

# Surface Water Results

## November 2023



### City of Newcastle - Summerhill Waste Management Centre

141 Minmi Road, Wallsend, NSW

Environment Protection Licence 5897 - Condition M2 – Special Frequency 1 (Daily during discharge)

Monthly rainfall = 80.2

Purpose of Sampling		SW56 & SW58a	SW56 & SW58a	SW56 & SW58a
<b>CN ID</b>	<b>EPL ID</b>	1/11/2023	2/11/2023	3/11/2023
<b>Parameter:</b>		<b>pH (pH unit)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	8.12	8.16	7.76
SW57	57	N/A	N/A	N/A
SW58a	61	7.46	7.49	7.60
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Electrical Conductivity (µS/cm)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	1070	1060	1060
SW57	57	N/A	N/A	N/A
SW58a	61	728	899	1050
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Suspended Solids (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	11	18	7
SW57	57	N/A	N/A	N/A
SW58a	61	10	5	2.5
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Ammonia (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	0.40	0.32	0.38
SW57	57	N/A	N/A	N/A
SW58a	61	<0.05	<0.05	0.06
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Biological Oxygen Demand (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	4	4	7
SW57	57	N/A	N/A	N/A
SW58a	61	2	6	5
SW59	66	N/A	N/A	N/A

# Surface Water Results

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Purpose of Sampling		SW56 & SW58a	SW56, SW57 & SW58a	SW57, SW58a & SW59
CN ID	EPL ID	4/11/2023	5/11/2023	6/11/2023
<b>Parameter:</b>		<b>pH (pH unit)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	8.11	7.70	N/A
SW57	57	N/A	7.15	7.17
SW58a	61	7.66	7.57	7.16
SW59	66	N/A	N/A	7.42
<b>Parameter:</b>		<b>Electrical Conductivity (µS/cm)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	1080	816	N/A
SW57	57	N/A	268	240
SW58a	61	1070	520	810
SW59	66	N/A	N/A	1110
<b>Parameter:</b>		<b>Suspended Solids (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	58	505	N/A
SW57	57	N/A	20	31
SW58a	61	18	136	130
SW59	66	N/A	N/A	56
<b>Parameter:</b>		<b>Ammonia (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	0.25	0.75	N/A
SW57	57	N/A	<0.05	<0.05
SW58a	61	<0.05	<0.05	<0.05
SW59	66	N/A	N/A	<0.05
<b>Parameter:</b>		<b>Biological Oxygen Demand (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	3	12	N/A
SW57	57	N/A	5	6
SW58a	61	6	6	8
SW59	66	N/A	N/A	4

# Surface Water Results

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Purpose of Sampling		SW57, SW58a & SW59	SW57, SW58a & SW59	SW57, SW58a & SW59
CN ID	EPL ID	7/11/2023	8/11/2023	9/11/2023
<b>Parameter:</b>		<b>pH (pH unit)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	7.17	6.98	7.05
SW58a	61	7.16	7.09	7.06
SW59	66	7.97	7.45	7.60
<b>Parameter:</b>		<b>Electrical Conductivity (µS/cm)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	244	245	248
SW58a	61	942	987	1000
SW59	66	1100	1120	1140
<b>Parameter:</b>		<b>Suspended Solids (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	20	15	17
SW58a	61	29	17	14
SW59	66	54	38	38
<b>Parameter:</b>		<b>Ammonia (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	<0.05	<0.05	<0.05
SW58a	61	<0.05	<0.05	<0.05
SW59	66	0.260	<0.05	0.45
<b>Parameter:</b>		<b>Biological Oxygen Demand (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	5	5	6
SW58a	61	3	3	3
SW59	66	3	3	3

# Surface Water Results

## November 2023

Purpose of Sampling		SW57, SW58a & SW59	SW57, SW58a & SW59	SW57, SW58a & SW59
CN ID	EPL ID	10/11/2023	11/11/23	12/11/23
<b>Parameter:</b>		<b>pH (pH unit)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	6.95	6.95	7.26
SW58a	61	7.06	7.04	7.11
SW59	66	7.74	7.72	8.22
<b>Parameter:</b>		<b>Electrical Conductivity (µS/cm)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	240	239	238
SW58a	61	835	927	957
SW59	66	1120	1130	1150
<b>Parameter:</b>		<b>Suspended Solids (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	18	15	17
SW58a	61	12	18	10
SW59	66	43	44	49
<b>Parameter:</b>		<b>Ammonia (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	<0.05	<0.05	<0.05
SW58a	61	<0.05	<0.05	<0.05
SW59	66	<0.05	0.10	0.07
<b>Parameter:</b>		<b>Biological Oxygen Demand (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	7	3	2
SW58a	61	4	<2	<2
SW59	66	3	2	2

