RESULTS OF WATER ANALYSIS

9 samples supplied by Ecoteam on 11/03/2024. Lab Job No. R1636.

Samples submitted by [redacted] Your Job: SMC010-Blakebrook WQ - Groundwater - March 24

13 Ewing Street LISMORE NSW 2480

Parameter	Methods reference	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8	Sample 9
		BQN1-B	BQN1-A	BQN1-D	BQN2-B	BQN2-A	BQN2-D	BQS1-S	BQS1-I	BQS1-D
	Job No.	R1636/1	R1636/2	R1636/3	R1636/4	R1636/5	R1636/6	R1636/7	R1636/8	R1636/9
Total Alkalinity (mg/L $CaCO_3$ equivalent)	** Total Alkalinity - APHA 2320	231	86	122	107	154	337	115	369	134
Water Hardness (mg/L $CaCO_3$ equivalent)	** Using Ca and Mg calculation	136	72	24	60	78	11	68	156	42
Total Oils and Grease (mg/L)	APHA 5520-D (hexane extractable)	<2	<2	<2	<2	<2	4	<2	2	4
Sodium (mg/L)	APHA 3125 ICPMS note 1&2	160	316	273	170	74.3	209	38.6	109	349
Potassium (mg/L)	APHA 3125 ICPMS note 1&2	3.68	7.65	2.42	7.80	4.28	1.79	3.29	5.14	4.19
Calcium (mg/L)	APHA 3125 ICPMS note 1&2	24.2	25.1	8.47	23.1	17.7	3.34	16.7	40.8	13.3
Magnesium (mg/L)	APHA 3125 ICPMS note 1&2	18.4	2.19	0.76	0.48	8.19	0.65	6.41	13.2	2.00
Sodium Absorption Ratio (SAR)	** By calculation	6.0	16.2	24.1	9.5	3.7	27.3	2.0	3.8	23.5
Chloride (mg/L)	APHA 3125 ICPMS note 1&2	271	566	403	324	138	156	89.1	63.3	470
Sulfate (mg/L SO_4^{2-})	APHA 3125 ICPMS note 1&2	123	125	162	123	117	122	106	105	141
Chloride/Sulfate Ratio	** Calculation	2.2	4.5	2.5	2.6	1.2	1.3	0.8	0.6	3.3
Iron (mg/L)	Total Available - APHA 3125 ICPMS note 1&2	0.948	0.023	0.567	0.060	0.038	0.015	0.126	0.304	0.093
Lead (mg/L)	Total Available - APHA 3125 ICPMS note 1&2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (mg/L)	Dissolved - APHA 3125 ICPMS note 1&2	0.333	0.006	0.007	0.007	0.007	0.007	0.009	0.007	0.013
Lead (mg/L)	Dissolved - APHA 3125 ICPMS note 1&2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
BTEX										
Benzene (µg/L)	Subcontracted: SGS report SE 262096	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene (µg/L)	Subcontracted: SGS report SE 262096	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene (µg/L)	Subcontracted: SGS report SE 262096	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene (µg/L)	Subcontracted: SGS report SE 262096	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-xylene (µg/L)	Subcontracted: SGS report SE 262096	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes (µg/L)	Subcontracted: SGS report SE 262096	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX (µg/L)	Subcontracted: SGS report SE 262096	<3	<3	<3	<3	<3	<3	<3	<3	<3
Naphthalene (VOC) (µg/L)	Subcontracted: SGS report SE 262096	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Recoverable Hydrocarbons (TRH)										
TRH C6-C9 (µg/L)	Subcontracted: SGS report SE 262096	<40	<40	<40	<40	<40	<40	<40	<40	<40
Benzene (F0) (µg/L)	Subcontracted: SGS report SE 262096	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10 (µg/L)	Subcontracted: SGS report SE 262096	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1) (µg/L)	Subcontracted: SGS report SE 262096	<50	<50	<50	<50	<50	<50	<50	<50	<50
LLTRH C10-C14 (µg/L)	Subcontracted: SGS report SE 262096	<50	<50	<50	<50	<50	<50	<50	<50	<50
LLTRH C15-C28 (µg/L)	Subcontracted: SGS report SE 262096	<100	<100	<100	<100	<100	<100	<100	<100	130
LLTRH C29-C36 (µg/L)	Subcontracted: SGS report SE 262096	<50	<50	<50	<50	<50	<50	<50	<50	64
LLTRH >C10-C16 (µg/L)	Subcontracted: SGS report SE 262096	<50	<50	<50	<50	<50	<50	<50	<50	100
LLTRH >C16-C34 (F3) (µg/L)	Subcontracted: SGS report SE 262096	<100	<100	<100	<100	<100	<100	<100	<100	130
LLTRH >C34-C40 (F4) (µg/L)	Subcontracted: SGS report SE 262096	<100	<100	<100	<100	<100	<100	<100	<100	<100
TRH Sum C10-C36 (µg/L)	Subcontracted: SGS report SE 262096	<100	<100	<100	<100	<100	<100	<100	<100	240
LLTRH C37-C40 (µg/L)	Subcontracted: SGS report SE 262096	<100	<100	<100	<100	<100	<100	<100	<100	<100
TRH C10-C14-Silica (µg/L)	Subcontracted: SGS report SE 262096A	..	..	..	..	..	..	..	..	<50
TRH C15-C28-Silica (µg/L)	Subcontracted: SGS report SE 262096A	..	..	..	..	..	..	..	..	<200
TRH C29-C36-Silica (µg/L)	Subcontracted: SGS report SE 262096A	..	..	..	..	..	..	..	..	<200
TRH C37-C40-Silica (µg/L)	Subcontracted: SGS report SE 262096A	..	..	..	..	..	..	..	..	<200
TRH >C10-C16-Silica (µg/L)	Subcontracted: SGS report SE 262096A	..	..	..	..	..	..	..	..	<60
TRH >C16-C34-Silica (µg/L)	Subcontracted: SGS report SE 262096A	..	..	..	..	..	..	..	..	<500
TRH >C34-C40-Silica (µg/L)	Subcontracted: SGS report SE 262096A	..	..	..	..	..	..	..	..	<500
TRH Sum C10-C36-Silica (µg/L)	Subcontracted: SGS report SE 262096A	..	..	..	..	..	..	..	..	<225
TRH Sum C10-C40-Silica (µg/L)	Subcontracted: SGS report SE 262096A	..	..	..	..	..	..	..	..	<320

