Mount Thorley Warkworth EPL Monitoring Data

Published 31 July 2025
FOR THE MONTH ENDING 30 June 2025

Name of Operation	**Mount Thorley Coal Loader**
Environment Protection Licence	24
Licensee	Mount Thorley Coal Loading Ltd
Premises	Mount Thorley Coal Loading Ltd Mount Thorley Road, Mount Thorley Via Singleton NSW 2330
EPL Link	http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=89660&SYSUID=1&LICID=24
Name of Operation	**Mount Thorley Operations**
Environment Protection Licence	1976
Licensee	Mount Thorley Operations Pty Limited
Premises	Mount Thorley Operations Mount Thorley Road Mount Thorley NSW 2330
EPL Link	https://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=295258&SYSUID=1&LICID=1976
Name of Operation	**Warkworth Coal Mine**
Environment Protection Licence	1376
Licensee	Warkworth Mining Ltd
Premises	Warkworth Coal Mine Putty Road Mount Thorley NSW 2330
EPL Link	https://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=226613&SYSUID=1&LICID=1376

1 INTRODUCTION

This report provides a summary of environmental monitoring results for Mount Thorley Warkworth (MTW) in accordance with the requirements of the following Environment Protection Licences (EPL):

- EPL24 – Mount Thorley Coal Loader (MTCL);
- EPL1376 – Warkworth Mining Limited (WML); and
- EPL1976 – Mount Thorley Operations (MTO).

This report includes all monitoring data collected in accordance with the above licences for the period 1 to 30 June 2025.

Monitoring in this report includes:

- Air quality monitoring;
- Surface water monitoring including mine water discharge and effluent quality; and
- Blast monitoring.

Monitoring locations are shown in **Figure 1**.

2 AIR QUALITY

In accordance with the requirements of Condition M2.2 of WML EPL 1376 and MTO EPL 1976, MTW maintains a network of five PM_{10} monitors.

Results of Particulates (PM_{10}) monitoring are shown in **Table 1**. Results reported represent the 24hr average PM_{10}, derived from 10 minute PM_{10} values for the period midnight to midnight, for each calendar date during the reporting period. The last sampling date was 30 June 2025 and the data was obtained on 1 July 2025.

TABLE 1: PARTICULATE MATTER <10µM MONITORING

Date	Unit of Measure	Monitoring Frequency & Capture	Monitoring Point				
			Warkworth North (EPA ID # 9 - WML EPL 1376)	MTO Boundary (EPA ID # 13 - MTO EPL 1976)	Dragline Crossing (EPA ID # 10 - WML EPL 1376 & MTO EPL 1976)	Heavy Vehicle Bridge (EPA ID # 11 - WML EPL 1376 & MTO EPL 1976)	MTIE (EPA ID # 12 - WML EPL 1376 & EPA ID #19 - MTO EPL 1976)
1/06/2025	µg/m³	Continuous	27.5	7.9	12.4	8.6	7.9
2/06/2025	µg/m³		25.6	21.3	25.4	20.8	20.1
3/06/2025	µg/m³		27.7	10.3	21.5	18.0	18.2
4/06/2025	µg/m³		21.8	6.2	10.5	9.3	8.7
5/06/2025	µg/m³		9.1	3.6	5.3	5.9	5.4
6/06/2025	µg/m³		9.0	9.6	20.8	13.6	8.7
7/06/2025	µg/m³		4.2	8.2	12.8	7.1	4.1
8/06/2025	µg/m³		3.5	6.0	10.6	5.7	4.1
9/06/2025	µg/m³		2.0	3.8	7.4	2.7	2.0
10/06/2025	µg/m³		1.6	4.6	6.8	2.3	1.9
11/06/2025	µg/m³		2.3	4.2	10.6	5.9	3.6
12/06/2025	µg/m³		6.6	6.5	16.2	10.9	6.4
13/06/2025	µg/m³		6.8	8.2	14.6	15.4	9.2
14/06/2025	µg/m³		8.5	3.1	10.8	9.6	7.0
15/06/2025	µg/m³		11.5	8.5	13.4	12.8	10.0
16/06/2025	µg/m³		#	7.8	16.6	13.9	9.5
17/06/2025	µg/m³		#	7.1	16.6	11.4	8.5
18/06/2025	µg/m³		#	7.0	19.3	14.9	11.3
19/06/2025	µg/m³		15.3	10.6	23.1	15.5	11.7
20/06/2025	µg/m³		15.2	10.5	20.8	14.3	16.0
21/06/2025	µg/m³		16.5	14.1	28.0	22.8	16.8
22/06/2025	µg/m³		14.1	13.4	26.0	19.0	15.5
23/06/2025	µg/m³		9.8	8.1	24.2	17.6	14.0