# Surface Water Results

## November 2023

Purpose of Sampling		SW57, SW58a & SW59	SW55, SW58a & SW59	SW58a
CN ID	EPL ID	13/11/2023	14/11/23	15/11/23
<b>Parameter:</b>		<b>pH (pH unit)</b>		
SW55	55	N/A	7.45	N/A
SW56	56	N/A	N/A	N/A
SW57	57	7.48	N/A	N/A
SW58a	61	7.15	7.27	7.57
SW59	66	7.81	7.36	N/A
<b>Parameter:</b>		<b>Electrical Conductivity (µS/cm)</b>		
SW55	55	N/A	600	N/A
SW56	56	N/A	N/A	N/A
SW57	57	249	N/A	N/A
SW58a	61	960	957	952
SW59	66	1150	1030	N/A
<b>Parameter:</b>		<b>Suspended Solids (mg/L)</b>		
SW55	55	N/A	5	N/A
SW56	56	N/A	N/A	N/A
SW57	57	19	N/A	N/A
SW58a	61	35	12	18
SW59	66	38	54	N/A
<b>Parameter:</b>		<b>Ammonia (mg/L)</b>		
SW55	55	N/A	1.34	N/A
SW56	56	N/A	N/A	N/A
SW57	57	<0.05	N/A	N/A
SW58a	61	0.11	0.24	<0.05
SW59	66	<0.05	0.28	N/A
<b>Parameter:</b>		<b>Biological Oxygen Demand (mg/L)</b>		
SW55	55	N/A	3	N/A
SW56	56	N/A	N/A	N/A
SW57	57	<2	N/A	N/A
SW58a	61	<2	3	<2
SW59	66	<2	<2	N/A

# Surface Water Results

## November 2023

Purpose of Sampling		sW58	SW56 & SW58a	SW56 & SW58a
CN ID	EPL ID	16/11/2023	17/11/23	18/11/23
<b>Parameter:</b>		<b>pH (pH unit)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	7.62	7.58
SW57	57	N/A	N/A	N/A
SW58a	61	7.53	7.40	7.43
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Electrical Conductivity (µS/cm)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	698	701
SW57	57	N/A	N/A	N/A
SW58a	61	1000	961	809
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Suspended Solids (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	49	36
SW57	57	N/A	N/A	N/A
SW58a	61	35	37	22
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Ammonia (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	0.07	0.08
SW57	57	N/A	N/A	N/A
SW58a	61	<0.05	0.09	<0.05
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Biological Oxygen Demand (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	2	2
SW57	57	N/A	N/A	N/A
SW58a	61	<2	3	<2
SW59	66	N/A	N/A	N/A

# Surface Water Results

## November 2023

Purpose of Sampling		SW56 & SW58a	SW56 & SW58a	SW56, SW58a & SW59
CN ID	EPL ID	19/11/2023	20/11/23	21/11/23
<b>Parameter:</b>		<b>pH (pH unit)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	7.51	7.49	7.52
SW57	57	N/A	N/A	N/A
SW58a	61	7.45	7.41	7.45
SW59	66	N/A	N/A	7.45
<b>Parameter:</b>		<b>Electrical Conductivity (µS/cm)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	705	710	705
SW57	57	N/A	N/A	N/A
SW58a	61	813	785	753
SW59	66	N/A	N/A	1030
<b>Parameter:</b>		<b>Suspended Solids (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	38	35	35
SW57	57	N/A	N/A	N/A
SW58a	61	23	28	26
SW59	66	N/A	N/A	33
<b>Parameter:</b>		<b>Ammonia (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	<0.05	<0.05	<0.05
SW57	57	N/A	N/A	N/A
SW58a	61	<0.05	<0.05	<0.05
SW59	66	N/A	N/A	0.41
<b>Parameter:</b>		<b>Biological Oxygen Demand (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	2	3	<2
SW57	57	N/A	N/A	N/A
SW58a	61	<2	<2	<2
SW59	66	N/A	N/A	N/A

