



# Annual Return

WOLLONGONG CITY COUNCIL

Licence 5861

## A. Statement of Compliance - Licence Details

**ALL Licence holders must check that the Licence details in Section A are correct.**

If there are changes to any of these details, **you must advise Environment Protection Authority (EPA) and apply as soon as possible for a variation to your Licence or for a Licence transfer.**

Licence variation and transfer application forms are available on the EPA website at: <http://www.epa.nsw.gov.au/licensing-and-regulation/licensing> or from regional offices of the EPA, or by contacting by telephone 02 9995 5700.

If you are applying to vary or transfer your Licence, you must still complete and submit this Annual Return.

### A1. Licence holder

**Licence number** : 5861  
**Licence holder** : WOLLONGONG CITY COUNCIL  
**Trading name (if applicable)** :  
**ABN** : 63 139 525 939  
**ACN** :  
**Reporting period** : From: 29-5-2021 To: 28-5-2022

### A2. Premises to which Licence Applies (if applicable)

**Common name (if any)** : HELENSBURGH WASTE DISPOSAL DEPOT  
**Premises** : NIXON PLACE HELENSBURGH 2508 NSW

### A3. Activities to which Licence Applies

Waste disposal (application to land)

### A4. Other Activities (if applicable)

### A5. Fee-Based Activity Classifications

**Note** that the fee based activity classification is used to calculate the administrative fee.

Fee-based activity	Activity scale	Unit of measure
Waste disposal by application to land	> 0.00	capacity

### A6. Assessable Pollutants (if applicable)



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**Note** that the identification of assessable pollutants is used to calculate the **load-based fee**.  
The following assessable pollutants are identified for the fee-based activity classifications in the licence:

## B. Monitoring and Complaints Summary

### B1. Number of Pollution Complaints

Pollution Complaint Category	Complaints
Air	0
Water	0
Noise	0
Waste	0
Other	0
<b>Total complaints recorded by the licensee during the reporting period</b>	<b>0</b>

### B2. Concentration Monitoring Summary

For each concentration monitoring point identified in your licence, details are displayed below. If concentration monitoring is not required by your licence, **no data** will appear below.

If data was provided from an uploaded file, the file name will be displayed below instead of any data.

**Note** that this does not exclude the need to conduct appropriate concentration monitoring of assessable pollutants as required by load-based licensing (if applicable).

#### Discharge & Monitoring Point 1

Overflow drain, DP1 - Overflow from stormwater pond as specified in Drawing No 500 of City of W'gong, Helensburgh Waste Depot Ext, Leachate Disposal Syst, Site Plan, 10.11.95

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
pH	pH					
Total suspended solids	milligrams per litre					

#### Monitoring Point 2

Leachate Dam, Leachate Dam



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Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre					
Aluminium	milligrams per litre					
Arsenic	milligrams per litre					
Barium	milligrams per litre					
Benzene	milligrams per litre					
Cadmium	milligrams per litre					
Calcium	milligrams per litre					
Chloride	milligrams per litre					
Chromium (hexavalent)	milligrams per litre					
Chromium (total)	milligrams per litre					
Cobalt	milligrams per litre					
Conductivity	microsiemens per centimetre					
Copper	milligrams per litre					
Ethyl benzene	milligrams per litre					
Fluoride	milligrams per litre					
Lead	milligrams per litre					
Magnesium	milligrams per litre					
Manganese	milligrams per litre					
Mercury	milligrams per litre					
Nitrate	milligrams per litre					
Nitrite	milligrams per litre					
Nitrogen (ammonia)	milligrams per litre					



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Organochlorine pesticides	milligrams per litre					
Organophosphate pesticides	milligrams per litre					
pH	pH					
Phosphorus (total)	milligrams per litre					
Polycyclic aromatic hydrocarbons	milligrams per litre					
Potassium	milligrams per litre					
Sodium	milligrams per litre					
Sulfate	milligrams per litre					
Toluene	milligrams per litre					
Total dissolved solids	milligrams per litre					
Total organic carbon	milligrams per litre					
Total petroleum hydrocarbons	milligrams per litre					
Total Phenolics	milligrams per litre					
Total suspended solids	milligrams per litre					
Xylene	milligrams per litre					
Zinc	milligrams per litre					

### Monitoring Point 3

Landfill gas monitoring, Areas where intermediate or final cover has been placed

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Methane	percent by volume					

### Monitoring Point 4

Landfill gas monitoring, LFGMB1 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility, Nixon Place, Helensburgh", Douglas Partners, December 2011



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Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Methane	percent by volume					

## Monitoring Point 5

Ground water monitoring, BH1 - bore hole as shown on Plan 20298/SK 02 Site Plan

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre					
Aluminium	milligrams per litre					
Arsenic	milligrams per litre					
Barium	milligrams per litre					
Benzene	milligrams per litre					
Cadmium	milligrams per litre					
Calcium	milligrams per litre					
Chloride	milligrams per litre					
Chromium (hexavalent)	milligrams per litre					
Chromium (total)	milligrams per litre					
Cobalt	milligrams per litre					
Copper	milligrams per litre					
Ethyl benzene	milligrams per litre					
Fluoride	milligrams per litre					
Lead	milligrams per litre					
Magnesium	milligrams per litre					



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Manganese	milligrams per litre					
Mercury	milligrams per litre					
Nitrate	milligrams per litre					
Nitrite	milligrams per litre					
Nitrogen (ammonia)	milligrams per litre					
Organochlorine pesticides	milligrams per litre					
Organophosphate pesticides	milligrams per litre					
pH	pH					
Polycyclic aromatic hydrocarbons	milligrams per litre					
Potassium	milligrams per litre					
Sodium	milligrams per litre					
Standing Water Level	metres					
Sulfate	milligrams per litre					
Toluene	milligrams per litre					
Total dissolved solids	milligrams per litre					
Total organic carbon	milligrams per litre					
Total petroleum hydrocarbons	milligrams per litre					
Total Phenolics	milligrams per litre					
Xylene	milligrams per litre					
Zinc	milligrams per litre					

## Monitoring Point 6

**Groundwater monitoring, GWMB6 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility, Nixon Place, Helensburgh", Douglas Partners, December 2011**