Date	Unit of Measure	Monitoring Frequency & Capture	Monitoring Point				
			Warkworth North (EPA ID # 9 - WML EPL 1376)	MTO Boundary (EPA ID # 13 - MTO EPL 1976)	Dragline Crossing (EPA ID # 10 - WML EPL 1376 & MTO EPL 1976)	Heavy Vehicle Bridge (EPA ID # 11 - WML EPL 1376 & MTO EPL 1976)	MTIE (EPA ID # 12 - WML EPL 1376 & EPA ID #19 - MTO EPL 1976)
24/06/2025	µg/m³		13.9	10.3	20.9	14.2	13.1
25/06/2025	µg/m³		2.3	3.8	10.7	4.5	2.9
26/06/2025	µg/m³		8.9	3.3	8.8	9.3	4.8
27/06/2025	µg/m³		8.1	9.6	15.8	15.2	11.6
28/06/2025	µg/m³		11.3	7.7	14.3	11.9	10.2
29/06/2025	µg/m³		19.7	20.3	25.6	23.9	23.1
30/06/2025	µg/m³		27.1	8.8	15.8	15.1	16.6
Monthly Meaningful Data							
June	**µg/m³**	**Minimum***	1.6	3.1	5.3	2.3	1.9
June	**µg/m³**	**Mean***	12.2	8.5	16.2	12.4	10.1
June	**µg/m³**	**Maximum***	27.7	21.3	28.0	23.9	23.1
June	**µg/m³**	**Median***	9.8	8.0	15.8	13.2	9.3

 # 24 hour data unavailable due to equipment or communications issue causing one or more missing 10 minute values
**Data calculated with missing 10 minute value(s) due to equipment or communication issue*
MTIE denotes Mount Thorley Industrial Estate

3 SURFACE WATER

3.1 Mine Water Discharge Monitoring

MTW participates in the Hunter River Salinity Trading Scheme (HRSTS) and maintains two monitoring locations associated with this scheme.

Results of water monitoring undertaken in accordance with HRSTS requirements are detailed in **Table 2** and **Table 3**. The last sampling date was 25 June 2025 and the data was obtained on 26 June 2025.

TABLE 2: MINE WATER DISCHARGE MONITORING - VOLUME AND MASS LIMITS

Monitoring Location	Unit of measure	Volume/mass Limit	No. of samples required by licence	No. of samples you collected and analysed	Lowest Sample Value	Mean of sample	Highest sample value	Median
Dam 1N Discharge / Point 1 (WML EPL 1376) Dam 1N Discharge Point	Megalitres per day	100	0	0	-	-	-	-
Dam 9S Discharge / EPL Point 4 (MTO EPL 1976) Discharge pipe from Dam 9S	Megalitres per day	100	6	6	0.18*	2.3*	6.6*	1.3*

**Recommissioning of the Dam 9S discharge point occurred in June, during which flow meter issues were identified. June discharge data has been compiled using Water NSW and site data to ensure accuracy. This will be further reported on in the MTO 1976 Annual Return.*

TABLE 3: MINE WATER DISCHARGE MONITORING- CONCENTRATION LIMITS

Discharge Point	Pollutant	Unit of measure	Licence limits	No. of samples required by licence	No. of samples you collected and analysed	Lowest Sample Value	Mean of sample	Highest sample value	Median
Dam 1N Discharge / Point 1 (WML EPL 1376) Dam 1N Discharge Point	Electrical Conductivity	microsiemens per centimetre	-	0	0	-	-	-	-
	pH	pH	6.5 - 9.5	0	0	-	-	-	-
	Total Suspended Solids	milligrams per litre	120	0	0	-	-	-	-
Dam 1N Discharge Turbidity Monitoring / Point 25 (WML EPL 1376) Continuous turbidity monitor	Turbidity	nephelometric turbidity units	-	0	0	-	-	-	-
Dam 9S Discharge / EPL Point 4 (MTO EPL 1976) Discharge pipe from Dam 9	Electrical Conductivity	microsiemens per centimetre	-	Continuous	Continuous	5527	5641	5689	5661
	pH	pH	6.5 - 9.5	6	6	9.0	9.1	9.2	9.1
	Total Suspended Solids	milligrams per litre	120	6	6	9.0	18.2	28.0	17.0