Notes:

1. Total metals - samples digested with nitric acid; Total available (acid soluble/ extractable) metals - samples acidified wi h nitric acid to pH <2;
   Dissolved metals - samples filtered through 0.45µm cellulose acetate and hen acidified with nitric acid prior to analysis
2. Metals and salts analysed by Inductively Coupled Plasma - Mass Spectrometry (ICP-MS).
3. 1 mg/L (milligram per litre) = 1 ppm (part per million) = 1000 µg/L (micrograms per litre) = 1000 ppb (part per billion).
4. For conductivity 1 dS/m = 1 mS/cm = 1000 µS/cm.
5. Analysis performed according to APHA (2017) 'Standard Methods for the Examination of Water & Wastewater', 23rd Edition, except where stated otherwise.
6. Analysis conducted between sample arrival date and reporting date.
7. ** NATA accreditation does not cover the performance of this service.
8. .. Denotes not requested.
9. This report is not to be reproduced except in full.
10. All services undertaken by EAL are covered by the EAL Laboratory Services Terms and Conditions (refer scu.edu.au/eal or on request).
11. Results relate only to the samples tested.
12. This report was re-issued on 5/04/2024 and replaces the report issued on 4/04/2024. pH and EC removed at clients' request.

NATA
Accreditation No. 14060
Accredited for compliance with ISO/IEC 17025 - Testing

[redacted]
Laboratory Manager

BLAKEBROOK QUARRY- GROUNDWATER QUALITY ASSESSMENT

Sampling Observations- March 2024.

