

WOLLONGONG CITY COUNCIL

Licence 5862

### 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 : 5862

Licence holder : WOLLONGONG CITY COUNCIL

Trading name (if applicable)

**ABN** : 63 139 525 939

ACN :

**Reporting period** : From: 29-5-2020 To: 28-5-2021

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

Common name (if any) : WHYTES GULLY WASTE DISPOSAL FACILITY

Premises : REDDALLS ROAD KEMBLA GRANGE 2526 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)



WOLLONGONG CITY COUNCIL
Licence 5862

**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   | 97         |
| Water   | 0          |
| Noise   | 0          |
| Waste   | 0          |
| Other   | 0          |
| Total complaints recorded by the licensee during the reporting period | 97         |

#### **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**

Stormwater monitoring and discharge point, Outlet at Reddalls Road - Monitoring point identified at E297772 N6184025.

| Pollutant                         | Unit of<br>measure             | No. of samples required | No. of<br>samples<br>collected<br>and<br>analysed | Lowest<br>sample<br>value | Mean of sample | Highest<br>sample<br>value |
|-----------------------------------|--------------------------------|-------------------------|---|---------------------------|----------------|----------------------------|
| Alkalinity (as calcium carbonate) | milligrams per<br>litre        |                         |   |                           |                |                            |
| Ammonia                           | milligrams per<br>litre        |                         |   |                           |                |                            |
| Calcium                           | milligrams per<br>litre        |                         |   |                           |                |                            |
| Chloride                          | milligrams per<br>litre        |                         |   |                           |                |                            |
| Conductivity                      | microsiemens<br>per centimetre |                         |   |                           |                |                            |
| Dissolved Oxygen                  | milligrams per<br>litre        |                         |   |                           |                |                            |



### WOLLONGONG CITY COUNCIL Licence 5862

| Filterable iron        | milligrams per<br>litre |  |  |  |
|------------------------|-------------------------|--|--|--|
| Fluoride               | milligrams per<br>litre |  |  |  |
| Magnesium              | milligrams per<br>litre |  |  |  |
| Nitrate                | milligrams per<br>litre |  |  |  |
| рН                     | рН                      |  |  |  |
| Potassium              | milligrams per<br>litre |  |  |  |
| