

Table 3:
Groundwater Analytical Results



Ecological Seening Criteria (95% Protection Marine) *		Sample ID:		W3E	W6E	W7E	W8E	W3F	W6F	W7F	W8F	F12	M2/1W	M6/4A	E5	M8/1EE	M7/2	F3
		EPL ID:		3	4	5	6	10	13	14	15	18	29	28	22	26	35	17
		Sample Date:		25/03/2025	25/03/2025	25/03/2025	26/03/2025	25/03/2025	25/03/2025	25/03/2025	26/03/2025	25/03/2025	25/03/2025	25/03/2025	27/03/2025	26/03/2025	31/03/2025	26/03/2025
		Lab ID:		N25-Ma0068964	N25-Ma0068965	N25-Ma0068966	N25-Ma0068967	N25-Ma0068968	N25-Ma0068969	N25-Ma0068970	N25-Ma0068971	N25-Ma0068972	N25-Ma0068973	N25-Ma0068974	N25-Ma0068989	N25-Ma0068975	N25-Ap0016642	N25-Ma0068976
Analyte grouping/Analyte		Units	LOR															
Inorganics																		
Ammonia (as N)	910	µg/L	10			5100	2800		4200	11000	670	8700			24000			
Ammonia (as NH3)																		
Cyanide (free)	4	µg/L	5														< 5	
Total Metals																		
Cadmium	5,5	µg/L	0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2
Chromium	-	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	200	<5
Chromium (VI)	4,4	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	200	<5
Copper	1,3	µg/L	1	< 1	< 1	10	7	< 1	< 1	< 1	3		2	3	< 1	< 1	7	< 1
Dissolved Metals																		
Lead (filtered)	4,4	µg/L	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1		< 1	< 1	< 1	< 1	< 1	< 1
Manganese (filtered)	80	µg/L	5	120	3300	1900	40	13	< 5	< 5	120		69	860	730	27	200	930
Mercury (filtered)	0,4	µg/L	0,1	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1	0,1	< 0,1	< 0,1		< 0,1	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1
Zinc (filtered)	15	µg/L	5	25	< 5	< 5	< 5	13	< 5	< 5	< 5		< 5	< 5	< 5	< 5	11	10
Phenols (Halogenated)																		
2,4,5-Trichlorophenol	-	µg/L	0,1															< 0,1
2,4,6-Trichlorophenol	-	µg/L	0,1															< 0,1
2,4-Dichlorophenol	-	µg/L	0,05															< 0,05
2,6-Dichlorophenol	-	µg/L	0,05															< 0,05
2-Chlorophenol	-	µg/L	0,05															< 0,05
4-Chloro-3-methylphenol	-	µg/L	0,1															< 0,1
Pentachlorophenol	22	µg/L	1															< 1
Tetrachlorophenols - Total	-	µg/L	0,5															< 0,5
Total Halogenated Phenol*	-	µg/L	1															< 1
Phenols (non-Halogenated)																		
2,4-Dimethylphenol	-	µg/L	0,05															18
2,4-Dinitrophenol	-	µg/L	0,5															< 0,5
2-Cyclohexyl-4,6-dinitrophenol	-	µg/L	10															< 10
2-Methyl-4,6-dinitrophenol	-	µg/L	0,5															< 0,5
2-Methylphenol (o-Cresol)	-	µg/L	0,05															< 0,05
2-Nitrophenol	-	µg/L	0,1															< 0,1
3&4-Methylphenol (m&p-Cresol)	-	µg/L	0,1															< 0,1
4-Nitrophenol	-	µg/L	0,5															< 0,5
Dinoseb	-	µg/L	10															< 10
Phenol	400	µg/L	0,05															< 0,05
Total Non-Halogenated Phenol*	-	µg/L	10															20
Polycyclic Aromatic Hydrocarbons (low level)																		
Acenaphthene	-	µg/L	0,01		< 0,01				< 0,01				< 0,01					10