Sample Information	Blakebrook Quarry Groundwater Well Sampling Information								
	SOUTH			NORTH 1			NORTH 2		
Site Name	**BQS1S**	**BQS1I**	**BQS1D**	**BQN1B**	**BQN1A**	**BQN1D**	**BQN2B**	**BQN2A**	**BQN2D**
Well Type	**Shallow**	**Intermediate**	**Deep**	**Shallow**	**Intermediate**	**Deep**	**Shallow**	**Intermediate**	**Deep**
Date	08/03/24	08/03/24	08/03/24	08/03/24	08/03/24	08/03/24	08/03/24	08/03/24	08/03/24
Time	10:50	11:30	11:50	12:50	13:55	13:00	9:50	8:30	8:40
Recorded Depth 1	23.77	47.8	78.54	7.42	46.30	100.14	29.15	29.96	87.58
Recorded Depth 2	24.12	48.38	78.44	7.62	46.10	100.86	29.54	30.10	87.60
Level Meter Calibrated	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Battery Level	50%	50%	50%	50%	50%	50%	50%	50%	50%
Memory Level	78%	78%	78%	75%	71%	81%	81%	84%	81%
Sample Method	Bottom filling bailer from screen zone	Bottom filling bailer from screen zone	Hydro sleeve bailer from screen zone	12-volt submersible pump	Bottom filling bailer from screen zone	Hydro sleeve bailer from screen zone	Bottom filling bailer from screen zone	Bottom filling bailer from screen zone	Hydro sleeve bailer from screen zone
Odour	Not Present	Not Present	Present- Sulfur	Not Present	Not Present	Not Present	Not Present	Not Present	Present- Sulfur
Site/Water Observations	Clear	Clear	Clear, small particles	Clear	Clear	Clear, small particles	Clear	Clear	Clear
Fresh Water WQOs	**Water Quality Observations**								
pH	7.05	7.26	7.84	7.01	10.66	8.47	10.86	7.79	8.45
EC dS/m	0.24	0.55	1.34	0.80	1.42	1.06	0.84	0.39	0.77
DO (%)	65.93	62.82	50.65	6.91	73.29	57.17	59.15	86.28	52.06
Temperature (°C)	22.86	23.16	23.43	20.61	23.30	22.91	22.33	22.27	23.06
ORP	159.93	101.77	23.15	-17.9	42.3	44.8	78.50	98.88	90.83

RESULTS OF WATER ANALYSIS

9 samples supplied by Ecoteam on 12/06/2024. Lab Job No. R5354.
Samples submitted by [redacted] Your Job: SMC010-Blakebrook WQ GW June 24
13 Ewing Street LISMORE NSW 2480

Parameter	Methods reference	Sample 1 BQN1-B 11/06/24	Sample 2 BQN1-A 11/06/24	Sample 3 BQN1-D 11/06/24	Sample 4 BQN2-B 11/06/24
	Job No.	*R5354/1*	*R5354/2*	*R5354/3*	*R5354/4*
Total Alkalinity (mg/L $CaCO_3$ equivalent)	** Total Alkalinity - APHA 2320	231	199	140	157
Water Hardness (mg/L $CaCO_3$ equivalent)	** Using Ca and Mg calculation	167	223	59	85
Total Oils and Grease (mg/L)	APHA 5520-D (hexane extractable)	<2	<2	22	10
Sodium (mg/L)	APHA 3125 ICPMS[note 1&2]	189	342	304	234
Potassium (mg/L)	APHA 3125 ICPMS[note 1&2]	4.49	9.76	3.84	7.16
Calcium (mg/L)	APHA 3125 ICPMS[note 1&2]	31.2	81.8	18.9	24.8
Magnesium (mg/L)	APHA 3125 ICPMS[note 1&2]	21.6	4.58	2.87	5.67
Sodium Absorption Ratio (SAR)	** By calculation	6.36	9.94	17.2	11.0
Chloride (mg/L)	APHA 3125 ICPMS[note 1&2]	222	494	325	299
Sulfate (mg/L SO_4^{2-})	APHA 3125 ICPMS[note 1&2]	32.3	47.6	75.3	47.5
Chloride/Sulfate Ratio	** Calculation	6.88	10.4	4.32	6.30
Iron (mg/L)	Total Available - APHA 3125 ICPMS[note 1&2]	2.07	0.211	4.68	0.271
Lead (mg/L)	Total Available - APHA 3125 ICPMS[note 1&2]	<0.001	0.006	0.004	0.002
Iron (mg/L)	Dissolved - APHA 3125 ICPMS[note 1&2]	0.160	<0.005	0.010	<0.005
Lead (mg/L)	Dissolved - APHA 3125 ICPMS[note 1&2]	<0.001	<0.001	<0.001	<0.001
BTEX					
Benzene (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5
Toluene (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5
Ethylbenzene (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5
m/p-xylene (µg/L)	Subcontracted: SGS report SE 266752	<1	<1	<1	<1
o-xylene (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5
Total Xylenes (µg/L)	Subcontracted: SGS report SE 266752	<1.5	<1.5	<1.5	<1.5
Total BTEX (µg/L)	Subcontracted: SGS report SE 266752	<3	<3	<3	<3
Naphthalene (VOC) (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5
Total Recoverable Hydrocarbons (TRH)					
TRH C6-C9 (µg/L)	Subcontracted: SGS report SE 266752	<40	<40	<40	<40
Benzene (F0) (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5
TRH C6-C10 (µg/L)	Subcontracted: SGS report SE 266752	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1) (µg/L)	Subcontracted: SGS report SE 266752	<50	<50	<50	<50
LLTRH C10-C14 (µg/L)	Subcontracted: SGS report SE 266752	<50	<50	<50	<50
LLTRH C15-C28 (µg/L)	Subcontracted: SGS report SE 266752	<100	<100	<100	<100
LLTRH C29-C36 (µg/L)	Subcontracted: SGS report SE 266752	<50	<50	<50	<50
LLTRH >C10-C16 (µg/L)	Subcontracted: SGS report SE 266752	<50	<50	<50	<50
LLTRH >C16-C34 (F3) (µg/L)	Subcontracted: SGS report SE 266752	<100	<100	<100	<100
LLTRH >C34-C40 (F4) (µg/L)	Subcontracted: SGS report SE 266752	<100	<100	<100	<100
TRH Sum C10-C36 (µg/L)	Subcontracted: SGS report SE 266752	<100	<100	<100	<100
LLTRH C37-C40 (µg/L)	Subcontracted: SGS report SE 266752	<100	<100	<100	<100
TRH C10-C14-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	..
TRH C15-C28-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	..
TRH C29-C36-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	..
TRH C37-C40-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	..
TRH >C10-C16-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	..
TRH >C16-C34-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	..
TRH >C34-C40-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	..
TRH Sum C10-C36-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	..
TRH Sum C10-C40-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	..

