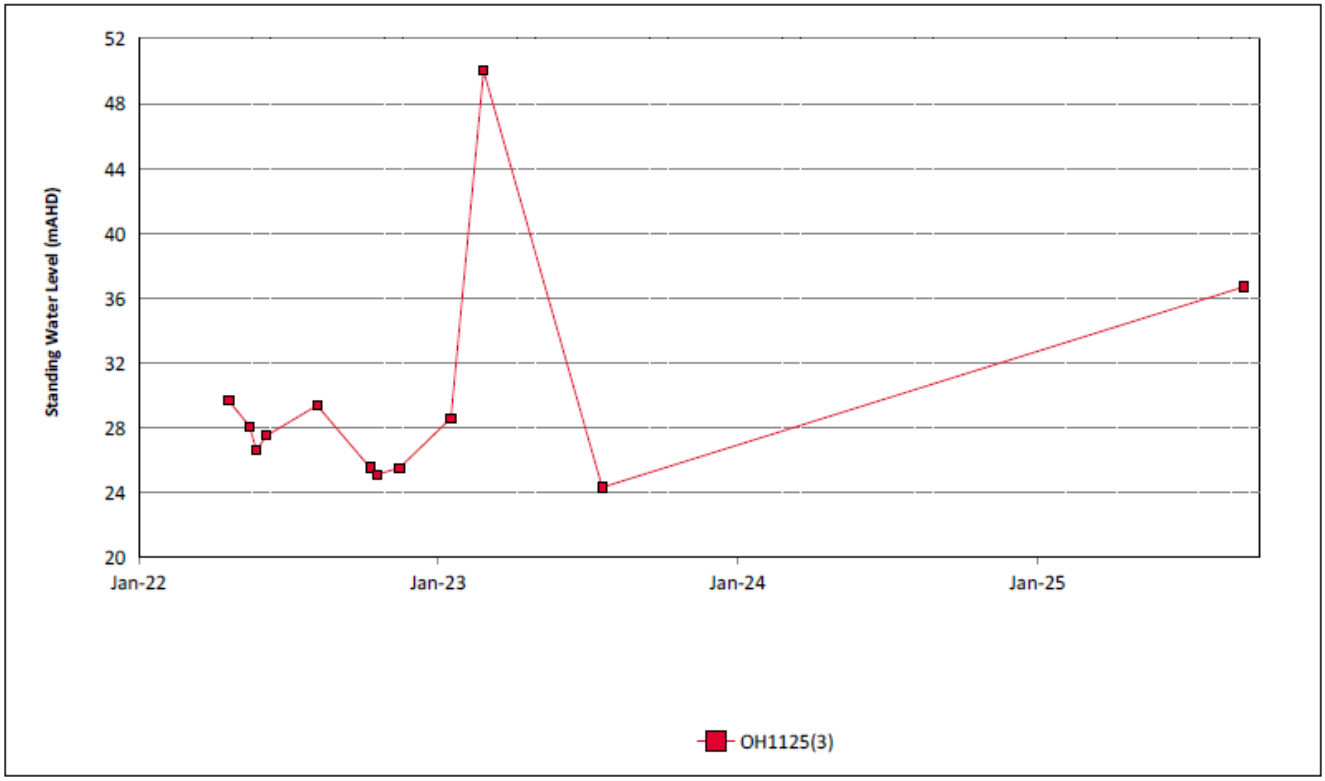

Figure 24: Bowfield Seam Standing Water Level Trend – September 2025

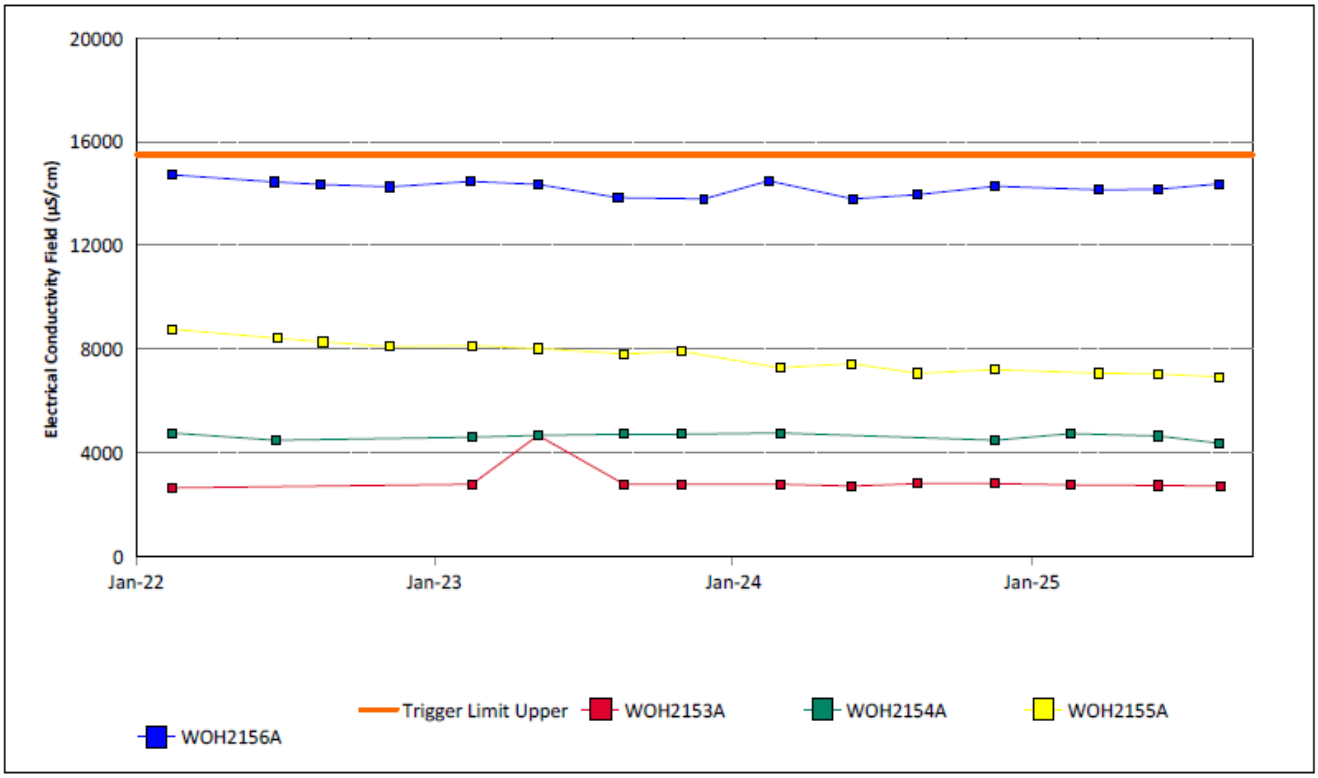

Figure 25: Redbank Seam Electrical Conductivity Field Trend – September 2025

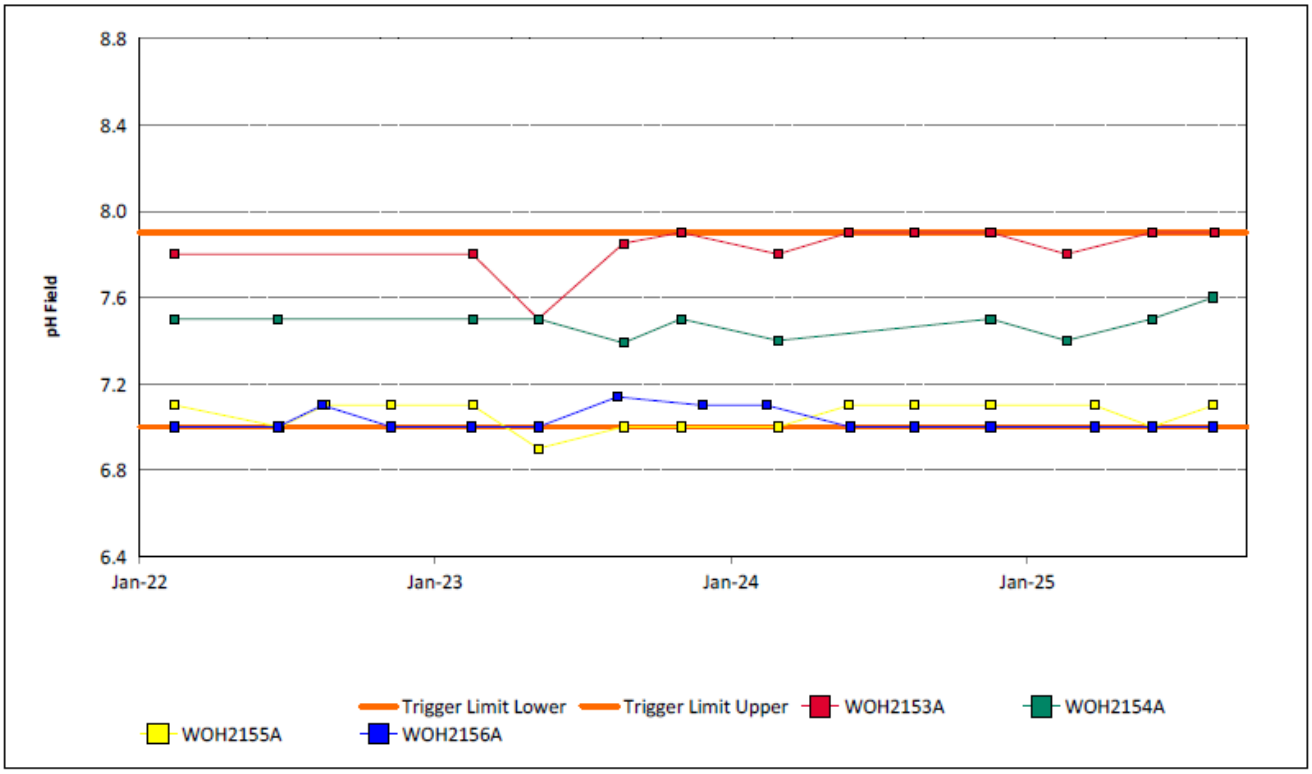

Figure 26: Redbank Seam pH Field Trend – September 2025

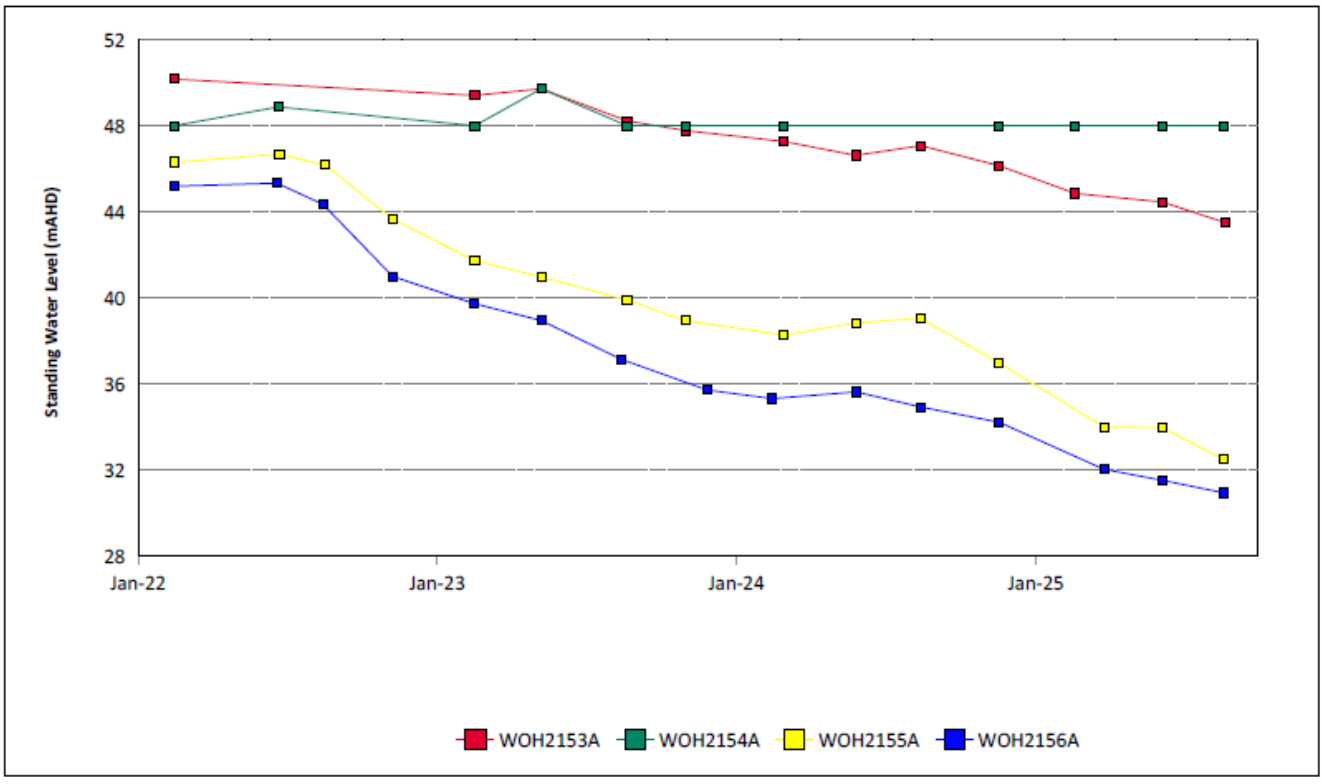

Figure 27: Redbank Seam Standing Water Level Trend – September 2025

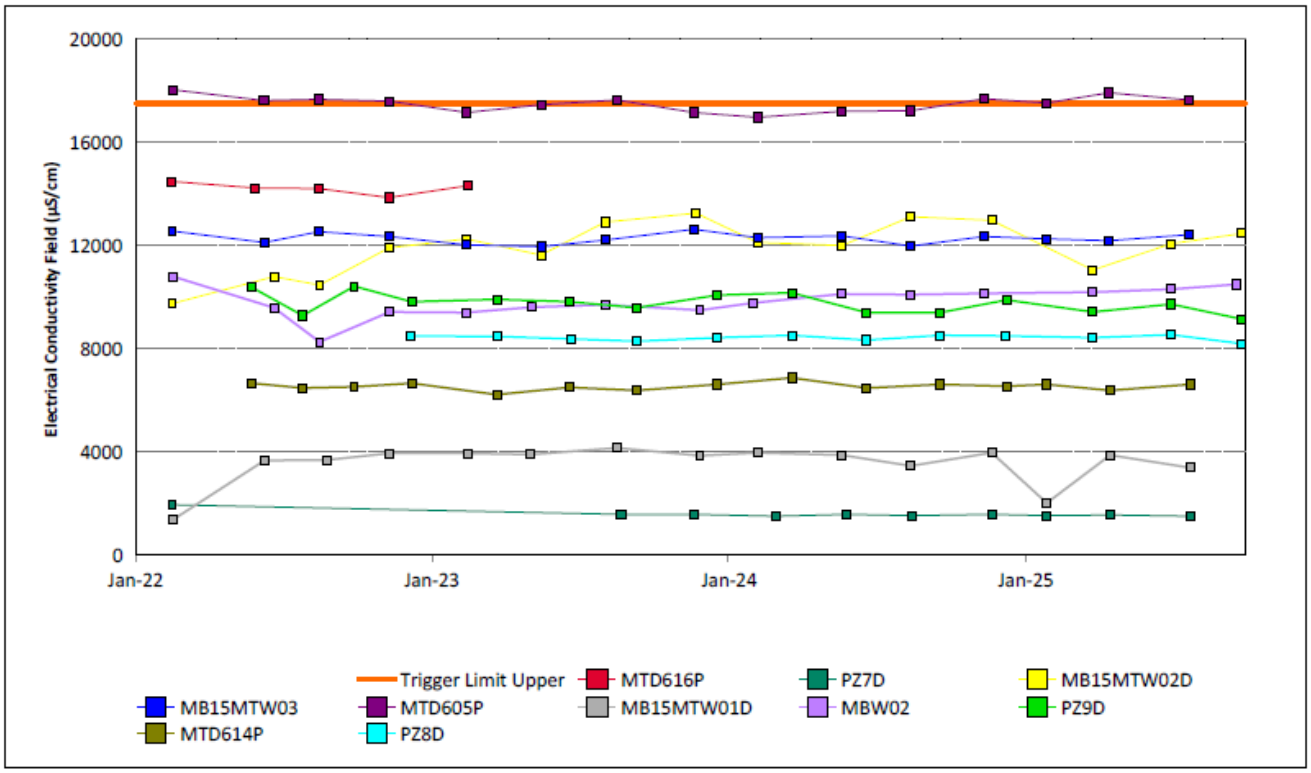

Figure 28: Shallow Overburden Electrical Conductivity Field Trend – September 2025

