

**Bowral Waste Centre**  
**EPA Licence No: 13366**

**Monitoring Point 1**

(UTM Zone 56: 262017.85 East, 6180632.609 North)

Dam labelled as "Southern Dam" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Samples required for each overflow event

Pollutant	Unit of Measure	No. Samples Req by Licence	Total no. of samples collected and analysed	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples	Sample Date				
								30/10/2019**	10/02/2020**	15/04/2020**	29/05/2020	7/10/2020
BOD	mg/L	1	5	20	2	5	3	5	BDL*	2	2	3
pH	pH units	1	5	6.5-8.5	7.3	8.2	7.83	8.17	7.33	7.76	8.06	7.20
Total Suspended Solids	mg/L	1	5	30	11	23	17	13	23	11	BDL*	20
Turbidity	NTU	1	5	150	2.7	56.9	17.6	10.7	56.9	2.7	3.0	14.6

\*Below detection limit.

\*\*No overflow occurred during sampling event, collected for monitoring purposes only.

**Bowral Waste Centre**  
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**Monitoring Point 2**

(UTM Zone 56: 262080.407 East, 6180766.636 North)

Dam labelled as "Leachate Holding Dam" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Yearly

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	Total no. of samples collected and analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date		
								30/10/2019	15/04/2020	7/10/2020
Alkalinity (as CaCO <sub>3</sub> )	mg/L	<i>No concentration limits apply - sampling for monitoring purposes only</i>	1	2	1420	1490	1455	<i>sampling not conducted, water level below 150mm</i>	1420	1490
Aluminium (Al)	mg/L		1	2	-	-	-		BDL*	BDL*
Arsenic (As)	mg/L		1	2	0.008	0.008	-		BDL*	0.008
Barium (Ba)	mg/L		1	2	0.316	0.379	0.348		0.316	0.379
Benzene	mg/L		1	2	0	0	-		BDL*	BDL*
Cadmium (Cd)	mg/L		1	2	0	0	-		BDL*	BDL*
Calcium (Ca)	mg/L		1	2	211	241	226		241	211
Chemical Oxygen Demand	mg/L		1	2	328	1080	704		1080	328
Chloride (Cl)	mg/L		1	2	238	331	285		331	238
Conductivity	(µ/cm)		1	2	3080	3520	3300		3520	3080
Copper (Cu)	mg/L		1	2	0.01	0.01	0.01		0.01	BDL*
Dissolved Organic Carbon	mg/L		1	2	91	340	216		340	91
Ethyl Benzene	mg/L		1	2	0	0	-		BDL*	BDL*
Fluoride (F)	mg/L		1	2	0.3	0.4	0.4		0.3	0.4
Lead (Pb)	mg/L		1	2	0.005	0.005	0.005		0.005	BDL*
Magnesium (Mg)	mg/L	1	2	106	141	124	141	106		



Manganese (Mn)	mg/L	1	2	0.208	0.208	0.208		0.208	BDL*
Mercury (Hg)	mg/L	1	2	0	0	-		BDL*	BDL*
Nitrate + Nitrite	mg/L	1	2	0.01	0.12	0.07		0.01	0.12
Nitrogen as Ammonia (NH3)	mg/L	1	2	69.5	94	82		94	69.5
Organochlorine Pesticides	mg/L	1	2	0	0	-		BDL*	BDL*
Organophosphate Pesticides	mg/L	1	2	0	0	-		BDL*	BDL*
pH	pH Units	1	2	7.53	7.67	7.60		7.67	7.53
Phosphate (PO4)	mg/L	1	2	0.1	0.1	0.1		BDL*	0.1
Phosphorus (P)	mg/L	1	2	0.1	0.1	0.1		BDL*	0.1
Polychlorinated biphenyls (mg/L)	mg/L	1	2	0	0	-		BDL*	BDL*
Polycyclic Aromatic Hydrocarbons (mg/L)	mg/L	1	2	0	0	-		BDL*	BDL*
Potassium (K)	mg/L	1	2	61	84	73		84	61
Sodium (Na)	mg/L	1	2	187	251	219		251	187
Sulfate (SO4)	mg/L	1	2	118	161	140		161	118
Toluene	mg/L	1	2	0	0	-		BDL*	BDL*
Total Iron (Fe)	mg/L	1	2	1.94	3.9	3		1.94	3.9
Total Petroleum Hydrocarbons	mg/L	1	2	1200	3450	2325		3450	1200
Total Phenolics	mg/L	1	2	40.8	40.8	40.8		40.8	BDL*
Xylene	mg/L	1	2	0	0	-		BDL*	BDL*
Zinc (Zn)	mg/L	1	2	0.029	0.029	0.029		0.029	BDL*

\*Below detection limit.

