

BARGO WASTE MANAGEMENT CENTRE ANTHONY ROAD BARGO - SAMPLING RESULTS
SAMPLING ON 11TH AUGUST 2015
EPA LICENCE NUMBER 6061
<http://www.environment.nsw.gov.au/prpoeopp/>
WOLLONDILLY SHIRE COUNCIL
62-64 Menangle Street PICTON NSW 2571

SAMPLING LOCATIONS				EPA Point 1	EPA Point 2	EPA Point 3	EPA Point 4	EPA Point 5	EPA Point 6	EPA Point 7	EPA Point 8	-
Pollutant	Unit of Measure	Monitoring Frequency	Concentration Limits for Sampling Point	Ground Water Bore BA1 NE Corner	Surface Water Pond NE Corner BA3	Dog Trap Creek Upstream BA4	Dog Trap Creek Downstream BA5	Surface Water Pond SE Corner BA8	Drainage Line BA9	Ground Water Up Gradient Bore BA6 SW Corner	Ground Water Down Gradient Bore BA7 SE Corner	Dog Trap Creek below landfill drainage line BA10
Alkalinity (as calcium carbonate)	milligrams per litre	Annual		880	231	not required	not required	not required	470	43	31	not required
Aluminium	milligrams per litre	Annual / Quarterly		less than 0.05	less than 0.05	0.15	0.15	not required	less than 0.05	less than 0.05	less than 0.05	0.15
Ammonia (as nitrogen)	milligrams per litre	Quarterly	0.9 milligrams per litre for Points 2 and 5 only	50	less than 0.01	0.05	less than 0.01	0.02	less than 0.01	0.06	0.12	less than 0.01
Arsenic	milligrams per litre	Annual / Quarterly		0.001	0.001	less than 0.001	less than 0.001	not required	less than 0.001	0.005	0.003	less than 0.001
Barium	milligrams per litre	Annual / Quarterly		0.27	0.04	less than 0.02	0.07	not required	0.10	0.20	0.06	0.05
Benzene	milligrams per litre	Annual		less than 0.001	less than 0.001	not required	not required	not required	less than 0.001	less than 0.001	less than 0.001	not required
Biological Oxygen Demand (BOD)	milligrams per litre	Quarterly		not required	5.4	5.2	4.1	5.2	not required	not required	not required	5.6
Cadmium	milligrams per litre	Annual / Quarterly		less than 0.0002	less than 0.0002	less than 0.0002	less than 0.0002	not required	0.0002	less than 0.0002	less than 0.0002	less than 0.0002
Calcium	milligrams per litre	Annual		130	57	not required	not required	not required	170	6.0	1.3	not required
Chemical Oxygen Demand (COD)	milligrams per litre	Quarterly		not required	not required	less than 20	51	38	not required	not required	not required	35
Chloride (Cl)	milligrams per litre	Annual		160	88	not required	not required	not required	210	210	31	not required
Chlorinated Volatile Compounds (CVCs)	milligrams per litre	Annual		less than 0.003	not required	not required	not required	not required	less than 0.003	less than 0.003	less than 0.003	not required
Chromium (hexavalent)	milligrams per litre	Annual / Quarterly		less than 0.001	less than 0.001	less than 0.001	less than 0.001	not required	less than 0.001	less than 0.001	less than 0.001	less than 0.001
Chromium (total)	milligrams per litre	Annual / Quarterly		0.003	less than 0.001	less than 0.001	0.001	not required	less than 0.001	less than 0.001	less than 0.001	less than 0.001
Cobalt	milligrams per litre	Annual / Quarterly		0.001	less than 0.001	less than 0.001	less than 0.001	not required	less than 0.001	0.033	0.006	less than 0.001
Copper	milligrams per litre	Annual / Quarterly		less than 0.001	0.002	less than 0.001	0.001	not required	0.008	less than 0.001	less than 0.001	0.001
Ethylbenzene	milligrams per litre	Annual		less than 0.001	less than 0.001	not required	not required	not required	less than 0.001	less than 0.001	less than 0.001	not required
Fluoride	milligrams per litre	Annual		less than 0.5	less than 0.5	not required	not required	not required	less than 0.5	less than 0.5	less than 0.5	not required
Lead	milligrams per litre	Annual / Quarterly		less than 0.001	less than 0.001	less than 0.001	less than 0.001	not required	less than 0.001	less than 0.001	less than 0.001	less than 0.001
Magnesium	milligrams per litre	Annual		45	43	not required	not required	not required	47	18	3.2	not required
Manganese	milligrams per litre	Annual / Quarterly		0.33	less than 0.005	0.008	0.017	not required	0.022	1.1	0.29	0.026
Mercury	milligrams per litre	Annual / Quarterly		less than 0.0001	less than 0.0001	less than 0.0001	less than 0.0001	not required	less than 0.0001	less than 0.0001	less than 0.0001	less than 0.0001