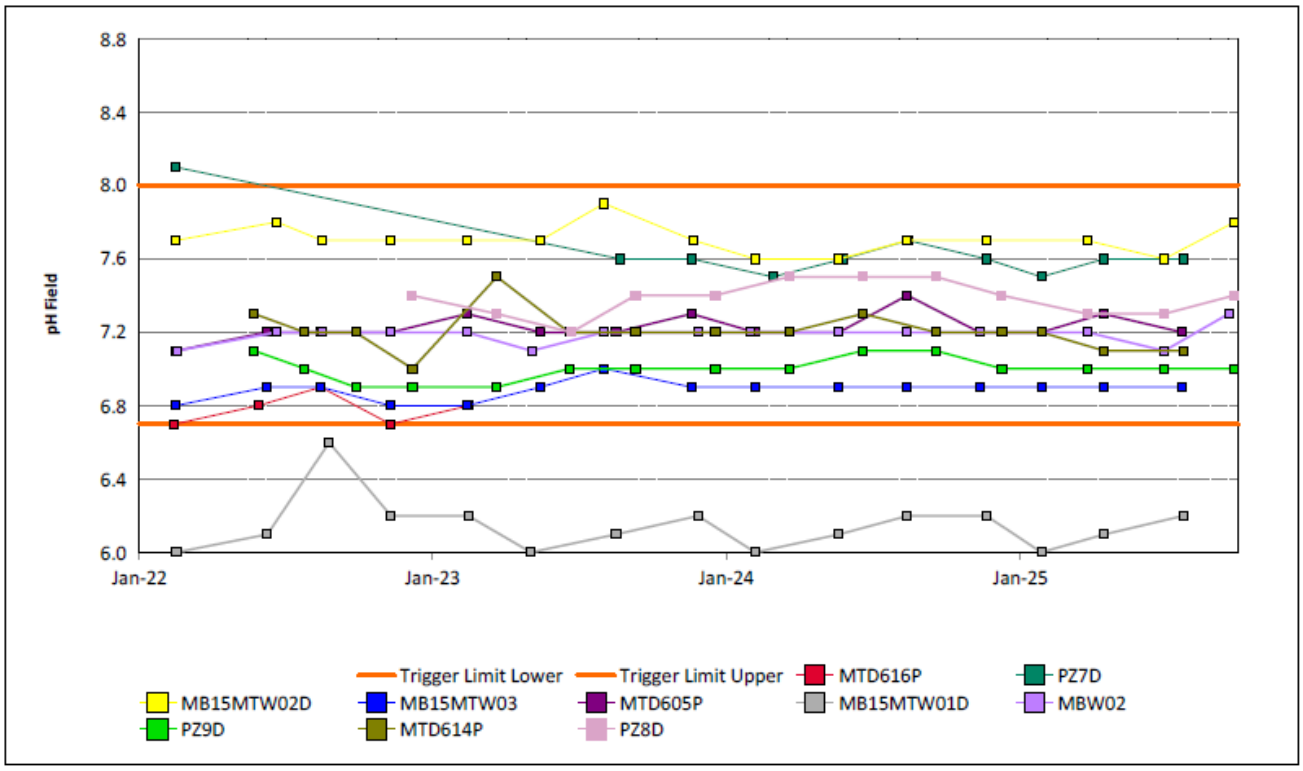

Figure 29: Shallow Overburden pH Field Trend – September 2025

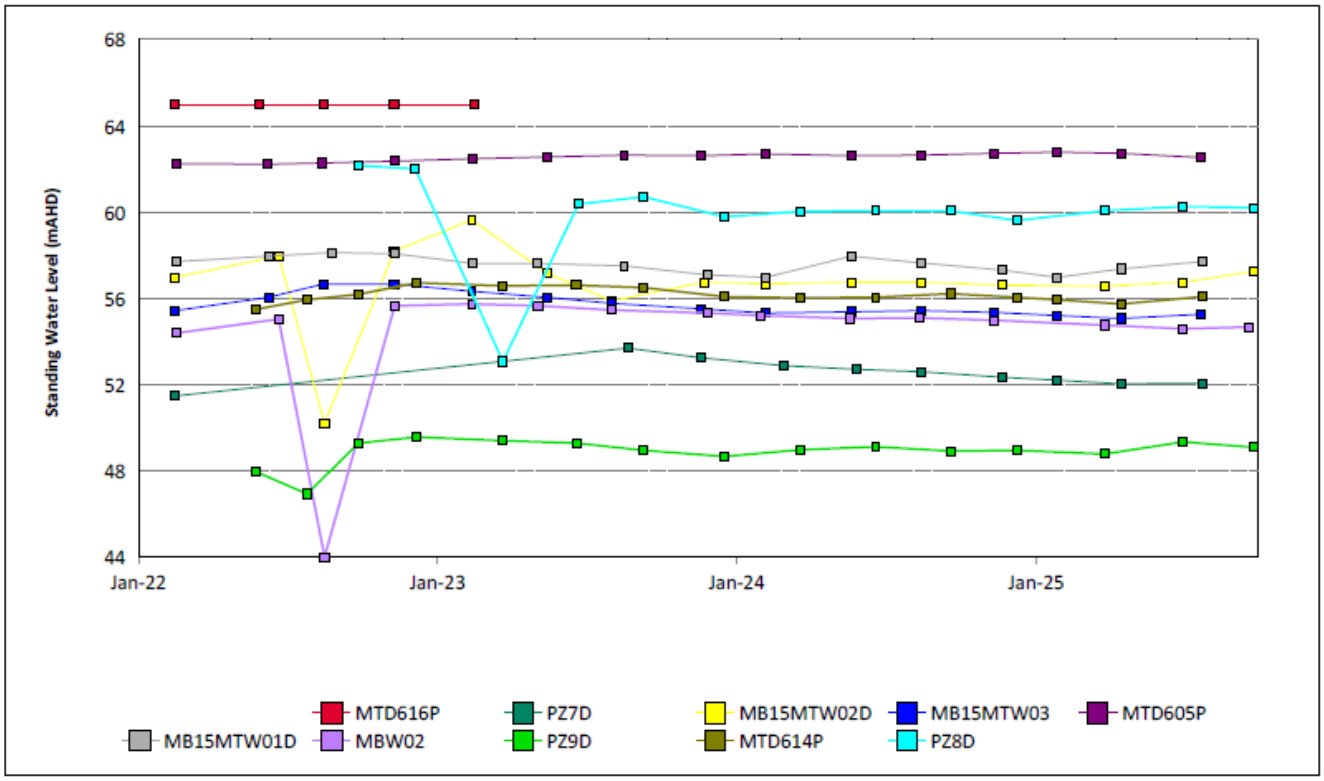

Figure 30: Shallow Overburden Standing Water Level Trend – September 2025

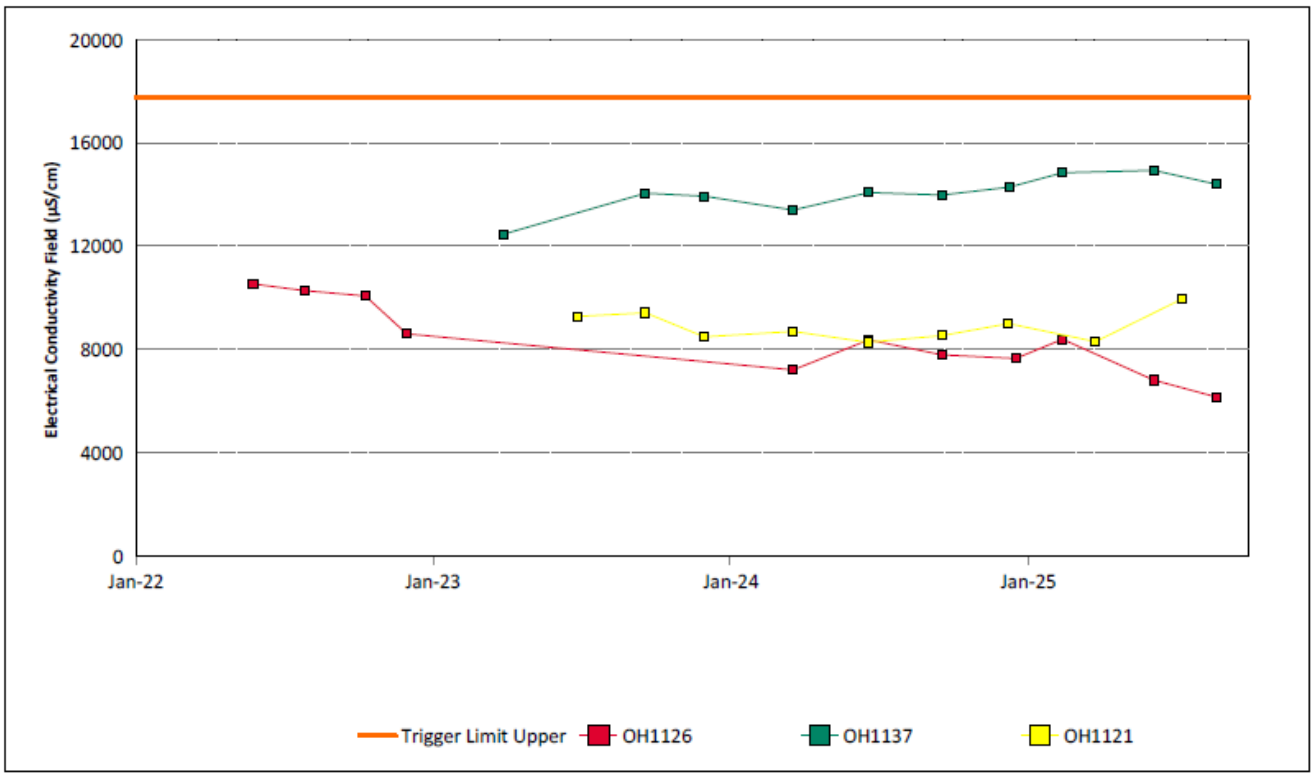

Figure 31: Vaux Seam Electrical Conductivity Field Trend – September 2025

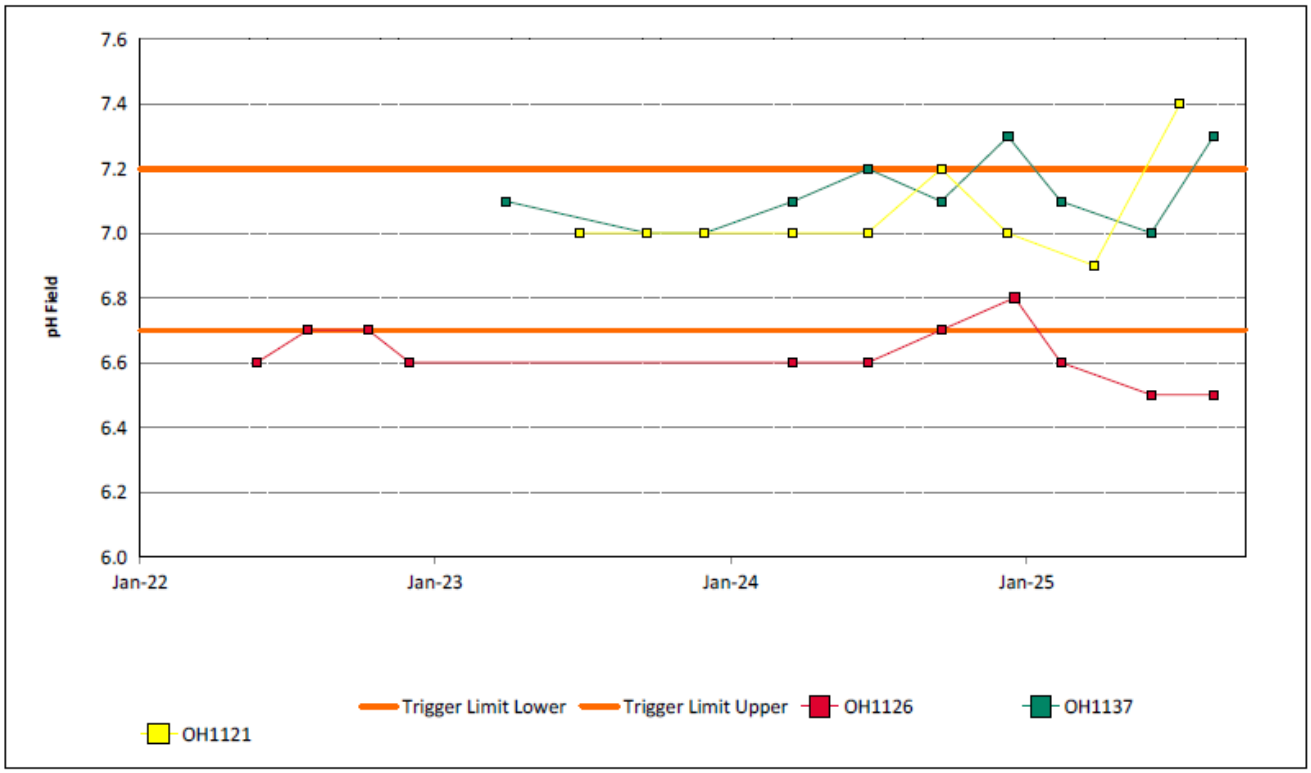

Figure 32: Vaux Seam pH Field Trend – September 2025

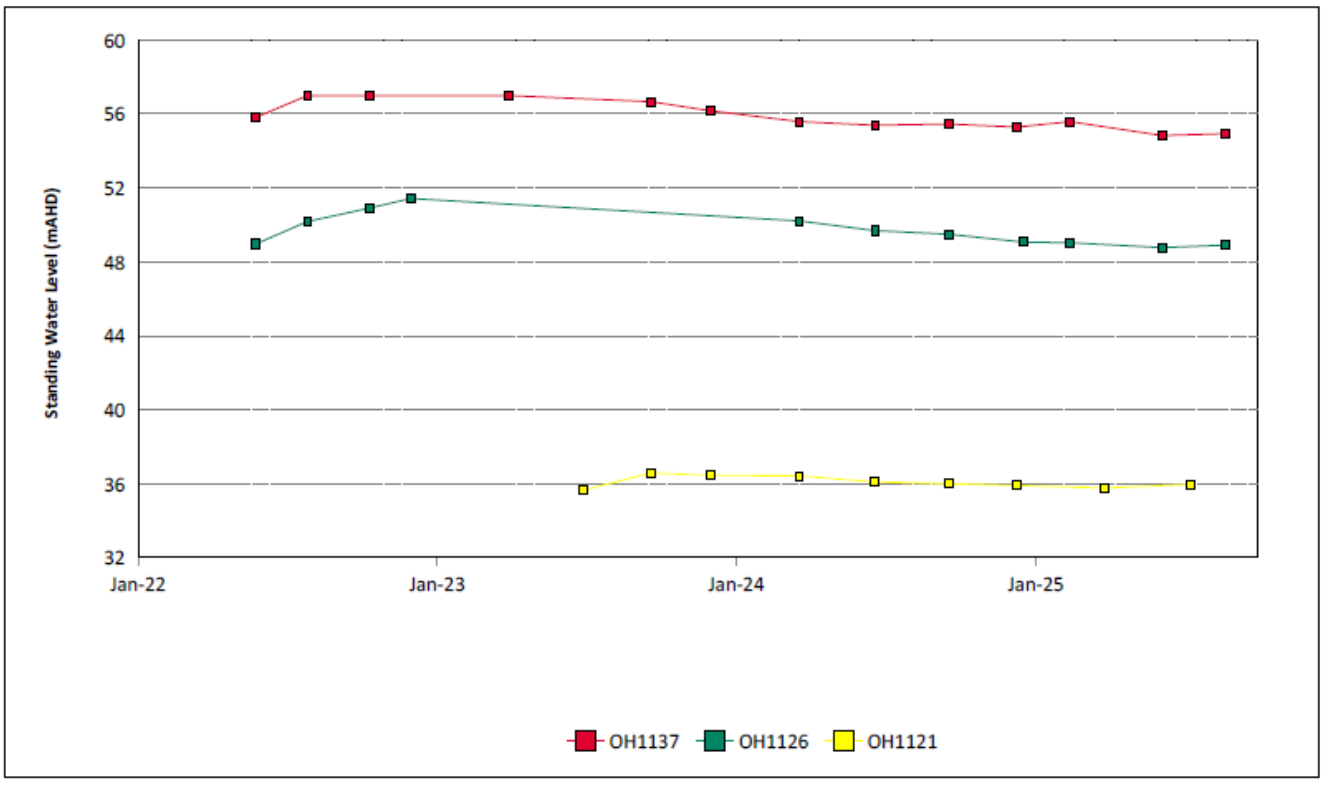

Figure 33: Vaux Seam Standing Water Level Trend – September 2025

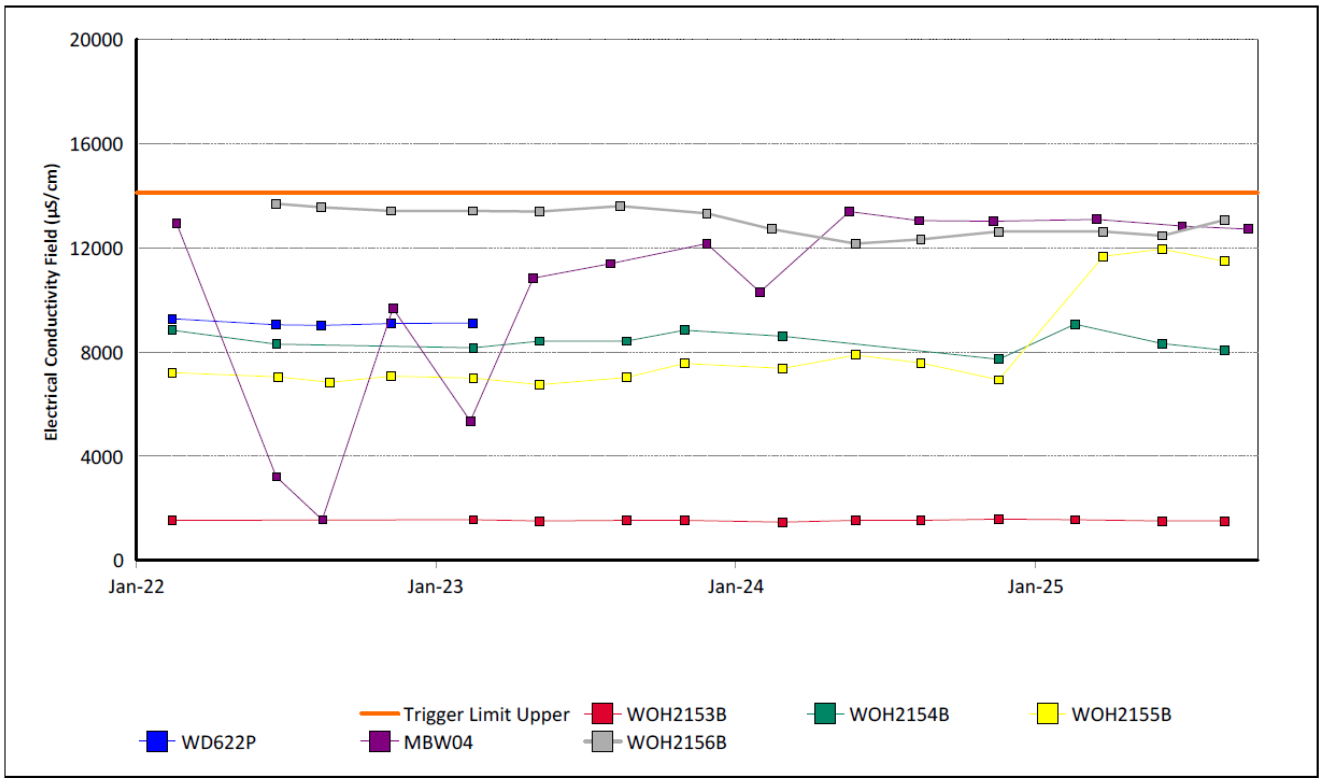

Figure 34: Wambo Seam Electrical Conductivity Field Trend – September 2025

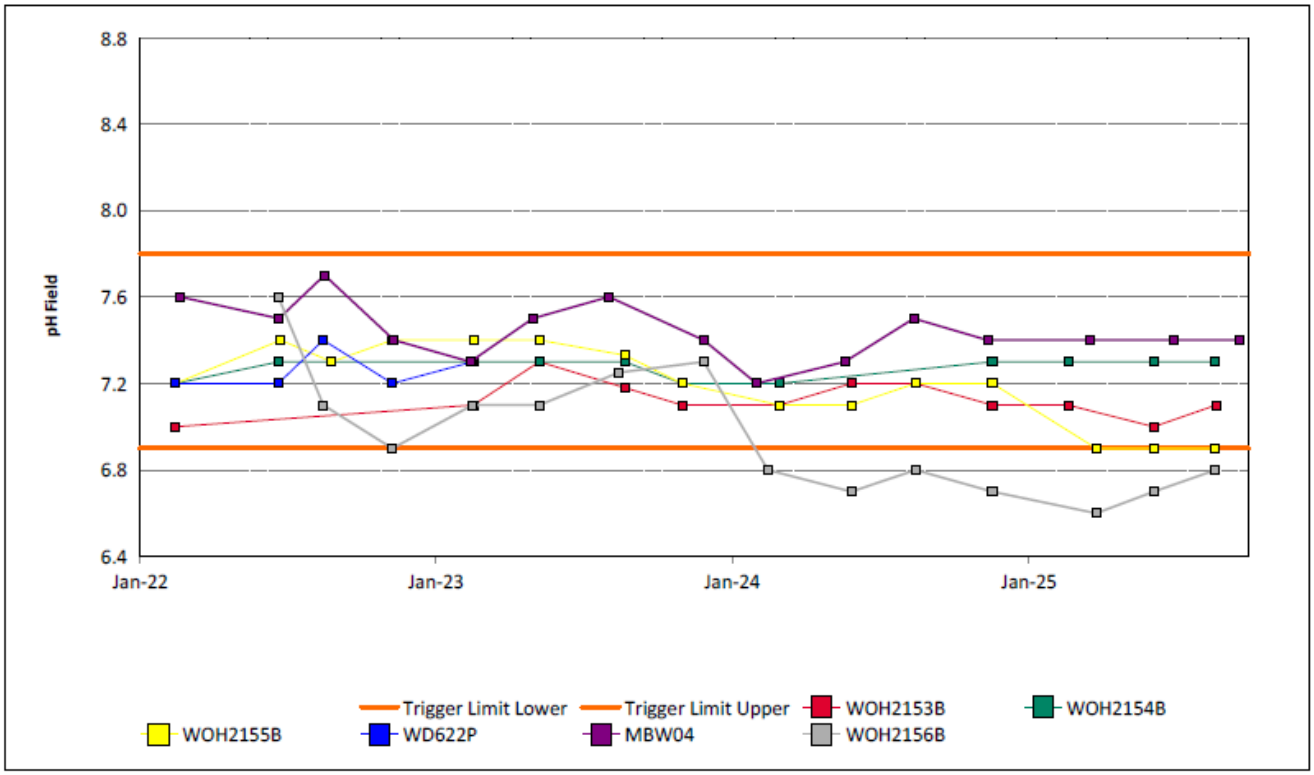

Figure 35: Wambo Seam pH Field Trend – September 2025

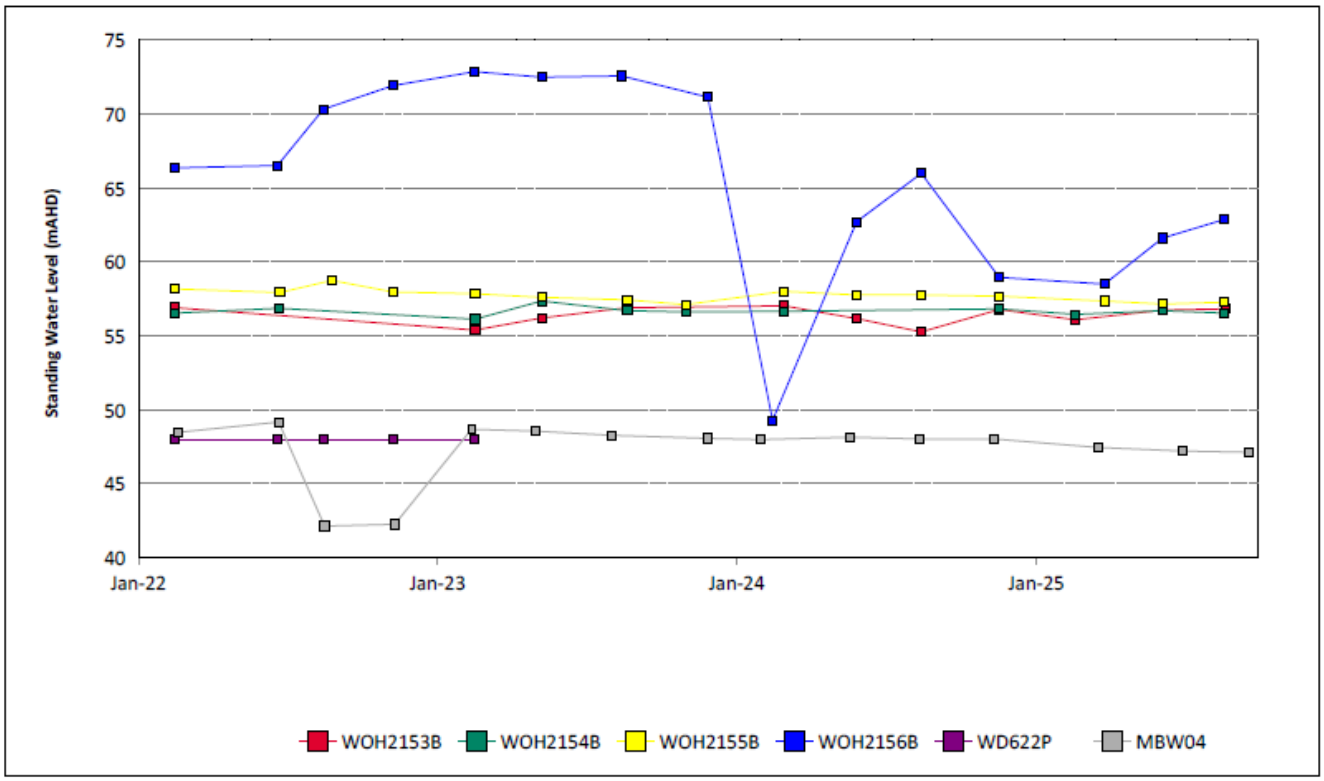