Notes:

1. Total metals - samples digested with nitric acid; Total available (acid soluble/ extractable) metals - samples acidified with nitric acid to pH <2;
   Dissolved metals - samples filtered hrough 0.45µm cellulose acetate and then acidified with nitric acid prior to analysis
2. Metals and salts analysed by Inductively Coupled Plasma - Mass Spectrometry (ICP-MS).
3. 1 mg/L (milligram per litre) = 1 ppm (part per million) = 1000 µg/L (micrograms per litre) = 1000 ppb (part per billion).
4. For conductivity 1 dS/m = 1 mS/cm = 1000 µS/cm.
5. Analysis performed according to APHA (2017) 'Standard Methods for the Examination of Water & Wastewater', 23rd Edition, except where stated otherwise.
6. Analysis conducted between sample arrival date and reporting date.
7. ** NATA accreditation does not cover the performance of this service.
8. .. Denotes not requested.
9. This report is not to be reproduced except in full.
10. All services undertaken by EAL are covered by the EAL Laboratory Services Terms and Conditions (refer scu.edu.au/eal or on request).
11. Results relate only to the samples tested.
12. This report was re-issued on 02/07/2024 and replaces the report issued on 28/06/2024.

NATA
Accreditation No. 14060
Accredited for compliance with ISO/IEC 17025 - Testing

[redacted]
checked: .....
Graham Lancaster
Laboratory Manager

RESULTS OF WATER ANALYSIS

9 samples supplied by Ecoteam on 12/06/2024. Lab Job No. R5354.
Samples submitted by [redacted] Your Job: SMC010-Blakebrook WQ GW June 24
13 Ewing Street LISMORE NSW 2480