Nitrate (as Nitrogen)	milligrams per litre	Annual / Quarterly		less than 0.02	1.4	less than 0.02	9.7	not required	12	0.09	0.06	4.0
Nitrite (as Nitrogen)	milligrams per litre	Annual / Quarterly		0.04	not required	less than 0.02	less than 0.02	not required	less than 0.02	less than 0.02	less than 0.02	less than 0.02
Organochlorine Pesticides (OCP)	milligrams per litre	Annual		less than limit of reporting	less than limit of reporting	not required	not required	not required	less than limit of reporting	less than limit of reporting	less than limit of reporting	not required
Organophosphorus Pesticides (OPP)	milligrams per litre	Annual		less than limit of reporting	less than limit of reporting	not required	not required	not required	less than limit of reporting	less than limit of reporting	less than limit of reporting	not required
Polycyclic Aromatic Hydrocarbons (PAH)	milligrams per litre	Annual		less than 0.001	not required	not required	not required	not required	less than 0.001	less than 0.001	less than 0.001	not required
Potassium	milligrams per litre	Annual		44	22	not required	not required	not required	53	2.4	2.8	not required
Semi-volatile Organic Compounds (SVOCs)	milligrams per litre	Annual		less than limit of reporting	not required	not required	not required	not required	less than limit of reporting	0.02	less than limit of reporting	not required
Sodium	milligrams per litre	Annual		120	79	not required	not required	not required	130	83	20	not required
Sulphate (as SO ₄)	milligrams per litre	Annual		less than 15	183	not required	not required	not required	216	less than 15	less than 15	not required
Toluene	milligrams per litre	Annual		less than 0.001	less than 0.001	not required	not required	not required	less than 0.001	less than 0.001	less than 0.001	not required
Total Dissolved Solids (TDS)	milligrams per litre	Quarterly		950	630	73	620	240	1200	370	95	550
Total Iron	milligrams per litre	Annual		not required	0.07	not required	not required	not required	not required	not required	not required	not required
Total Kjeldahl Nitrogen	milligrams per litre	Quarterly		not required	not required	less than 0.2	2.2	not required	not required	not required	not required	0.8
Total Nitrogen	milligrams per litre	Quarterly		not required	not required	less than 0.2	9.7	not required	not required	not required	not required	4.0
Total Organic Carbon (TOC)	milligrams per litre	Quarterly		49	31	12	22	14	28	7.3	9.3	less than 5
Total Petroleum Hydrocarbons (TPH)	milligrams per litre	Annual		0.1	less than limit of reporting	not required	not required	not required	less than limit of reporting	less than limit of reporting	less than limit of reporting	not required
Total Phenolics	milligrams per litre	Annual		less than 0.05	less than 0.05	not required	not required	not required	less than 0.05	less than 0.05	less than 0.05	not required
Total Phosphorus	milligrams per litre	Annual / Quarterly		not required	less than 0.05	less than 0.05	less than 0.05	not required	not required	not required	not required	less than 0.05
Total Suspended Solids (TSS)	milligrams per litre	Quarterly	50 milligrams per litre for Points 2 & 5 only	not required	less than 1	less than 1	7.9	11	not required	not required	not required	less than 1
Volatile Organic Compounds (VOCs)	milligrams per litre	Annual		less than 0.003	not required	not required	not required	not required	less than 0.003	less than 0.003	less than 0.003	not required
Xylenes	milligrams per litre	Annual		less than 0.003	less than 0.003	not required	not required	not required	less than 0.003	less than 0.003	less than 0.003	not required
Zinc	milligrams per litre	Annual / Quarterly		0.043	0.002	0.001	0.007	not required	0.19	0.15	0.056	0.014
FIELD MEASUREMENTS												
Standing Water Level	metres below ground surface	Quarterly		0.797	not required	not required	not required	not required	not required	37.0	11.590	not required
Electrical Conductivity	microsiemens per centimetre	Quarterly		1670	775	107	736	318	1452	611	144	704
PH	PH Units	Quarterly		7.02	8.27	7.99	7.75	7.16	7.45	6.02	6.20	8.07
Temp	Degree C	Quarterly		13.1	12.8	9.8	10.4	13.2	14.9	16.5	17.2	11.3