# Surface Water Results

## November 2023

Purpose of Sampling		SW56, SW58a & SW59	SW56, SW58a & SW59	SW58a
CN ID	EPL ID	22/11/2023	23/11/23	24/11/23
<b>Parameter:</b>		<b>pH (pH unit)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	7.53	7.58	N/A
SW57	57	N/A	N/A	N/A
SW58a	61	7.44	7.54	7.62
SW59	66	7.32	7.40	N/A
<b>Parameter:</b>		<b>Electrical Conductivity (µS/cm)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	713	717	N/A
SW57	57	N/A	N/A	N/A
SW58a	61	942	972	983
SW59	66	1100	1100	N/A
<b>Parameter:</b>		<b>Suspended Solids (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	43	183	N/A
SW57	57	N/A	N/A	N/A
SW58a	61	24	60	16
SW59	66	30	60	N/A
<b>Parameter:</b>		<b>Ammonia (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	43	183	N/A
SW57	57	<0.05	<0.05	N/A
SW58a	61	< 0.05	<0.05	0.05
SW59	66	0.41	0.38	N/A
<b>Parameter:</b>		<b>Biological Oxygen Demand (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	<2	<2	N/A
SW57	57	N/A	N/A	N/A
SW58a	61	<2	<2	<2
SW59	66	<2	<2	N/A



# Surface Water Results

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Purpose of Sampling		SW58a	N/A	N/A
CN ID	EPL ID	25/11/2023	26/11/23	27/11/23
<b>Parameter:</b>		<b>pH (pH unit)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	N/A	N/A	N/A
SW58a	61	7.39	N/A	N/A
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Electrical Conductivity (µS/cm)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	N/A	N/A	N/A
SW58a	61	771	N/A	N/A
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Suspended Solids (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	N/A	N/A	N/A
SW58a	61	12	N/A	N/A
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Ammonia (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	N/A	N/A	N/A
SW58a	61	0.05	N/A	N/A
SW59	66	N/A	N/A	N/A
<b>Parameter:</b>		<b>Biological Oxygen Demand (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	N/A	N/A	N/A
SW58a	61	2	N/A	N/A
SW59	66	N/A	N/A	N/A

# Surface Water Results

## November 2023

Purpose of Sampling		N/A	SW55, SW57, SW58a & SW59	SW56, SW58a & SW59
CN ID	EPL ID	28/11/2023	29/11/23	30/11/23
<b>Parameter:</b>		<b>pH (pH unit)</b>		
SW55	55	N/A	7.4	N/A
SW56	56	N/A	7.30	7.55
SW57	57	N/A	N/A	N/A
SW58a	61	N/A	7.38	7.55
SW59	66	N/A	7.50	7.62
<b>Parameter:</b>		<b>Electrical Conductivity (µS/cm)</b>		
SW55	55	N/A	620	N/A
SW56	56	N/A	737	725
SW57	57	N/A	N/A	N/A
SW58a	61	N/A	799	794
SW59	66	N/A	1160	1150
<b>Parameter:</b>		<b>Suspended Solids (mg/L)</b>		
SW55	55	N/A	5	N/A
SW56	56	N/A	44	38
SW57	57	N/A	N/A	N/A
SW58a	61	N/A	22	23
SW59	66	N/A	21	26
<b>Parameter:</b>		<b>Ammonia (mg/L)</b>		
SW55	55	N/A	2.13	N/A
SW56	56	N/A	0.66	0.26
SW57	57	N/A	N/A	N/A
SW58a	61	N/A	0.20	0.09
SW59	66	N/A	0.22	0.26
<b>Parameter:</b>		<b>Biological Oxygen Demand (mg/L)</b>		
SW55	55	N/A	N/A	N/A
SW56	56	N/A	N/A	N/A
SW57	57	N/A	N/A	N/A
SW58a	61	N/A	N/A	N/A
SW59	66	N/A	N/A	N/A

# Surface Water Results

## November 2023

Environment Protection Licence 5897 - Condition M2 – SF1, SF2 and SF3  
Sampling

	CN ID		SW55	SW55	SW56	SW56
	EPL ID		55	55	56	56
<b>DATE</b>			14/11/2023	29/11/2023	17/11/2023	28/11/2023
<b>Parameter</b>	<b>Units</b>	<b>LOR</b>				
Alkalinity (as calcium carbonate)	mg/L	1	158	177	98	134
Aluminium	mg/L	0.01	0.03	0.01	<0.01	0.01
Ammonia	mg/L	0.05	1.1	2.13	0.07	0.33
Arsenic	mg/L	0.001	0.004	0.004	0.001	0.002
Barium	mg/L	0.001	0.041	0.038	0.048	0.047
Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
BOD	mg/L	2	3	2	2	<2
Cadmium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L	1	26	26	30	34
Chloride	mg/L	1	73	70	147	134
Chromium (Hex)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
Chromium (Total)	mg/L	0.001	0.001	0.001	0.001	0.001
Cobalt	mg/L	0.001	<0.001	<0.001	<0.001	0.001
Copper	mg/L	0.001	<0.001	<0.001	0.001	<0.001
Electrical Conductivity	uS/cm	10	582	620	698	699
Ethyl benzene	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Fluoride	mg/L	0.1	0.4	0.4	0.4	0.4
Iron	mg/L	0.05	0.12	0.11	<0.05	<0.05
Lead	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L	1	13	13	14	15
Manganese	mg/L	0.001	0.332	0.367	0.218	0.592
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nitrate as N	mg/L	0.01	<0.01	<0.01	2.64	1.79
Organochlorine Pesticides	mg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Organophosphate Pesticides	mg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
pH	pH Units	0.01	7.56	7.44	7.62	7.67