Parameter	Methods reference	Sample 5 BQN2-A 11/06/24	Sample 6 BQN2-D 11/06/24	Sample 7 BQS1-S 11/06/24	Sample 8 BQS1-I 11/06/24	Sample 9 BQS1-D 11/06/24
	Job No.	*R5354/5*	*R5354/6*	*R5354/7*	*R5354/8*	*R5354/9*
Total Alkalinity (mg/L $CaCO_3$ equivalent)	** Total Alkalinity - APHA 2320	186	344	127	384	129
Water Hardness (mg/L $CaCO_3$ equivalent)	** Using Ca and Mg calculation	70	14	83	180	44
Total Oils and Grease (mg/L)	APHA 5520-D (hexane extractable)	20	13	<2	<2	<2
Sodium (mg/L)	APHA 3125 ICPMS[Note 1&2]	64.1	237	45.7	117	392
Potassium (mg/L)	APHA 3125 ICPMS[Note 1&2]	3.37	2.33	3.98	6.42	4.49
Calcium (mg/L)	APHA 3125 ICPMS[Note 1&2]	16.7	4.72	21.5	49.5	14.3
Magnesium (mg/L)	APHA 3125 ICPMS[Note 1&2]	6.79	0.512	7.02	13.7	2.06
Sodium Absorption Ratio (SAR)	** By calculation	3.34	27.7	2.18	3.79	25.6
Chloride (mg/L)	APHA 3125 ICPMS[Note 1&2]	44.3	116	30.0	36.7	471
Sulfate (mg/L SO_4^{2-})	APHA 3125 ICPMS[Note 1&2]	37.0	48.1	32.4	29.2	70.6
Chloride/Sulfate Ratio	** Calculation	1.20	2.41	0.924	1.26	6.67
Iron (mg/L)	Total Available - APHA 3125 ICPMS[Note 1&2]	0.489	0.252	0.161	3.12	0.112
Lead (mg/L)	Total Available - APHA 3125 ICPMS[Note 1&2]	0.006	0.005	0.001	0.001	<0.001
Iron (mg/L)	Dissolved - APHA 3125 ICPMS[Note 1&2]	0.006	<0.005	0.006	0.009	<0.005
Lead (mg/L)	Dissolved - APHA 3125 ICPMS[Note 1&2]	<0.001	<0.001	<0.001	<0.001	<0.001
BTEX						
Benzene (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene (µg/L)	Subcontracted: SGS report SE 266752	<1	<1	<1	<1	<1
o-xylene (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes (µg/L)	Subcontracted: SGS report SE 266752	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX (µg/L)	Subcontracted: SGS report SE 266752	<3	<3	<3	<3	<3
Naphthalene (VOC) (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5	<0.5
Total Recoverable Hydrocarbons (TRH)						
TRH C6-C9 (µg/L)	Subcontracted: SGS report SE 266752	<40	<40	<40	71.0	<40
Benzene (F0) (µg/L)	Subcontracted: SGS report SE 266752	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10 (µg/L)	Subcontracted: SGS report SE 266752	<50	<50	<50	69.0	<50
TRH C6-C10 minus BTEX (F1) (µg/L)	Subcontracted: SGS report SE 266752	<50	<50	<50	69.0	<50
LLTRH C10-C14 (µg/L)	Subcontracted: SGS report SE 266752	<50	<50	<50	<50	55.0
LLTRH C15-C28 (µg/L)	Subcontracted: SGS report SE 266752	<100	<100	<100	<100	<100
LLTRH C29-C36 (µg/L)	Subcontracted: SGS report SE 266752	<50	<50	<50	<50	120
LLTRH >C10-C16 (µg/L)	Subcontracted: SGS report SE 266752	<50	<50	<50	<50	78.0
LLTRH >C16-C34 (F3) (µg/L)	Subcontracted: SGS report SE 266752	<100	<100	<100	<100	140
LLTRH >C34-C40 (F4) (µg/L)	Subcontracted: SGS report SE 266752	<100	<100	<100	<100	<100
TRH Sum C10-C36 (µg/L)	Subcontracted: SGS report SE 266752	<100	<100	<100	<100	240
LLTRH C37-C40 (µg/L)	Subcontracted: SGS report SE 266752	<100	<100	<100	<100	<100
TRH C10-C14-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	<50	..
TRH C15-C28-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	<200	..
TRH C29-C36-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	<200	..
TRH C37-C40-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	<200	..
TRH >C10-C16-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	<60	..
TRH >C16-C34-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	<500	..
TRH >C34-C40-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	<500	..
TRH Sum C10-C36-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	<225	..
TRH Sum C10-C40-Silica (µg/L)	Subcontracted: SGS report SE 266752	..	..	..	<320	..

Notes:

1. Total metals - samples digested with nitric acid; Total available (acid soluble/ extractable) metals - samples acidified with nitric acid to
   Dissolved metals - samples filtered through 0.45µm cellulose acetate and then acidified with nitric acid prior to analysis
2. Metals and salts analysed by Inductively Coupled Plasma - Mass Spectrometry (ICP-MS).
3. 1 mg/L (milligram per litre) = 1 ppm (part per million) = 1000 µg/L (micrograms per litre) = 1000 ppb (part per billion).
4. For conductivity 1 dS/m = 1 mS/cm = 1000 µS/cm.
5. Analysis performed according to APHA (2017) 'Standard Methods for he Examination of Water & Wastewater', 23rd Edition, except wi
6. Analysis conducted between sample arrival date and reporting date.
7. ** NATA accreditation does not cover the performance of his service.
8. .. Denotes not requested.
9. This report is not to be reproduced except in full.
10. All services undertaken by EAL are covered by the EAL Laboratory Services Terms and Conditions (refer scu.edu.au/eal or on reques
11. Results relate only to the samples tested.
12. This report was re-issued on 02/07/2024 and replaces the report issued on 28/06/2024.