**Bowral Waste Centre**  
**EPA Licence No: 13366**  
**Monitoring Point 3**

(Zone 56: 262079.587 East, 6180676.705 North)

Well labelled as "P1A" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	Total no. of samples collected and analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date		
								30/10/2019	15/04/2020	7/10/2020
Alkalinity (as CaCO <sub>3</sub> )	mg/L	<i>No concentration limits apply - sampling for monitoring purposes only</i>	1	3	756	833	797.67	804	756	833
Aluminium (Al)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Calcium (Ca)	mg/L		1	3	128	148	135.3	130	148	128
Chloride (Cl)	mg/L		1	3	75	85	80	75	80	85
Conductivity	(µ/cm)		1	3	1530	1540	1533.33	1540	1530	1530
Copper (Cu)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Fluoride (F)	mg/L		1	3	0.2	0.3	0.3	0.3	0.3	0.2
Iron (Fe)	mg/L		1	3	0.46	1.16	0.88	1.16	1.03	0.46
Lead (Pb)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Magnesium (Mg)	mg/L		1	3	33	94	73.33	93	94	33



Manganese (Mn)	mg/L	1	3	0.15	0.167	0.16	0.15	0.161	0.167
Nitrate (NO3-)	mg/L	1	3	0.02	0.12	0.07	0.08	0.02	0.12
Nitrogen as Ammonia (NH3)	mg/L	1	3	0.92	69.5	23.82	1.03	0.92	69.5
pH	pH Units	1	3	7.37	7.91	7.68	7.76	7.37	7.91
Potassium (K)	mg/L	1	3	9	11	9.7	9	9	11
Sodium (Na)	mg/L	1	3	60	62	60.7	60	62	60
Standing Water Level	m	1	3	13.5	15.22	14.52	15.22	14.83	13.5
Sulfate (SO4)	mg/L	1	3	8	18	13	18	13	8
Total Dissolved Solids	mg/L	1	3	770	830	794	782	830	770
Total Organic Carbon	mg/L	1	3	3	14	8.3	8	14	3
Total Phenolics	mg/L	1	3	0.05	0.05	0.05	BDL*	0.05	BDL*
Zinc (Zn)	mg/L	1	3	-	-	-	BDL*	BDL*	BDL*

\*Below detection limit.

## Bowral Waste Centre

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### Monitoring Point 4

(UTM Zone 56: 262078.88 East, 6180675.577 North)

Well labelled as "P1B" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	Total no. of samples collected and analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date		
								30/10/2019	15/04/2020	7/10/2020
Alkalinity (as CaCO <sub>3</sub> )	mg/L	<i>No concentration limits apply - sampling for monitoring purposes only</i>	1	3	111	236	175.67	180	236	111
Aluminium (Al)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Calcium (Ca)	mg/L		1	3	40	57	49.33	40	57	51
Chloride (Cl)	mg/L		1	3	106	108	106.67	106	108	106
Conductivity	(µ/cm)		1	3	691	832	767	691	778	832
Copper (Cu)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Fluoride (F)	mg/L		1	3	0.1	0.2	0.13	0.1	0.2	0.1
Iron (Fe)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Lead (Pb)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*



Magnesium (Mg)	mg/L	1	3	5	37	24	30	5	37
Manganese (Mn)	mg/L	1	3	0.0047	0.036	0.017	0.036	0.0047	0.009
Nitrate (NO3-)	mg/L	1	3	0.06	0.6	0.37	0.06	0.6	0.44
Nitrogen as Ammonia (NH3)	mg/L	1	3	0.01	0.06	0.035	BDL*	0.06	0.01
pH	pH Units	1	3	7.05	7.63	7.29	7.2	7.05	7.63
Potassium (K)	mg/L	1	3	4	5	4.67	4	5	5
Sodium (Na)	mg/L	1	3	36	40	38	36	40	38
Standing Water Level	m	1	3	35	37.5	36.44	36.83	37.5	35
Sulfate (SO4)	mg/L	1	3	6	14	10.33	6	11	14
Total Dissolved Solids	mg/L	1	3	347	452	410.33	347	452	432
Total Organic Carbon	mg/L	1	3	7	10	8.33	8	7	10
Total Phenolics	mg/L	1	3	-	-	-	BDL*	BDL*	BDL*
Zinc (Zn)	mg/L	1	3	0.018	0.027	0.02	BDL*	0.018	0.027

\*Below detection limit.