Figure 36: Wambo Seam Standing Water Level Trend – September 2025

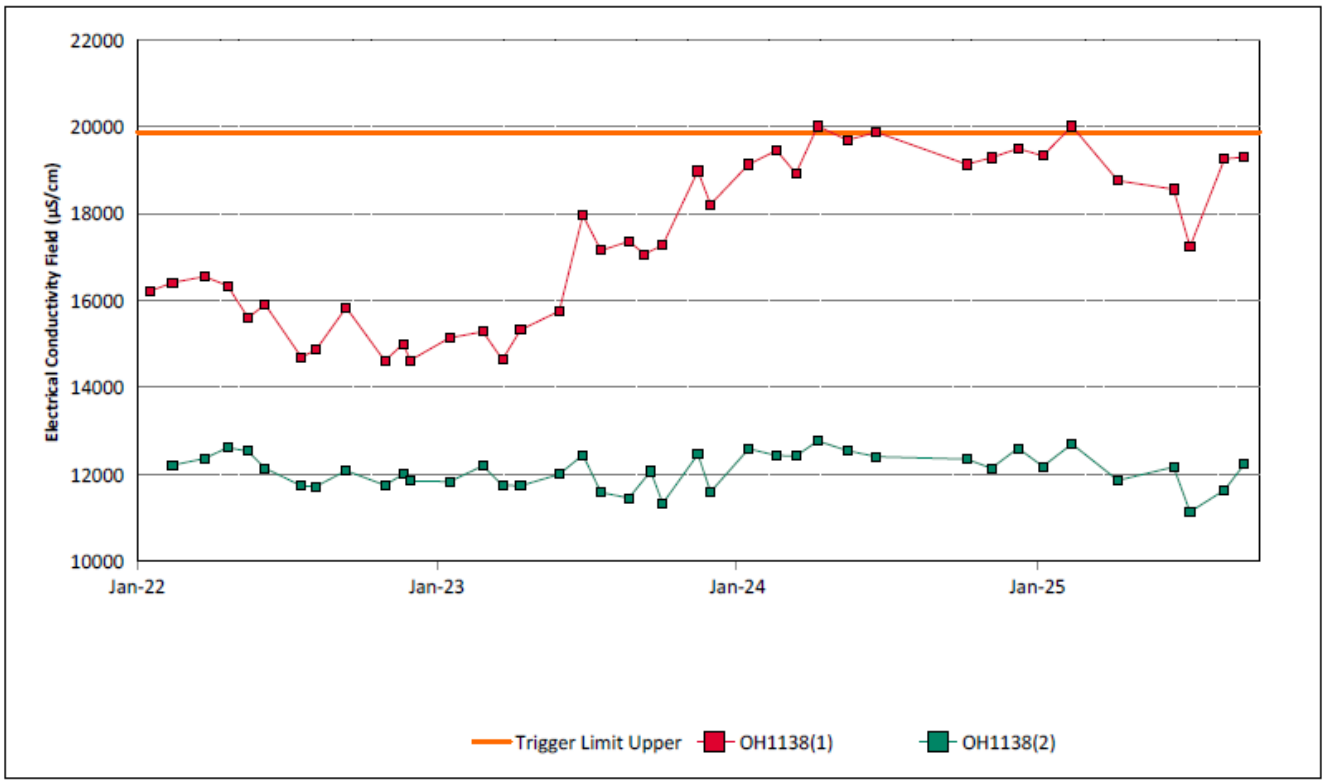

Figure 37: Warkworth Seam Electrical Conductivity Field Trend – September 2025

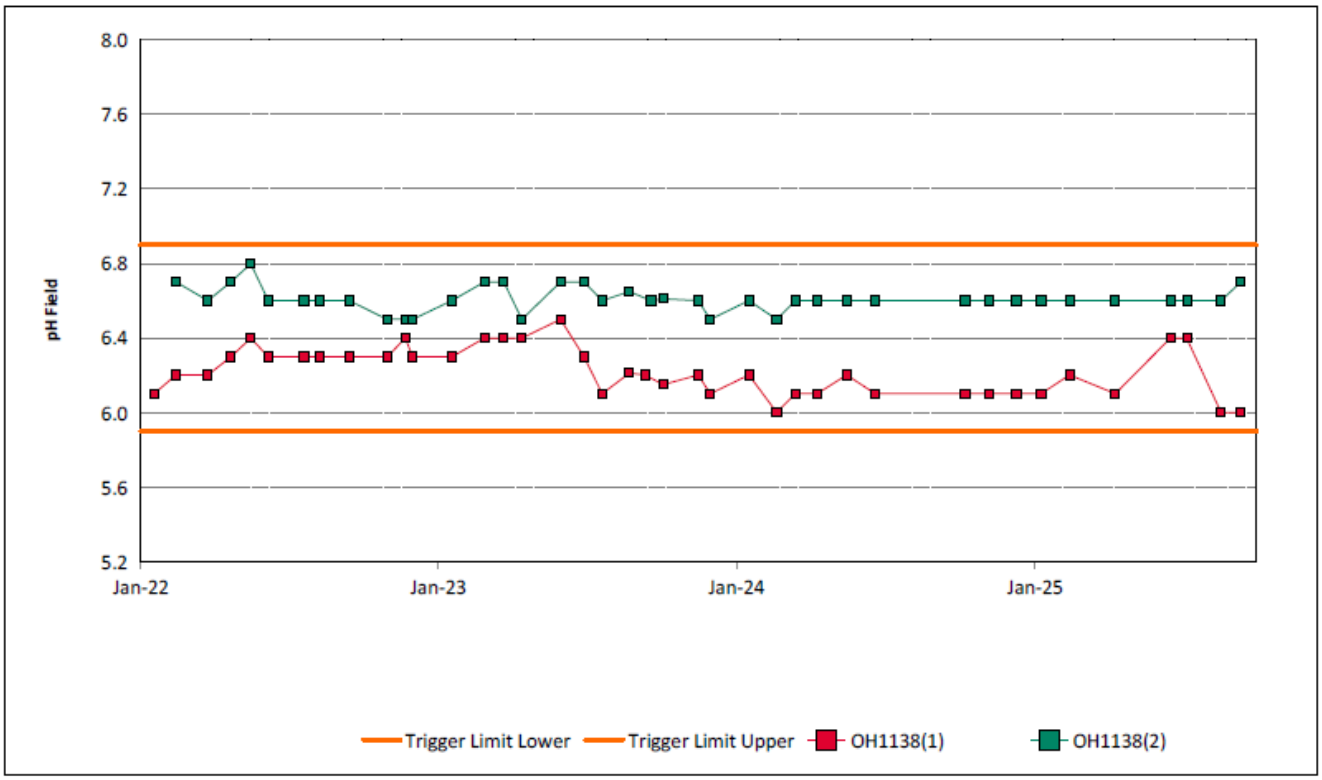

Figure 38: Warkworth Seam pH Field Trend – September 2025

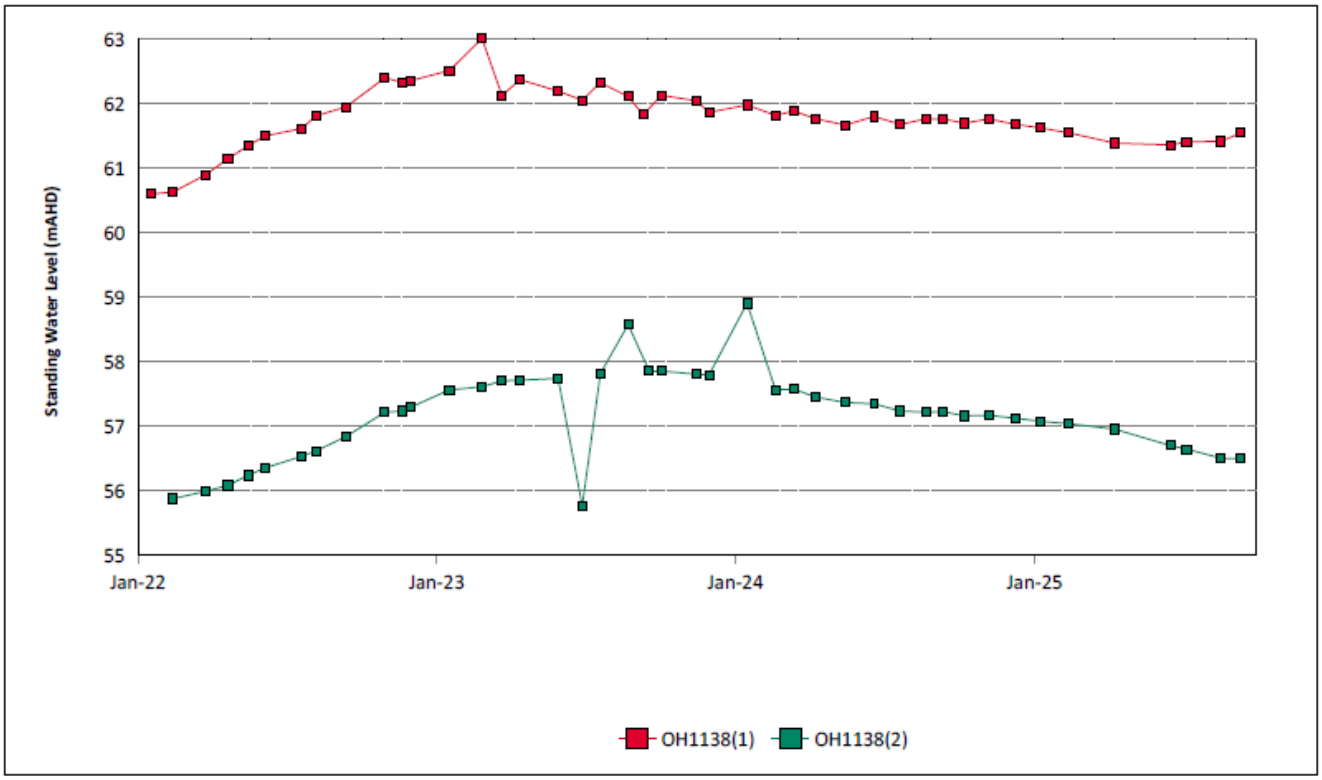

Figure 39: Warkworth Seam Standing Water Level Trend – September 2025

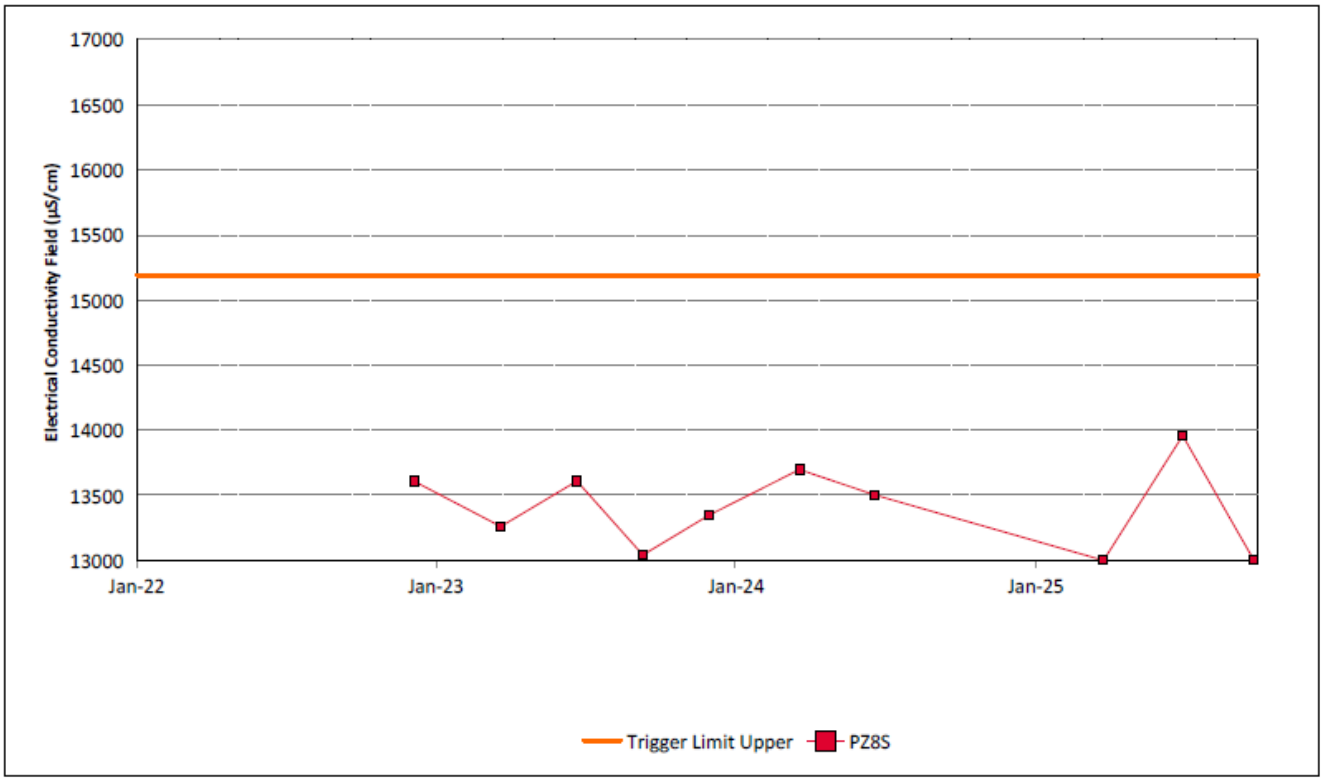

Figure 40: Wollombi Alluvium 1 Electrical Conductivity Field Trend – September 2025

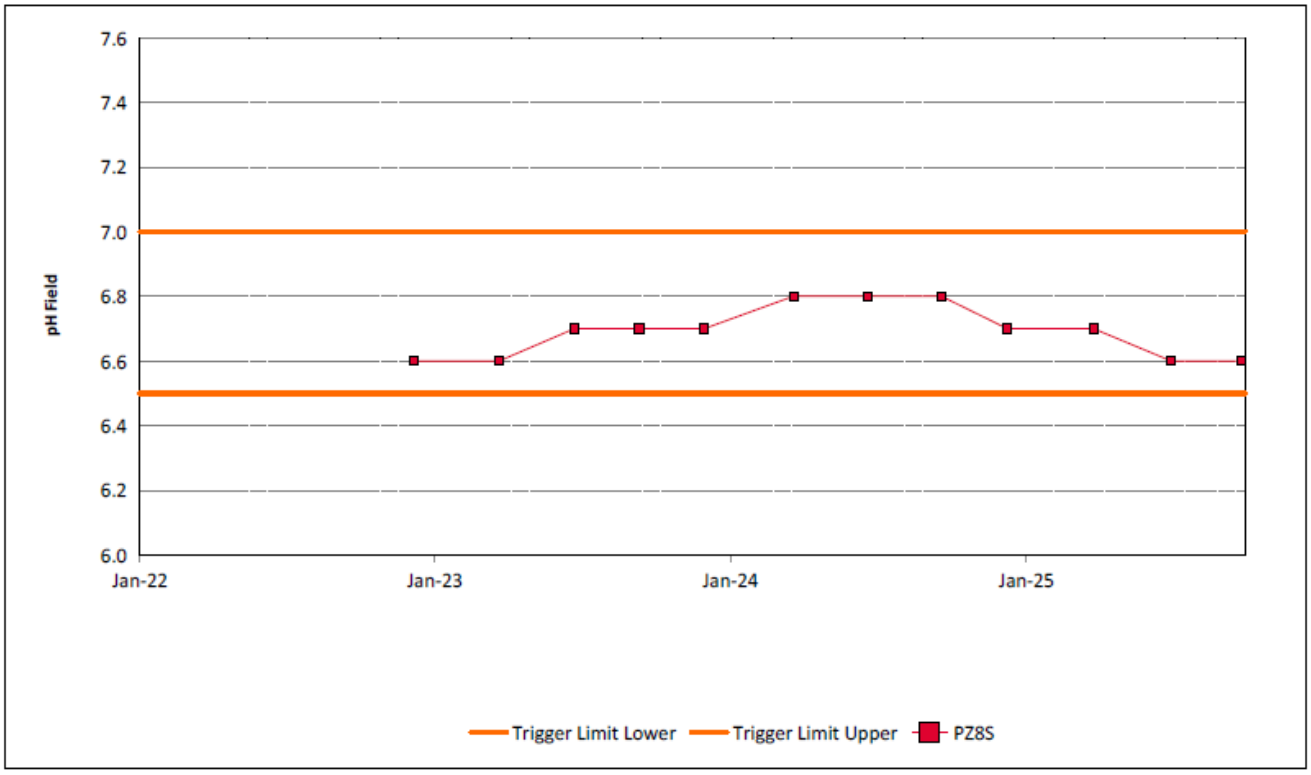

Figure 41: Wollombi Alluvium 1 pH Field Trend – September 2025

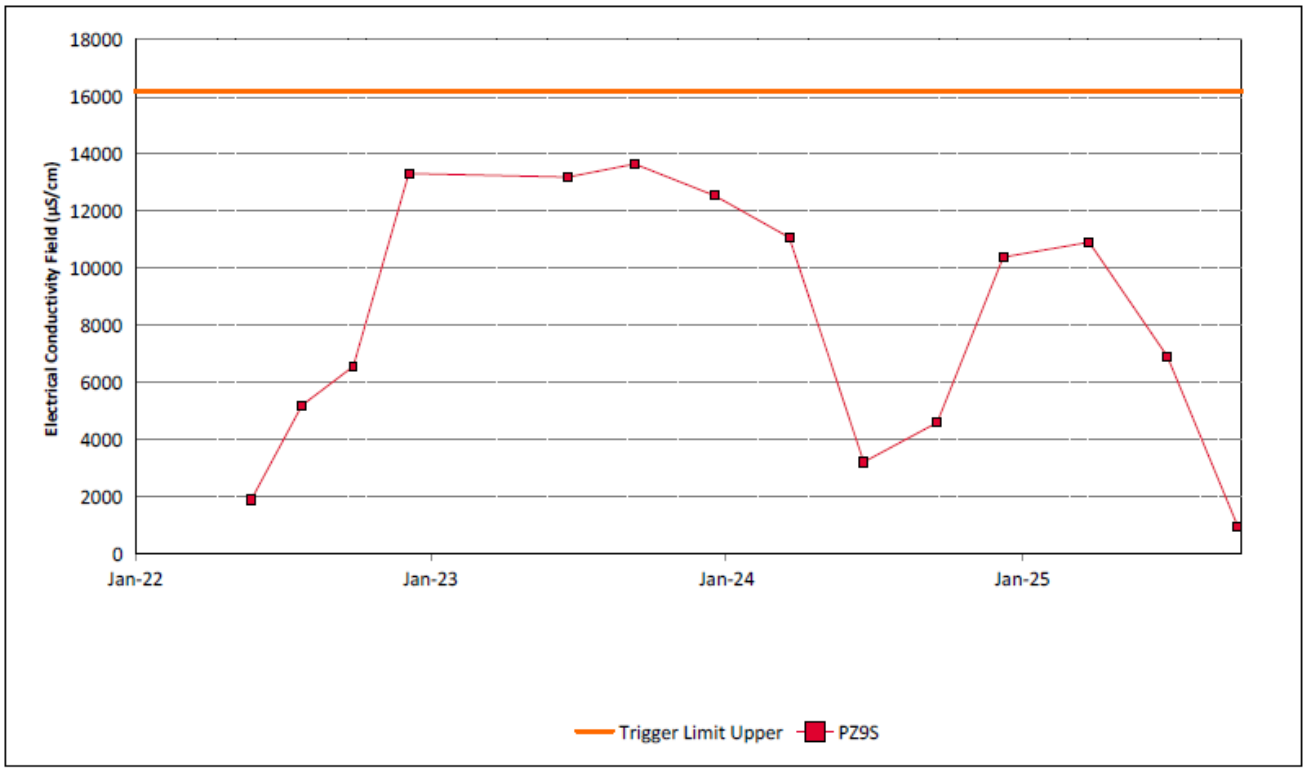

Figure 42: Colombia Alluvium 2 Electrical Conductivity Field Trend – September 2025

