

Operator: CWM Environmental Ltd
Permit: CP3735PB

Installation: Nantycaws Landfill Site
Form: Surface waters Q3 2022

Reporting of surface water monitoring for the period 01-Jul-2022 to 30-Sep-2022

Monitoring location	Substance / parameter ⁽⁶⁾	Test method ⁽²⁾	Date ⁽³⁾	Compliance limit ⁽⁷⁾	Result ^{(1) (4)}	Unit ⁽⁵⁾
SW201	Ionic balance	Calulation	12-Jul-2022		-3.21	%
	Electrical conductivity (field)	Field	12-Jul-2022		201	µS/cm
			16-Aug-2022		276	µS/cm
			06-Sep-2022		212	µS/cm
	Groundwater level/dip		12-Jul-2022		22	mm
			16-Aug-2022		22	mm
			06-Sep-2022		24	mm
	Water temperature		12-Jul-2022		19.3	°C
			16-Aug-2022		29.2	°C
			06-Sep-2022		19.3	°C
	Total Suspended solids	TM022	12-Jul-2022		2.05	mg/l
			15-Aug-2022		<2	mg/l
			06-Sep-2022		5.85	mg/l
	Bicarbonate alkalinity as CaCO3 (filtered)	TM043	12-Jul-2022		220	mg/l
	Total Alkalinity as CaCO3		12-Jul-2022		215	mg/l
	Total alkalinity as CaCO3 (filtered)		12-Jul-2022		220	mg/l
	Total organic carbon	TM090	12-Jul-2022		<3	mg/l
	Ammoniacal Nitrogen as N	TM099	12-Jul-2022		<0.2	mg/l
			15-Aug-2022		<0.2	mg/l
			06-Sep-2022		<0.2	mg/l
	Cadmium (filtered)	TM152	12-Jul-2022		<0.00008	mg/l
	Calcium (filtered)		12-Jul-2022		75.5	mg/l

Monitoring location	Substance / parameter ⁽⁶⁾	Test method ⁽²⁾	Date ⁽³⁾	Compliance limit ⁽⁷⁾	Result ^{(1) (4)}	Unit ⁽⁵⁾
SW201	Chromium (filtered)	TM152	12-Jul-2022		<0.001	mg/l
	Iron (filtered)		12-Jul-2022		<0.019	mg/l
	Lead (filtered)		12-Jul-2022		<0.0002	mg/l
	Magnesium (filtered)		12-Jul-2022		10.6	mg/l
	Manganese (filtered)		12-Jul-2022		0.0275	mg/l
	Nickel (filtered)		12-Jul-2022		<0.0004	mg/l
	Potassium (filtered)		12-Jul-2022		3.32	mg/l
	Sodium (filtered)		12-Jul-2022		9.88	mg/l
	Zinc (filtered)		12-Jul-2022		0.00426	mg/l
	4-Methylphenol	TM176	12-Jul-2022		<0.001	mg/l
	Diethyl phthalate		12-Jul-2022		<0.001	mg/l
	Chloride	TM184	12-Jul-2022		25.7	mg/l
			15-Aug-2022		46.9	mg/l
			06-Sep-2022		24	mg/l
	Nitrate as NO3		12-Jul-2022		6.01	mg/l
	Nitrite as NO2		12-Jul-2022		<0.05	mg/l
	Sulphate		12-Jul-2022		13.1	mg/l
	Total Oxidised Nitrogen as N		12-Jul-2022		1.36	mg/l
	Dichloromethane	TM208	12-Jul-2022		<0.006	mg/l
SW202	Electrical conductivity @20°C (lab)	TM256	12-Jul-2022		453	µS/cm
			15-Aug-2022		575	µS/cm
			06-Sep-2022		442	µS/cm
			12-Jul-2022		8.1	pH units
	pH (lab)		15-Aug-2022		7.46	pH units
			06-Sep-2022		8.29	pH units
			12-Jul-2022		<0.00004	mg/l
SW202	Mecoprop	TM411	12-Jul-2022		<0.00004	mg/l
	Ionic balance	Calulation	12-Jul-2022		-1.77	%
	Electrical conductivity (field)	Field	12-Jul-2022		272	µS/cm
			16-Aug-2022		263	µS/cm