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**Monitoring Point 5**

(UTM Zone 56: 262020.004 East, 6180860.549 North)

Well labelled as "P2A" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	Total no. of samples collected and analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date		
								30/10/2019	15/04/2020	7/10/2020
Alkalinity (as CaCO <sub>3</sub> )	mg/L	<i>No concentration limits apply - sampling for monitoring purposes only</i>	1	3	256	289	272.3333	256	272	289
Aluminium (Al)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Calcium (Ca)	mg/L		1	3	94	111	103.6667	94	111	106
Chloride (Cl)	mg/L		1	3	40	42	41	40	42	46
Conductivity	(µ/cm)		1	3	1180	1190	1185	1190	1180	1190
Copper (Cu)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Fluoride (F)	mg/L		1	3	0.1	0.1	0.1	BDL*	0.1	0.1
Iron (Fe)	mg/L		1	3	6.6	10.2	8.4	6.6	10.2	12.9
Lead (Pb)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Magnesium (Mg)	mg/L		1	3	67	70	68.50	67	70	BDL*





Manganese (Mn)	mg/L	1	3	0.769	0.804	0.788	0.769	0.791	0.804
Nitrate (NO3-)	mg/L	1	3	0.02	0.11	0.06	0.11	0.02	0.05
Nitrogen as Ammonia (NH3)	mg/L	1	3	0.37	0.37	0.37	0.37	0.37	0.50
pH	pH Units	1	3	6.53	6.81	6.67	6.81	6.53	7.43
Potassium (K)	mg/L	1	3	6	6	6	6	6	6
Sodium (Na)	mg/L	1	3	39	40	39.66667	39	40	40
Standing Water Level	m	1	3	20.26	21.05	20.63667	21.05	20.26	20.6
Sulfate (SO4)	mg/L	1	3	332	353	339.3333	332	353	333
Total Dissolved Solids	mg/L	1	3	715	874	787.6667	715	874	774
Total Organic Carbon	mg/L	1	3	5	11	8.666667	10	11	5
Total Phenolics	mg/L	1	3	-	-	-	BDL*	BDL*	BDL*
Zinc (Zn)	mg/L	1	3	0.007	0.016	0.011667	0.012	0.016	0.007

\*Below detection limit.

**Bowral Waste Centre**

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**Monitoring Point 6**

(UTM Zone 56: 262018.357 East, 6180860.285 North)

Well labelled as "P2B" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	Total no. of samples collected and analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date		
								30/10/2019	15/04/2020	7/10/2020
Alkalinity (as CaCO <sub>3</sub> )	mg/L	<i>No concentration limits apply - sampling for monitoring purposes only</i>	1	3	180	212	192.6667	186	180	212
Aluminium (Al)	mg/L		1	3	-	-	-	BDL*	BDL*	0.01
Calcium (Ca)	mg/L		1	3	39	46	41.66667	39	46	40
Chloride (Cl)	mg/L		1	3	78	90	85.33333	78	88	90
Conductivity	(µ/cm)		1	3	671	695	682.6667	682	671	695
Copper (Cu)	mg/L		1	3	-	-	-	BDL*	BDL*	0.001
Fluoride (F)	mg/L		1	3	0.1	0.1	0.1	0.1	0.1	0.1
Iron (Fe)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Lead (Pb)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*



Magnesium (Mg)	mg/L	1	3	32	32	32	32	32	33
Manganese (Mn)	mg/L	1	3	0.007	0.039	0.023	0.039	0.007	0.056
Nitrate (NO3-)	mg/L	1	3	0.01	0.24	0.125	0.01	0.24	0.20
Nitrogen as Ammonia (NH3)	mg/L	1	3	-	-	-	BDL*	BDL*	0.02
pH	pH Units	1	3	6.76	7.09	6.925	7.09	6.76	7.43
Potassium (K)	mg/L	1	3	4	4	4	4	4	5
Sodium (Na)	mg/L	1	3	37	37	37	37	37	40
Standing Water Level	m	1	3	37	38.89	38.1	38.41	38.89	37
Sulfate (SO4)	mg/L	1	3	17	20	18.5	17	20	19
Total Dissolved Solids	mg/L	1	3	344	392	368	344	392	348
Total Organic Carbon	mg/L	1	3	5	12	8.5	12	5	9
Total Phenolics	mg/L	1	3	-	-	-	BDL*	BDL*	BDL*
Zinc (Zn)	mg/L	1	3	0.008	0.028	0.018	BDL*	0.008	0.028

\*Below detection limit.