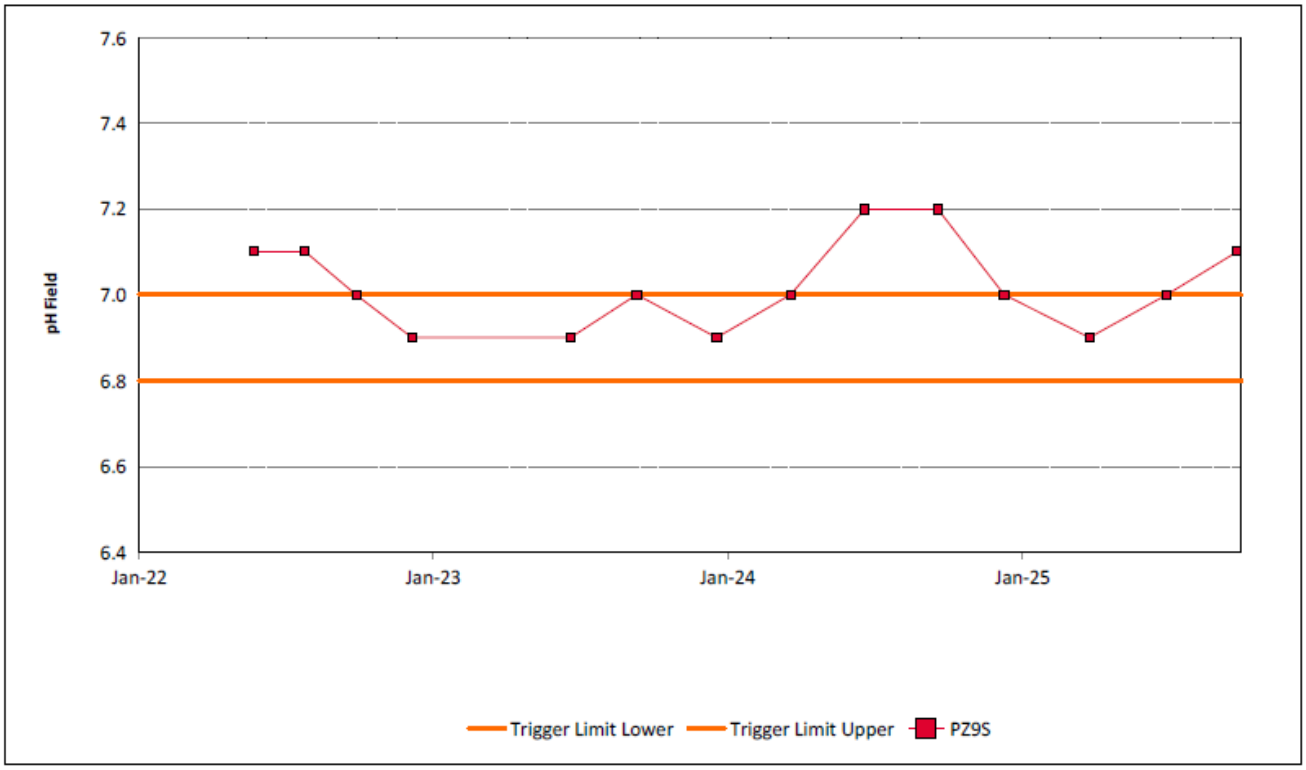

Figure 43: Wollombi Alluvium 2 pH Field Trend – September 2025

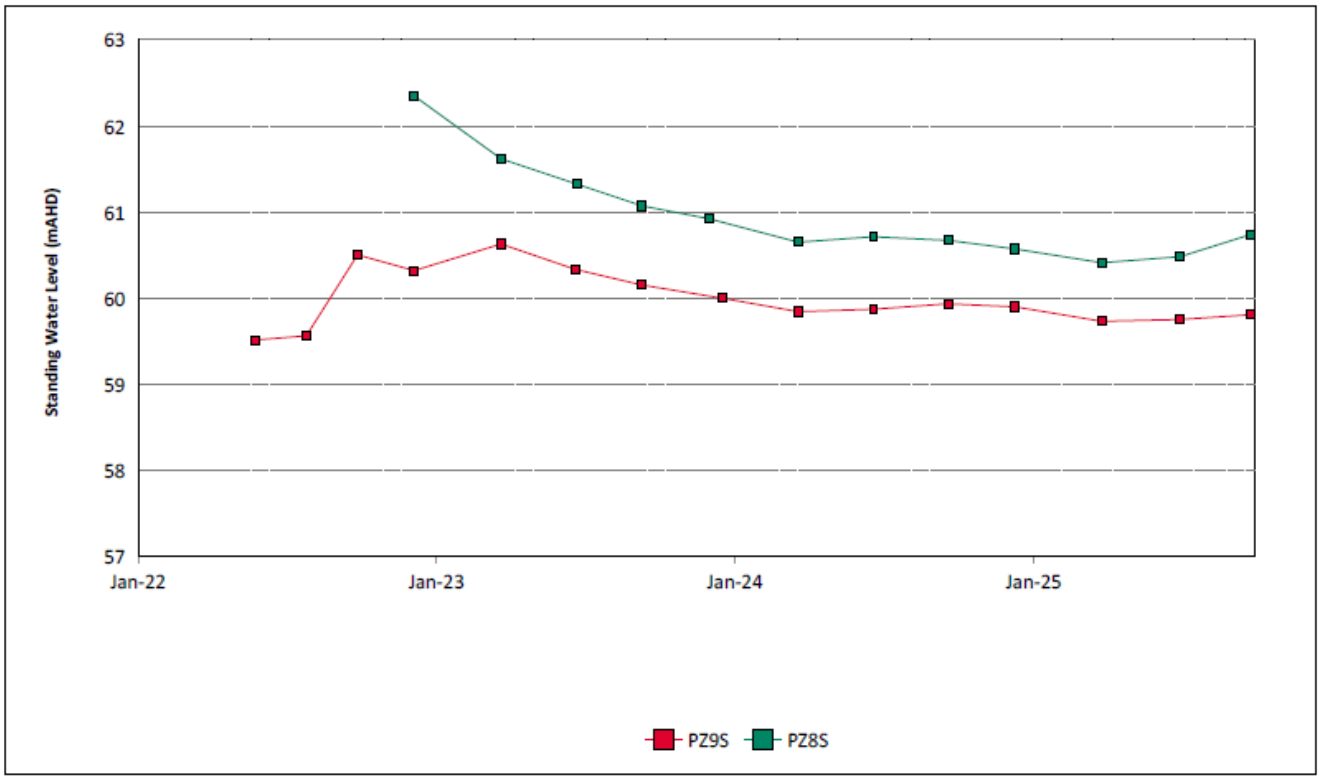

Figure 44: Wollombi Alluvium Standing Water Level Trend – September 2025

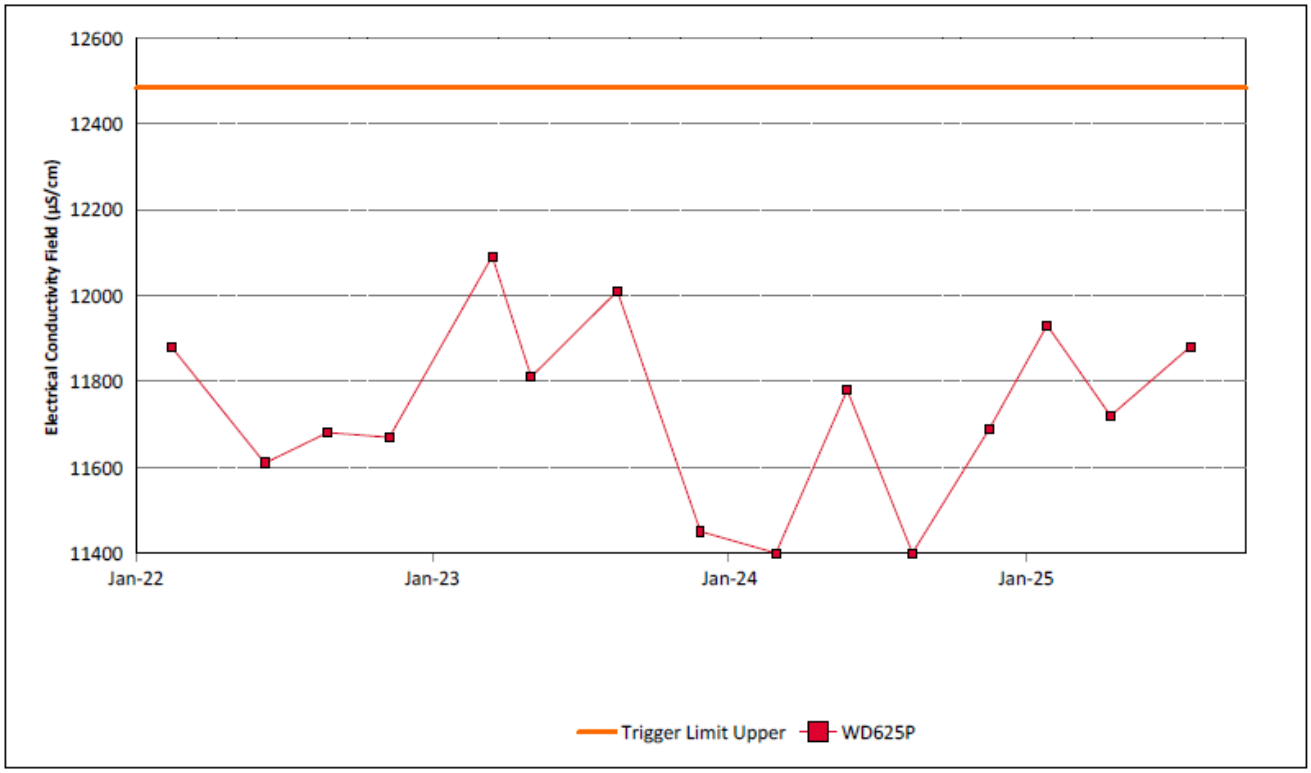

Figure 45: Woodlands Hill Seam Electrical Conductivity Field Trend – September 2025

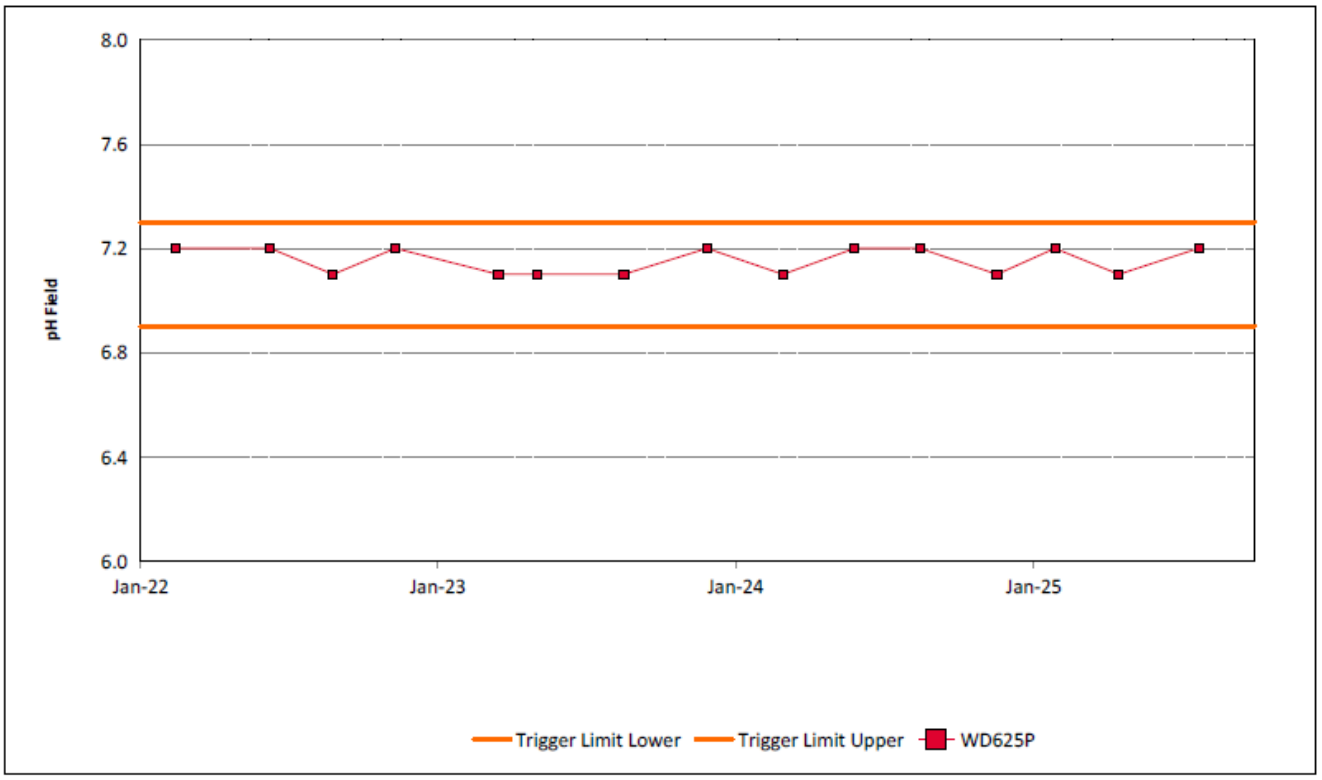

Figure 46: Woodlands Hill Seam pH Field Trend – September 2025

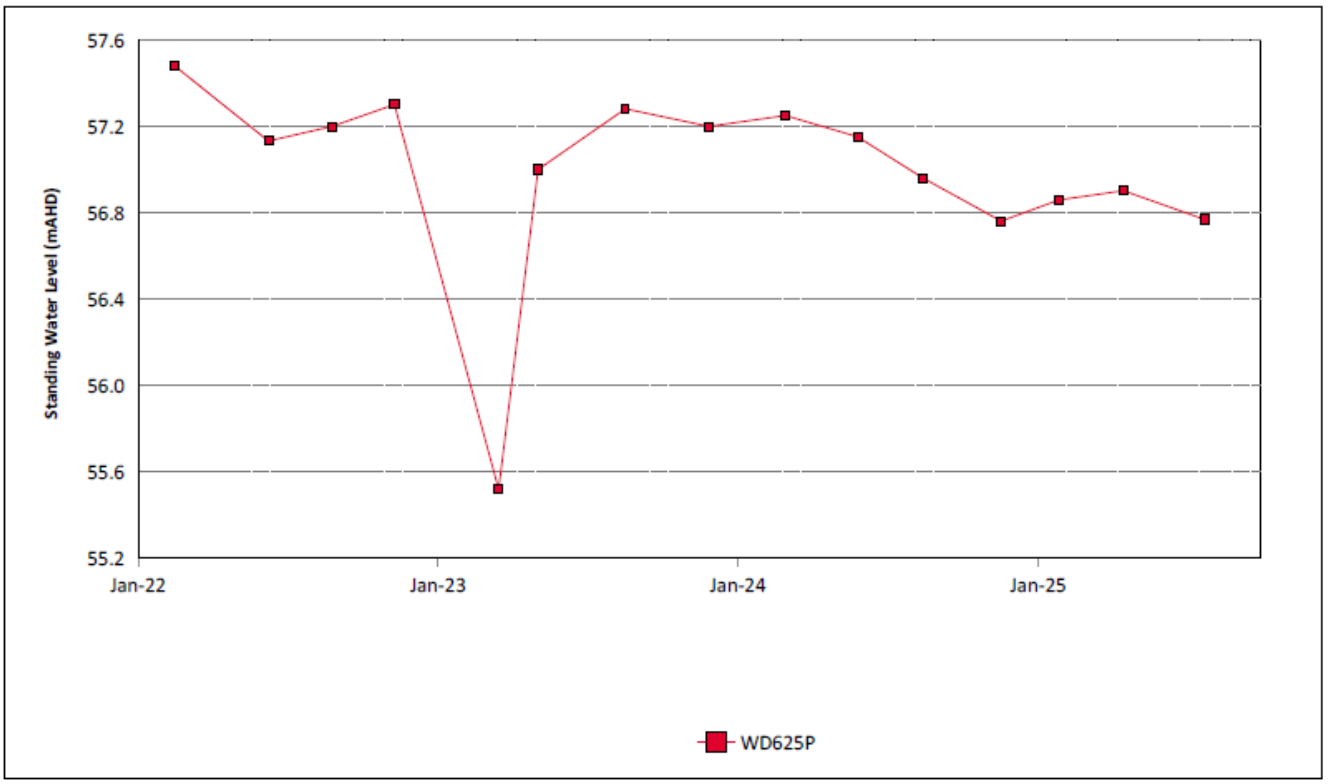

Figure 47: Woodlands Hill Seam Standing Water Level Trend - September 2025

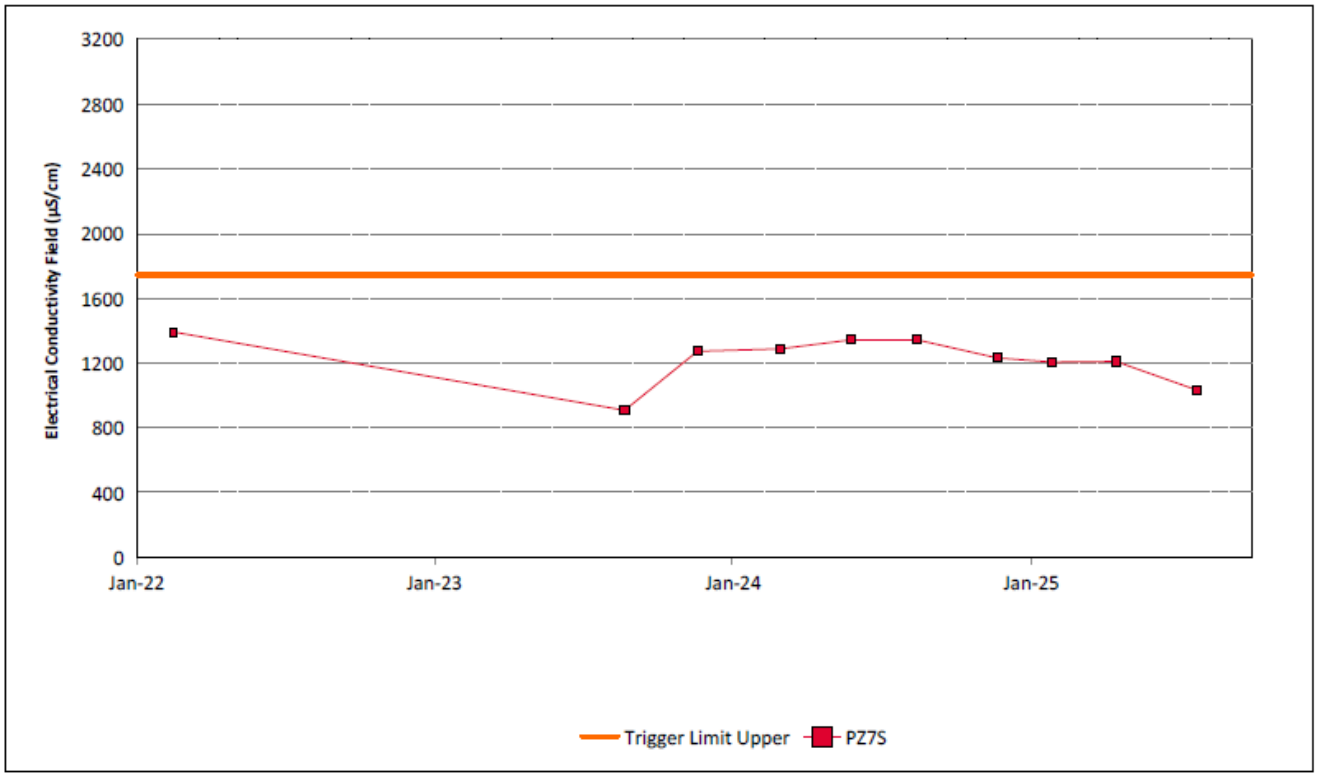

Figure 48: Aeolian Warkworth Sands Electrical Conductivity Field Trend – September 2025