Acenaphthylene	-	µg/L	0,01		< 0,01				< 0,01				< 0,01					< 0,01
Anthracene	0,4	µg/L	0,01		< 0,01				< 0,01				< 0,01					< 0,01
Benz(a)anthracene	-	µg/L	0,01		< 0,01				< 0,01				< 0,01					< 0,01
Benzo(a)pyrene	0,2	µg/L	0,01		< 0,01				< 0,01				< 0,01					< 0,01
Benzo(b&i)fluoranthene	-	µg/L	0,01		< 0,01				< 0,01				< 0,01					< 0,01
Benzo(g,h,i)perylene	-	µg/L	0,01		< 0,01				< 0,01				< 0,01					< 0,01
Benzo(k)fluoranthene	-	µg/L	0,01		< 0,01				< 0,01				< 0,01					< 0,01
Chrysene	-	µg/L	0,01		< 0,01				< 0,01				< 0,01					< 0,01
Dibenz(a,h)anthracene	-	µg/L	0,01		< 0,01				< 0,01				< 0,01					< 0,01
Fluoranthene	1,4	µg/L	0,01		< 0,01				< 0,01				0,1					< 0,01
Fluorene	-	µg/L	0,01		< 0,01				< 0,01				< 0,01					1
Indeno(1,2,3-cd)pyrene	-	µg/L	0,01		< 0,01				< 0,01				< 0,01					< 0,01
Naphthalene	70	µg/L	0,01		< 0,01				0,3				0,1					63
Phenanthrene	2	µg/L	0,01		< 0,01				0,1				0,1					< 0,01
Pyrene	-	µg/L	0,01		< 0,01				0,1				0,2					< 0,01
Total PAH*	-	µg/L	0,01		< 0,01				0,5				0,5					74
Total Recoverable Hydrocarbons - 1999 NEPM Fractions																		
TRH C10-C14	-	µg/L	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50			< 50	< 50	< 50		1400
TRH C10-36 (Total)	-	µg/L	100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	< 100		2200
TRH C15-C28	-	µg/L	100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	< 100		800
TRH C29-C36	-	µg/L	100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	< 100		< 100
TRH C6-C9	-	µg/L	20	< 20	< 20	< 20	< 20	20	< 20	< 20	< 20			< 20	< 20	< 20		60
Total Recoverable Hydrocarbons - 2013 NEPM Fractions																		
Naphthalene	70	µg/L	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10			< 10	< 10	< 10		140
TRH >C10-C16	600	µg/L	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50			< 50	< 50	< 50		1200
TRH >C10-C16 less Naphthalene (F2)	-	µg/L	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50			< 50	< 50	< 50		1060
TRH >C10-C40 (total)*	-	µg/L	100	< 100	200	< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	< 100		1200
TRH >C16-C34	600	µg/L	100	< 100	200	< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	< 100		< 100
TRH >C34-C40	600	µg/L	100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	< 100		< 100
TRH C6-C10	600	µg/L	20	< 20	< 20	< 20	< 20	30	< 20	< 20	< 20			< 20	< 20	< 20		80
TRH C6-C10 less BTEX (F1)	-	µg/L	20	< 20	< 20	< 20	< 20	30	< 20	< 20	< 20			< 20	< 20	< 20		50
BTEX																		
Benzene	700	µg/L	1															
Toluene	180	µg/L	1															
Ethylbenzene	80	µg/L	1															
m&p-Xylenes	75	µg/L	2															
o-Xylene	-	µg/L	1															
Xylenes (total)	-	µg/L	3															

Blank Cell indicates no criterion available
LOR = Limit of Reporting
Concentrations below the LOR noted as <value
NOC = No observed contamination
* Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018)
Concentration in grey box exceed the adopted ecological guideline value