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Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre					
Aluminium	milligrams per litre					
Arsenic	milligrams per litre					
Barium	milligrams per litre					
Benzene	milligrams per litre					
Cadmium	milligrams per litre					
Calcium	milligrams per litre					
Chloride	milligrams per litre					
Chromium (hexavalent)	milligrams per litre					
Chromium (total)	milligrams per litre					
Cobalt	milligrams per litre					
Copper	milligrams per litre					
Ethyl benzene	milligrams per litre					
Fluoride	milligrams per litre					
Lead	milligrams per litre					
Magnesium	milligrams per litre					
Manganese	milligrams per litre					
Mercury	milligrams per litre					
Nitrate	milligrams per litre					
Nitrite	milligrams per litre					
Nitrogen (ammonia)	milligrams per litre					
Organochlorine pesticides	milligrams per litre					



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Organophosphate pesticides	milligrams per litre					
pH	pH					
Polycyclic aromatic hydrocarbons	milligrams per litre					
Potassium	milligrams per litre					
Sodium	milligrams per litre					
Standing Water Level	metres					
Sulfate	milligrams per litre					
Toluene	milligrams per litre					
Total dissolved solids	milligrams per litre					
Total organic carbon	milligrams per litre					
Total petroleum hydrocarbons	milligrams per litre					
Total Phenolics	milligrams per litre					
Xylene	milligrams per litre					
Zinc	milligrams per litre					

## Monitoring Point 7

Ground water monitoring, BH4 - bore hole as shown on Plan 20298/SK 02 Site Plan

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre					
Aluminium	milligrams per litre					
Arsenic	milligrams per litre					
Barium	milligrams per litre					
Benzene	milligrams per litre					
Cadmium	milligrams per litre					





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Calcium	milligrams per litre					
Chloride	milligrams per litre					
Chromium (hexavalent)	milligrams per litre					
Chromium (total)	milligrams per litre					
Cobalt	milligrams per litre					
Copper	milligrams per litre					
Ethyl benzene	milligrams per litre					
Fluoride	milligrams per litre					
Lead	milligrams per litre					
Magnesium	milligrams per litre					
Manganese	milligrams per litre					
Mercury	milligrams per litre					
Nitrate	milligrams per litre					
Nitrite	milligrams per litre					
Nitrogen (ammonia)	milligrams per litre					
Organochlorine pesticides	milligrams per litre					
Organophosphate pesticides	milligrams per litre					
pH	pH					
Polycyclic aromatic hydrocarbons	milligrams per litre					
Potassium	milligrams per litre					
Sodium	milligrams per litre					
Standing Water Level	metres					
Sulfate	milligrams per litre					
Toluene	milligrams per litre					
Total dissolved solids	milligrams per litre					



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Total organic carbon	milligrams per litre					
Total petroleum hydrocarbons	milligrams per litre					
Total Phenolics	milligrams per litre					
Xylene	milligrams per litre					
Zinc	milligrams per litre					

## Monitoring Point 8

Surface water monitoring, WCC ref - Pony Club as shown on Plan 20298/SK 02 Site Plan

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Conductivity	microsiemens per centimetre					
Dissolved Oxygen	milligrams per litre					
Faecal Coliforms	colony forming units per 100 millilitres					
Nitrogen (ammonia)	milligrams per litre					
pH	pH					
Potassium	milligrams per litre					
Redox potential	millivolts					
Total dissolved solids	milligrams per litre					
Total organic carbon	milligrams per litre					

## Monitoring Point 12

Groundwater monitoring, LFGMB1 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility, Nixon Place, Helensburgh", Douglas Partners, December 2011

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre					



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Aluminium	milligrams per litre					
Arsenic	milligrams per litre					
Barium	milligrams per litre					
Benzene	milligrams per litre					
Cadmium	milligrams per litre					
Calcium	milligrams per litre					
Chloride	milligrams per litre					
Chromium (hexavalent)	milligrams per litre					
Chromium (total)	milligrams per litre					
Copper	milligrams per litre					
Ethyl benzene	milligrams per litre					
Fluoride	milligrams per litre					
Lead	milligrams per litre					
Magnesium	milligrams per litre					
Manganese	milligrams per litre					
Mercury	milligrams per litre					
Nitrate	milligrams per litre					
Nitrite	milligrams per litre					
Nitrogen (ammonia)	milligrams per litre					
Organochlorine pesticides	milligrams per litre					
Organophosphate pesticides	milligrams per litre					
Polycyclic aromatic hydrocarbons	milligrams per litre					
Potassium	milligrams per litre					
Sodium	milligrams per litre					



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Standing Water Level	metres					
Sulfate	milligrams per litre					
Toluene	milligrams per litre					
Total dissolved solids	milligrams per litre					
Total organic carbon	milligrams per litre					
Total petroleum hydrocarbons	milligrams per litre					
Total Phenolics	milligrams per litre					
Xylene	milligrams per litre					
Zinc	milligrams per litre					

## Monitoring Point 13

Groundwater monitoring, LFGMB2 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility, Nixon Place, Helensburgh", Douglas Partners, December 2011

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre					
Aluminium	milligrams per litre					
Arsenic	milligrams per litre					
Barium	milligrams per litre					
Benzene	milligrams per litre					
Cadmium	milligrams per litre					
Calcium	milligrams per litre					
Chloride	milligrams per litre					
Chromium (hexavalent)	milligrams per litre					
Chromium (total)	milligrams per litre					



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Copper	milligrams per litre					
Ethyl benzene	milligrams per litre					
Fluoride	milligrams per litre					
Lead	milligrams per litre					
Magnesium	milligrams per litre					
Manganese	milligrams per litre					
Mercury	milligrams per litre					
Nitrate	milligrams per litre					
Nitrite	milligrams per litre					
Nitrogen (ammonia)	milligrams per litre					
Organochlorine pesticides	milligrams per litre					
Organophosphate pesticides	milligrams per litre					
Polycyclic aromatic hydrocarbons	milligrams per litre					
Potassium	milligrams per litre					
Sodium	milligrams per litre					
Standing Water Level	metres					
Sulfate	milligrams per litre					
Toluene	milligrams per litre					
Total dissolved solids	milligrams per litre					
Total organic carbon	milligrams per litre					
Total petroleum hydrocarbons	milligrams per litre					
Total Phenolics	milligrams per litre					
Xylene	milligrams per litre					
Zinc	milligrams per litre					



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## Monitoring Point 14

Groundwater monitoring, LFGMB3 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility, Nixon Place, Helensburgh", Douglas Partners, December 2011