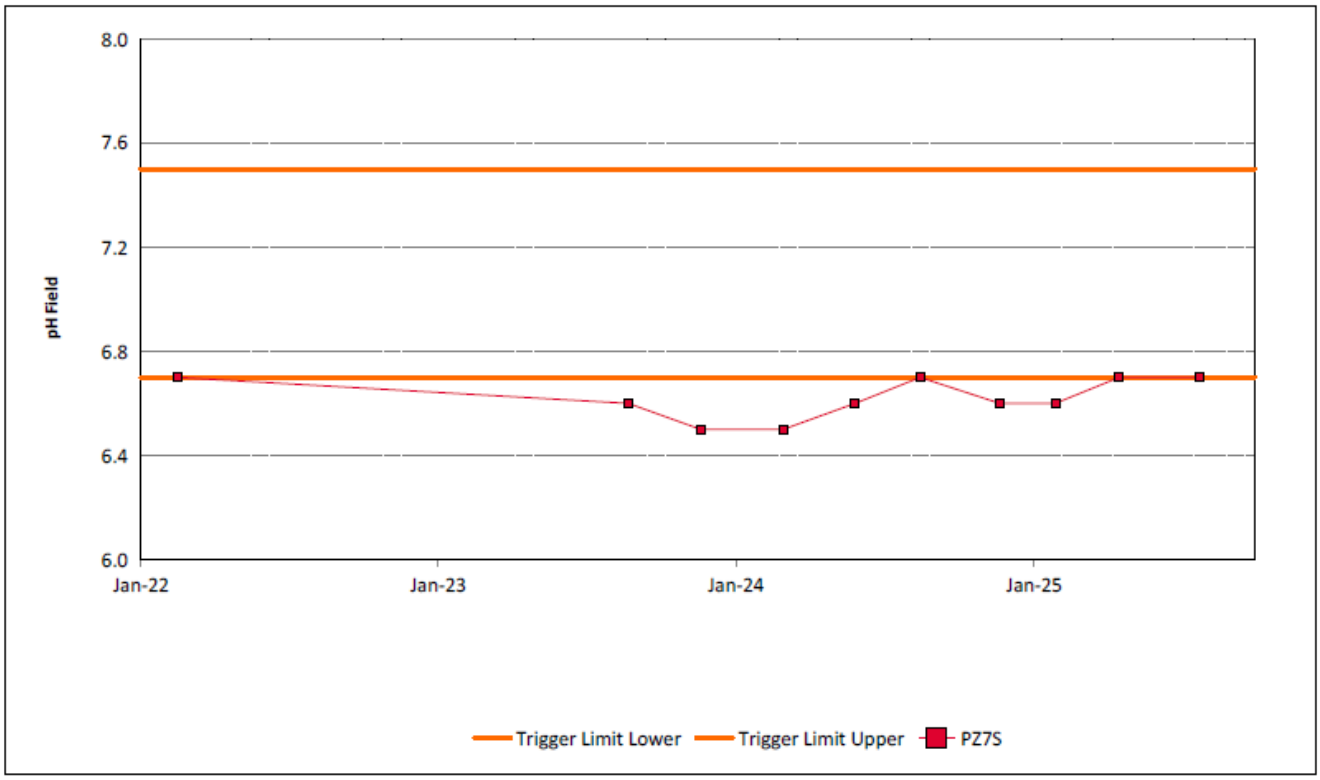

Figure 49: Aeolian Warkworth Sands pH Field Trend - September 2025

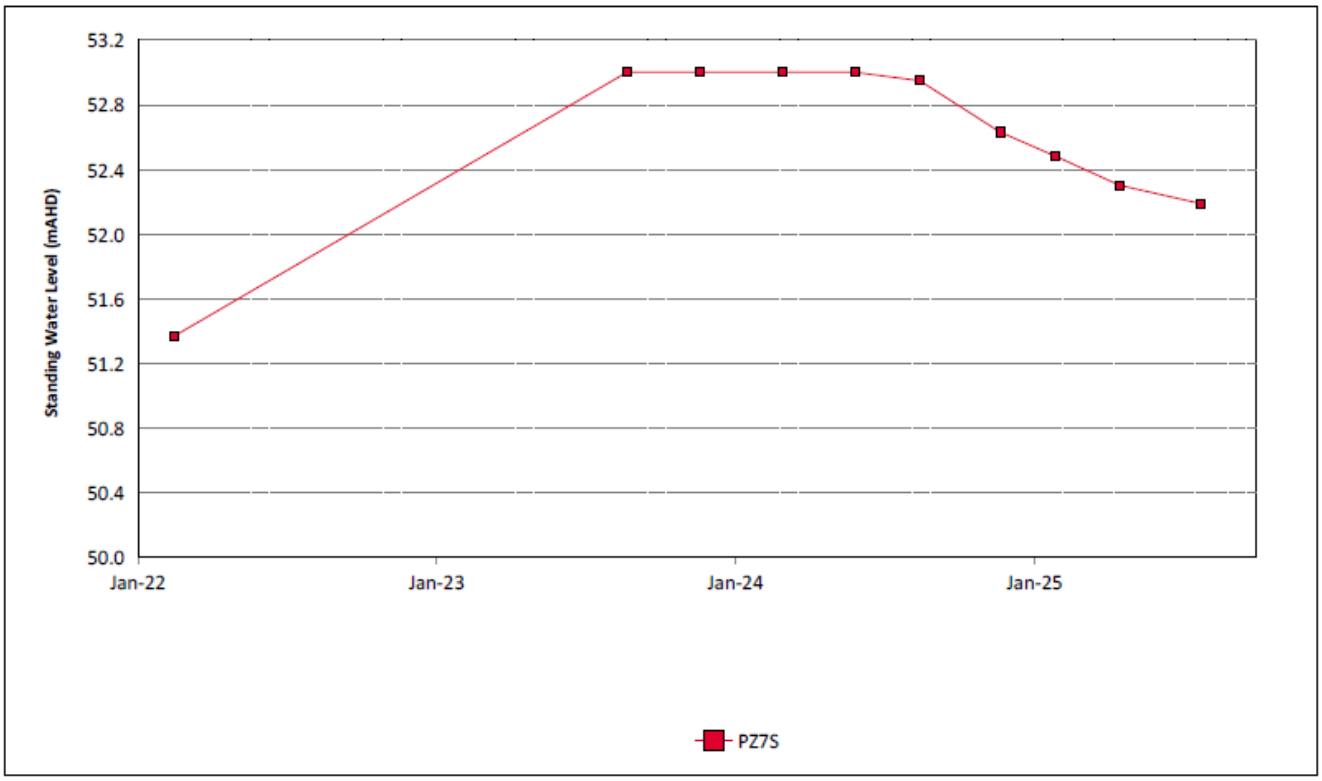

Figure 50: Aeolian Warkworth Sands Standing Water Level Trend – September 2025

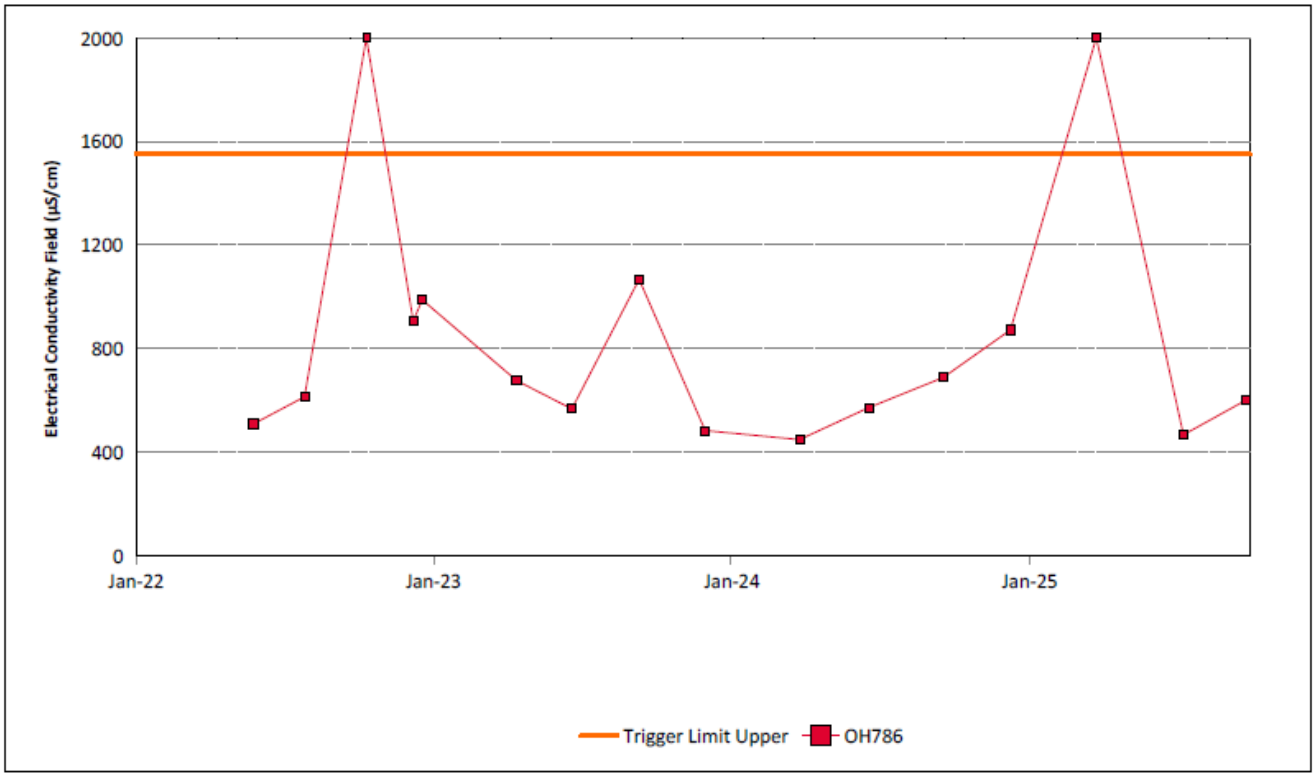

Figure 51: Hunter River Alluvium 1 Electrical Conductivity Field Trend – September 2025

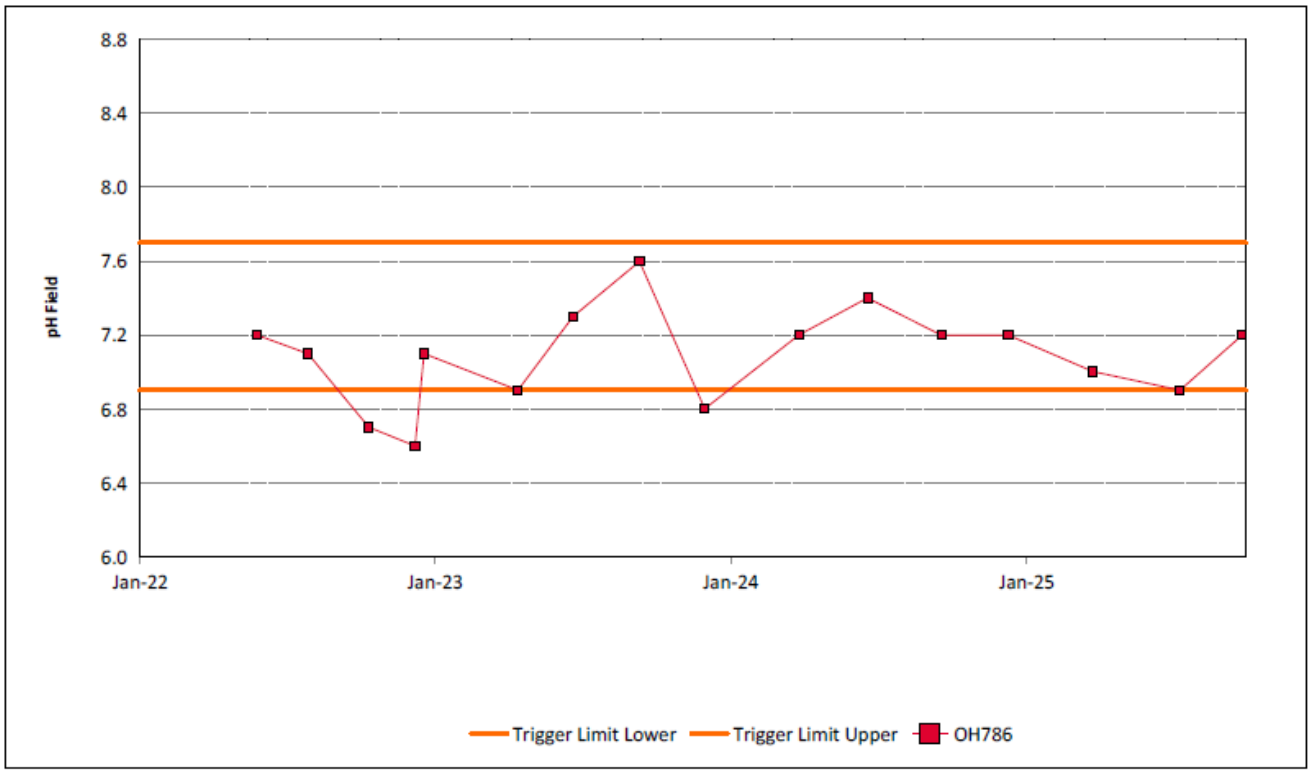

Figure 52: Hunter River Alluvium 1 pH Field Trend – September 2025

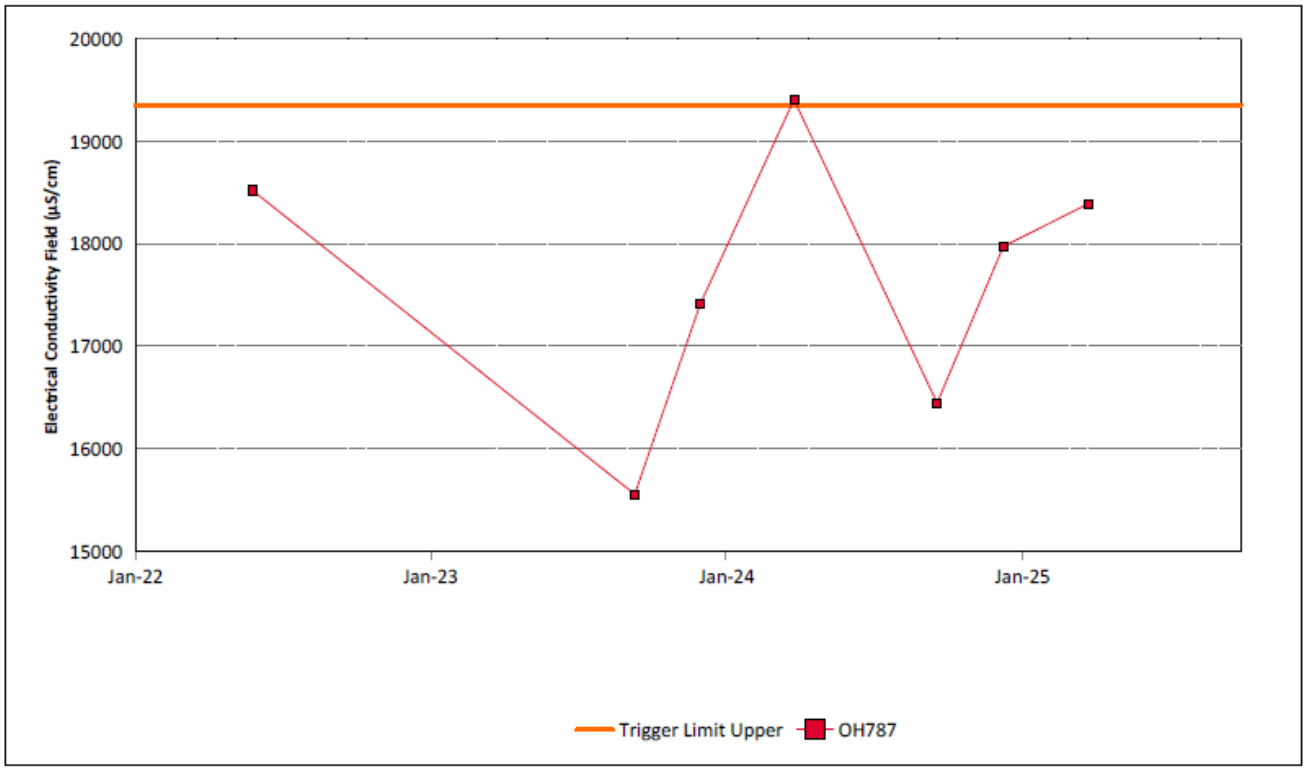

Figure 53: Hunter River Alluvium 2 Electrical Conductivity Field Trend – September 2025

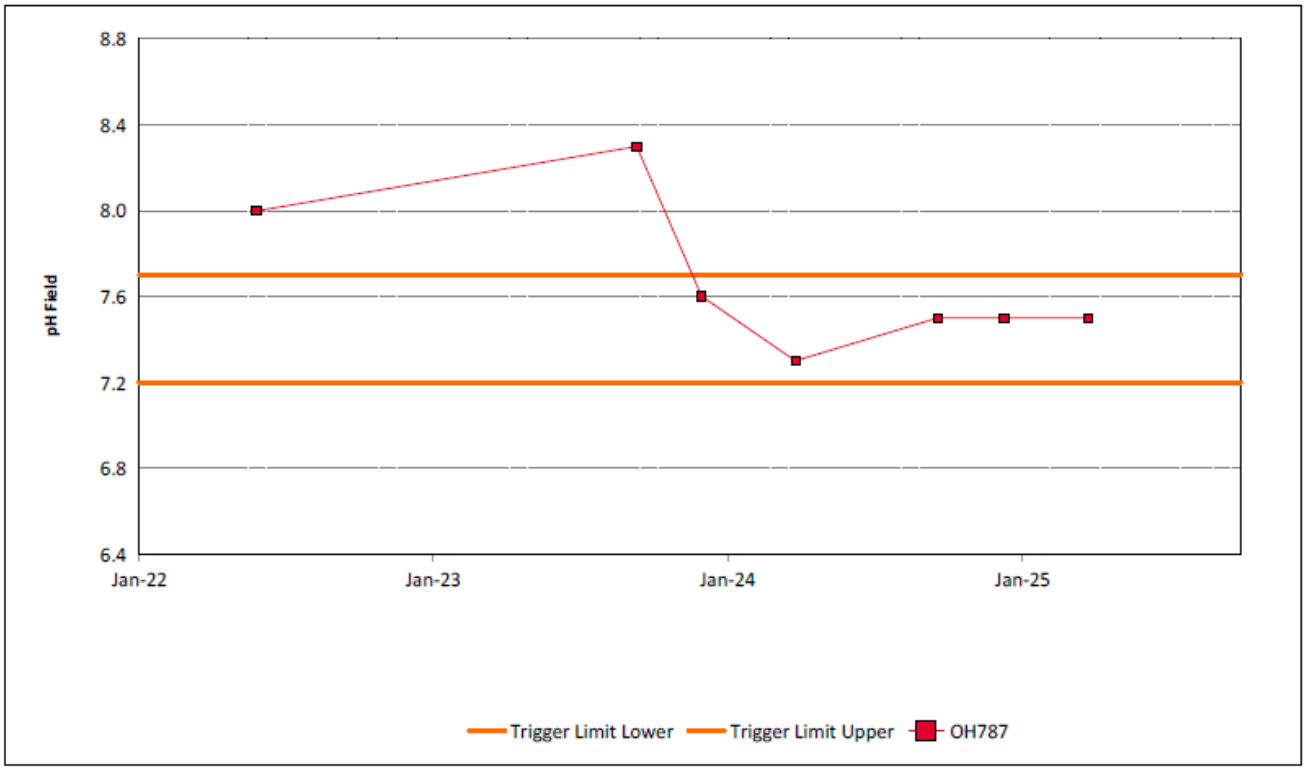

Figure 54: Hunter River Alluvium 2 pH Field Trend – September 2025

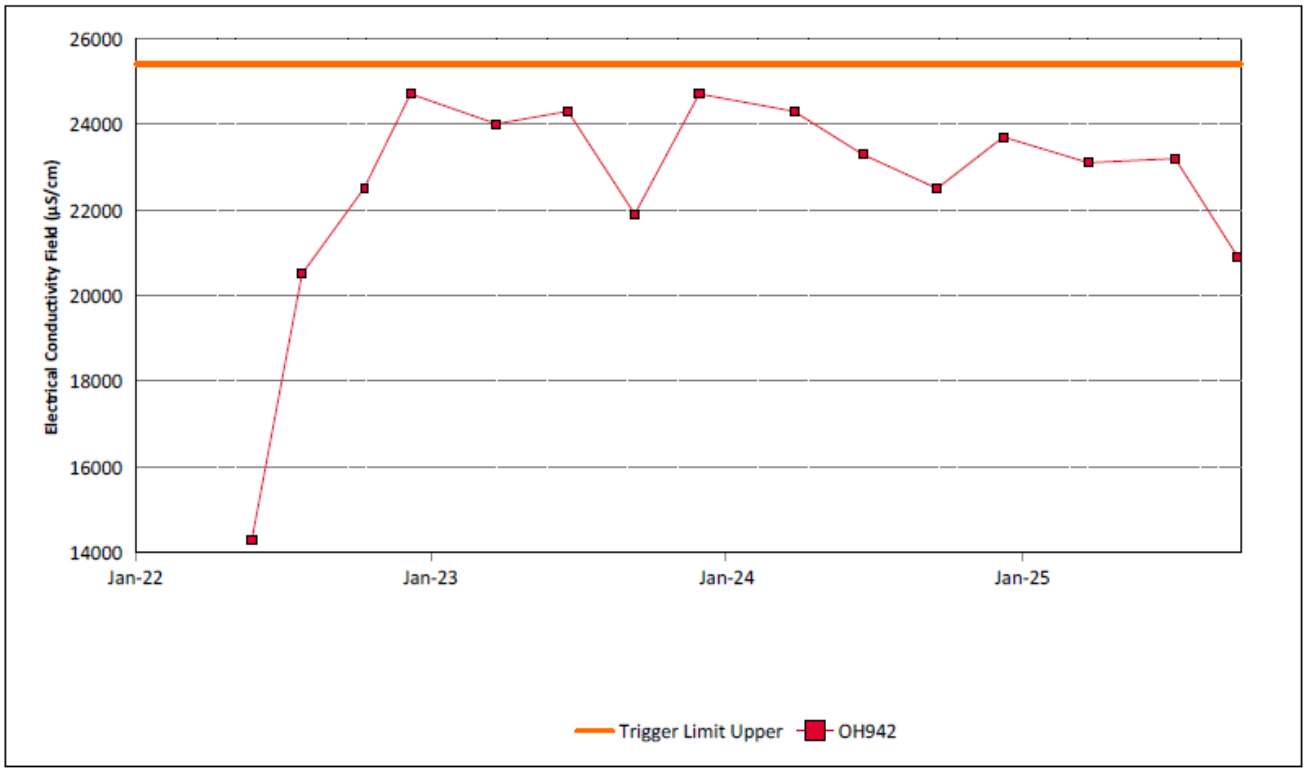

Figure 55: Hunter River Alluvium 3 Electrical Conductivity Field Trend – September 2025

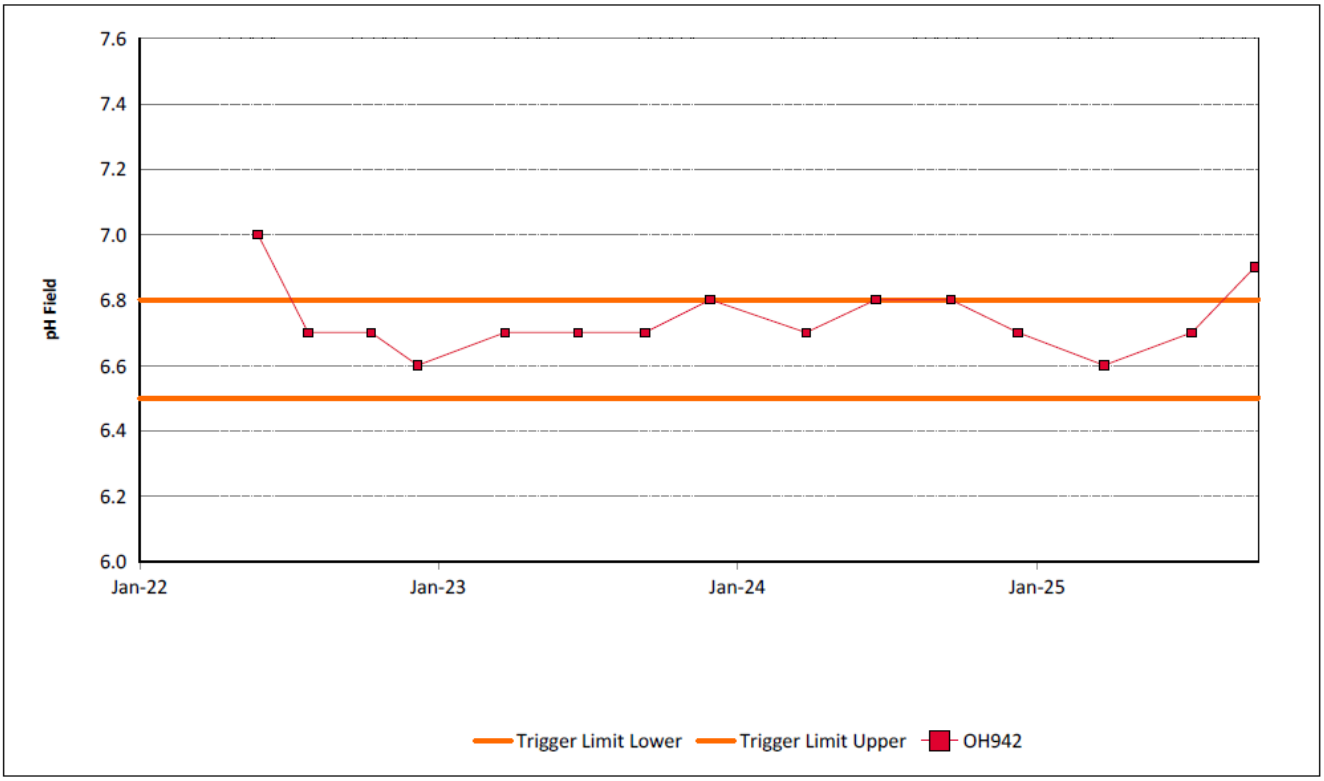

Figure 56: Hunter River Alluvium 3 pH Field Trend – September 2025

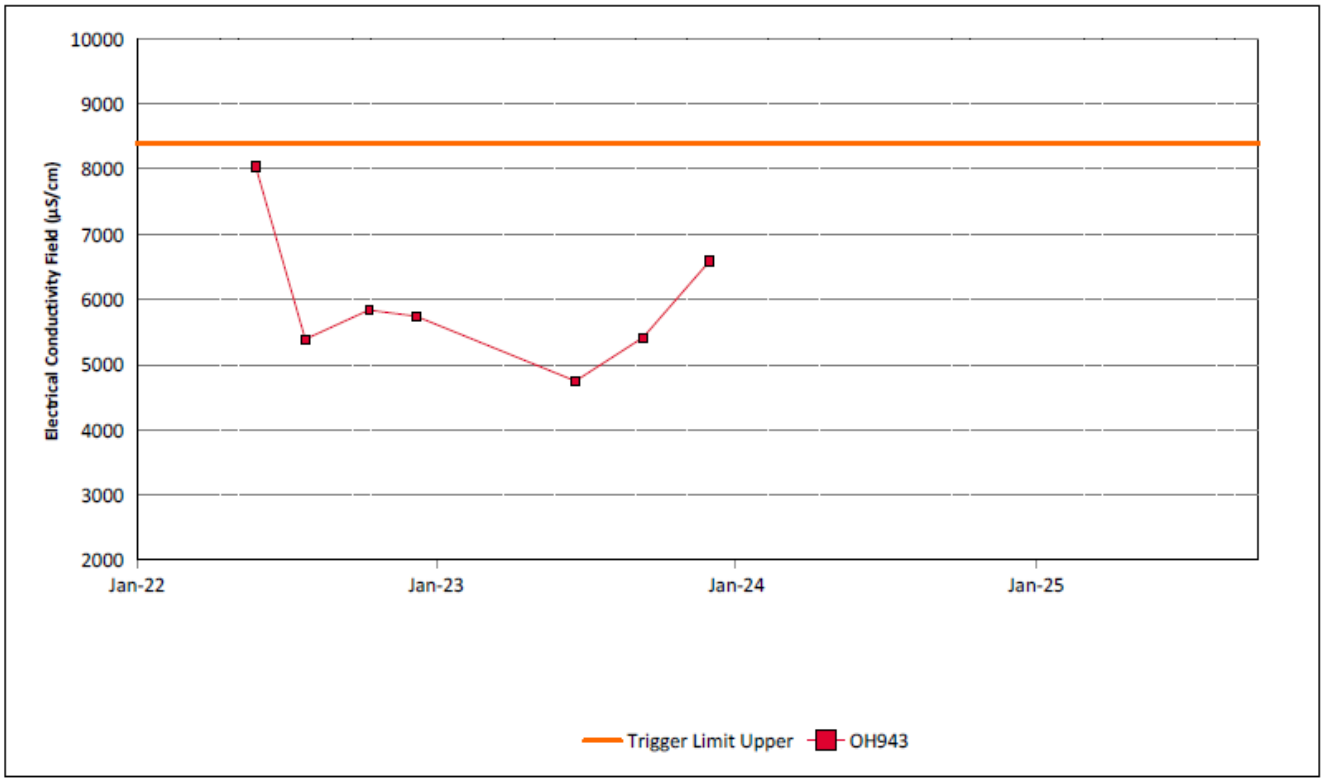

Figure 57: Hunter River Alluvium 4 Electrical Conductivity Field Trend – September 2025