Concentrations in light blue indicate the LOR is greater than the guideline value
Bolded values indicate duplicate sample results reported in the assessment due to RPD criteria exceedances

Table 3:
Groundwater Analytical Results



Ecological Seening Criteria (95% Protection Marine) *		Sample ID:		E7	F6	F7	E2A	E3A	E4A	M1/2C	M1/2S	F4	M8/9	M8/5	M9/4	W9E	M8/2	E6
		EPL ID:		23	30	24	19	20	21	33	34	25	37	36	7	31	38	8
		Sample Date:		27/03/2025	27/03/2025	27/03/2025	27/03/2025	27/03/2025	27/03/2025	26/03/2025	26/03/2025	26/03/2025	27/03/2025	27/03/2025	26/03/2025	26/03/2025	26/03/2025	26/03/2025
		Lab ID:		N25-Ma0068977	N25-Ma0068978	N25-Ma0068979	N25-Ma0068980	N25-Ma0068981	N25-Ma0068982	N25-Ma0068984	N25-Ma0068985	N25-Ma0068986	N25-Ma0068991	N25-Ma0068992	N25-Ma0068993	N25-Ma0068983	N25-Ma0068987	N25-Ma0068988
Analyte grouping/Analyte		Units	LOR															
Inorganics																		
Ammonia (as N)	910	µg/L	10															
Ammonia (as NH3)																		
Cyanide (free)	4	µg/L	5															
Total Metals																		
Cadmium	5.5	µg/L	0.2	< 0.2	1.4	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.3	0.6	0.2	< 0.2
Chromium	-	µg/L	5	<5	-	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5
Chromium (VI)	4.4	µg/L	5	<5		<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5
Copper	1.3	µg/L	1	< 1	39	< 1	< 1	< 1	< 1	1	4	1	12	< 1	16	11	13	< 1
Dissolved Metals																		
Lead (filtered)	4.4	µg/L	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Manganese (filtered)	80	µg/L	5	210	1200	2100	2900	130	660	280	1900	9	42	120	100	69	1500	280
Mercury (filtered)	0.4	µg/L	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Zinc (filtered)	15	µg/L	5	< 5	680	< 5	6	< 5	< 5	5	8	42	< 5	< 5	< 5	1400	7	< 5
Phenols (Halogenated)																		
2,4,5-Trichlorophenol	-	µg/L	0.1														< 0.1	
2,4,6-Trichlorophenol	-	µg/L	0.1														< 0.1	
2,4-Dichlorophenol	-	µg/L	0.05														< 0.05	
2,6-Dichlorophenol	-	µg/L	0.05														< 0.05	
2-Chlorophenol	-	µg/L	0.05														< 0.05	
4-Chloro-3-methylphenol	-	µg/L	0.1														< 0.1	
Pentachlorophenol	22	µg/L	1														< 1	
Tetrachlorophenols - Total	-	µg/L	0.5														< 0.5	
Total Halogenated Phenol*	-	µg/L	1														< 1	
Phenols (non-Halogenated)																		
2,4-Dimethylphenol	-	µg/L	0.05														1	
2,4-Dinitrophenol	-	µg/L	0.5														< 0.5	
2-Cyclohexyl-4,6-dinitrophenol	-	µg/L	10														< 10	
2-Methyl-4,6-dinitrophenol	-	µg/L	0.5														< 0.5	
2-Methylphenol (o-Cresol)	-	µg/L	0.05														< 0.05	
2-Nitrophenol	-	µg/L	0.1														< 0.1	
3&4-Methylphenol (m&p-Cresol)	-	µg/L	0.1														5	
4-Nitrophenol	-	µg/L	0.5														< 0.5	
Dinoseb	-	µg/L	10														< 10	
Phenol	400	µg/L	0.05														1	
Total Non-Halogenated Phenol*	-	µg/L	10														< 10	
Polycyclic Aromatic Hydrocarbons (low level)																		