3.2 Water Quality Monitoring

MTW undertakes monitoring in accordance with Condition M2.3 of WML EPL 1376 and MTO EPL 1976 as detailed in **Table 4**. Monthly sampling occurred on 23 June 2025 and the data was obtained 17 July 2025. Next quarterly sampling will occur in September 2025.

TABLE 4: WATER QUALITY MONITORING

Monitoring Location	Pollutant	unit of measure	Monitoring frequency required by licence	No. of samples required by licence	No. of samples collected and analysed	Value(s)
W5 – Loders Creek / EPL Point 3 (MTO EPL 1976) Coal preparation plant access road bridge	Electrical Conductivity	microsiemens per centimetre	Once a month (min. of 4 weeks)	1	1	9630
	pH	pH units	Once a month (min. of 4 weeks)	1	1	8.1
	Total Suspended Solids	milligrams per litre	Once a month (min. of 4 weeks)	1	1	11
W1 – Hunter River / EPL Point 26 (WML EPL 1376)	Electrical Conductivity	microsiemens per centimetre	Once a quarter	1	1	586
	pH	pH units	Once a quarter	1	1	8.2
	Total Suspended Solids	milligrams per litre	Once a quarter	1	1	19
W2 – Hunter River / EPL Point 27 (WML EPL 1376)	Electrical Conductivity	microsiemens per centimetre	Once a quarter	1	1	730
	pH	pH units	Once a quarter	1	1	8.0
	Total Suspended Solids	milligrams per litre	Once a quarter	1	1	13
W3 – Hunter River / EPL Point 28 (WML EPL 1376)	Electrical Conductivity	microsiemens per centimetre	Once a quarter	1	1	592
	pH	pH units	Once a quarter	1	1	8.1
	Total Suspended Solids	milligrams per litre	Once a quarter	1	1	18

Monitoring Location	Pollutant	unit of measure	Monitoring frequency required by licence	No. of samples required by licence	No. of samples collected and analysed	Value(s)
W5 – Loders Creek / EPL Point 29 (WML EPL 1376)	Electrical Conductivity	microsiemens per centimetre	Once a quarter	1	1	9630
	pH	pH units	Once a quarter	1	1	8.1
	Total Suspended Solids	milligrams per litre	Once a quarter	1	1	11
WW5 – Dights Creek / EPL Point 30 (WML EPL 1376)	Electrical Conductivity	microsiemens per centimetre	Once a quarter	1	0	#
	pH	pH units	Once a quarter	1	0	#
	Total Suspended Solids	milligrams per litre	Once a quarter	1	0	#
SW40 – Wollombi Brook Downstream / EPL Point 31 (WML EPL 1376)	Electrical Conductivity	microsiemens per centimetre	Once a quarter	1	1	494
	pH	pH units	Once a quarter	1	1	7.5
	Total Suspended Solids	milligrams per litre	Once a quarter	1	1	6
Wollombi Brook / EPL Point 32 (WML EPL 1376)	Electrical Conductivity	microsiemens per centimetre	Once a quarter	1	1	494
	pH	pH units	Once a quarter	1	1	7.6
	Total Suspended Solids	milligrams per litre	Once a quarter	1	1	9
Wollombi Brook Upstream / EPL Point 33 (WML EPL 1376)	Electrical Conductivity	microsiemens per centimetre	Once a quarter	1	1	495
	pH	pH units	Once a quarter	1	1	7.7
	Total Suspended Solids	milligrams per litre	Once a quarter	1	1	6

 # - Sample unable to be collected due to insufficient water or unsafe access

3.3 Effluent Quality Monitoring

Monitoring is undertaken in accordance with Condition M2.3 of WML EPL 1376 and MTO EPL 1976 as detailed in **Table 5**. Next quarterly sampling will occur in September 2025.

TABLE 5: EFFLUENT QUALITY MONITORING

Monitoring Location	Pollutant	unit of measure	Monitoring frequency required by licence	No. of samples required by licence	No. of samples collected and analysed	Value
North Pit North Crib Hut Envirocycle / EPL Point 14 (WML EPL 1376)	Faecal Coliforms	Colony forming units per 100 millilitres	Once a quarter	1	1	<10000
	pH	pH units	Once a quarter	1	1	6.7
Main Warkworth Staging Pond / EPL Point 15 (WML EPL 1376)	Faecal Coliforms	Colony forming units per 100 millilitres	Once a quarter	1	1	5500
	pH	pH units	Once a quarter	1	1	7.5
Warkworth Admin Envirocycle / EPL Point 16 (WML EPL 1376)	Faecal Coliforms	Colony forming units per 100 millilitres	Once a quarter	1	1	5500000
	pH	pH units	Once a quarter	1	1	7.7
West Pit South Crib Hut Envirocycle / EPL Point 17 (WML EPL 1376)	Faecal Coliforms	Colony forming units per 100 millilitres	Once a quarter	1	1	<100
	pH	pH units	Once a quarter	1	1	5.0
Warkworth Medical Centre Envirocycle / EPL Point 18 (WML EPL 1376)	Faecal Coliforms	Colony forming units per 100 millilitres	Once a quarter	1	0	#
	pH	pH units	Once a quarter	1	0	#
Dam 1S / EPL Point 18 (MTO EPL 1976)	Faecal Coliforms	Colony forming units per 100 millilitres	Once a quarter	1	1	1000
	pH	pH units	Once a quarter	1	1	9.5
WML - Workshop STP	Faecal Coliforms	Colony forming units per 100 millilitres	Once a quarter	1	1	26000
	pH	pH units	Once a quarter	1	1	5.8

Sample not collected as effluent now diverted from this point to the "WML - Workshop STP" for treatment (since 28 November 2023).

4 BLAST MONITORING

In accordance with the requirements of Conditions M7.1 (WML EPL 1376) and M8.1 (MTO EPL 1976), MTW maintains a network of blast monitors to measure airblast overpressure and ground vibration for all blasts carried out at MTW. Blast monitoring results are detailed in **Table 6** (Airblast Overpressure) and **Table 7** (Ground Vibration). The last date sampled was on 30 June 2025. The data was obtained on 1 July 2025.

TABLE 6: BLAST MONITORING (AIRBLAST OVERPRESSURE)

Blast ID	Date and Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point				
				95% of Blasts	100% of Blasts	Bulga Village EPA ID # 6 (EPL 1376) & EPA ID # 7 (EPL 1976)	Wambo Road EPA ID # 5 (EPL 1376) & EPA ID # 6 (EPL 1976)	Putty Rd MTIE EPA ID # 8 (EPL 1376) & EPA ID # 9 (EPL 1976)	Warkworth EPA ID # 4 (EPL 1376) & EPA ID # 5 (EPL 1976)	Wollemi Peak Road EPA ID # 7 (EPL 1376) & EPA ID # 8 (EPL 1976)
n49-ble-pr3	2/06/2025 13:14	dB(L)	All Blasts 100%	115	120	100.4	101.6	101.8	97.4	101.3
w39-bfa-wwa-co1	5/06/2025 12:15	dB(L)		115	120	#	#	#	#	#
w38-whe-pr4	5/06/2025 12:16	dB(L)		115	120	99.2	98.4	100.5	99.2	96.0
w41-blf-ps2c	7/06/2025 12:45	dB(L)		115	120	105.2	94.7	112.8	100.2	105.3
w41-wnb-pr4	7/06/2025 12:45	dB(L)		115	120	100.7	97.7	105.5	98.8	100.6
n43-wwa-ptg1	11/06/2025 12:18	dB(L)		115	120	89.6	91.1	99.4	100.8	98.7
n51-wna-pr1	11/06/2025 12:46	dB(L)		115	120	99.6	103.9	102.2	112.3	105.6
n53-rcd-ps1 & w45-wnd-pr1	12/06/2025 14:27	dB(L)		115	120	103.8	110.1	102.3	109.1	100.9
n49-wnd-ps2f	13/06/2025 12:52	dB(L)		115	120	83.1	90.8	83.8	95.4	80.3
w41-wnb-pr5	14/06/2025 12:13	dB(L)		115	120	101.0	103.5	102.1	105.5	100.0
n43-bfb-ps1f	17/06/2025 13:10	dB(L)		115	120	88.7	107.4	105.1	96.9	99.5
w41-skijump-pr3	18/06/2025 12:25	dB(L)		115	120	102.2	105.0	94.0	97.6	100.3
w45-wnd-pr2	19/06/2025 12:10	dB(L)		115	120	95.3	98.1	95.6	92.0	95.9
n49-wnb-pr4 & n49-wnd-ps1g	20/06/2025 12:31	dB(L)		115	120	98.3	102.8	99.8	98.6	98.3