Monitoring location	Substance / parameter ⁽⁶⁾	Test method ⁽²⁾	Date ⁽³⁾	Compliance limit ⁽⁷⁾	Result ^{(1) (4)}	Unit ⁽⁵⁾
SW202	Electrical conductivity (field)	Field	06-Sep-2022		230	µS/cm
	Groundwater level/dip		12-Jul-2022		28	mm
			16-Aug-2022		30	mm
			06-Sep-2022		33	mm
	Water temperature		12-Jul-2022		19	°C
			16-Aug-2022		30.1	°C
			06-Sep-2022		18.9	°C
	Total Suspended solids	TM022	12-Jul-2022		2.2	mg/l
			15-Aug-2022		<2	mg/l
			06-Sep-2022		3.1	mg/l
	Bicarbonate alkalinity as CaCO3 (filtered)	TM043	12-Jul-2022		220	mg/l
	Total Alkalinity as CaCO3		12-Jul-2022		211	mg/l
	Total alkalinity as CaCO3 (filtered)		12-Jul-2022		220	mg/l
	Total organic carbon	TM090	12-Jul-2022		3.85	mg/l
	Ammoniacal Nitrogen as N		12-Jul-2022		<0.2	mg/l
			15-Aug-2022		<0.2	mg/l
			06-Sep-2022		<0.2	mg/l
	Cadmium (filtered)	TM152	12-Jul-2022		<0.00008	mg/l
	Calcium (filtered)		12-Jul-2022		81.7	mg/l
	Chromium (filtered)		12-Jul-2022		<0.001	mg/l
	Iron (filtered)		12-Jul-2022		0.0216	mg/l
	Lead (filtered)		12-Jul-2022		<0.0002	mg/l
	Magnesium (filtered)		12-Jul-2022		8.14	mg/l
	Manganese (filtered)		12-Jul-2022		0.0457	mg/l
	Nickel (filtered)		12-Jul-2022		0.000675	mg/l
	Potassium (filtered)		12-Jul-2022		5.14	mg/l
	Sodium (filtered)		12-Jul-2022		13.1	mg/l
	Zinc (filtered)		12-Jul-2022		0.00979	mg/l
	4-Methylphenol		12-Jul-2022		<0.001	mg/l

Monitoring location	Substance / parameter ⁽⁶⁾	Test method ⁽²⁾	Date ⁽³⁾	Compliance limit ⁽⁷⁾	Result ^{(1) (4)}	Unit ⁽⁵⁾
SW202	Diethyl phthalate	TM176	12-Jul-2022		<0.001	mg/l
	Chloride	TM184	12-Jul-2022		29	mg/l
			15-Aug-2022		50.2	mg/l
			06-Sep-2022		28.4	mg/l
	Nitrate as NO3		12-Jul-2022		6.55	mg/l
	Nitrite as NO2		12-Jul-2022		<0.05	mg/l
	Sulphate		12-Jul-2022		15.5	mg/l
	Total Oxidised Nitrogen as N		12-Jul-2022		1.48	mg/l
	Dichloromethane	TM208	12-Jul-2022		<0.007	mg/l
	Electrical conductivity @20°C (lab)	TM256	12-Jul-2022		463	µS/cm
			15-Aug-2022		593	µS/cm
			06-Sep-2022		464	µS/cm
	pH (lab)		12-Jul-2022		8.11	pH units
			15-Aug-2022		8.26	pH units
			06-Sep-2022		8.19	pH units
	Mecoprop	TM411	12-Jul-2022		<0.00004	mg/l
SW203	Groundwater level/dip	Field	12-Jul-2022		DRY	m
			16-Aug-2022		DRY	m
			06-Sep-2022		DRY	m
SW204	Ionic balance	Calulation	12-Jul-2022		-1.77	%
	Electrical conductivity (field)	Field	12-Jul-2022		214	µS/cm
			16-Aug-2022		203	µS/cm
			06-Sep-2022		183	µS/cm
	Groundwater level/dip		12-Jul-2022		18	mm
			16-Aug-2022		25	mm
			06-Sep-2022		28	mm
	Water temperature		12-Jul-2022		22	°C
			16-Aug-2022		20.7	°C
			06-Sep-2022		21.7	°C