Additional testing to the licence conditions is highlighted in blue text.

CLOSED WARRAGAMBA WASTE MANAGEMENT CENTRE PRODUCTION AVENUE WARRAGAMBA - SAMPLING RESULTS
SAMPLING ON 12TH AUGUST 2015
EPA LICENCE NUMBER 6062
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SAMPLING LOCATIONS				EPA Point 1	EPA Point 2	EPA Point 3	EPA Point 4	EPA Point 5	EPA Point 6	EPA Point 7	EPA Point 8
Pollutant	Unit of Measure	Monitoring Frequency	Concentration Limits for Sampling Point	Magarrity's Creek Upstream WA3	Magarrity's Creek Downstream WA4	Ground Water NE Corner Down Gradient WA1 (see note 1)	Ground Water SW Corner Up Gradient WA2	Ground Water SE Corner WA8 (Not Installed)	Drainage Line WA5	Surface Water Pond A WA6 (Not Installed)	Surface Water Pond B WA7 (Not Installed)
Alkalinity (as calcium carbonate)	milligrams per litre	Quarterly		not required	not required	250	less than 30		640		
Aluminium	milligrams per litre	Annual		not required	not required	less than 0.05	0.43		less than 0.05		
Ammonia (as nitrogen)	milligrams per litre	Quarterly / Annual	0.9 milligrams per litre for Points 7 and 8 only	0.02	0.05	less than 0.01	0.06		17		