Blast ID	Date and Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point				
				95% of Blasts	100% of Blasts	Bulga Village EPA ID # 6 (EPL 1376) & EPA ID # 7 (EPL 1976)	Wambo Road EPA ID # 5 (EPL 1376) & EPA ID # 6 (EPL 1976)	Putty Rd MTIE EPA ID # 8 (EPL 1376) & EPA ID # 9 (EPL 1976)	Warkworth EPA ID # 4 (EPL 1376) & EPA ID # 5 (EPL 1976)	Wollemi Peak Road EPA ID # 7 (EPL 1376) & EPA ID # 8 (EPL 1976)
w39-bfa-wwa-co2	21/06/2025 13:28	dB(L)		115	120	95.0	97.0	97.5	93.1	96.4
w41-blf-ps2d	23/06/2025 12:15	dB(L)		115	120	102.6	103.9	104.4	94.9	105.0
w39-bfa-wwa-co3	23/06/2025 12:15	dB(L)		115	120	104.1	91.3	103.3	88.2	105.2
n44-bfb-haircut-ptg2	24/06/2025 11:24	dB(L)		115	120	101.5	102.2	101.4	100.3	104.3
w38-whe-co1	26/06/2025 11:52	dB(L)		115	120	94.4	92.6	99.2	96.1	93.9
n43-bfb-md4	28/06/2025 12:23	dB(L)		115	120	103.3	98.4	96.5	102.1	97.2
w41-wnb-pr6	28/06/2025 12:26	dB(L)		115	120	107.8	103.5	95.9	95.7	108.0
n49-wnd-ps1h	30/06/2025 12:12	dB(L)		115	120	82.3	91.5	86.8	90.9	94.2
n49-ble-pr4	30/06/2025 12:13	dB(L)		115	120	92.5	96.7	91.5	94.9	93.6
Monthly Meaningful Data										
Minimum	**June**	**dB(L)**		115	120	82.3	90.8	83.8	88.2	80.3
Mean	**June**	**dB(L)**		115	120	97.7	99.2	99.2	98.2	99.1
Maximum	**June**	**dB(L)**		115	120	107.8	110.1	112.8	112.3	108.0
Median	**June**	**dB(L)**		115	120	100.0	98.4	100.1	97.5	99.8

 # Blast result unavailable as blast vibration was below the threshold to automatically trigger a blast recording. A blast result was available from an onsite Charlton Ridge blast monitor (the closest monitor to this blast, near meteorological station), where overpressure was recorded at 105.2 dB(L). It is likely that the other EPL blast monitors (at further distance) would have recorded a similar or lower result.

TABLE 7: BLAST MONITORING (GROUND VIBRATION)