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Polycyclic Aromatic Hydrocarbons	mg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Potassium	mg/L	1	16	15	8	8
Sodium	mg/L	1	68	67	88	90
Sulfate	mg/L	1	41	34	55	49
Total Suspended Solids	mg/L	5	6	5	49	13
Toluene	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Total Dissolved Solids	mg/L	10	340	370	636	622
Total Organic Carbon	mg/L	1	18	15	11	10
Total Petroleum Hydrocarbons	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Total Phenolics	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	0.014

	CN ID		SW57	SW58a	SW59	SW59	SW59
	EPL ID		57	58	59	59	59
<b>DATE</b>			05/11/23	28/11/23	06/11/23	21/11/23	28/11/23
<b>Parameter</b>	<b>Units</b>	<b>LOR</b>					
Alkalinity (as calcium carbonate)	mg/L	1	77	154	134	144	150
Aluminium	mg/L	0.01	<0.01	0.02	0.65	0.01	0.03
Ammonia	mg/L	0.05	<0.05	0.33	<0.05	0.41	0.42
Arsenic	mg/L	0.001	<0.001	0.004	0.002	0.005	0.003
Barium	mg/L	0.001	0.016	0.064	0.048	0.034	0.034
Benzene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
BOD	mg/L	2	5	4	4	5	<2
Cadmium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	mg/L	1	6	29	27	19	23
Chloride	mg/L	1	33	170	170	160	187
Chromium (Hex)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium (Total)	mg/L	0.001	0.001	0.001	0.001	0.001	0.001
Cobalt	mg/L	0.001	<0.001	0.004	<0.001	0.002	0.002
Copper	mg/L	0.001	<0.001	<0.001	0.003	<0.001	<0.001

# Surface Water Results

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Electrical Conductivity	uS/cm	10	268	870	1110	1030	1100
Ethyl benzene	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Fluoride	mg/L	0.1	0.3	0.5	0.5	0.6	0.6
Iron	mg/L	0.05	0.09	0.46	1.05	0.82	0.08
Lead	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001
Magnesium	mg/L	1	4	19	24	19	23
Manganese	mg/L	0.001	<0.001	1.79	0.508	0.667	0.554
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nitrate as N	mg/L	0.01	<0.01	0.02	0.16	0.02	0.01
Organochlorine Pesticides	mg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Organophosphate Pesticides	mg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
pH	pH Units	0.01	7.15	7.38	7.42	7.45	7.44
Polycyclic Aromatic Hydrocarbons	mg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Potassium	mg/L	1	9	9	7	5	7
Sodium	mg/L	1	41	132	171	158	177
Sulfate	mg/L	1	5	85	184	187	173
Total Suspended Solids	mg/L	5	20	22	56	33	8
Toluene	mg/L	0.002	2	<0.002	<0.002	<0.002	<0.002
Total Dissolved Solids	mg/L	10	168	572	691	784	718
Total Organic Carbon	mg/L	1	15	16	12	12	12
Total Petroleum Hydrocarbons	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Phenolics	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	mg/L	0.005	<0.005	<0.005	0.008	<0.005	0.016

# Surface Water Results

## November 2023

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### Summerhill Waste Management Centre

*141 Minmi Road, Wallsend, NSW*

Final data obtained:

Date published:

Notes:

CN = City of Newcastle

EPL = Environment Protection Licence

NR = no result (non-compliant sample, water body dry etc)

NA = Not applicable, sample not required

1. Water body not discharging from site
2. SW58a located in Wentworth Creek and impacted by other catchment activities.  
- bottle misplaced

A copy of the Environmental Protection Licence can be viewed at:

<http://app.epa.nsw.gov.au/prpoeoapp/>

A map showing the location of monitoring points can be viewed at:

<https://www.newcastle.nsw.gov.au/Living/Waste-and-recycling/Summerhill-Waste-management-Centre/Environmental-Monitoring>