

DATE OF ISSUE: 13/05/24

REPORT NO: WN240816

Water Analysis Report

REPORT NO:	WN240816	ISSUE DATE:	13/05/24
DATE SAMPLES RECEIVED:	22/04/24	PURCHASE ORDER:	
SAMPLES RECEIVED:	1	COMMENT:	Results relate only to items tested.

SUBMITTER:	Donna McPherson
COMPANY:	PIC AUSTRALASIA PTY LTD
ADDRESS:	38 Junee Street (PO Box 39) GRONG GRONG NSW 2652,

METHOD ID	ANALYSIS METHOD
W107	EC, pH, Alkalinity & Chloride in water by autotitrator
C806	Calculations **
W112	Turbidity of water
W125	Anions in Water and Aqueous Extracts by Ion Chromatography
M670	Elements and Metals by ICP-AES
C804	Hardness
C801	Calcium Carbonate Saturation Index
C802	Sodium Adsorption Ratio
W130	Sulfate in water by ICP
W141	Ammonia Nitrogen by FIA
W151	Nitrite Nitrogen by FIA
W153	Oxidised Nitrogen by FIA
W160	Free Reactive Phosphorus in water

REPORT AUTHORISATION

Approved for Release by:



Sarah Morison
Coordinator Analytical Services



Accreditation No. 14173
Accredited for compliance
with ISO/IEC 17025 - Testing



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ANALYSIS RESULTS			
Test Description	LOR	UNITS	1 Eff Dam
pH		pH units	8.0
Electrical Conductivity	10	µS/cm	7,400
TDS _(calc)	6	mg/L	5,000
Turbidity	0.07	NTU	460
Chloride**	5.0	mg/L	710
Calcium	0.03	mg/L	61
Magnesium	0.006	mg/L	11
Hardness	1.0	mg/L CaCO ₃	200
Calcium Carbonate Saturation Index			1.7
Alkalinity	14	mg/L CaCO ₃	3,000
Sodium Adsorption Ratio			9.4
Sulfate	0.3	mg/L	100
Dissolved Sulfur	0.06	mg/L	35
Ammonium Nitrogen	0.02	mg/L	490
Nitrite Nitrogen	0.01	mg/L	0.25
Nitrate Nitrogen	0.02	mg/L	<0.020
Free Reactive Phosphorus	0.008	mg/L	36
Total Aluminium	0.05	mg/L	0.28
Total Arsenic	0.05	mg/L	<0.05
Total Boron	0.05	mg/L	0.72
Total Calcium	0.03	mg/L	110
Total Cadmium	0.01	mg/L	<0.01
Total Cobalt	0.1	mg/L	<0.1
Total Chromium	0.01	mg/L	0.025
Total Copper	0.01	mg/L	0.61
Total Iron	0.01	mg/L	2.8
Total Potassium	0.08	mg/L	870
Total Magnesium	0.01	mg/L	22
Total Manganese	0.01	mg/L	0.60
Total Molybdenum	0.01	mg/L	0.012
Total Sodium	0.07	mg/L	370
Total Nickel	0.007	mg/L	0.057
Total Phosphorus	0.04	mg/L	69
Total Lead	0.03	mg/L	<0.03
Total Sulfur	0.1	mg/L	44
Total Selenium	0.05	mg/L	<0.05
Total Zinc	0.01	mg/L	2.4

LABORATORY NOTES

****NATA Accreditation does not cover the performances of this service.**

Industry recommended holding times from sampling to analysis of pH, EC and turbidity is <24 hours.
This sample exceeded these holding times which may impact the analytical results.

- Results are expressed on an 'as received' basis unless otherwise stated.
- This report should not be reproduced except in full.
- Samples will be retained for 10 working days from the date of the final report. Samples will then be discarded.
- Clients wishing to recover their samples must contact the laboratory within this period.
- This laboratory will return residual samples at client expense.