[redacted]
Laboratory Manager

BLAKEBROOK QUARRY- GROUNDWATER QUALITY ASSESSMENT

Sampling Observations- June 2024.

Sample Information	Blakebrook Quarry Groundwater Well Sampling Information								
	SOUTH			NORTH 1			NORTH 2		
Site Name	**BQS1S**	**BQS1I**	**BQS1D**	**BQN1B**	**BQN1A**	**BQN1D**	**BQN2B**	**BQN2A**	**BQN2D**
Well Type	**Shallow**	**Intermediate**	**Deep**	**Shallow**	**Intermediate**	**Deep**	**Shallow**	**Intermediate**	**Deep**
Date	11/06/24	11/06/24	11/06/24	11/06/24	11/06/24	11/06/24	11/06/24	11/06/24	11/06/24
Time	13:50	13:00	13:20	15:20	15:50	15:10	11:30	12:30	12:00
Recorded Depth 1	17.35	48.40	80.88	6.15	45.97	100.09	29.24	30.05	87.40
Recorded Depth 2	17.95	48.88	80.89	6.41	45.96	100.09	29.59	30.88	87.50
Level Meter Calibrated	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Battery Level	48%	48%	48%	48%	48%	48%	49%	48%	48%
Memory Level	77%	75%	75%	75%	81%	68%	76%	78%	80%
Sample Method	Bottom filling bailer from screen zone	Bottom filling bailer from screen zone	Hydro sleeve bailer from screen zone	12-volt submersible pump	Bottom filling bailer from screen zone	Hydro sleeve bailer from screen zone	Bottom filling bailer from screen zone	Bottom filling bailer from screen zone	Hydro sleeve bailer from screen zone
Odour	Not Present	Not Present	Present- Sulfur	Not Present	Not Present	Not Present	Not Present	Not Present	Not Present
Site/Water Observations	Clear	Clear	Clear, small particles	Clear	Clear	Clear, small particles	Milky	Clear	Clear
Fresh Water WQOs	**Water Quality Observations**								
pH	7.07	7.03	7.57	6.84	11.02	8.45	8.84	7.13	8.68
EC dS/m	0.30	0.66	1.64	1.01	1.82	1.29	1.15	0.36	0.86
DO (%)	77.01	58.72	66.36	10.65	69.91	64.55	36.41	83.61	60.14
Temperature (°C)	21.51	22.30	21.48	20.51	20.66	21.11	18.79	20.33	20.64
ORP	78.50	55.07	-54.64	-35.01	29.80	70.39	80.40	108.70	82.26

RESULTS OF WATER ANALYSIS

9 samples supplied by Ecoteam on 5/09/2024. Lab Job No. R8561.
Samples submitted by [redacted] Your Job: SMC010-Blakebrrok WQ-Groundwater- Sept24
13 Ewing Street LISMORE NSW 2480