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre					
Aluminium	milligrams per litre					
Arsenic	milligrams per litre					
Barium	milligrams per litre					
Benzene	milligrams per litre					
Cadmium	milligrams per litre					
Calcium	milligrams per litre					
Chloride	milligrams per litre					
Chromium (hexavalent)	milligrams per litre					
Chromium (total)	milligrams per litre					
Copper	milligrams per litre					
Ethyl benzene	milligrams per litre					
Fluoride	milligrams per litre					
Lead	milligrams per litre					
Magnesium	milligrams per litre					
Manganese	milligrams per litre					
Mercury	milligrams per litre					
Nitrate	milligrams per litre					
Nitrite	milligrams per litre					
Nitrogen (ammonia)	milligrams per litre					



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Organochlorine pesticides	milligrams per litre					
Organophosphate pesticides	milligrams per litre					
Polycyclic aromatic hydrocarbons	milligrams per litre					
Potassium	milligrams per litre					
Sodium	milligrams per litre					
Standing Water Level	metres					
Sulfate	milligrams per litre					
Toluene	milligrams per litre					
Total dissolved solids	milligrams per litre					
Total organic carbon	milligrams per litre					
Total petroleum hydrocarbons	milligrams per litre					
Total Phenolics	milligrams per litre					
Xylene	milligrams per litre					
Zinc	milligrams per litre					

## Monitoring Point 15

Groundwater monitoring, LFGMB4 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility, Nixon Place, Helensburgh", Douglas Partners, December 2011

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre					
Aluminium	milligrams per litre					
Arsenic	milligrams per litre					
Barium	milligrams per litre					
Benzene	milligrams per litre					



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Cadmium	milligrams per litre					
Calcium	milligrams per litre					
Chloride	milligrams per litre					
Chromium (hexavalent)	milligrams per litre					
Chromium (total)	milligrams per litre					
Copper	milligrams per litre					
Ethyl benzene	milligrams per litre					
Fluoride	milligrams per litre					
Lead	milligrams per litre					
Magnesium	milligrams per litre					
Manganese	milligrams per litre					
Mercury	milligrams per litre					
Nitrate	milligrams per litre					
Nitrite	milligrams per litre					
Nitrogen (ammonia)	milligrams per litre					
Organochlorine pesticides	milligrams per litre					
Organophosphate pesticides	milligrams per litre					
Polycyclic aromatic hydrocarbons	milligrams per litre					
Potassium	milligrams per litre					
Sodium	milligrams per litre					
Standing Water Level	metres					
Sulfate	milligrams per litre					
Toluene	milligrams per litre					
Total dissolved solids	milligrams per litre					





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Total organic carbon	milligrams per litre					
Total petroleum hydrocarbons	milligrams per litre					
Total Phenolics	milligrams per litre					
Xylene	milligrams per litre					
Zinc	milligrams per litre					

## Monitoring Point 16

Groundwater monitoring, GWMB5 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility, Nixon Place, Helensburgh", Douglas Partners, December 2011

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre					
Aluminium	milligrams per litre					
Arsenic	milligrams per litre					
Barium	milligrams per litre					
Benzene	milligrams per litre					
Cadmium	milligrams per litre					
Calcium	milligrams per litre					
Chloride	milligrams per litre					
Chromium (hexavalent)	milligrams per litre					
Chromium (total)	milligrams per litre					
Copper	milligrams per litre					
Ethyl benzene	milligrams per litre					
Fluoride	milligrams per litre					
Lead	milligrams per litre					



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Magnesium	milligrams per litre					
Manganese	milligrams per litre					
Mercury	milligrams per litre					
Nitrate	milligrams per litre					
Nitrite	milligrams per litre					
Nitrogen (ammonia)	milligrams per litre					
Organochlorine pesticides	milligrams per litre					
Organophosphate pesticides	milligrams per litre					
Polycyclic aromatic hydrocarbons	milligrams per litre					
Potassium	milligrams per litre					
Sodium	milligrams per litre					
Standing Water Level	metres					
Sulfate	milligrams per litre					
Toluene	milligrams per litre					
Total dissolved solids	milligrams per litre					
Total organic carbon	milligrams per litre					
Total petroleum hydrocarbons	milligrams per litre					
Total Phenolics	milligrams per litre					
Xylene	milligrams per litre					
Zinc	milligrams per litre					

## Monitoring Point 17

**Landfill Gas Monitoring, LGB5 - "Former Helensburgh Waste Depot Landfill Gas Bore Completion Report", Meinhardt, December 2015 (E315656 N6216351). EPA Reference: DOC16/279048**



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Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Methane	percent by volume					

## Monitoring Point 18

Landfill Gas Monitoring, LGB6 - "Former Helensburgh Waste Depot Landfill Gas Bore Completion Report", Meinhardt, December 2015 (E315712 N6216262). EPA Reference: DOC16/279048

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Methane	percent by volume					

## Monitoring Point 19

Landfill Gas Monitoring, LGB7 - "Former Helensburgh Waste Depot Landfill Gas Bore Completion Report", Meinhardt, December 2015 (E315748 N6216200). EPA Reference: DOC16/279048

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Methane	percent by volume					

## Monitoring Point 20

Landfill Gas Monitoring, LGB8 - "Former Helensburgh Waste Depot Landfill Gas Bore Completion Report", Meinhardt, December 2015 (E315771 N6216116). EPA Reference: DOC16/279048

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Methane	percent by volume					

## Monitoring Point 21

Landfill Gas Monitoring, LGB9 - "Former Helensburgh Waste Depot Landfill Gas Bore Completion Report", Meinhardt, December 2015 (E315949 N6216094). EPA Reference: DOC16/279048



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Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Methane	percent by volume					

## Name of the uploaded file containing point data ▼

Helensburgh EPA Return 2022.pdf

## B2 Concentration Monitoring Comments

See attached spreadsheet for compliance data to address the points above.

## B3. Volume or Mass Monitoring Summary

For each volume or mass monitoring point identified in your licence, details are displayed below. If volume or mass monitoring is not required by your licence, **no data** will appear below.

If data was provided from an uploaded file, the file name will be displayed below instead of any data.

**Note** that this does not exclude the need to conduct appropriate volume or mass monitoring of assessable pollutants are required by load-based licensing (if applicable).

## C. Statement of Compliance - Licence Conditions

### C1. Compliance with Licence Conditions

Were all conditions of the licence complied with (including monitoring and reporting requirements)?	Yes
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## D. Statement of Compliance - Load Based Fee Calculation

If you are not required to monitor assessable pollutants by your licence, **no data** will appear below.

If assessable pollutants have been identified on your licence, the following worksheets for each assessable pollutant will determine your load based fee for the licence fee period to which this Annual Return relates.