Monitoring location	Substance / parameter ⁽⁶⁾	Test method ⁽²⁾	Date ⁽³⁾	Compliance limit ⁽⁷⁾	Result ^{(1) (4)}	Unit ⁽⁵⁾
SW204	Total Suspended solids	TM022	12-Jul-2022		4.95	mg/l
			15-Aug-2022		<2	mg/l
			06-Sep-2022		<2	mg/l
	Bicarbonate alkalinity as CaCO3 (filtered)	TM043	12-Jul-2022		180	mg/l
	Total Alkalinity as CaCO3		12-Jul-2022		177	mg/l
	Total alkalinity as CaCO3 (filtered)		12-Jul-2022		180	mg/l
	Total organic carbon	TM090	12-Jul-2022		4.44	mg/l
	Ammoniacal Nitrogen as N	TM099	12-Jul-2022		<0.2	mg/l
			15-Aug-2022		<0.2	mg/l
			06-Sep-2022		<0.2	mg/l
	Cadmium (filtered)	TM152	12-Jul-2022		<0.00008	mg/l
	Calcium (filtered)		12-Jul-2022		74.7	mg/l
	Chromium (filtered)		12-Jul-2022		<0.001	mg/l
	Iron (filtered)		12-Jul-2022		<0.019	mg/l
	Lead (filtered)		12-Jul-2022		0.000261	mg/l
	Magnesium (filtered)		12-Jul-2022		5.59	mg/l
	Manganese (filtered)		12-Jul-2022		0.00434	mg/l
	Nickel (filtered)		12-Jul-2022		0.000889	mg/l
	Potassium (filtered)		12-Jul-2022		5.96	mg/l
	Sodium (filtered)		12-Jul-2022		9.79	mg/l
	Zinc (filtered)		12-Jul-2022		0.012	mg/l
	4-Methylphenol	TM176	12-Jul-2022		<0.001	mg/l
	Diethyl phthalate		12-Jul-2022		<0.001	mg/l
	Chloride	TM184	12-Jul-2022		20.6	mg/l
			15-Aug-2022		27.6	mg/l
			06-Sep-2022		16.6	mg/l
	Nitrate as NO3		12-Jul-2022		5.09	mg/l
	Nitrite as NO2		12-Jul-2022		<0.05	mg/l
	Sulphate		12-Jul-2022		32.3	mg/l

Monitoring location	Substance / parameter ⁽⁶⁾	Test method ⁽²⁾	Date ⁽³⁾	Compliance limit ⁽⁷⁾	Result ^{(1) (4)}	Unit ⁽⁵⁾
SW204	Total Oxidised Nitrogen as N	TM184	12-Jul-2022		1.15	mg/l
	Dichloromethane	TM208	12-Jul-2022		<0.006	mg/l
	Electrical conductivity @20°C (lab)	TM256	12-Jul-2022		416	µS/cm
			15-Aug-2022		460	µS/cm
			06-Sep-2022		371	µS/cm
	pH (lab)		12-Jul-2022		8.09	pH units
			15-Aug-2022		7.87	pH units
			06-Sep-2022		8.28	pH units
	Mecoprop	TM411	12-Jul-2022		<0.00004	mg/l
SW205a	Ionic balance	Calulation	12-Jul-2022		-3.17	%
	Electrical conductivity (field)	Field	12-Jul-2022		231	µS/cm
			16-Aug-2022		216	µS/cm
			06-Sep-2022		223	µS/cm
	Groundwater level/dip		12-Jul-2022		33	mm
			16-Aug-2022		38	mm
			06-Sep-2022		38	mm
	Water temperature		12-Jul-2022		21.6	°C
			16-Aug-2022		27.2	°C
			06-Sep-2022		18.9	°C
	Total Suspended solids	TM022	12-Jul-2022	<70 mg/l	5.25	mg/l
			15-Aug-2022	<70 mg/l	3.45	mg/l
			06-Sep-2022	<70 mg/l	<2	mg/l
	Bicarbonate alkalinity as CaCO3 (filtered)	TM043	12-Jul-2022		215	mg/l
	Total Alkalinity as CaCO3		12-Jul-2022		215	mg/l
	Total alkalinity as CaCO3 (filtered)		12-Jul-2022		215	mg/l
	Total organic carbon	TM090	12-Jul-2022		3.3	mg/l
	Ammoniacal Nitrogen as N	TM099	12-Jul-2022	<1.0 mg/l	<0.2	mg/l
			15-Aug-2022	<1.0 mg/l	<0.2	mg/l
			06-Sep-2022	<1.0 mg/l	<0.2	mg/l