Parameter	Methods reference	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8	Sample 9
		BQN1-B	BQN1-A	BQN1-D	BQN2-B	BQN2-A	BQN2-D	BQS1-S	BQS1-I	BQS1-D
	Job No.	R8561/1	R8561/2	R8561/3	R8561/4	R8561/5	R8561/6	R8561/7	R8561/8	R8561/9
Total Alkalinity (mg/L $CaCO_3$ equivalent)	** Total Alkalinity - APHA 2320	235	167	134	121	194	337	164	380	137
Water Hardness (mg/L $CaCO_3$ equivalent)	** Using Ca and Mg calculation	155	210	49	69	131	11	92	141	47
Total Oils and Grease (mg/L)	APHA 5520-D (hexane extractable)	..	2.50	..	..	3.60	<2	2.60	4.00	5.30
Oil and Grease (mg/L)	Subcontracted: SGS report SE 270779	<5	..	<5	<5	..	..	..	..	..
Sodium (mg/L)	APHA 3125 ICPMS[Note 1&2]	177	323	283	195	90.6	223	45.3	136	343
Potassium (mg/L)	APHA 3125 ICPMS[Note 1&2]	4.22	9.47	3.26	8.98	5.88	2.32	4.08	5.48	4.12
Calcium (mg/L)	APHA 3125 ICPMS[Note 1&2]	29.9	71.0	13.0	26.5	34.3	3.68	23.1	39.0	15.5
Magnesium (mg/L)	APHA 3125 ICPMS[Note 1&2]	19.4	7.98	4.00	0.686	11.0	0.538	8.27	10.6	1.94
Sodium Absorption Ratio (SAR)	** By calculation	6.2	9.7	17.6	10.2	3.4	28.8	2.1	5.0	21.8
Chloride (mg/L)	APHA 3125 ICPMS[Note 1&2]	208	453	306	223	73.8	108	28.0	47.4	437
Sulfate (mg/L SO_4^{2-})	APHA 3125 ICPMS[Note 1&2]	18.0	30.1	62.2	30.9	22.5	26.7	15.4	11.6	45.8
Chloride/Sulfate Ratio	** Calculation	11.5	15.0	4.93	7.23	3.28	4.05	1.82	4.07	9.55
Iron (mg/L)	Total Available - APHA 3125 ICPMS[Note 1&2]	2.18	2.09	7.27	0.241	0.149	0.123	0.238	0.841	0.128
Lead (mg/L)	Total Available - APHA 3125 ICPMS[Note 1&2]	<0.001	0.003	0.003	0.002	0.005	0.002	0.001	<0.001	<0.001
Iron (mg/L)	Dissolved - APHA 3125 ICPMS[Note 1&2]	1.15	<0.005	0.013	0.010	0.007	0.009	0.007	0.024	0.011
Lead (mg/L)	Dissolved - APHA 3125 ICPMS[Note 1&2]	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
BTEX										
Benzene (µg/L)	Subcontracted: SGS report SE 270788	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene (µg/L)	Subcontracted: SGS report SE 270788	<0.5	4.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene (µg/L)	Subcontracted: SGS report SE 270788	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene (µg/L)	Subcontracted: SGS report SE 270788	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-xylene (µg/L)	Subcontracted: SGS report SE 270788	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes (µg/L)	Subcontracted: SGS report SE 270788	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX (µg/L)	Subcontracted: SGS report SE 270788	<3	4	<3	<3	<3	<3	<3	<3	<3
Naphthalene (VOC) (µg/L)	Subcontracted: SGS report SE 270788	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Recoverable Hydrocarbons (TRH)										
TRH C6-C9 (µg/L)	Subcontracted: SGS report SE 270788	<40	<40	<40	<40	<40	<40	<40	<40	<40
Benzene (F0) (µg/L)	Subcontracted: SGS report SE 270788	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10 (µg/L)	Subcontracted: SGS report SE 270788	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1) (µg/L)	Subcontracted: SGS report SE 270788	<50	<50	<50	<50	<50	<50	<50	<50	<50
LLTRH C10-C14 (µg/L)	Subcontracted: SGS report SE 270788	<50	<50	<50	<50	<50	<50	<50	<50	53.0
LLTRH C15-C28 (µg/L)	Subcontracted: SGS report SE 270788	<100	<100	<100	<100	<100	<100	<100	<100	<100
LLTRH C29-C36 (µg/L)	Subcontracted: SGS report SE 270788	<50	<50	<50	<50	<50	<50	<50	<50	140.0
LLTRH >C10-C16 (µg/L)	Subcontracted: SGS report SE 270788	<50	<50	<50	<50	<50	<50	<50	<50	67.0
LLTRH >C16-C34 (F3) (µg/L)	Subcontracted: SGS report SE 270788	<100	<100	<100	<100	<100	<100	<100	<100	180.0
LLTRH >C34-C40 (F4) (µg/L)	Subcontracted: SGS report SE 270788	<100	<100	<100	<100	<100	<100	<100	<100	<100
TRH Sum C10-C36 (µg/L)	Subcontracted: SGS report SE 270788	<100	<100	<100	<100	<100	<100	<100	<100	270.0
LLTRH C37-C40 (µg/L)	Subcontracted: SGS report SE 270788	<100	<100	<100	<100	<100	<100	<100	<100	<100
Silica Gel Clean-up TRH										
TRH C10-C14-Silica (µg/L)	Subcontracted: SGS report SE 270779	<50	..	<50	<50	..	..	..	..	..
TRH C15-C28-Silica (µg/L)	Subcontracted: SGS report SE 270779	<200	..	<200	<200	..	..	..	..	..
TRH C29-C36-Silica (µg/L)	Subcontracted: SGS report SE 270779	<200	..	<200	<200	..	..	..	..	..
TRH C37-C40-Silica (µg/L)	Subcontracted: SGS report SE 270779	<200	..	<200	<200	..	..	..	..	..
TRH >C10-C16-Silica (µg/L)	Subcontracted: SGS report SE 270779	<60	..	<60	<60	..	..	..	..	..
TRH >C16-C34-Silica (µg/L)	Subcontracted: SGS report SE 270779	<500	..	<500	<500	..	..	..	..	..
TRH >C34-C40-Silica (µg/L)	Subcontracted: SGS report SE 270779	<500	..	<500	<500	..	..	..	..	..
TRH Sum C10-C36-Silica (µg/L)	Subcontracted: SGS report SE 270779	<225	..	<225	<225	..	..	..	..	..
TRH Sum C10-C40-Silica (µg/L)	Subcontracted: SGS report SE 270779	<320	..	<320	<320	..	..	..	..	..