**Loads of assessable pollutants must be calculated using any of the methods provided in EPA's Load Calculation Protocol for the relevant activity.** A Load Calculation Protocol would have been already sent to you with your licence. If you require additional copies, you can download the Protocol from the EPA's website or you can contact us on telephone 02 9995 5700.

You are required to keep all records used to calculate licence fees for four years after the licence fee was paid or became payable, whichever is the later date.



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## E. Statement of Compliance - Requirement to Prepare PIRMP

<b>Have you prepared a Pollution Incident Response Management Plan (PIRMP) as required under section 153A of the Protection of the Environment Operations (POEO) Act 1997?</b>		<b>Yes</b>
Is the PIRMP available at the premises?		<b>Yes</b>
Is the PIRMP available in a prominent position on a publicly accessible website?		<b>Yes</b>
Address of the web page where the PIRMP can be accessed ▼		
<a href="https://wollongong.nsw.gov.au/your-council/plans-and-reports/waste-site-reports">https://wollongong.nsw.gov.au/your-council/plans-and-reports/waste-site-reports</a>		
Has the PIRMP been tested?		<b>Yes</b>
The PIRMP was last tested on	<b>25-5-2022</b>	
Has the PIRMP been updated?		<b>Yes</b>
The PIRMP was last updated on	<b>27-5-2022</b>	
Number of times the PIRMP was activated in this reporting period?		<b>0</b>
The PIRMP was activated on		

## F. Statement of Compliance - Requirement to Publish Pollution Monitoring Data

<b>Are there any conditions attached to your licence that require pollution monitoring to be undertaken as required under section 66(6) of the Protection of the Environment Operations (POEO) Act 1997?</b>		<b>Yes</b>
Do you operate a website?		<b>Yes</b>
Is the pollution monitoring data published on your website in accordance with the EPA's written requirements for publishing pollution monitoring data?		<b>Yes</b>
Address of the web page where the pollution monitoring data can be accessed ▼		
<a href="https://wollongong.nsw.gov.au/your-council/plans-and-reports/waste-site-reports">https://wollongong.nsw.gov.au/your-council/plans-and-reports/waste-site-reports</a>		

## G. Statement of Compliance - Environment Management System and Practices

<b>Do you have an ISO 14001 certified Environmental Management System (EMS) OR any other system that EPA considers is equivalent to the accountability, procedures, documentation and record keeping requirements of an ISO 14001 certified EMS?</b>		<b>No</b>
Have you conducted an assessment of your activities and operations to identify the aspects that have a potential to cause environmental impacts and implemented operational controls to address these aspects?		<b>Yes</b>



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Have you established and implemented an operational maintenance program, including preventative maintenance?	Yes
Do you keep records of regular inspections and maintenance of plant and equipment?	Yes
Do you conduct regular (at least yearly) environmental audits at the premises that are conducted by a competent and independent person?	Yes
Have you undertaken an independent environmental audit covering documented environmental practices, procedures and systems in place during the annual return period?	No
Have you established and implemented an environmental improvement or management plan?	Yes
Do you train staff in environmental issues that may arise from your activities and operations at the premises and keep records of this?	Yes

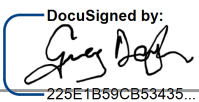
## H. Signature and Certification

**This Annual Return may only be signed by person(s) with legal authority to sign it as set out in following categories: an Individual, a Company, a Public authority or a Local council.**

**It is an offence under section 66 of the Protection of the Environment Operations Act 1997 to supply any information in this form that is false or misleading in a material respect, or to certify a statement that is false or misleading in a material respect. There is a maximum penalty of \$250,000 for a corporation and \$120,000 for an individual.**

I/We

- declare that the information in the Monitoring and Complaints Summary in Section B of this Annual Return application is correct and not false or misleading in a material respect, and
- certify that the information in the Statement and Compliance in sections A, C, D, E, F, G and H and any other pages attached to Section C is correct and not false or misleading in a material respect.

<b>Signature</b>	
<b>Name</b>	225E1B59CB53435... Greg Doyle
<b>Position</b>	General Manager
<b>Date</b>	/05 August 2022



# Annual Return

WOLLONGONG CITY COUNCIL

Licence 5861

## Declaration

**I declare that the information in the Monitoring and Complaints Summary in section B of this Annual Return is correct and not false or misleading in a material respect, and**

**I certify that the information in the Statement of Compliance in section A,C,D,E,F and G and any pages attached to Section C is correct and not false or misleading in a material respect.**

Concentration Monitoring  
Summary 29/5/2021 -  
28/5/2022

B2

For each monitoring point identified in your licence complete all the details for each pollutants listed in the tables provided below

<b>Discharge &amp; Monitoring Point 1</b>						
Overflow drain, DP1 - Overflow from stormwater pond as specified in Drawing No 500 of City of W'gong, Helensburgh Waste Depot Ext, Leachate Disposal Syst, Site Plan, 10.11.95						
Pollutant	Unit of Measure	No of samples required by licence	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
pH	pH					
Total suspended solids	milligrams per litre	Daily during any discharge	0	NA	NA	NA

<b>Monitoring Point 12</b>						
Groundwater monitoring, LFGMB1 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility,						
Pollutant	Unit of Measure	No of samples required by licence	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre	4	4	29	60.75	81
Aluminium	milligrams per litre	1	1	0.87	0.87	0.87
Arsenic	milligrams per litre	1	1	<0.001	<0.001	<0.001
Barium	milligrams per litre	1	1	0.010	0.01	0.010
Benzene	micrograms per litre	1	1	<1	<1	<1
Cadmium	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Calcium	milligrams per litre	4	4	9	17.5	25
Chloride	milligrams per litre	4	4	15	17	18
Chromium (hexavalent)	milligrams per litre	1	1	<0.01	<0.01	<0.01
Chromium (total)	milligrams per litre	1	1	<0.001	<0.001	<0.001
Copper	milligrams per litre	1	1	0.001	0.001	0.001
Ethyl benzene	micrograms per litre	1	1	<2	<2	<2
Fluoride	milligrams per litre	1	1	<0.1	<0.1	<0.1
Lead	milligrams per litre	1	1	<0.001	<0.001	<0.001
Magnesium	milligrams per litre	4	4	4	8.75	11
Manganese	micrograms per litre	1	1	0.007	0.007	0.007
Mercury	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Nitrate	milligrams per litre	1	1	0.36	0.36	0.36
Nitrite	milligrams per litre	1	1	<0.01	<0.01	<0.01
Nitrogen (ammonia)	milligrams per litre	4	4	<0.01	0.005	0.02
Organochlorine pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Organophosphate pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Polycyclic aromatic hydrocarbons	micrograms per litre	1	1	<0.5	<0.5	<0.5
Potassium	milligrams per litre	4	4	<1	1	2
Sodium	milligrams per litre	4	4	13	21	26
Standing Water Level	metres	4	4	1.50	2.3025	3.11
Sulfate	milligrams per litre	4	4	37	56.5	82
Toluene	micrograms per litre	1	1	<2	<2	<2
Total dissolved solids	milligrams per litre	4	4	143	174	196
Total organic carbon	milligrams per litre	4	4	<1	3.75	8
Total petroleum hydrocarbons	micrograms per litre	1	1	<100	<100	<100
Total Phenolics	milligrams per litre	1	1	<0.05	<0.05	<0.05
Xylene	micrograms per litre	1	1	<2	<2	<2
Zinc	milligrams per litre	1	1	<0.005	<0.005	<0.005