Monitoring location	Substance / parameter ⁽⁶⁾	Test method ⁽²⁾	Date ⁽³⁾	Compliance limit ⁽⁷⁾	Result ^{(1) (4)}	Unit ⁽⁵⁾
SW205a	Cadmium (filtered)	TM152	12-Jul-2022	<0.0001 mg/l	<0.00008	mg/l
	Calcium (filtered)		12-Jul-2022		79.9	mg/l
	Chromium (filtered)		12-Jul-2022		<0.001	mg/l
	Iron (filtered)		12-Jul-2022		0.0247	mg/l
	Lead (filtered)		12-Jul-2022		<0.0002	mg/l
	Magnesium (filtered)		12-Jul-2022		7.91	mg/l
	Manganese (filtered)		12-Jul-2022		0.067	mg/l
	Nickel (filtered)		12-Jul-2022		0.000895	mg/l
	Potassium (filtered)		12-Jul-2022		4.97	mg/l
	Sodium (filtered)		12-Jul-2022		12.2	mg/l
	Zinc (filtered)		12-Jul-2022		0.0166	mg/l
	4-Methylphenol	TM176	12-Jul-2022	<0.001 mg/l	<0.001	mg/l
	Diethyl phthalate		12-Jul-2022	<0.003 mg/l	<0.001	mg/l
	Chloride	TM184	12-Jul-2022	<150 mg/l	30.9	mg/l
			15-Aug-2022	<150 mg/l	29	mg/l
			06-Sep-2022	<150 mg/l	28.6	mg/l
	Nitrate as NO3		12-Jul-2022		7.83	mg/l
	Nitrite as NO2		12-Jul-2022		<0.05	mg/l
	Sulphate		12-Jul-2022		16.5	mg/l
	Total Oxidised Nitrogen as N		12-Jul-2022		1.77	mg/l
	Dichloromethane	TM208	12-Jul-2022	<0.002 mg/l	<0.006	mg/l
	Electrical conductivity @20°C (lab)	TM256	12-Jul-2022		473	µS/cm
			15-Aug-2022		468	µS/cm
			06-Sep-2022		457	µS/cm
	pH (lab)		12-Jul-2022	6 to 9 pH units	8.16	pH units
			15-Aug-2022	6 to 9 pH units	8.22	pH units
			06-Sep-2022	6 to 9 pH units	8.42	pH units
	Mecoprop	TM411	12-Jul-2022	<0.000055 mg/l	<0.00004	mg/l
SW206	Electrical conductivity (field)	Field	16-Aug-2022		161	µS/cm

Monitoring location	Substance / parameter ⁽⁶⁾	Test method ⁽²⁾	Date ⁽³⁾	Compliance limit ⁽⁷⁾	Result ^{(1) (4)}	Unit ⁽⁵⁾
SW206	Electrical conductivity (field)	Field	06-Sep-2022		154	µS/cm
	Groundwater level/dip		12-Jul-2022		DRY	mm
			16-Aug-2022		33	mm
			06-Sep-2022		41	mm
	Water temperature		16-Aug-2022		27.1	°C
			06-Sep-2022		20.7	°C
	Total Suspended solids	TM022	15-Aug-2022	<50 mg/l	<2	mg/l
			06-Sep-2022	<50 mg/l	15.8	mg/l
	Ammoniacal Nitrogen as N	TM099	15-Aug-2022	<1.0 mg/l	<0.2	mg/l
			06-Sep-2022	<1.0 mg/l	<0.2	mg/l
	Chloride	TM184	15-Aug-2022	<150 mg/l	12.3	mg/l
			06-Sep-2022	<150 mg/l	12	mg/l
	Electrical conductivity @20°C (lab)	TM256	15-Aug-2022		337	µS/cm
			06-Sep-2022		330	µS/cm
	pH (lab)		15-Aug-2022	6 to 9 pH units	8.18	pH units
			06-Sep-2022	6 to 9 pH units	8.28	pH units
SW207	Ionic balance	Calulation	12-Jul-2022		-2.49	%
	Electrical conductivity (field)	Field	12-Jul-2022		229	µS/cm
			16-Aug-2022		217	µS/cm
			06-Sep-2022		192	µS/cm
	Groundwater level/dip		12-Jul-2022		38	mm
			16-Aug-2022		41	mm
			06-Sep-2022		52	mm
	Water temperature		12-Jul-2022		19.8	°C
			16-Aug-2022		25.1	°C
			06-Sep-2022		20.9	°C
	Total Suspended solids	TM022	12-Jul-2022		3.65	mg/l
			15-Aug-2022		<2	mg/l
			06-Sep-2022		2.65	mg/l