PIC Grong Grong Pig Accommodation - Environmental Protection Licence 5471 (licence version date 31 July 2023)

Monitoring period 1 November 2023 to 8 August 2024

Point 2 - Groundwater quality monitoring bore identified as P3 A (six monthly groundwater monitoring)

Parameters	Units	Nov-23	Feb-24	Apr-24	Average
Conductivity	µS/cm	23800	-	17200	20500
Nitrate	mg/L	10.3	-	33.8	22.05
Nitrite	mg/L	0.11	-	0.05	0.08
Nitrogen (ammonia)	mg/L	0.04	-	0.01	0.025
Nitrogen (total)	mg/L	12.2	-	38.3	25.25
pH		7.77	-	7.96	7.865
Phosphorus	mg/L	0.20	-	0.1	0.15
Potassium	mg/L	44	-	63	53.5
Sodium	mg/L	4560	-	3060	3810
Standing water level	mBTOC	3.15	3.12	3.57	3.36
Standing water level	mAHD	149.95	149.98	149.53	149.74
Total dissolved solids	mg/L	18900	-	10600	14750

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Monitoring period 1 November 2023 to 8 August 2024

Point 3 - Groundwater quality monitoring bore identified as P5 A (six monthly groundwater monitoring)

Parameters	Units	Nov-23	Feb-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24
Conductivity	µS/cm	Dry	-	Dry	-	-	-	-	-	-
Nitrate	mg/L	Dry	-	Dry	-	-	-	-	-	-
Nitrite	mg/L	Dry	-	Dry	-	-	-	-	-	-
Nitrogen (ammonia)	mg/L	Dry	-	Dry	-	-	-	-	-	-
Nitrogen (total)	mg/L	Dry	-	Dry	-	-	-	-	-	-
pH		Dry	-	Dry	-	-	-	-	-	-
Phosphorus	mg/L	Dry	-	Dry	-	-	-	-	-	-
Potassium	mg/L	Dry	-	Dry	-	-	-	-	-	-
Sodium	mg/L	Dry	-	Dry	-	-	-	-	-	-
Standing water level	mBTOC	Dry	2.95	Dry	-	-	-	-	-	-
Standing water level	mAHD	Dry	148.88	Dry	-	-	-	-	-	-
Total dissolved solids	mg/L	Dry	-	Dry	-	-	-	-	-	-

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Monitoring period 1 November 2023 to 8 August 2024

Point 4 - Groundwater quality monitoring bore identified as P1 A (six monthly groundwater monitoring)

Parameters	Units	Nov-23	Feb-24	Apr-24	Average
Conductivity	µS/cm	32300	-	34600	33450
Nitrate	mg/L	0.73	-	2.81	1.77
Nitrite	mg/L	0.06	-	0.01	0.035
Nitrogen (ammonia)	mg/L	0.11	-	0.14	0.125
Nitrogen (total)	mg/L	1.3	-	3.2	2.25
pH	pH	7.58	-	7.59	7.585
Phosphorus	mg/L	0.11	-	0.06	0.085
Potassium	mg/L	92	-	151	121.5
Sodium	mg/L	6240	-	6440	6340
Standing water level	mBTOC	2.8	2.49	2.77	2.785
Standing water level	mAHD	152.33	152.64	152.36	152.345
Total dissolved solids	mg/L	31800	-	25100	28450

PIC Grong Grong Pig Accommodation - Environmental Protection Licence 5471 (licence version date 31 July 2023)						
Monitoring period 1 November 2023 to 8 August 2024						
Point 5 - Groundwater quality monitoring bore identified as PZ A (six monthly groundwater monitoring)						
Parameters	Units	Nov-23	Feb-24	Apr-24	Average	
Conductivity	µS/cm	30400	-	23100	26750	
Nitrate	mg/L	1.29	-	78.5	39.895	
Nitrite	mg/L	0.01	-	0.4	0.205	
Nitrogen (ammonia)	mg/L	0.19	-	0.01	0.1	
Nitrogen (total)	mg/L	2.5	-	89.9	46.2	
pH		7.69	-	7.82	7.755	
Phosphorus	mg/L	0.72	-	0.13	0.425	
Potassium	mg/L	65	-	98	81.5	
Sodium	mg/L	6730	-	4190	5460	
Standing water level	mBTOC	2.04	1.69	1.76	1.9	
Standing water level	mAHD	151.04	151.39	151.32	151.18	
Total dissolved solids	mg/L	27400	-	14400	20900	