Blast ID	Date and Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point				
				95% of Blasts	100% of Blasts	Bulga Village EPA ID # 6 (EPL 1376) & EPA ID # 7 (EPL 1976)	Wambo Road EPA ID # 5 (EPL 1376) & EPA ID # 6 (EPL 1976)	Putty Rd MTIE EPA ID # 8 (EPL 1376) & EPA ID # 9 (EPL 1976)	Warkworth EPA ID # 4 (EPL 1376) & EPA ID # 5 (EPL 1976)	Wollemi Peak Road EPA ID # 7 (EPL 1376) & EPA ID # 8 (EPL 1976)
n49-ble-pr3	2/06/2025 13:14	mm/s	All Blasts 100%	5	10	0.38	0.53	0.09	0.50	0.26
w39-bfa-wwa-co1	5/06/2025 12:15	mm/s		5	10	#	#	#	#	#
w38-whe-pr4	5/06/2025 12:16	mm/s		5	10	0.34	0.41	0.07	0.83	0.43
w41-blf-ps2c	7/06/2025 12:45	mm/s		5	10	0.57	0.86	0.07	0.94	0.54
w41-wnb-pr4	7/06/2025 12:45	mm/s		5	10	0.50	0.23	0.04	0.11	0.43
n43-wwa-ptg1	11/06/2025 12:18	mm/s		5	10	0.18	0.22	0.03	0.23	0.13
n51-wna-pr1	11/06/2025 12:46	mm/s		5	10	0.21	0.22	0.04	1.05	0.13
n53-rcd-ps1 & w45-wnd-pr1	12/06/2025 14:27	mm/s		5	10	0.25	0.59	0.05	0.61	0.25
n49-wnd-ps2f	13/06/2025 12:52	mm/s		5	10	0.43	0.84	0.12	0.51	0.34
w41-wnb-pr5	14/06/2025 12:13	mm/s		5	10	0.73	0.30	0.03	0.18	0.50
n43-bfb-ps1f	17/06/2025 13:10	mm/s		5	10	0.65	0.68	0.13	2.88	0.62
w41-skijump-pr3	18/06/2025 12:25	mm/s		5	10	0.26	0.20	0.03	0.24	0.17
w45-wnd-pr2	19/06/2025 12:10	mm/s		5	10	0.84	0.66	0.07	0.33	0.60
n49-wnb-pr4 & n49-wnd-ps1g	20/06/2025 12:31	mm/s		5	10	1.47	2.10	0.15	1.31	1.50

Blast ID	Date and Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point				
				95% of Blasts	100% of Blasts	Bulga Village EPA ID # 6 (EPL 1376) & EPA ID # 7 (EPL 1976)	Wambo Road EPA ID # 5 (EPL 1376) & EPA ID # 6 (EPL 1976)	Putty Rd MTIE EPA ID # 8 (EPL 1376) & EPA ID # 9 (EPL 1976)	Warkworth EPA ID # 4 (EPL 1376) & EPA ID # 5 (EPL 1976)	Wollemi Peak Road EPA ID # 7 (EPL 1376) & EPA ID # 8 (EPL 1976)
w39-bfa-wwa-co2	21/06/2025 13:28	mm/s		5	10	0.18	0.18	0.05	0.18	0.18
w41-blf-ps2d	23/06/2025 12:15	mm/s		5	10	0.07	0.08	0.02	0.86	0.11
w39-bfa-wwa-co3	23/06/2025 12:15	mm/s		5	10	0.86	1.08	0.12	1.63	0.85
n44-bfb-haircut-ptg2	24/06/2025 11:24	mm/s		5	10	0.19	0.21	0.05	0.81	0.15
w38-whe-co1	26/06/2025 11:52	mm/s		5	10	0.04	0.06	0.01	0.62	0.08
n43-bfb-md4	28/06/2025 12:23	mm/s		5	10	1.10	1.25	0.20	2.58	0.81
w41-wnb-pr6	28/06/2025 12:26	mm/s		5	10	0.61	0.40	0.05	0.23	0.60
n49-wnd-ps1h	30/06/2025 12:12	mm/s		5	10	0.48	1.22	0.10	0.67	0.36
n49-ble-pr4	30/06/2025 12:13	mm/s		5	10	0.12	0.18	0.03	0.18	0.10
Monthly Meaningful Data										
Minimum	**June**	**mm/s**		5	10	0.04	0.06	0.01	0.11	0.08
Mean	**June**	**mm/s**		5	10	0.48	0.57	0.07	0.79	0.42
Maximum	**June**	**mm/s**		5	10	1.47	2.10	0.20	2.88	1.50
Median	**June**	**mm/s**		5	10	0.41	0.41	0.05	0.62	0.35

 # Blast result unavailable as blast vibration was below the threshold to automatically trigger a blast recording. A blast result was available from an onsite Charlton Ridge blast monitor (the closest monitor to this blast, near meteorological station), where vibration was recorded at 0.10 mm/s. It is likely that the other EPL blast monitors (at further distance) would have recorded a similar or lower result.