Monitoring location	Substance / parameter ⁽⁶⁾	Test method ⁽²⁾	Date ⁽³⁾	Compliance limit ⁽⁷⁾	Result ^{(1) (4)}	Unit ⁽⁵⁾
SW207	Bicarbonate alkalinity as CaCO3 (filtered)	TM043	12-Jul-2022		215	mg/l
	Total Alkalinity as CaCO3		12-Jul-2022		215	mg/l
	Total alkalinity as CaCO3 (filtered)		12-Jul-2022		215	mg/l
	Total organic carbon	TM090	12-Jul-2022		7.64	mg/l
	Ammoniacal Nitrogen as N	TM099	12-Jul-2022		<0.2	mg/l
			15-Aug-2022		<0.2	mg/l
			06-Sep-2022		<0.2	mg/l
	Cadmium (filtered)	TM152	12-Jul-2022		<0.00008	mg/l
	Calcium (filtered)		12-Jul-2022		81.5	mg/l
	Chromium (filtered)		12-Jul-2022		<0.001	mg/l
	Iron (filtered)		12-Jul-2022		0.0288	mg/l
	Lead (filtered)		12-Jul-2022		<0.0002	mg/l
	Magnesium (filtered)		12-Jul-2022		7.93	mg/l
	Manganese (filtered)		12-Jul-2022		0.0665	mg/l
	Nickel (filtered)		12-Jul-2022		<0.0004	mg/l
	Potassium (filtered)		12-Jul-2022		4.88	mg/l
	Sodium (filtered)		12-Jul-2022		12.1	mg/l
	Zinc (filtered)		12-Jul-2022		0.00827	mg/l
	4-Methylphenol	TM176	12-Jul-2022		<0.001	mg/l
	Diethyl phthalate		12-Jul-2022		<0.001	mg/l
	Chloride	TM184	12-Jul-2022		31	mg/l
			15-Aug-2022		30.6	mg/l
			06-Sep-2022		24.5	mg/l
	Nitrate as NO3		12-Jul-2022		8.57	mg/l
	Nitrite as NO2		12-Jul-2022		<0.05	mg/l
	Sulphate		12-Jul-2022		16	mg/l
	Total Oxidised Nitrogen as N		12-Jul-2022		1.94	mg/l
	Dichloromethane	TM208	12-Jul-2022		<0.006	mg/l
	Electrical conductivity @20°C (lab)	TM256	12-Jul-2022		477	µS/cm

Monitoring location	Substance / parameter ⁽⁶⁾	Test method ⁽²⁾	Date ⁽³⁾	Compliance limit ⁽⁷⁾	Result ^{(1) (4)}	Unit ⁽⁵⁾
SW207	Electrical conductivity @20°C (lab)	TM256	15-Aug-2022		429	µS/cm
			06-Sep-2022		403	µS/cm
	pH (lab)		12-Jul-2022		8.19	pH units
			15-Aug-2022		8.1	pH units
			06-Sep-2022		8.29	pH units
	Mecoprop	TM411	12-Jul-2022		<0.00004	mg/l

(1) The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

(2) Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

(3) For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

(4) The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated; refer to laboratory data sheets for specific uncertainty.

(5) Depths reported as metres (m) are metres above base of ditch / stream.

(6) For details of the sampling method, frequency and parameters measured / analysed for, refer to the site Environmental Monitoring Management Plan (EMMP).

(7) Where blank, there is no defined compliance limit specified for the monitoring location / parameter.

(8) Monitoring location SW206 was recorded as dry during July 2022 monitoring round therefore no surface measurements were possible at this location during July 2022.

Signature:.....

Date: 27 September 2022

(Authorised to sign as representative of
Operator)