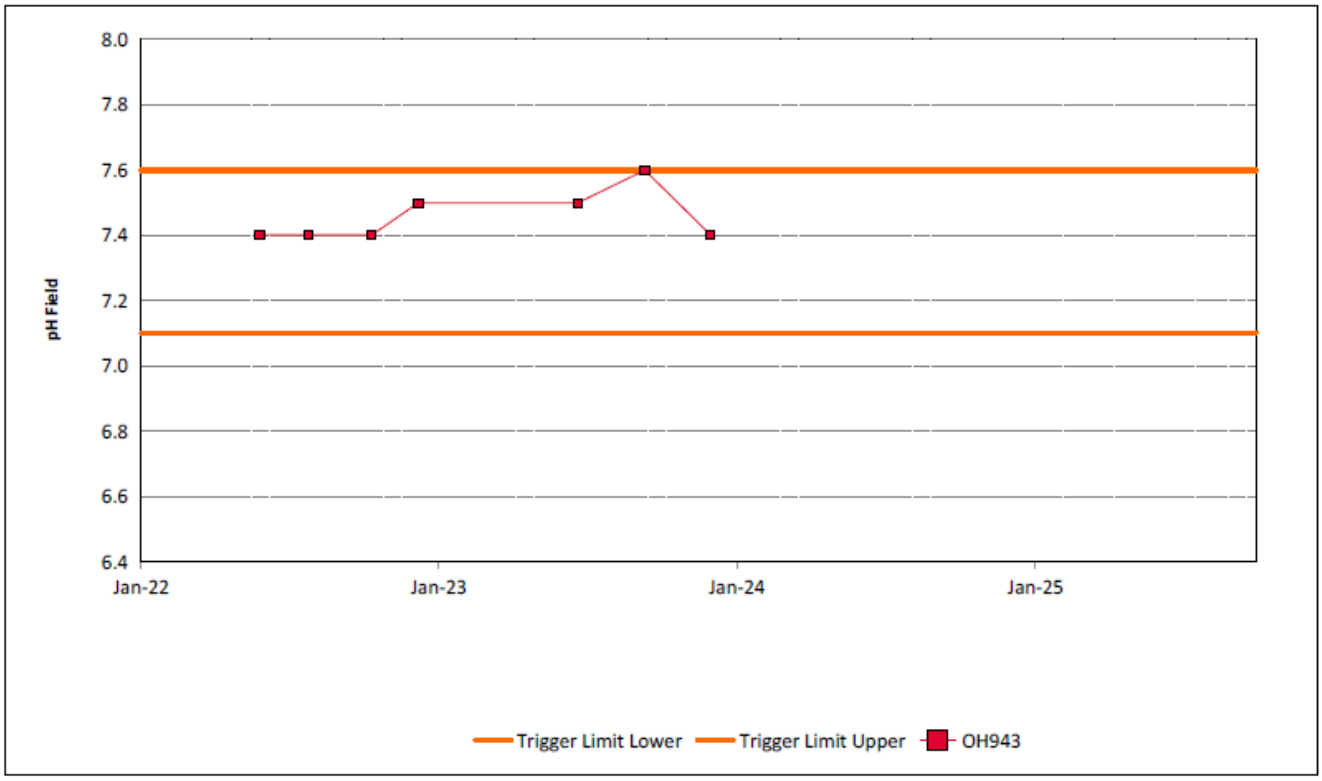

Figure 58: Hunter River Alluvium 4 pH Field Trend – September 2025

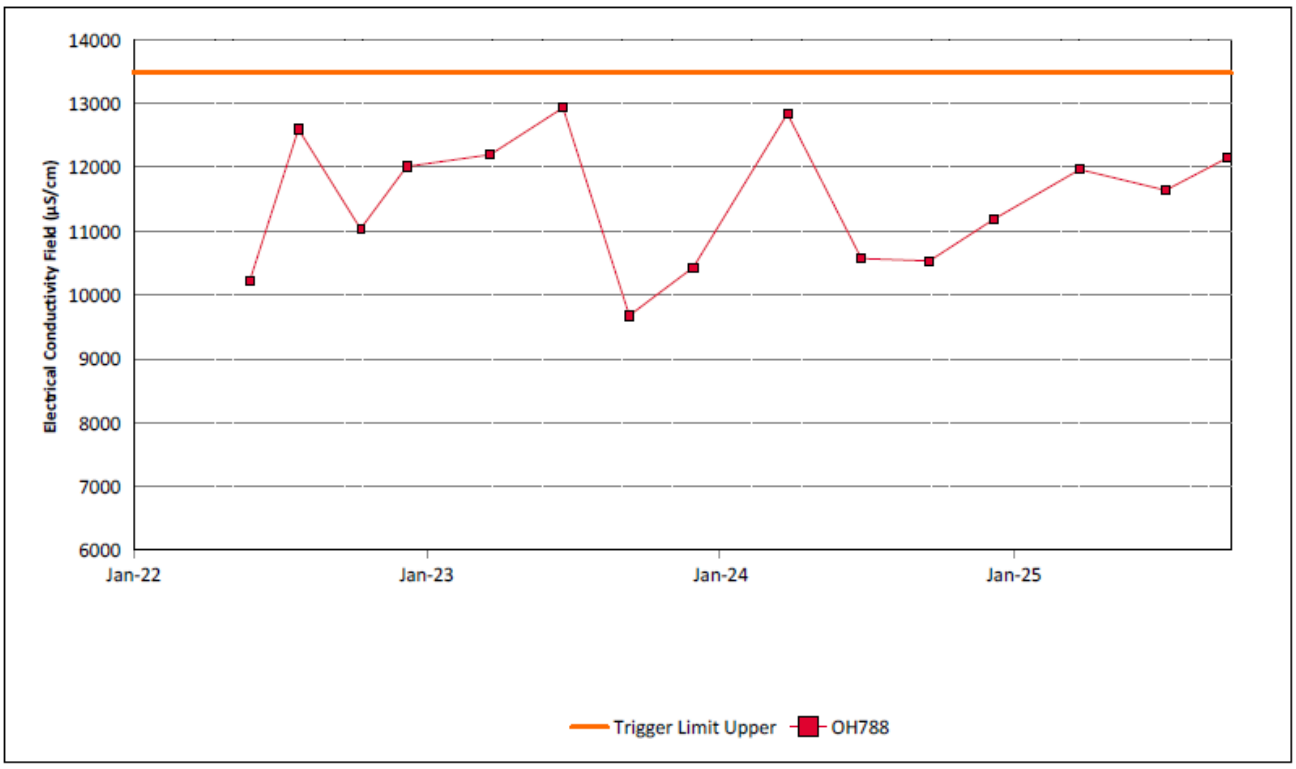

Figure 59: Hunter River Alluvium 5 Electrical Conductivity Field Trend – September 2025

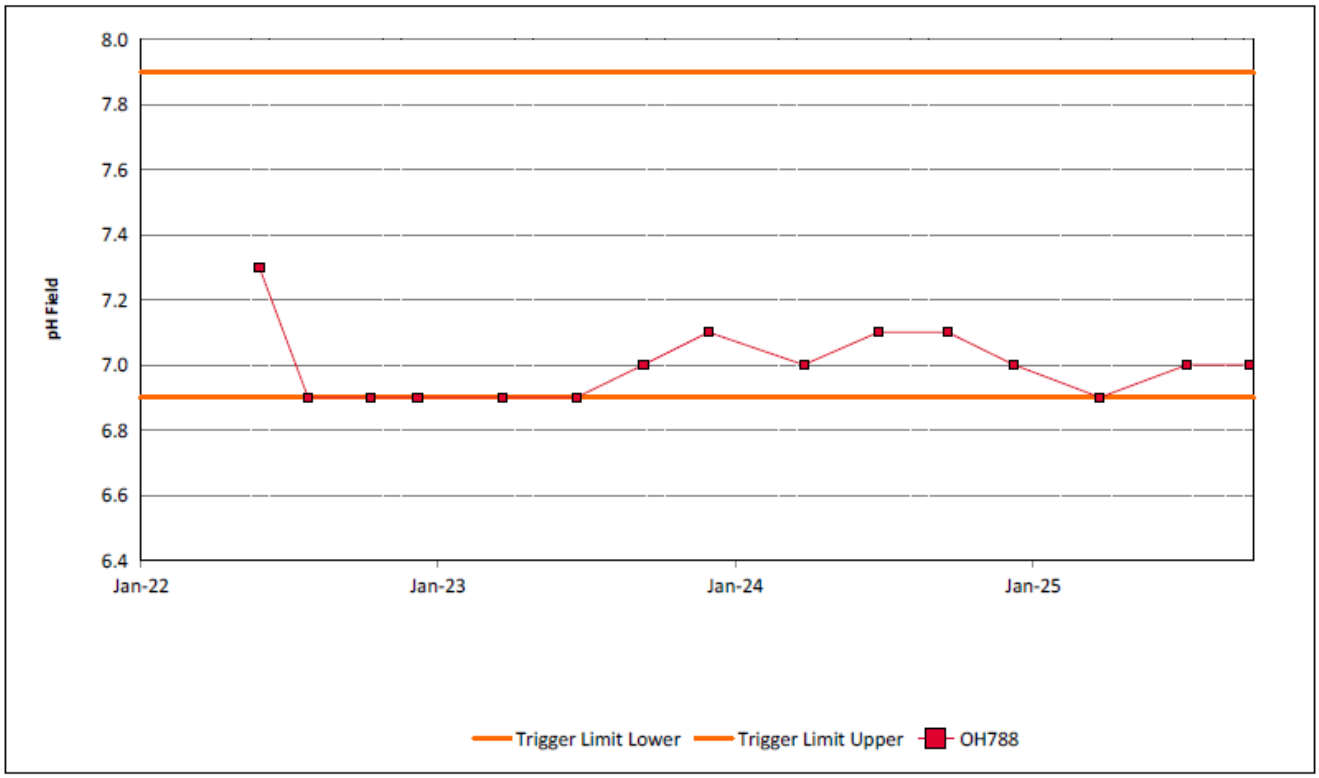

Figure 60: Hunter River Alluvium 5 pH Field Trend – September 2025

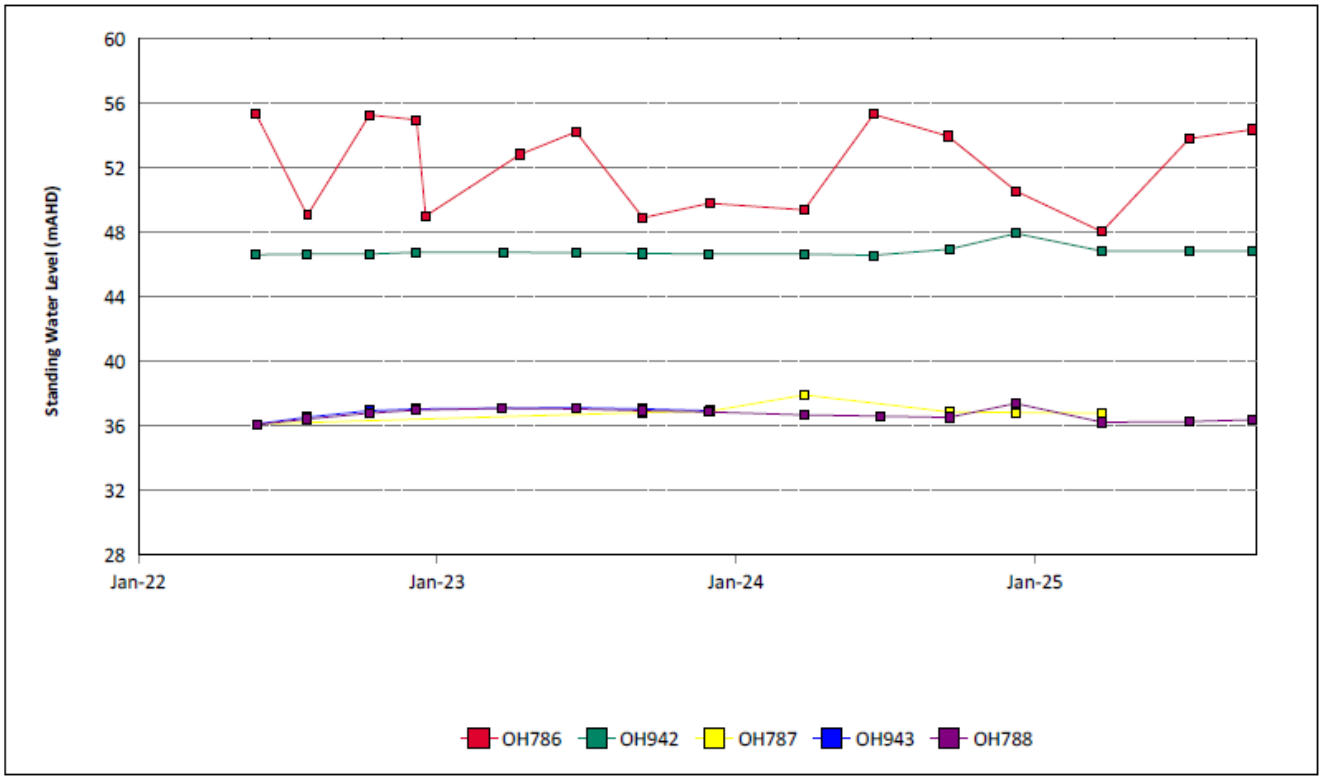

Figure 61: Hunter River Alluvium Standing Water Level Trend – September 2025

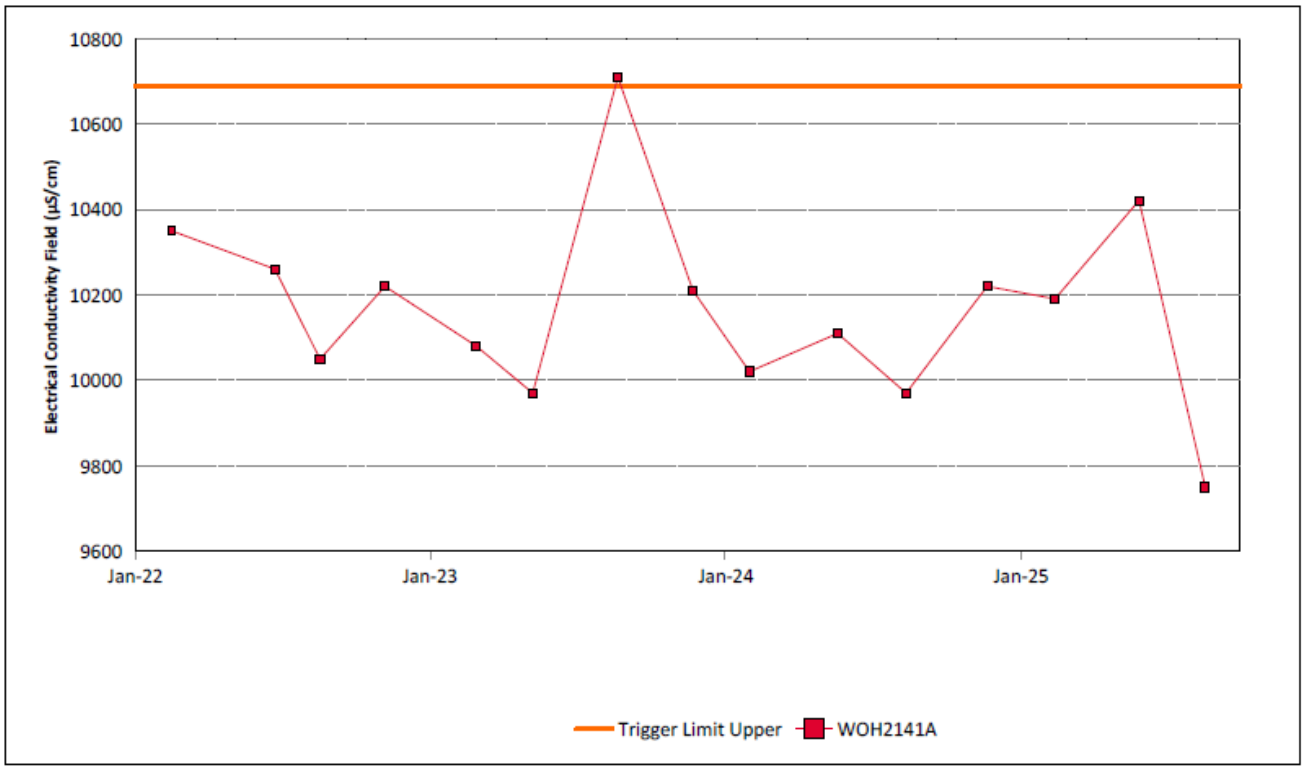

Figure 62: Whynot Seam Electrical Conductivity Field Trend – September 2025

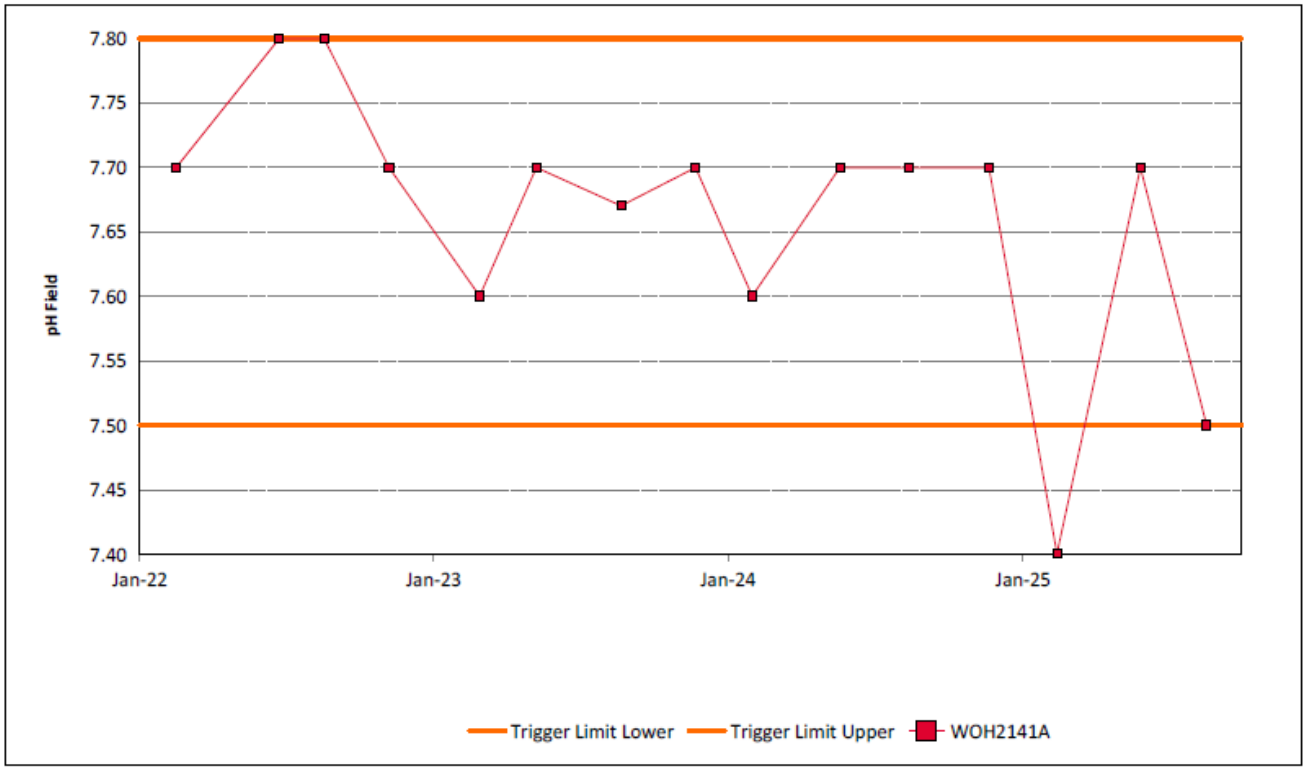

Figure 63: Whynot Seam pH Field Trend – September 2025

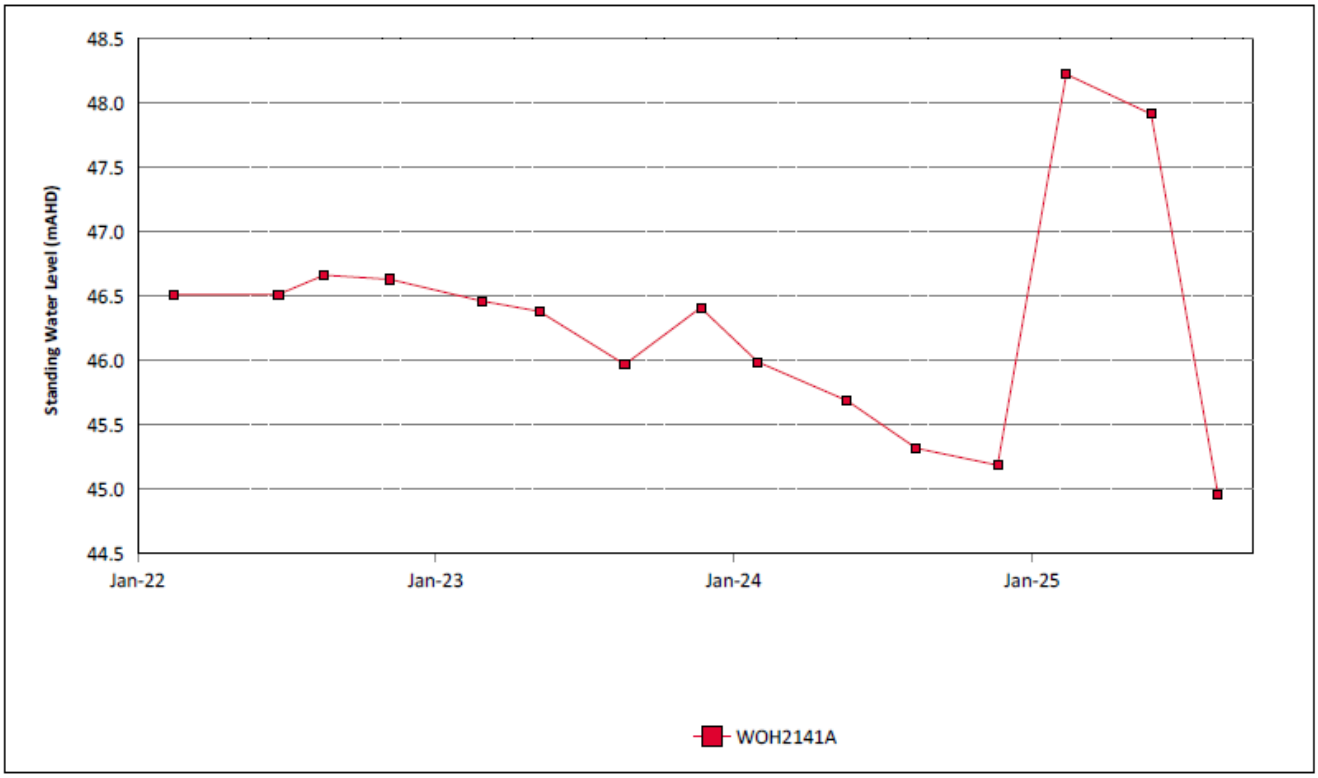

Figure 64: Whynot Seam Standing Water Level Trend – September 2025

3.3.1 Groundwater Trigger Tracking

Internal trigger limits have been developed to assess monitoring data on an on-going basis, and to highlight potentially adverse groundwater impacts. The process for evaluating monitoring results against the internal triggers and subsequent responses are outlined in the MTW Water Management Plan. Locations of groundwater bores are shown in **Figure 65**.