## Bowral Waste Centre

**EPA Licence No: 13366**

### Monitoring Point 7

(UTM Zone 56: 262240.26 East, 6180931.016 North)

Well labelled as "P3A" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	Total no. of samples collected and analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date		
								30/10/2019	15/04/2020	7/10/2020
Alkalinity (as CaCO <sub>3</sub> )	mg/L	<i>No concentration limits apply - sampling for monitoring purposes only</i>	1	3	233	243	238	233	243	60
Aluminium (Al)	mg/L		1	3	-	-	-	BDL*	BDL*	0.03
Calcium (Ca)	mg/L		1	3	56	63	59.5	56	63	48
Chloride (Cl)	mg/L		1	3	144	149	146.5	149	144	133
Conductivity	(µ/cm)		1	3	873	891	882	891	873	816
Copper (Cu)	mg/L		1	3	0.002	0.002	0.002	0.002	BDL*	0.001
Fluoride (F)	mg/L		1	3	0.2	0.2	0.2	0.2	0.2	0.2
Iron (Fe)	mg/L		1	3	0.37	0.42	0.395	0.37	0.42	BDL*
Lead (Pb)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Magnesium (Mg)	mg/L		1	3	40	40	40	40	40	34



Manganese (Mn)	mg/L	1	3	0.22	0.25	0.235	0.25	0.22	0.036
Nitrate (NO3-)	mg/L	1	3	0.62	1.28	0.94	0.62	0.92	1.28
Nitrogen as Ammonia (NH3)	mg/L	1	3	0.04	0.06	0.05	0.04	0.06	0.02
pH	pH Units	1	3	6.6	7	6.8	7	6.6	7.35
Potassium (K)	mg/L	1	3	6	6	6	6	6	7
Sodium (Na)	mg/L	1	3	45	46	45.5	46	45	49
Standing Water Level	m	1	3	31.4	32.6	32.18333	32.55	32.6	31.4
Sulfate (SO4)	mg/L	1	3	3	4	3.333333	4	3	3
Total Dissolved Solids	mg/L	1	3	449	552	485.6667	456	552	449
Total Organic Carbon	mg/L	1	3	8	14	11	14	8	3
Total Phenolics	mg/L	1	3	-	-	-	BDL*	BDL*	BDL*
Zinc (Zn)	mg/L	1	3	0.014	0.064	0.039	0.014	0.064	0.024

\*Below detection limit.

## Bowral Waste Centre

EPA Licence No: 13366

### Monitoring Point 8

(UTM Zone 56: 262241.047 East, 6180932.59 North)

Well labelled as "P3B" on map titled "Environmental Monitoring Points" submitted to the EPA on 10 December 2012

Sampling frequency: Every 6 months

Pollutant	Unit of Measure	100 Percentile Concentration Limit	No. of Samples Required by Licence	Total no. of samples collected and analysed	Lowest sample value	Highest sample value	Mean of samples	Sample Date		
								30/10/2019	15/04/2020	7/10/2020
Alkalinity (as CaCO <sub>3</sub> )	mg/L	<i>No concentration limits apply - sampling for monitoring purposes only</i>	1	3	158	191	174.5	158	191	180
Aluminium (Al)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Calcium (Ca)	mg/L		1	3	28	35	32	28	33	35
Chloride (Cl)	mg/L		1	3	52	54	53	52	54	49
Conductivity	(µ/cm)		1	3	502	532	517	502	532	502
Copper (Cu)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Flouride (F)	mg/L		1	3	0.1	0.1	0.1	0.1	0.1	BDL*
Iron (Fe)	mg/L		1	3	0.79	0.79	0.79	0.79	BDL*	BDL*
Lead (Pb)	mg/L		1	3	-	-	-	BDL*	BDL*	BDL*
Magnesium (Mg)	mg/L		1	3	20	25	22.33333	20	25	22



Manganese (Mn)	mg/L	1	3	0.164	0.192	0.178	0.164	0.192	0.031
Nitrate (NO3-)	mg/L	1	3	0.08	0.1	0.09	0.1	0.08	0.17
Nitrogen as Ammonia (NH3)	mg/L	1	3	0.02	0.07	0.045	0.07	0.02	BDL*
pH	pH Units	1	3	6.42	6.89	6.655	6.89	6.42	6.54
Potassium (K)	mg/L	1	3	4	5	4.666667	5	5	4
Sodium (Na)	mg/L	1	3	32	34	33	32	34	36
Standing Water Level	m	1	3	38.3	42.34	40.5	40.86	42.34	38.3
Sulfate (SO4)	mg/L	1	3	4	6	5	5	6	4
Total Dissolved Solids	mg/L	1	3	258	298	275.3333	258	298	270
Total Organic Carbon	mg/L	1	3	6	15	10.5	15	6	92
Total Phenolics	mg/L	1	3	-	-	-	BDL*	BDL*	BDL*
Zinc (Zn)	mg/L	1	3	0.014	0.024	0.019	0.014	0.024	0.010

\*Below detection limit.