**Monitoring Point 13**

Groundwater monitoring, LFGMB2 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility,

Pollutant	Unit of Measure	No of samples required by licence	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre	4	4	22	70.75	164
Aluminium	milligrams per litre	1	1	153	153	153
Arsenic	milligrams per litre	1	1	0.011	0.011	0.011
Barium	milligrams per litre	1	1	0.178	0.178	0.178
Benzene	micrograms per litre	1	1	<1	<1	<1
Cadmium	milligrams per litre	1	1	0.0002	0.0002	0.0002
Calcium	milligrams per litre	4	4	11	17	22
Chloride	milligrams per litre	4	4	15	26.25	39
Chromium (hexavalent)	milligrams per litre	1	1	<0.01	<0.01	<0.01
Chromium (total)	milligrams per litre	1	1	0.261	0.261	0.261
Copper	milligrams per litre	1	1	0.053	0.053	0.053
Ethyl benzene	micrograms per litre	1	1	<2	<2	<2
Fluoride	milligrams per litre	1	1	<0.1	<0.1	<0.1
Lead	milligrams per litre	1	1	0.082	0.082	0.082
Magnesium	milligrams per litre	4	4	5	7	9
Manganese	micrograms per litre	1	1	0.047	0.047	0.047
Mercury	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Nitrate	milligrams per litre	1	1	0.62	0.62	0.62
Nitrite	milligrams per litre	1	1	<0.01	<0.01	<0.01
Nitrogen (ammonia)	milligrams per litre	4	4	<0.01	<0.01	<0.01
Organochlorine pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Organophosphate pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Polycyclic aromatic hydrocarbons	micrograms per litre	1	1	<0.5	<0.5	<0.5
Potassium	milligrams per litre	4	4	2	3.75	6
Sodium	milligrams per litre	4	4	9	20.75	32
Standing Water Level	metres	4	4	2.3	3.07	3.87
Sulfate	milligrams per litre	4	4	25	33.5	39
Toluene	micrograms per litre	1	1	<2	<2	<2
Total dissolved solids	milligrams per litre	4	4	128	216.25	377
Total organic carbon	milligrams per litre	4	4	2	4.25	8
Total petroleum hydrocarbons	milligrams per litre	1	1	<100	<100	<100
Total Phenolics	milligrams per litre	1	1	<0.05	<0.05	<0.05
Xylene	micrograms per litre	1	1	<2	<2	<2
Zinc	milligrams per litre	1	1	0.163	0.163	0.163

**Monitoring Point 14**

Groundwater monitoring, LFGMB3 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility,

Pollutant	Unit of Measure	No of samples required by licence	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre	4	4	12	14	16
Aluminium	milligrams per litre	1	1	7.84	7.84	7.84
Arsenic	milligrams per litre	1	1	0.002	0.002	0.002
Barium	milligrams per litre	1	1	0.017	0.017	0.017
Benzene	milligrams per litre	1	1	<1	<1	<1
Cadmium	milligrams per litre	1	1	0.0002	0.0002	0.0002
Calcium	milligrams per litre	4	4	5	7.5	12
Chloride	milligrams per litre	4	4	9	16.75	23
Chromium (hexavalent)	milligrams per litre	1	1	<0.01	<0.01	<0.01
Chromium (total)	milligrams per litre	1	1	0.01	0.01	0.01
Copper	milligrams per litre	1	1	0.01	0.01	0.01
Ethyl benzene	micrograms per litre	1	1	<2	<2	<2
Fluoride	milligrams per litre	1	1	<0.1	<0.1	<0.1
Lead	milligrams per litre	1	1	0.015	0.015	0.015
Magnesium	milligrams per litre	4	4	2	4	8
Manganese	micrograms per litre	1	1	0.013	0.013	0.013

Mercury	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Nitrate	milligrams per litre	1	1	0.47	0.47	0.47
Nitrite	milligrams per litre	1	1	<0.01	<0.01	<0.01
Nitrogen (ammonia)	milligrams per litre	4	4	<0.01	0.2375	0.88
Organochlorine pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Organophosphate pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Polycyclic aromatic hydrocarbons	milligrams per litre	1	1	<0.5	<0.5	<0.5
Potassium	milligrams per litre	4	4	<1	2	4
Sodium	milligrams per litre	4	4	9	14.25	23
Standing Water Level	metres	4	4	1.37	2.55	3.45
Sulfate	milligrams per litre	4	4	15	17.75	21
Toluene	milligrams per litre	1	1	<2	<2	<2
Total dissolved solids	milligrams per litre	4	4	60	89.25	148
Total organic carbon	milligrams per litre	4	4	<1	1.5	2
Total petroleum hydrocarbons	milligrams per litre	1	1	<100	<100	<100
Total Phenolics	milligrams per litre	1	1	<0.05	<0.05	<0.05
Xylene	milligrams per litre	1	1	<2	<2	<2
Zinc	milligrams per litre	1	1	0.033	0.033	0.033

**Monitoring Point 15**

Groundwater monitoring, LFGMB4 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility,