Current internal groundwater trigger limit breaches are summarised in **Table 3.**

Table 3: Groundwater Trigger Tracking – September 2025

Site	Date	Trigger Limit Breached	Action Taken in Response
PZ7S	28/01/2025	pH – 5th percentile	Consultant has undertaken investigation. With the exception of one measurement in 2013, values for pH have been relatively consistent in PZ7S, remaining circum-neutral over the period of record. There has been no rapid change in pH, or any indication that reducing conditions will continue. Water chemistry analysis indicates groundwater composition at PZ7S is reflective of a rainfall dominant water source, and water type remains consistent over the period of record, indicative of a consistent water source. Groundwater levels were at historic highs during the time of the pH exceedances and are therefore not captured in the baseline data set used to derive triggers at this location. MTW will install a secure cap and review triggers. pH returned to within trigger level for subsequent sampling on 16/04/25.
MB15MTW01D	28/01/2025, 16/04/2025, 23/07/2025	pH – 5th percentile	Investigation previously completed. The consultant identified in their report that "it is likely the trigger values derived for shallow overburden bores do not accurately represent in-situ groundwater water quality for MB15MTW01D". The result is consistent with previous results for this bore since 2021 and within sample location trigger levels. No further investigation required.
OH1126	13/02/2025, 5/06/2025, 21/08/2025	pH – 5th percentile	Consultant to be engaged to undertake investigation.
WOH2141A	13/02/2025	pH – 5th percentile	pH returned to within trigger level for subsequent sampling on 28/05/25.
WOH2156B	26/03/2025, 5/06/2025	pH – 5th percentile	Consultant has undertaken investigation. A rapid increase in groundwater level (due to rainfall recharge) in this bore (located in the Wambo Seam) early 2024 coincided with decrease in pH. Groundwater level remained stable until a rapid decline by approx.. 20m in Feb 2024. pH value decreased further with the groundwater decline. As the mining pit progresses further west, dewatering of monitoring bores is to be expected prior to their decommissioning. Prior to being decommissioned, a similar response was recorded in borehole WD622P in early 2023, which also monitors the Wambo Coal seam. Consultant recommended review of sampling techniques and borehole records for WOH series bores.
OH1121	10/07/2025	pH – 95th percentile	Watching brief*

Site	Date	Trigger Limit Breached	Action Taken in Response
OH1137	21/08/2025	pH – 95th percentile	Watching brief*
PZ9S	25/09/2025	pH – 95th percentile	Watching brief*
GW9708	24/06/2025	pH – 5th percentile	Watching Brief*. Sampling in September unable to be completed due to blockage. Blockage to be removed and resampled.
GW98MTCL2	24/06/2025	pH – 5th percentile	pH returned to within trigger level for subsequent sampling on 25/09/25.
OH942	25/09/2025	pH – 95th percentile	Watching Brief*
OH786	25/03/2025	EC – 95th percentile	EC returned to within trigger level for subsequent sampling on 10/07/2025.
MTD605P	28/01/2025, 15/04/2025, 22/07/2025	EC – 95th percentile	After 3 x monitoring events marginally above 95th percentile, EC returned to within trigger level for subsequent sampling on 20/10/2025.
OH1138 (1)	13/02/2025	EC – 95th percentile	EC returned to within trigger level for subsequent sampling on 12/03/25, 17/06/25`.
* = Watching brief established pending outcomes of subsequent monitoring events. No specific actions required.			

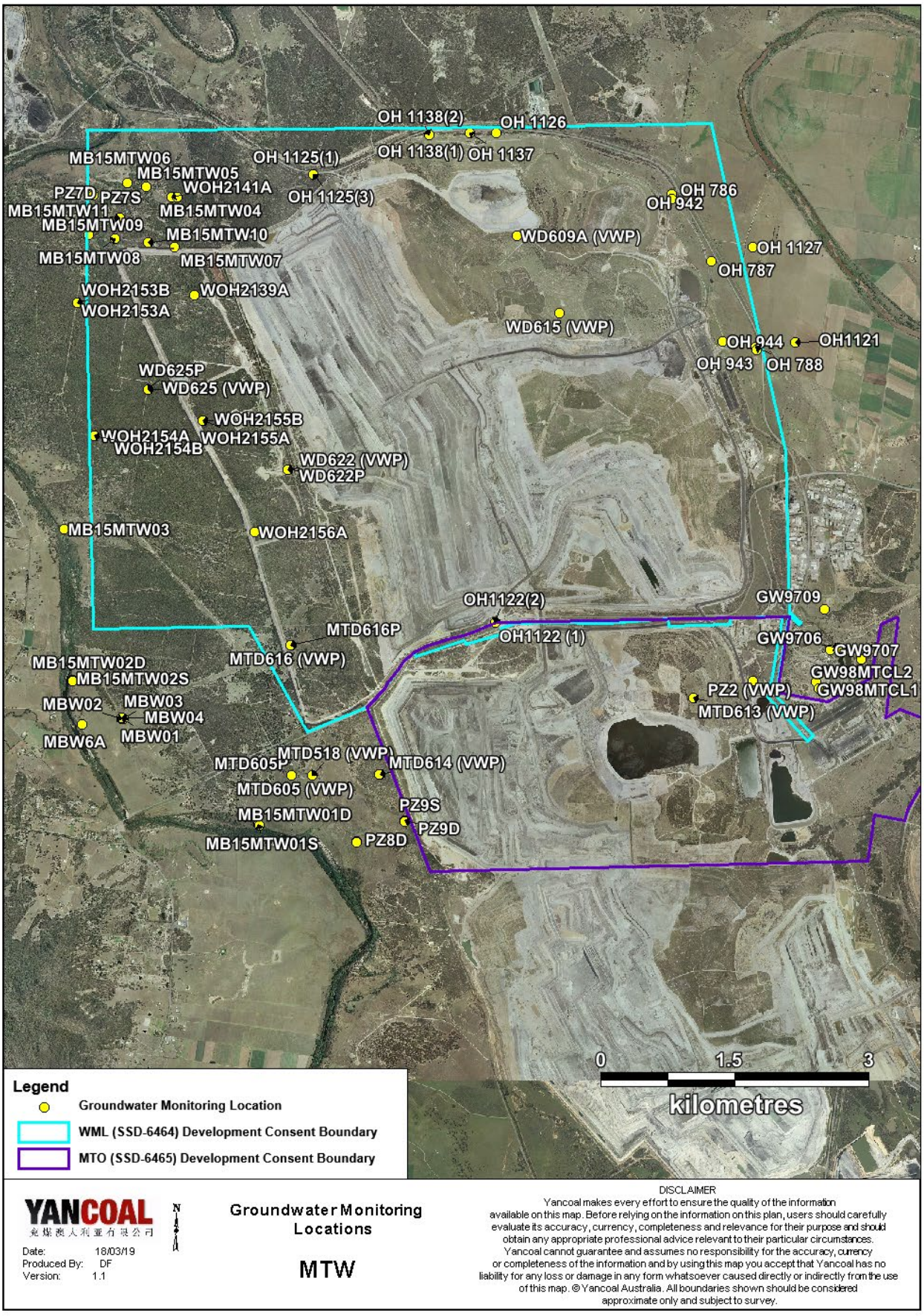

Figure 65: Groundwater Monitoring Location Plan

4.0 BLAST MONITORING

MTW have a network of six blast monitoring units. These are located at nearby privately owned residences and function as regulatory compliance monitors.

The location of these monitors can be found in **Figure 72**.

4.1 Blast Monitoring Results

During September 2025, 19 blasts were initiated at MTW. **Figure 66** to **Figure 71** show the blast monitoring results for the reporting period against the impact assessment criteria. The criteria are summarised in **Table 4**.

Table 4: Blasting Limits

Airblast Overpressure (dB(L))	Comments
115	5% of the total number of blasts in a 12 month period at WML or MTO
120	0%
Ground Vibration (mm/s)	**Comments**
5	5% of the total number of blasts in a 12 month period at WML or MTO
10	0%

During the reporting period one blast exceeded the 115dB(L) threshold for airblast overpressure at the Bulga Village (116.2) and Abbey Green (119.17) monitoring location. No blasts exceed the 120dB(L) threshold for airblast overpressure. No blasts exceed the 5mm/s criteria for ground vibration.

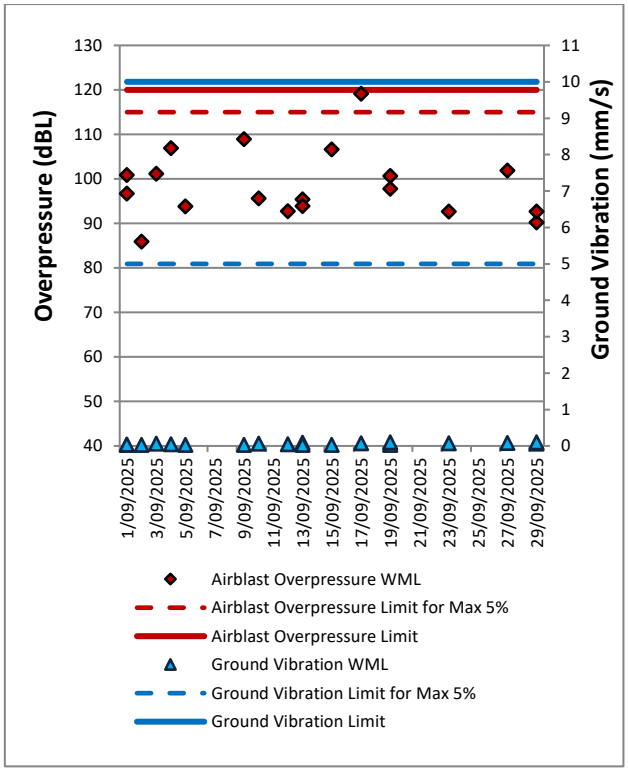

Figure 66: Abbey Green Blast Monitoring Results – September 2025

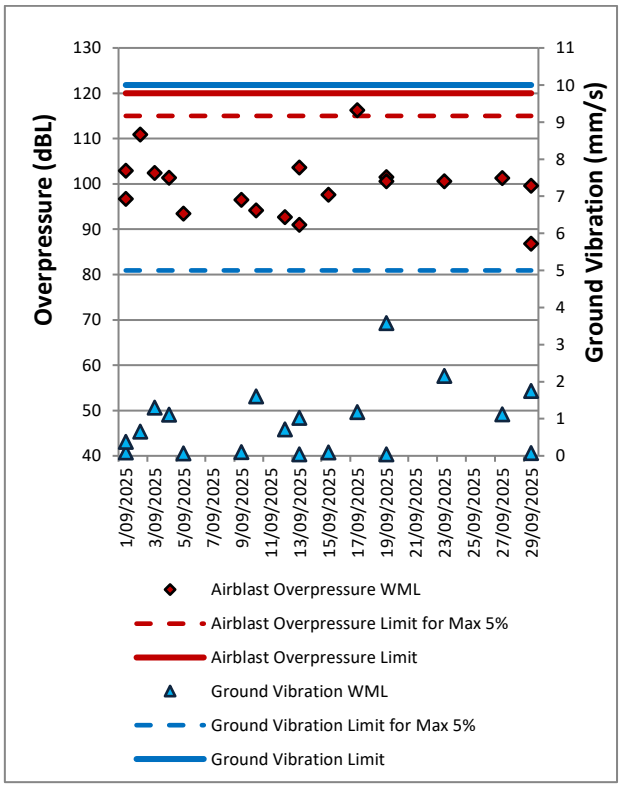

Figure 67: Bulga Village Blast Monitoring Results – September 2025

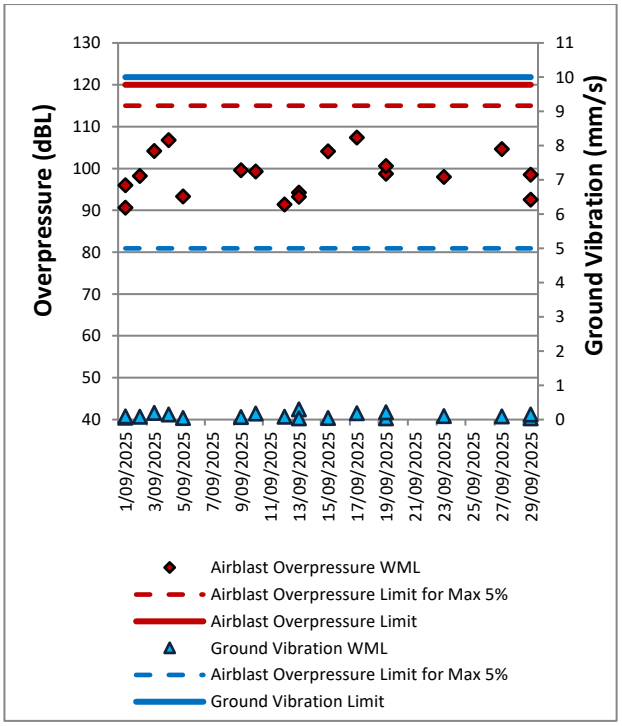

Figure 68: Putty Road MTIE Blast Monitoring Results – September 2025

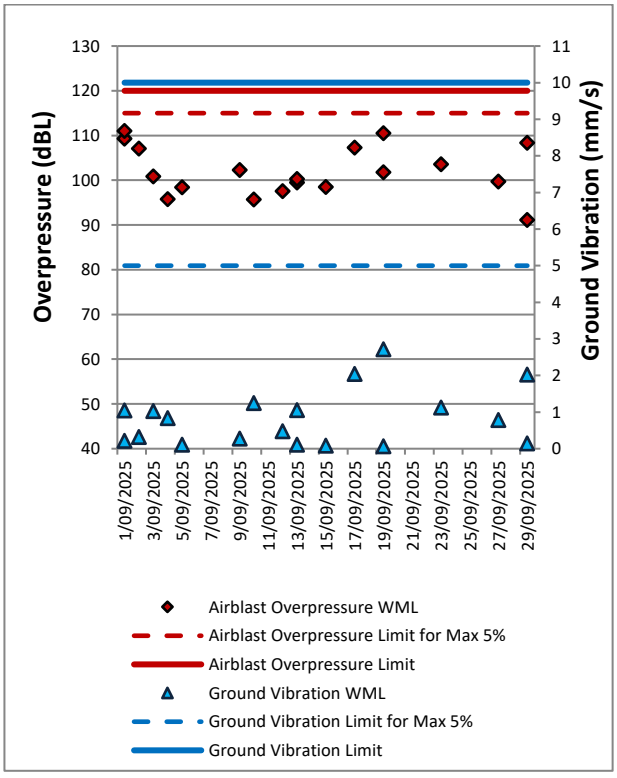

Figure 69: Wambo Road Blast Monitoring Results – September 2025

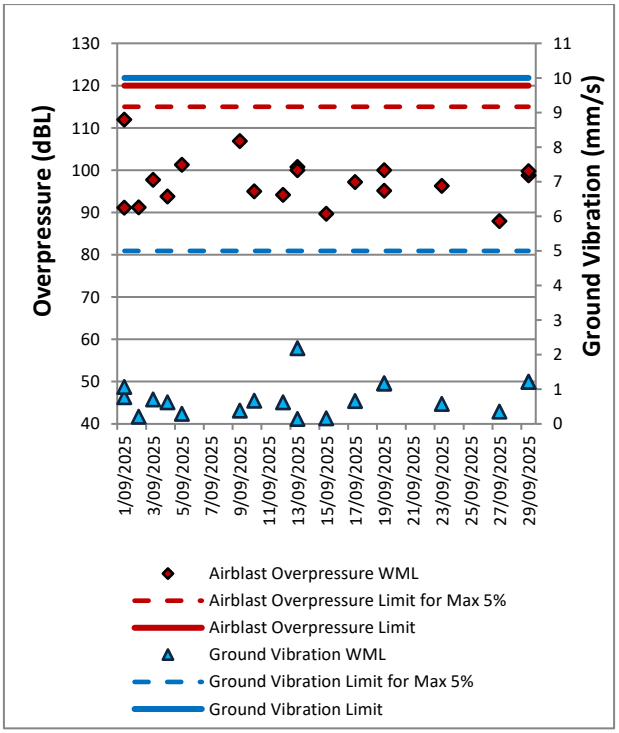

Figure 70: Warkworth Blast Monitoring Results – September 2025

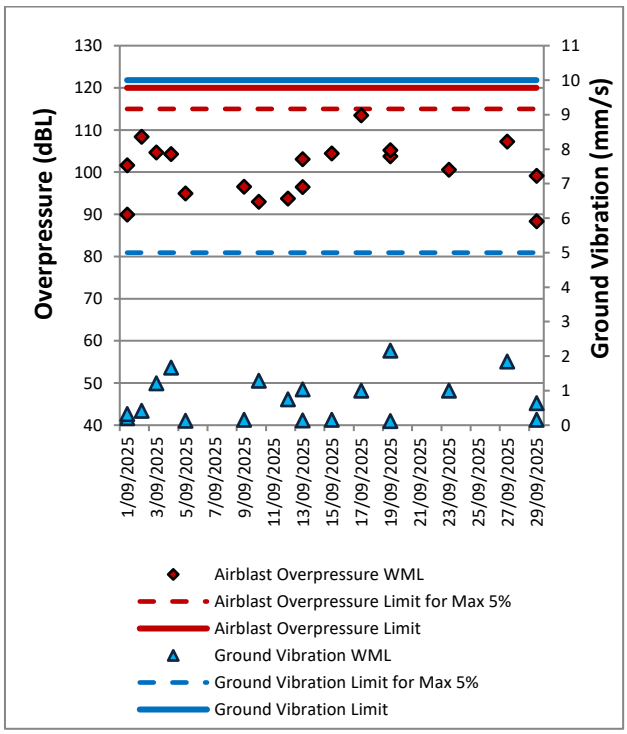

Figure 71: Wollemi Peak Road Blast Monitoring Results – September 2025

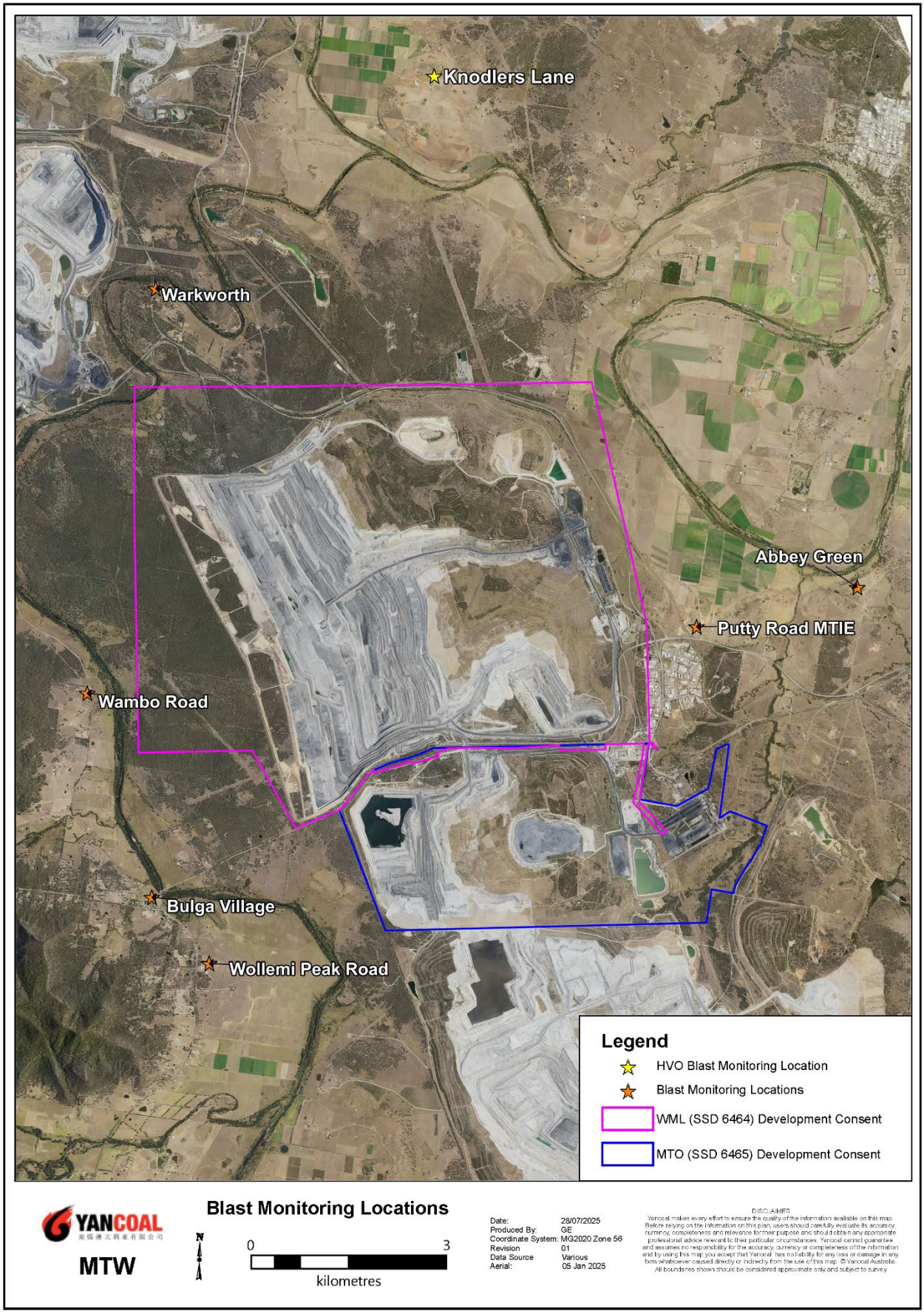

Figure 72: MTW Blast Monitoring Location Plan

5.0 NOISE

Routine attended noise monitoring is carried out in accordance with the MTW Noise Management Plan. A review against EIS predictions will be reported in the Annual Review. The purpose of the noise surveys is to quantify and describe the acoustic environment around the site and compare results with specified limits. Real time noise monitoring also occurs at five sites surrounding MTW. Noise monitoring locations are displayed in **Figure 73**.