Notes

1. Total metals - samples digested with nitric acid; Total available (acid soluble/ extractable) metals - samples acidified with nitric acid to pH <2;
   Dissolved metals - samples filtered through 0.45µm cellulose acetate and then acidified with nitric acid prior to analysis
2. Metals and salts analysed by Inductively Coupled Plasma - Mass Spectrometry (ICP-MS).
3. 1 mg/L (milligram per litre) = 1 ppm (part per million) = 1000 µg/L (micrograms per litre) = 1000 ppb (part per billion).
4. For conductivity 1 dS/m = 1 mS/cm = 1000 µS/cm.
5. Analysis performed according to APHA (2017) 'Standard Methods for the Examination of Water & Wastewater', 23rd Edition, except where stated otherwise.
6. Analysis conducted between sample arrival date and reporting date.
7. ** NATA accreditation does not cover the performance of this service.
8. .. Denotes not requested.
9. This report is not to be reproduced except in full.
10. All services undertaken by EAL are covered by the EAL Laboratory Services Terms and Conditions (refer scu.edu.au/eal or on request).
11. Results relate only to the samples tested.
12. This report was issued on 23/09/2024.

checked: [redacted]
Laboratory Manager

BLAKEBROOK QUARRY- GROUNDWATER QUALITY ASSESSMENT

Sampling Observations- September 2024.

Sample Information	Blakebrook Quarry Groundwater Well Sampling Information								
	SOUTH			NORTH 1			NORTH 2		
Site Name	**BQS1S**	**BQS1I**	**BQS1D**	**BQN1B**	**BQN1A**	**BQN1D**	**BQN2B**	**BQN2A**	**BQN2D**
Well Type	**Shallow**	**Intermediate**	**Deep**	**Shallow**	**Intermediate**	**Deep**	**Shallow**	**Intermediate**	**Deep**
Date	05/09/24	05/09/24	05/09/24	05/09/24	05/09/24	05/09/24	05/09/24	05/09/24	05/09/24
Time	9:30	9:55	9:43	11:00	11:25	11:30	8:10	8:00	8:48
Recorded Depth 1	16.67	47.77	80.40	5.88	45.40	100.19	29.40	30.03	87.09
Recorded Depth 2	17.25	48.42	80.41	5.97	46.40	100.19	29.70	31.10	87.10
Level Meter Calibrated	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Battery Level	47%	47%	47%	47%	47%	48%	48%	48%	48%
Memory Level	78%	71%	75%	78%	81%	71%	81%	81%	75%
Sample Method	Bottom filling bailer from screen zone	Bottom filling bailer from screen zone	Hydro sleeve bailer from screen zone	12-volt submersible pump	Bottom filling bailer from screen zone	Hydro sleeve bailer from screen zone	Bottom filling bailer from screen zone	Bottom filling bailer from screen zone	Hydro sleeve bailer from screen zone
Odour	Not Present	Not Present	Present-Sulfur	Not Present	Not Present	Not Present	Not Present	Not Present	Not Present
Site/Water Observations	Clear	Clear	Clear, small particles	Clear	Clear	Clear	Clear	Clear	Clear
Fresh Water WQOs	**Water Quality Observations**								
pH	6.87	7.48	7.33	6.93	10.86	8.04	10.92	7.52	8.71
EC dS/m	0.43	0.79	1.71	1.10	1.85	1.36	1.17	0.67	1.04
DO (%)	59.50	51.96	54.09	7.15	102.44	93.49	84.41	57.26	94.71
Temperature (°C)	20.17	20.22	20.71	20.56	21.91	21.82	21.02	19.64	24.56
ORP	124.58	33.52	-171.32	-25.70	8.51	47.92	55.89	110.91	77.94