Pollutant	Unit of Measure	No of samples required by licence	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre	4	4	9	10.5	13
Aluminium	milligrams per litre	1	1	2.2	2.2	2.2
Arsenic	milligrams per litre	1	1	<0.001	<0.001	<0.001
Barium	milligrams per litre	1	1	0.007	0.007	0.007
Benzene	micrograms per litre	1	1	<1	<1	<1
Cadmium	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Calcium	milligrams per litre	4	4	5	8.25	11
Chloride	milligrams per litre	4	4	12	14.25	16
Chromium (hexavalent)	milligrams per litre	1	1	<0.01	<0.01	<0.01
Chromium (total)	milligrams per litre	1	1	0.003	0.003	0.003
Copper	milligrams per litre	1	1	0.002	0.002	0.002
Ethyl benzene	micrograms per litre	1	1	<2	<2	<2
Fluoride	milligrams per litre	1	1	<0.1	<0.1	<0.1
Lead	milligrams per litre	1	1	0.002	0.002	0.002
Magnesium	milligrams per litre	4	4	3	4	5
Manganese	micrograms per litre	1	1	0.039	0.039	0.039
Mercury	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Nitrate	milligrams per litre	1	1	2.33	2.33	2.33
Nitrite	milligrams per litre	1	1	<0.01	<0.01	<0.01
Nitrogen (ammonia)	milligrams per litre	4	4	<0.01	0.005	0.02
Organochlorine pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Organophosphate pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Polycyclic aromatic hydrocarbons	micrograms per litre	1	1	<0.5	<0.5	<0.5
Potassium	milligrams per litre	4	4	3	12.5	17
Sodium	milligrams per litre	4	4	9	14.25	24
Standing Water Level		4	4	1.12	2.2725	3.43
Sulfate	milligrams per litre	4	4	35	43	61
Toluene	micrograms per litre	1	1	<2	<2	<2
Total dissolved solids	milligrams per litre	4	4	106	117.25	129
Total organic carbon	milligrams per litre	4	4	<1	3.5	6
Total petroleum hydrocarbons	milligrams per litre	1	1	<100	<100	<100
Total Phenolics	milligrams per litre	1	1	<0.05	<0.05	<0.05
Xylene	micrograms per litre	1	1	<2	<2	<2
Zinc	milligrams per litre	1	1	0.01	0.01	0.01

<b>Monitoring Point 16</b>						
Groundwater monitoring, GWMB5 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility,						
<b>Pollutant</b>	<b>Unit of Measure</b>	<b>No of samples required by licence</b>	<b>No. of samples collected and analysed</b>	<b>Lowest sample value</b>	<b>Mean of sample</b>	<b>Highest sample value</b>
Alkalinity (as calcium carbonate)	milligrams per litre	4	4	<1	2	5
Aluminium	milligrams per litre	1	1	4.6	4.6	4.6
Arsenic	milligrams per litre	1	1	<0.001	<0.001	<0.001
Barium	milligrams per litre	1	1	0.03	0.03	0.03
Benzene	micrograms per litre	1	1	<1	<1	<1
Cadmium	milligrams per litre	1	1	0.0001	0.0001	0.0001
Calcium	milligrams per litre	4	4	4	6.25	12
Chloride	milligrams per litre	4	4	36	39	43
Chromium (hexavalent)	milligrams per litre	1	1	<0.01	<0.01	<0.01
Chromium (total)	milligrams per litre	1	1	0.017	0.017	0.017
Copper	milligrams per litre	1	1	0.015	0.015	0.015
Ethyl benzene	micrograms per litre	1	1	<2	<2	<2
Fluoride	milligrams per litre	1	1	<0.1	<0.1	<0.1
Lead	milligrams per litre	1	1	0.011	0.011	0.011
Magnesium	milligrams per litre	4	4	4	4.5	5
Manganese	micrograms per litre	1	1	0.16	0.16	0.16
Mercury	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Nitrate	milligrams per litre	1	1	0.15	0.15	0.15
Nitrite	milligrams per litre	1	1	<0.01	<0.01	<0.01
Nitrogen (ammonia)	milligrams per litre	4	4	<0.01	0.0075	0.02
Organochlorine pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Organophosphate pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Polycyclic aromatic hydrocarbons	micrograms per litre	1	1	<0.5	<0.5	<0.5
Potassium	milligrams per litre	4	4	<1	4	16
Sodium	milligrams per litre	4	4	11	22.75	32
Standing Water Level	metres	4	4	3.6	4.57	5.43
Sulfate	milligrams per litre	4	4	21	22.75	24
Toluene	micrograms per litre	1	1	<2	<2	<2
Total dissolved solids	milligrams per litre	4	4	109	120.25	126
Total organic carbon	milligrams per litre	4	4	<1	1	2
Total petroleum hydrocarbons	milligrams per litre	1	1	<100	<100	<100
Total Phenolics	milligrams per litre	1	1	<0.05	<0.05	<0.05
Xylene	micrograms per litre	1	1	<2	<2	<2
Zinc	milligrams per litre	1	1	0.038	0.038	0.038

<b>Monitoring Point 17</b>						
Landfill Gas Monitoring, LGB5 - "Former Helensburgh Waste Depot Landfill Gas Bore Completion Report", Meinhardt, December 2015						
<b>Pollutant</b>	<b>Unit of Measure</b>	<b>No of samples required by licence</b>	<b>No. of samples collected and analysed</b>	<b>Lowest sample value</b>	<b>Mean of sample</b>	<b>Highest sample value</b>
Methane	percent by volume	1	1	<0.00001	<0.00001	<0.00001

<b>Monitoring Point 18</b>						
Landfill Gas Monitoring, LGB6 - "Former Helensburgh Waste Depot Landfill Gas Bore Completion Report", Meinhardt, December 2015						
<b>Pollutant</b>	<b>Unit of Measure</b>	<b>No of samples required by licence</b>	<b>No. of samples collected and analysed</b>	<b>Lowest sample value</b>	<b>Mean of sample</b>	<b>Highest sample value</b>
Methane	percent by volume	1	1	<0.00001	<0.00001	<0.00001

<b>Monitoring Point 19</b>						
Landfill Gas Monitoring, LGB7 - "Former Helensburgh Waste Depot Landfill Gas Bore Completion Report", Meinhardt, December 2015						
<b>Pollutant</b>	<b>Unit of Measure</b>	<b>No of samples required by licence</b>	<b>No. of samples collected and analysed</b>	<b>Lowest sample value</b>	<b>Mean of sample</b>	<b>Highest sample value</b>
Methane	percent by volume	1	1	<0.00001	<0.00001	<0.00001