5.1 Attended Noise Monitoring Results

Attended monitoring was conducted at receiver locations surrounding MTW on the night of 3 September 2025. All measurements complied with the relevant criteria. Results are detailed in **Table 5** to **Table 8.**

5.1.1 WML Noise Assessment

Compliance assessments undertaken against the WML noise criteria are presented in **Table 5** and **Table 6**.

Table 5: $L_{Aeq,\ 15\ minute}$ Warkworth Impact Assessment Criteria – September 2025

Location	Date and Time	Wind Speed (m/s)	Stability Class	Criterion dB(A)	Criterion Applies?[1]	WML $L_{Aeq,15minute}$ dB[2]	Exceedances[3]
Bulga RFS	3/09/2025 23:42	1.9	E	37	Yes	35	Nil
Bulga Village	3/09/2025 22:05	1.3	F	38	Yes	38	Nil
Gouldsville	3/09/2025 21:23	1.2	F	38	Yes	<25	Nil
Inlet Road	3/09/2025 21:20	2	E	37	Yes	31	Nil
Inlet Road West	3/09/2025 21:00	2.1	D	35	Yes	<20	Nil
Long Point	3/09/2025 21:00	2.1	D	35	Yes	<30	Nil
South Bulga	3/09/2025 23:20	2.3	E	35	Yes	27	Nil
Wambo Road	3/09/2025 21:43	1.3	F	38	Yes	29	Nil

Notes:
1. Noise limits are applicable if weather conditions were within parameters specified in Section 2.4. Criterion may or may not apply due to rounding of meteorological data values.
2. Site-only LAeq,15minute' includes modifying factor penalties if applicable.
3. Bold results in red indicate exceedance of relevant limit.

Table 6: $L_{A1,\ 1minute}$ Warkworth Impact Assessment Criteria – September 2025

Location	Date and Time	Wind Speed (m/s)	Stability Class	Criterion dB(A)	Criterion Applies?[1]	WML $L_{A1,1minute}$ dB[2]	Exceedances[3]
Bulga RFS	3/09/2025 23:42	1.9	E	47	Yes	46	Nil
Bulga Village	3/09/2025 22:05	1.3	F	48	Yes	46	Nil
Gouldsville	3/09/2025 21:23	1.2	F	48	Yes	29	Nil
Inlet Road	3/09/2025 21:20	2	E	47	Yes	39	Nil
Inlet Road West	3/09/2025 21:00	2.1	D	45	Yes	<20	Nil
Long Point	3/09/2025 21:00	2.1	D	45	Yes	<30	Nil
South Bulga	3/09/2025 23:20	2.3	E	45	Yes	32	Nil
Wambo Road	3/09/2025 21:43	1.3	F	48	Yes	32	Nil

Notes:
1. Noise limits are applicable if weather conditions were within parameters specified in Section 2.4. Criterion may or may not apply due to rounding of meteorological data values.
2. Site-only LAeq,1minute based on measured site-only Lamax as detailed in Section 3.2.
3. Bold results in red indicate exceedance of relevant limit.

5.1.2 MTO Noise Assessment

Compliance assessments undertaken against the MTO noise criteria are presented in **Table 7** and **Table 8**.

Table 7: $L_{Aeq,\ 15minute}$ Mount Thorley Impact Assessment Criteria – September 2025

Location	Date and Time	Wind Speed (m/s)	Stability Class	Criterion dB(A)	Criterion Applies?[1]	MTO $L_{Aeq,15minute}$ dB[2]	Exceedances[3]
Bulga RFS	3/09/2025 23:42	1.9	E	37	Yes	35	Nil
Bulga Village	3/09/2025 22:05	1.3	F	38	Yes	38	Nil
Gouldsville	3/09/2025 21:23	1.2	F	35	Yes	<25	Nil
Inlet Road	3/09/2025 21:20	2	E	37	Yes	31	Nil
Inlet Road West	3/09/2025 21:00	2.1	D	35	Yes	<20	Nil
Long Point	3/09/2025 21:00	2.1	D	35	Yes	<30	Nil
South Bulga	3/09/2025 23:20	2.3	E	36	Yes	27	Nil
Wambo Road	3/09/2025 21:43	1.3	F	38	Yes	29	Nil
Wambo Road[5]	3/09/2025 23:42	1.9	E	37	Yes	35	Nil

Notes:
1. Noise limits are applicable if weather conditions were within parameters specified in Section 2.4. Criterion may or may not apply due to rounding of meteorological data values.
2. Site-only LAeq,15minute' includes modifying factor penalties if applicable.
3. Bold results in red indicate exceedance of relevant limit.

Table 8: $L_{A1,\ 1minute}$ Mount Thorley Impact Assessment Criteria – September 2025

Location	Date and Time	Wind Speed (m/s)	Stability Class	Criterion dB(A)	Criterion Applies?[1]	MTO $L_{A1,\ 1min}$ dB[2]	Exceedances[3]
Bulga RFS	3/09/2025 23:42	1.9	E	47	Yes	28	Nil
Bulga Village	3/09/2025 22:05	1.3	F	48	Yes	IA	Nil
Gouldsville	3/09/2025 21:23	1.2	F	45	Yes	IA	Nil
Inlet Road	3/09/2025 21:20	2	E	47	Yes	IA	Nil
Inlet Road West	3/09/2025 21:00	2.1	D	45	Yes	<20	Nil
Long Point	3/09/2025 21:00	2.1	D	45	Yes	IA	Nil
South Bulga	3/09/2025 23:20	2.3	E	46	Yes	<25	Nil
Wambo Road	3/09/2025 21:43	1.3	F	48	Yes	<20	Nil
Wambo Road[5]	3/09/2025 23:42	1.9	E	47	Yes	28	Nil

Notes:
1. Noise limits are applicable if weather conditions were within parameters specified in Section 2.4. Criterion may or may not apply due to rounding of meteorological data values.
2. Site-only LAeq,1minute based on measured site-only Lamax as detailed in Section 3.2.
3. Bold results in red indicate exceedance of relevant limit.

5.1.3 NPfI Low Frequency Assessment

In accordance with the requirements of the EPA's Noise Policy for Industry (NPfI), the applicability of the low frequency modification factor corrections has been assessed. This resulted in the application of a 2dB penalty to the site only LAeq for the measurements taken at Bulga Village on 3 September 2025. Resulting LAeq noise levels did not exceed the WML impact assessment criteria at Bulga Village.

As described in Section 8, the Wambo Road results and MTW's response was reported to the Department of Planning, Housing and Infrastructure.

The WML assessment for low frequency noise is shown in **Table 9** and the MTO assessment for low frequency noise is shown in **Table 10**.

Table 9: Warkworth Low Frequency Noise Assessment – September 2025

Location	Date and Time	Measured WML LAeq dB	Criterion Applies?	Intermittency Modifying Factor? [1]	Tonality Modifying Factor? [1]	Frequency of Tonality [1]	Low-frequency Modifying Factor?	Maximum Exceedance of Reference Spectrum [1,2]	Penalty dB [2]
Bulga RFS	3/09/2025 23:42	35	Yes	No	No	N/A	No	NA	Nil
Bulga Village	3/09/2025 22:05	36	Yes	No	No	N/A	**Yes**	**2 dB @ 80**	**2**
Gouldsville	3/09/2025 21:23	<25	Yes	No	No	N/A	No	NA	Nil
Inlet Road	3/09/2025 21:20	31	Yes	No	No	N/A	No	NA	Nil
Inlet Road West	3/09/2025 21:00	<20	Yes	No	No	N/A	No	NA	Nil
Long Point	3/09/2025 21:00	<30	Yes	No	No	N/A	No	NA	Nil
South Bulga	3/09/2025 23:20	29	Yes	No	No	N/A	No	NA	Nil
Wambo Road	3/09/2025 21:43	29	Yes	No	No	N/A	No	NA	Nil

Notes:
1. Yes/No denote modifying factor was or was not applied. N/A denotes assessment was 'not applicable' due to meteorological conditions or further assessment was not required; and
2. Bold results indicate that application of NPfI modifying factor/s is required.

Table 10: Mount Thorley Operations Low Frequency Noise Assessment – September 2025

Location	Date and Time	Measured MTO LAeq dB	Criterion Applies?	Intermittency Modifying Factor? [1]	Tonality Modifying Factor? [1]	Frequency of Tonality[1]	Low-frequency Modifying Factor? [1]	Maximum Exceedance of Reference Spectrum [1,2]	Penalty dB[2]
Bulga RFS	3/09/2025 23:42	<25	Yes	No	No	N/A	No	N/A	Nil
Bulga Village	3/09/2025 22:05	IA	Yes	No	No	N/A	No	N/A	Nil
Gouldsville	3/09/2025 21:23	IA	Yes	No	No	N/A	No	N/A	Nil
Inlet Road	3/09/2025 21:20	IA	Yes	No	No	N/A	No	N/A	Nil
Inlet Road West	3/09/2025 21:00	<20	Yes	No	No	N/A	No	N/A	Nil
Long Point	3/09/2025 21:00	IA	Yes	No	No	N/A	No	N/A	Nil
South Bulga	3/09/2025 23:20	<20	Yes	No	No	N/A	No	N/A	Nil
Wambo Road	3/09/2025 21:43	<20	Yes	No	No	N/A	No	N/A	Nil

Notes:
1. Yes/No denote modifying factor was or was not applied. N/A denotes assessment was 'not applicable' due to meteorological conditions or further assessment was not required; and
2. Bold results indicate that application of NPfI modifying factor/s is required.

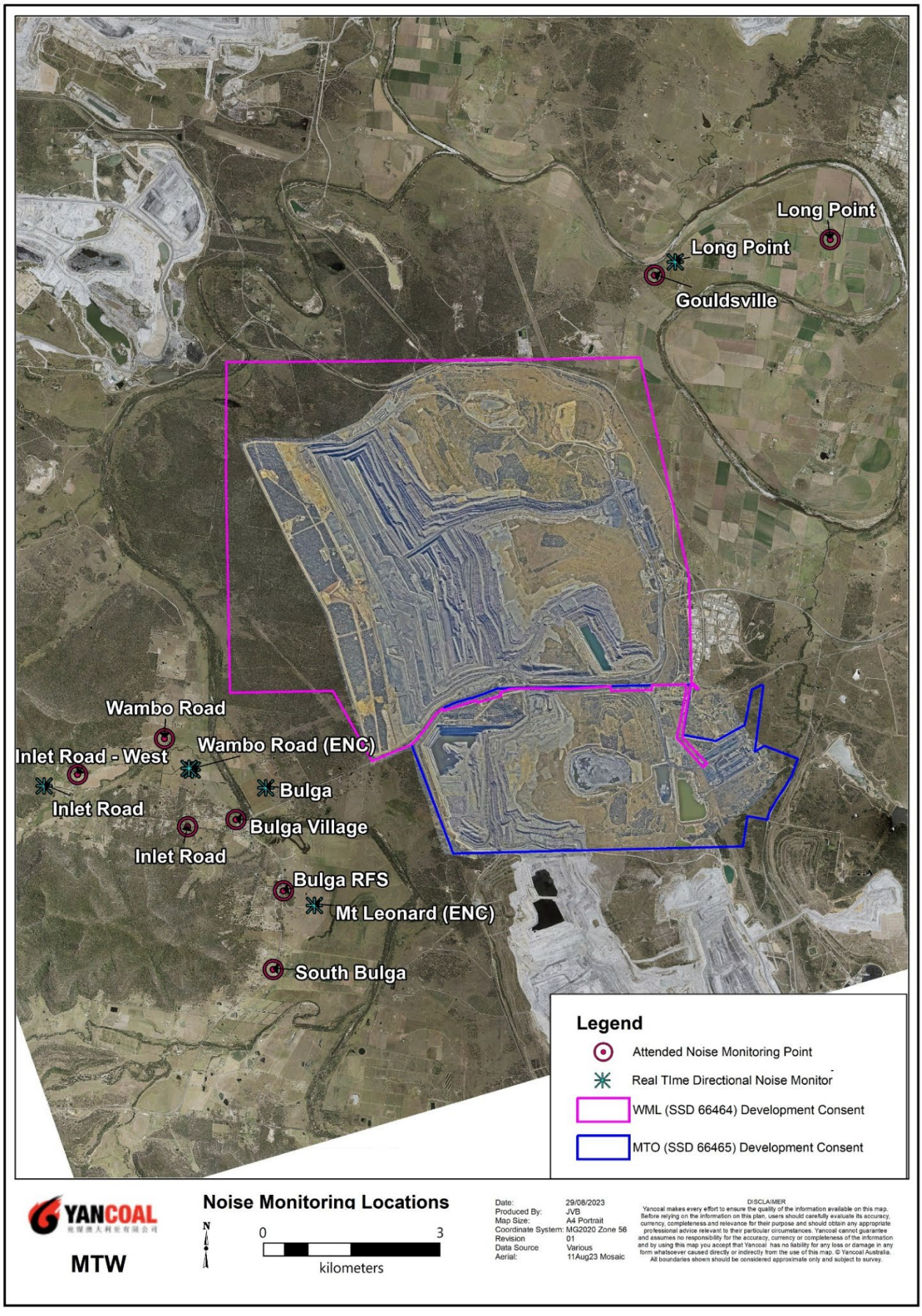

Figure 73: Noise Monitoring Location Plan

5.2 Noise Management Measures

A program of targeted supplementary attended noise monitoring is in place at MTW, supported by the real-time directional monitoring network and ensuring the highest level of noise management is maintained. The supplementary program is undertaken by MTW personnel and involves:

- Routine inspections from both inside and outside the mine boundary;
- Routine and as-required handheld noise assessments (undertaken in response to noise alarm and/or community complaint), comparing measured levels against consent noise limits; and
- Validation monitoring following operational modifications to assess the adequacy of the modifications.

Where a noise assessment identifies noise emissions which are exceeding the relevant noise limit(s) for any particular residence, modifications will be made to ensure that the noise event is resolved within 75 minutes of identification. The actions taken are commensurate with the nature and severity of the noise event, but can include:

- Changing the haul route to a less noise sensitive haul;
- Changing dump locations (in-pit or less exposed dump option);
- Reducing equipment numbers;
- Shut down of task; or
- Site shut down.

A summary of these assessments undertaken during the reporting period are provided in **Table 11**.

Table 11: Supplementary Attended Noise Monitoring Data – September 2025

No. of assessments	No. of assessments > trigger	No. of nights where assessments > trigger	% greater than trigger
698	21	11	3.01

Note: Measurements are taken under all meteorological conditions, including conditions under which the consent noise criteria do not apply.

6.0 OPERATIONAL DOWNTIME

During September, a total of 669 hours of equipment downtime was logged in response to environmental events such as dust, noise and adverse meteorological conditions. Operational downtime by equipment type is shown in **Figure 74**.

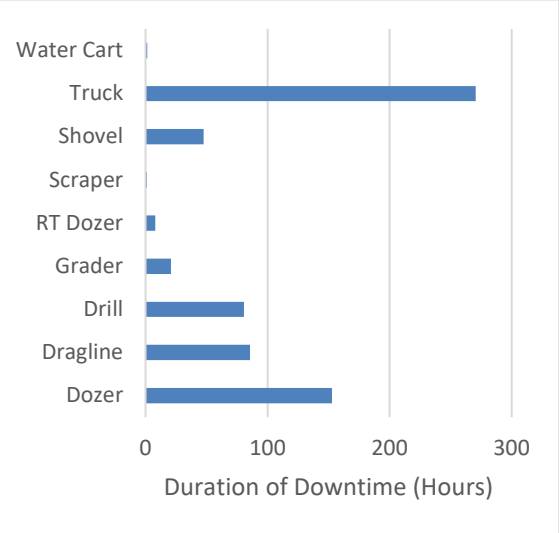

Figure 74: Operational Downtime by Equipment Type – September 2025

7.0 REHABILITATION

During September 2025, 12.5 Ha of land was released, 8.6 Ha was bulk shaped, 11.4 Ha was topsoiled and no land was composted or seeded.

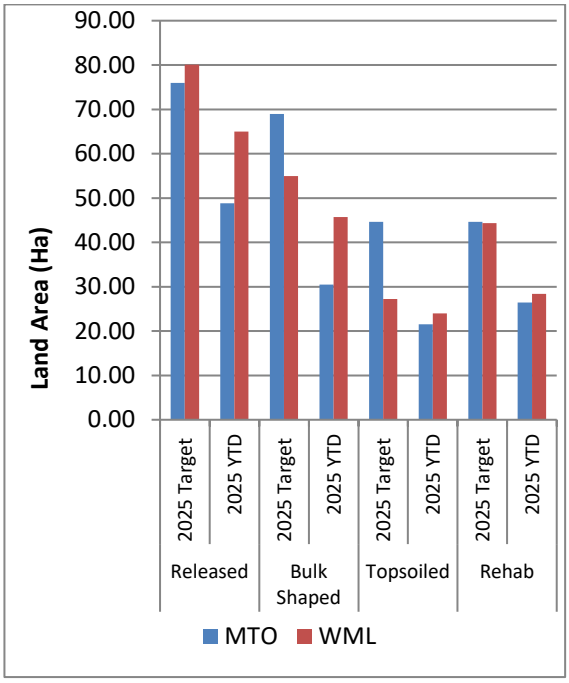

Figure 75: Rehabilitation YTD – September 2025

8.0 ENVIRONMENTAL INCIDENTS

There were no environmental incidents recorded during the reporting period.

9.0 COMPLAINTS

Fourteen complaints were received during the reporting period. Details of these complaints are shown in **Table 12.**

Table 12: Complaints Summary YTD

	Noise	Dust	Blast	Lighting	Other	Total
January	0	3	3	2	0	8
February	2	0	3	2	1	8
March	8	2	5	1	0	16
April	6	4	7	0	0	17
May	4	0	3	0	0	7
June	2	11	1	0	0	14
July	3	3	2	3	2	13
August	4	1	4	0	0	9
September	4	2	4	4	0	14
October						
November						
December						
Total	33	26	32	12	3	106

Appendix A: Meteorological Data

Table 13: Meteorological Data – Charlton Ridge Meteorological Station – September 2025

Date	Air Temperature		Relative Humidity		Wind Direction	Wind Speed	Rainfall
	Maximum (°C)	Minimum (°C)	Maximum (%)	Minimum (%)	Average (°)	Average (m/sec)	total (mm)
1/09/2025	22	4	10	2	227	2	0.0
2/09/2025	21	5	10	2	209	2	0.0
3/09/2025	21	4	9	2	272	2	0.0
4/09/2025	24	5	11	2	261	2	0.0
5/09/2025	21	6	11	2	165	2	0.0
6/09/2025	21	8	7	2	149	2	0.0
7/09/2025	25	6	8	2	231	2	0.0
8/09/2025	26	10	16	4	274	4	0.0
9/09/2025	23	13	11	3	279	3	15.0
10/09/2025	18	11	18	2	202	2	42.8
11/09/2025	15	8	15	3	264	3	1.4
12/09/2025	20	6	8	2	232	2	0.2
13/09/2025	21	6	9	2	242	2	0.0
14/09/2025	23	7	11	2	262	2	0.0
15/09/2025	26	6	14	3	257	3	0.0
16/09/2025	26	11	15	3	255	3	0.0
17/09/2025	27	10	14	3	244	3	0.0
18/09/2025	21	7	6	1	175	1	0.0
19/09/2025	26	7	11	2	249	2	1.2
20/09/2025	24	9	16	4	282	4	1.0
21/09/2025	22	5	13	3	279	3	0.0
22/09/2025	24	8	13	3	242	3	0.0
23/09/2025	19	5	9	2	173	2	0.0
24/09/2025	25	5	12	3	261	3	0.0
25/09/2025	26	13	13	4	279	4	0.0
26/09/2025	27	13	16	4	294	4	0.0
27/09/2025	26	13	10	2	271	2	0.0
28/09/2025	32	12	13	3	237	3	0.2
29/09/2025	26	12	9	2	167	2	0.0
30/09/2025	29	11	9.5	1.9	198	1.9	0