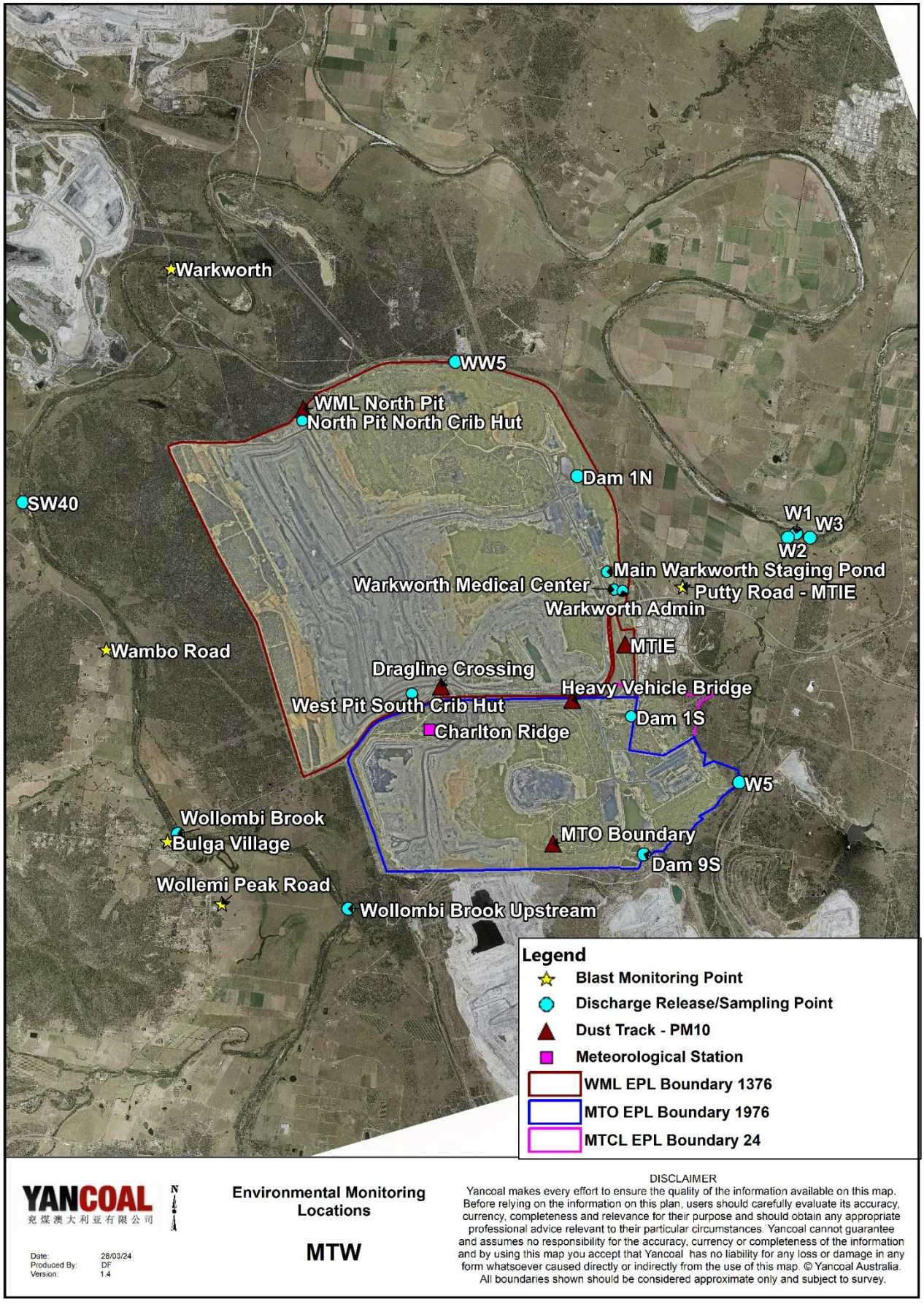

Figure 1 : Mount Thorley Warkworth Environmental Monitoring Locations