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Monitoring period 1 November 2023 to 8 August 2024						
Point 6 - Groundwater quality monitoring bore identified as P3 B (six monthly groundwater monitoring)						
Parameters	Units	Nov-23	Feb-24	Apr-24	Average	
Conductivity	µS/cm	29300	-	21600	25450	
Nitrate	mg/L	6.35	-	24	15.175	
Nitrite	mg/L	0.33	-	0.01	0.17	
Nitrogen (ammonia)	mg/L	0.20	-	0.01	0.105	
Nitrogen (total)	mg/L	20.3	-	32.8	26.55	
pH		7.57	-	7.87	7.72	
Phosphorus	mg/L	12.1	-	6.08	9.09	
Potassium	mg/L	53	-	79	66	
Sodium	mg/L	5730	-	3910	4820	
Standing water level	mBTOC	3.35	3.12	3.52	3.435	
Standing water level	mAHID	149.73	149.96	149.56	149.645	
Total dissolved solids	mg/L	21500	-	14100	17800	

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Monitoring period 1 November 2023 to 8 August 2024						
Point 7 - Groundwater quality monitoring bore identified as P5 B (six monthly groundwater monitoring)						
Parameters	Units	Nov-23	Feb-24	Apr-24	Average	
Conductivity	µS/cm	2580	-	1550	2065	
Nitrate	mg/L	30.2	-	32.6	31.4	
Nitrite	mg/L	0.41	-	0.03	0.22	
Nitrogen (ammonia)	mg/L	0.99	-	0.01	0.5	
Nitrogen (total)	mg/L	72.2	-	38.2	55.2	
pH		7.72	-	7.85	7.785	
Phosphorus	mg/L	46.5	-	5.17	25.835	
Potassium	mg/L	13	-	16	14.5	
Sodium	mg/L	330	-	173	251.5	
Standing water level	mBTOC	3.11	3.24	3.15	3.13	
Standing water level	mAHD	148.70	148.57	148.66	148.68	
Total dissolved solids	mg/L	6390	-	1050	3720	

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Monitoring period 1 November 2023 to 8 August 2024

Point 8 - Groundwater quality monitoring bore identified as P4-A (six monthly groundwater monitoring)

Parameters	Units	Nov-23	Feb-24	Apr-24	Average
Conductivity	µS/cm	10300	-	12900	11600
Nitrate	mg/L	21.2	-	29.2	25.2
Nitrite	mg/L	<0.01	-	<0.01	#VALUE!
Nitrogen (ammonia)	mg/L	0.03	-	<0.01	#VALUE!
Nitrogen (total)	mg/L	24.2	-	30.2	27.2
pH		7.92	-	7.94	7.93
Phosphorus	mg/L	0.44	-	0.51	0.475
Potassium	mg/L	11	-	19	15
Sodium	mg/L	1690	-	1970	1830
Standing water level	mBTOC	3.35	3.17	3.23	3.29
Standing water level	mAHD	148.56	148.72	148.66	148.61
Total dissolved solids	mg/L	7810	-	8310	8060

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Monitoring period 1 November 2023 to 8 August 2024						
Point 9 - Groundwater quality monitoring bore identified as P4 B (six monthly groundwater monitoring)						
Parameters	Units	Nov-23	Feb-24	Apr-24	Average	
Conductivity	µS/cm	6960	-	10100	8530	
Nitrate	mg/L	15.3	-	23.5	19.4	
Nitrite	mg/L	0.04	-	<0.01	#VALUE!	
Nitrogen (ammonia)	mg/L	0.15	-	0.02	0.085	
Nitrogen (total)	mg/L	20.3	-	24.7	22.5	
pH		8.09	-	7.96	8.025	
Phosphorus	mg/L	2.07	-	0.7	1.385	
Potassium	mg/L	11	-	17	14	
Sodium	mg/L	1700	-	1580	1640	
Standing water level	mBTOC	3.17	3.18	3.13	3.15	
Standing water level	mAHD	148.72	148.73	148.78	148.75	
Total dissolved solids	mg/L	5530	-	6220	5875	