<b>Monitoring Point 2</b>						
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Leachate Dam, Leachate Dam						
Pollutant	Unit of Measure	No of samples required by licence	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as Calcium Carbonate)	milligrams per litre	1	1	200	200	200
Aluminium	milligrams per litre	1	1	2	2	2
Arsenic	milligrams per litre	1	1	0.001	0.001	0.001
Barium	milligrams per litre	1	1	0.044	0.044	0.044
Benzene	microgram per litre	1	1	<1	<1	<1
Cadmium	milligrams per litre	1	1	0.0002	0.0002	0.0002
Calcium	milligrams per litre	1	1	37	37	37
Chloride	milligrams per litre	1	1	32	32	32
Chromium (Hexavalent)	milligrams per litre	1	1	<0.01	<0.01	<0.01
Chromium (Total)	milligrams per litre	1	1	0.002	0.002	0.002
Cobalt	milligrams per litre	1	1	0.006	0.006	0.006
Conductivity	microsiemens per centimeter	4	4	593	1190.75	1740
Copper	milligrams per litre	1	1	0.009	0.009	0.009
Ethyl Benzene	micrograms per litre	1	1	<2	<2	<2
Fluoride	milligrams per litre	1	1	<0.1	<0.1	<0.1
Lead	milligrams per litre	1	1	0.008	0.008	0.008
Magnesium	milligrams per litre	1	1	28	28	28
Manganese	milligrams per litre	1	1	0.344	0.344	0.344
Mercury	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Nitrate	milligrams per litre	1	1	0.05	0.05	0.05
Nitrite	milligrams per litre	1	1	<0.01	<0.01	<0.01
Nitrogen (Ammonia)	milligrams per litre	1	1	1.01	1.01	1.01
Organochlorine pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Organophosphate pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
pH	pH	1	1	6.3	6.3	7.5
Phosphorus (Total)	milligrams per litre	1	1	0.01	0.01	0.01
Polycyclic Aromatic Hydrocarbons	micrograms per litre	1	1	<0.5	<0.5	<0.5
Potassium	milligrams per litre	1	1	<1	<1	<1
Sodium	milligrams per litre	1	1	82	82	82
Sulfate	milligrams per litre	1	1	84	84	84
Toluene	micrograms per litre	1	1	<2	<2	<2

Total Dissolved Solids	milligrams per litre	1	1	331	331	331
Total Organic Carbon	milligrams per litre	1	1	5	5	5
Total Petroleum Hydrocarbons	milligrams per litre	1	1	<100	<100	<100
Total Phenolics	milligrams per litre	1	1	<0.05	<0.05	<0.05
Total Suspended Solids	milligrams per litre	1	1	<2	<2	<2
Xylene	micrograms per litre	1	1	1.14	1.14	1.14
Zinc	milligrams per litre	1	1	<0.005	<0.005	<0.005

<b>Monitoring Point 20</b>						
Landfill Gas Monitoring, LGB8 - "Former Helensburgh Waste Depot Landfill Gas Bore Completion Report", Meinhardt, December 2015 (E315771 N6216116). EPA Reference: DOC16/279048						
Pollutant	Unit of Measure	required by licence	collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Methane	percent by volume	1	1	<0.00001	<0.00001	<0.00001

<b>Monitoring Point 21</b>						
Landfill Gas Monitoring, LGB9 - "Former Helensburgh Waste Depot Landfill Gas Bore Completion Report", Meinhardt, December 2015 (E315949 N6216094). EPA Reference: DOC16/279048						
Pollutant	Unit of Measure	required by licence	collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Methane	percent by volume	1	1	<0.00001	<0.00001	<0.00001

<b>Monitoring Point 3</b>						
Landfill gas monitoring, Areas where intermediate or final cover has been placed						
Pollutant	Unit of Measure	No. of samples required by licence	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Methane	percent by volume	1	1	0.00005	0.000863899	0.0772

<b>Monitoring Point 4</b>						
Landfill gas monitoring, LFGMB1 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility, Nixon Place, Helensburgh", Douglas Partners, December 2011						
Pollutant	Unit of Measure	No. of samples required by licence	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Methane	percent by volume	1	4	<0.00001	<0.00001	<0.00001

**Monitoring Point 5**

Ground water monitoring, BH1 - bore hole as shown on Plan 20298/SK 02 Site Plan

Pollutant	Unit of Measure	No of samples required by licence	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre	4	4	<1	9.25	27
Aluminium	milligrams per litre	1	1	3.13	3.13	3.13
Arsenic	milligrams per litre	1	1	0.002	0.002	0.002
Barium	milligrams per litre	1	1	0.045	0.045	0.045
Benzene	micrograms per litre	1	1	<1	<1	<1
Cadmium	milligrams per litre	1	1	0.0004	0.0004	0.0004
Calcium	milligrams per litre	4	4	14	26.25	33
Chloride	milligrams per litre	4	4	148	169.75	188
Chromium (hexavalent)	milligrams per litre	1	1	<0.01	<0.01	<0.01
Chromium (total)	milligrams per litre	1	1	0.003	0.003	0.003
Cobalt	milligrams per litre	1	1	0.006	0.006	0.006
Copper	milligrams per litre	1	1	0.017	0.017	0.017
Ethyl benzene	micrograms per litre	1	1	<2	<2	<2
Fluoride	milligrams per litre	1	1	<0.1	<0.1	<0.1
Lead	milligrams per litre	1	1	0.017	0.017	0.017
Magnesium	milligrams per litre	4	4	15	23.25	28
Manganese	micrograms per litre	1	1	0.337	0.337	0.337
Mercury	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Nitrate	milligrams per litre	1	1	0.17	0.17	0.17
Nitrite	milligrams per litre	1	1	<0.01	<0.01	<0.01
Nitrogen (ammonia)	milligrams per litre	4	4	0.01	0.2175	0.58
Organochlorine pesticides	micrograms per litre	1	1	<0.5	<0.5	<0.5
Organophosphate pesticides	micrograms per litre	1	1	<0.5	<0.5	<0.5
pH	pH	4	4	4.5	4.85	5.3
Polycyclic aromatic hydrocarbons	micrograms per litre	1	1	<0.5	<0.5	<0.5
Potassium	milligrams per litre	4	4	<1	<1	<1
Sodium	milligrams per litre	4	4	74	78.25	85
Standing Water Level	metres	4	4	2.53	3.375	4.28
Sulfate	milligrams per litre	4	4	76	124.75	152
Toluene	micrograms per litre	1	1	<2	<2	<2
Total dissolved solids	milligrams per litre	4	4	365	507.25	622
Total organic carbon	milligrams per litre	4	4	3	3.75	5
Total petroleum hydrocarbons	micrograms per litre	1	1	<100	<100	<100
Total Phenolics	milligrams per litre	1	1	<0.05	<0.05	<0.05
Xylene	micrograms per litre	1	1	<2	<2	<2
Zinc	milligrams per litre	1	1	1.41	1.41	1.41