Acenaphthene	-	µg/L	0.01									< 0.01	< 0.01	0.2			11	
Acenaphthylene	-	µg/L	0.01									< 0.01	< 0.01	< 0.01			< 0.01	
Anthracene	0.4	µg/L	0.01									< 0.01	< 0.01	0.1			4	
Benz(a)anthracene	-	µg/L	0.01									< 0.01	< 0.01	< 0.01			< 0.01	
Benzo(a)pyrene	0.2	µg/L	0.01									< 0.01	< 0.01	< 0.01			< 0.01	
Benzo(b&i)fluoranthene	-	µg/L	0.01									< 0.01	< 0.01	0.1			< 0.01	
Benzo(g,h,i)perylene	-	µg/L	0.01									< 0.01	< 0.01	< 0.01			< 0.01	
Benzo(k)fluoranthene	-	µg/L	0.01									< 0.01	< 0.01	0.1			< 0.01	
Chrysene	-	µg/L	0.01									< 0.01	< 0.01	0.1			< 0.01	
Dibenz(a,h)anthracene	-	µg/L	0.01									< 0.01	< 0.01	0.1			< 0.01	
Fluoranthene	1.4	µg/L	0.01									< 0.01	0.3	0.2			2	
Fluorene	-	µg/L	0.01									< 0.01	< 0.01	0.2			2	
Indeno(1,2,3-cd)pyrene	-	µg/L	0.01									< 0.01	< 0.01	< 0.01			< 0.01	
Naphthalene	70	µg/L	0.01									< 0.01	0.1	0.1			7	
Phenanthrene	2	µg/L	0.01									< 0.01	< 0.01	0.3			4	
Pyrene	-	µg/L	0.01									< 0.01	0.2	0.3			2	
Total PAH*	-	µg/L	0.01									< 0.01	0.6	1.8			32	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions																		
TRH C10-C14	-	µg/L	50	< 50			< 50	< 50	< 50	< 50	< 50	< 50			< 50	< 50	70	< 50
TRH C10-36 (Total)	-	µg/L	100	< 100			< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	270	< 100
TRH C15-C28	-	µg/L	100	< 100			< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	200	< 100
TRH C29-C36	-	µg/L	100	< 100			< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	< 100	< 100
TRH C6-C9	-	µg/L	20	< 20			< 20	< 20	< 20	20	< 20	< 20			< 20	< 20	40	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions																		
Naphthalene	70	µg/L	10	< 10			< 10	< 10	< 10	10	< 10	< 10			< 10	< 10	10	< 10
TRH >C10-C16	600	µg/L	50	< 50			< 50	< 50	< 50	< 50	< 50	< 50			< 50	< 50	100	< 50
TRH >C10-C16 less Naphthalene (F2)	-	µg/L	50	< 50			< 50	< 50	< 50	< 50	< 50	< 50			< 50	< 50	90	< 50
TRH >C10-C40 (total)*	-	µg/L	100	< 100			< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	300	< 100
TRH >C16-C34	600	µg/L	100	< 100			< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	200	< 100
TRH >C34-C40	600	µg/L	100	< 100			< 100	< 100	< 100	< 100	< 100	< 100			< 100	< 100	< 100	< 100
TRH C6-C10	600	µg/L	20	< 20			< 20	< 20	< 20	20	< 20	< 20			< 20	< 20	40	< 20
TRH C6-C10 less BTEX (F1)	-	µg/L	20	< 20			< 20	< 20	< 20	< 20	< 20	< 20			< 20	< 20	40	< 20
BTEX																		
Benzene	700	µg/L	1						<1									
Toluene	180	µg/L	1						<1									
Ethylbenzene	80	µg/L	1						<1									
m&p-Xylenes	75	µg/L	2						<2									
o-Xylene	-	µg/L	1						<1									
Xylenes (total)	-	µg/L	3						<3									

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Concentration in grey box exceed the adopted ecological guideline value
Concentrations in **light blue** indicate the LOR is greater than the guideline value
Bolded values indicate duplicate sample results reported in the assessment due to RPD criteria exceedances