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Pollutant	Unit of Measure	Monitoring Frequency	Concentration Limits for Sampling Point	Magarrity's Creek Upstream WA3	Magarrity's Creek Downstream WA4	Ground Water NE Corner Down Gradient WA1 (see note 1)	Ground Water SW Corner Up Gradient WA2	Ground Water SE Corner WA8 (Not Installed)	Drainage Line WA5	Surface Water Pond A WA6 (Not Installed)	Surface Water Pond B WA7 (Not Installed)
Arsenic	milligrams per litre	Annual		not required	not required	less than 0.001	less than 0.001		less than 0.001		
Barium	milligrams per litre	Annual		not required	not required	0.10	0.12		0.31		
Benzene	milligrams per litre	Annual		not required	not required	less than 0.001	less than 0.001		less than 0.001		
Biological Oxygen Demand (BOD)	milligrams per litre	Quarterly		less than 5	less than 5	not required	not required		less than 5		
Cadmium	milligrams per litre	Annual		not required	not required	0.0004	less than 0.0002		less than 0.0002		
Calcium	milligrams per litre	Quarterly		not required	not required	320	18		110		
Chemical Oxygen Demand (COD)	milligrams per litre	Quarterly		210	less than 20	not required	not required		not required		
Chloride (as Cl)	milligrams per litre	Quarterly		not required	not required	480	450		180		
Chromium (hexavalent)	milligrams per litre	Annual		not required	not required	less than 0.001	less than 0.001		less than 0.001		
Chromium (total)	milligrams per litre	Annual		not required	not required	less than 0.001	less than 0.001		less than 0.001		
Cobalt	milligrams per litre	Annual		not required	not required	less than 0.001	0.018		less than 0.001		
Copper	milligrams per litre	Annual		not required	not required	0.004	0.003		0.004		
Ethylbenzene	milligrams per litre	Annual		not required	not required	less than 0.001	less than 0.001		less than 0.001		
Fluoride	milligrams per litre	Annual		not required	not required	less than 0.5	less than 0.5		less than 0.5		
Lead	milligrams per litre	Annual		not required	not required	less than 0.001	0.002		less than 0.001		
Magnesium	milligrams per litre	Quarterly		not required	not required	84	25		32		
Manganese	milligrams per litre	Annual		not required	not required	0.23	0.47		0.28		
Mercury	milligrams per litre	Annual		not required	not required	less than 0.0001	less than 0.0001		less than 0.0001		
Organochlorine Pesticides (OCP)	milligrams per litre	Annual		not required	not required	less than limit of reporting	less than limit of reporting		less than limit of reporting		
Organophosphorus Pesticides (OPP)	milligrams per litre	Annual		not required	not required	less than limit of reporting	less than limit of reporting		less than limit of reporting		
Ortho Phosphate	milligrams per litre	Quarterly		not required	not required	not required	not required		not required		
Polycyclic Aromatic Hydrocarbons (PAH)	milligrams per litre	Annual		not required	not required	less than 0.001	less than 0.001		less than 0.001		
Potassium	milligrams per litre	Quarterly		not required	not required	33	2.5		40		
Sodium	milligrams per litre	Quarterly		not required	not required	300	170		110		
Sulphate (as SO ₄)	milligrams per litre	Quarterly		not required	not required	1200	84		less than 15		
Toluene	milligrams per litre	Annual		not required	not required	less than 0.001	less than 0.001		less than 0.001		
Total Dissolved Solids (TDS)	milligrams per litre	Quarterly		420	390	2900	950		810		
Total Nitrogen	milligrams per litre	Quarterly / Annual		not required	not required	1.0	0.1		20.6		
Total Organic Carbon (TOC)	milligrams per litre	Quarterly		8.2	6.7	25	6.1		30		
Total Petroleum Hydrocarbons (TPH)	milligrams per litre	Annual		not required	not required	less than 0.1	less than 0.1		0.2		
Total Phenolics	milligrams per litre	Annual		not required	not required	less than 0.05	less than 0.05		less than 0.05		
Total Phosphorus	milligrams per litre	Quarterly		not required	not required	not required	not required		less than 0.05		
Total Suspended Solids (TSS)	milligrams per litre	Quarterly	50 milligrams per litre for Points 7 & 8 only	5.6	3.7	not required	not required		22		
Xylenes	milligrams per litre	Annual		not required	not required	less than 0.003	less than 0.003		less than 0.003		
Zinc	milligrams per litre	Annual		not required	not required	0.053	0.23		0.082		

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FIELD MEASUREMENTS

Standing Water Level	metres below ground surface	Quarterly		not required	not required	1.571	13.299		not required		
Electrical Conductivity	microsiemens per centimetre	Quarterly		536	493	2937	1247		1210		
PH	PH Units	Quarterly		6.06	7.11	6.18	5.02		7.04		
Temp	Degrees Celcius	Quarterly		10.6	10.0	15.2	14.4		12.2		

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Notes:

- 1 Sample in WA1 represents the well prior to purging.