**Monitoring Point 6**

Groundwater monitoring, GWMB6 - "Well Locations - Installation of Groundwater and Gas Monitoring Wells - Helensburgh Waste Facility, Nixon Place, Helensburgh", Douglas Partners, December 2011

Pollutant	Unit of Measure	No of samples required by licence	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre	4	3	235	263	308
Aluminium	milligrams per litre	1	1	1.64	1.64	1.64
Arsenic	milligrams per litre	1	1	0.009	0.009	0.009
Barium	milligrams per litre	1	1	0.185	0.185	0.185
Benzene	micrograms per litre	1	1	<1	<1	<1
Cadmium	milligrams per litre	1	1	0.0002	0.0002	0.0002
Calcium	milligrams per litre	4	3	53	58.3333	67
Chloride	milligrams per litre	4	3	11	16	20
Chromium (hexavalent)	milligrams per litre	1	1	<0.01	<0.01	<0.01
Chromium (total)	milligrams per litre	1	1	0.008	0.008	0.008
Cobalt	milligrams per litre	1	1	0.005	0.005	0.005

Copper		1	1	0.009	0.009	0.009
Ethyl benzene	micrograms per litre	1	1	<2	<2	<2
Fluoride	milligrams per litre	1	1	0.1	0.1	0.1
Lead	milligrams per litre	1	1	0.006	0.006	0.006
Magnesium	milligrams per litre	4	3	26	29.6667	36
Manganese	micrograms per litre	1	1	0.274	0.274	0.274
Mercury	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Nitrate	milligrams per litre	1	1	0.04	0.04	0.04
Nitrite	milligrams per litre	1	1	<0.01	<0.01	<0.01
Nitrogen (ammonia)	milligrams per litre	4	3	<0.01	0.0233	0.04
Organochlorine pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Organophosphate pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
pH	pH	4	3	7	7.1	7.2
Polycyclic aromatic hydrocarbons	micrograms per litre	1	1	<0.5	<0.5	<0.5
Potassium	milligrams per litre	4	3	3	3.3333	4
Sodium	milligrams per litre	4	3	13	17.6667	22
Standing Water Level	metres	4	3	1.35	1.6967	2.14
Sulfate	milligrams per litre	4	3	<10	1.3333	2
Toluene	micrograms per litre	1	1	<2	<2	<2
Total dissolved solids	milligrams per litre	4	3	335	405.3333	483
Total organic carbon	milligrams per litre	4	3	10	11.6667	14
Total petroleum hydrocarbons	milligrams per litre	1	1	<100	<100	<100
Total Phenolics	milligrams per litre	1	1	<0.05	<0.05	<0.05
Xylene	micrograms per litre	1	1	<2	<2	<2
Zinc	milligrams per litre	1	1	0.016	0.016	0.016

**Monitoring Point 7**

Ground water monitoring, BH4 - bore hole as shown on Plan 20298/SK 02 Site Plan

Pollutant	Unit of Measure	No of samples required by licence	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Alkalinity (as calcium carbonate)	milligrams per litre	4	3	<1	3.6667	9
Aluminium	milligrams per litre	1	1	2.23	2.23	2.23
Arsenic	milligrams per litre	1	1	<0.001	<0.001	<0.001
Barium	milligrams per litre	1	1	0.02	0.02	0.02
Benzene	micrograms per litre	1	1	<1	<1	<1
Cadmium	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Calcium	milligrams per litre	4	3	<1	0.3333	1
Chloride	milligrams per litre	4	3	90	104.6667	115
Chromium (hexavalent)	milligrams per litre	1	1	<0.01	<0.01	<0.01
Chromium (total)	milligrams per litre	1	1	0.001	0.001	0.001
Cobalt	milligrams per litre	1	1	0.003	0.003	0.003
Copper	milligrams per litre	1	1	0.002	0.002	0.002
Ethyl benzene	micrograms per litre	1	1	<2	<2	<2
Fluoride	milligrams per litre	1	1	<0.1	<0.1	<0.1
Lead	milligrams per litre	1	1	0.004	0.004	0.004
Magnesium	milligrams per litre	4	3	5	5	5
Manganese	micrograms per litre	1	1	0.091	0.091	0.091
Mercury	milligrams per litre	1	1	<0.0001	<0.0001	<0.0001
Nitrate	milligrams per litre	1	1	0.88	0.88	0.88
Nitrite	milligrams per litre	1	1	<0.01	<0.01	<0.01
Nitrogen (ammonia)	milligrams per litre	4	3	<0.01	0.0067	0.02
Organochlorine pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
Organophosphate pesticides	milligrams per litre	1	1	<0.5	<0.5	<0.5
pH	pH	4	3	4.4	4.4333	4.5
Polycyclic aromatic hydrocarbons	milligrams per litre	1	1	<0.5	<0.5	<0.5
Potassium	milligrams per litre	4	3	<1	0.6667	1
Sodium	milligrams per litre	4	3	87	94.6667	108
Standing Water Level	metres	4	3	1.3	3.8767	8.12
Sulfate	milligrams per litre	4	3	89	97.3333	110
Toluene	micrograms per litre	1	1	<2	<2	<2
Total dissolved solids	milligrams per litre	4	3	317	383	464
Total organic carbon	milligrams per litre	4	3	2	3	4
Total petroleum hydrocarbons	milligrams per litre	1	1	<100	<100	<100
Total Phenolics	milligrams per litre	1	1	<0.05	<0.05	<0.05
Xylene	micrograms per litre	1	1	<2	<2	<2
Zinc	milligrams per litre	1	1	0.02	0.02	0.02



**Monitoring Point 8**

Surface water monitoring, WCC ref - Pony Club as shown on Plan 20298/SK 02 Site Plan

<b>Pollutant</b>	<b>Unit of Measure</b>	<b>No of samples required by licence</b>	<b>No. of samples collected and analysed</b>	<b>Lowest sample value</b>	<b>Mean of sample</b>	<b>Highest sample value</b>
Conductivity	microsiemens per centimeter	4	4	446	1022.25	1510
Dissolved Oxygen	milligrams per litre	4	4	4.3	9.84	16.4
Faecal Coliforms	colony forming units per 100 millilitres	4	4	~12	2.5	10
Nitrogen (Ammonia)	milligrams per litre	4	4	0.06	7.9025	20.9
pH	pH	4	4	7.2	7.875	8.5
Potassium	milligrams per litre	4	4	<1	18.75	41
Redox Potential	millivolts	4	4	81.5	153.875	195
Total Dissolved Solids	milligrams per litre	4	4	333	569.5	842
Total Organic Carbon	milligrams per litre	4	4	19	25.75	29





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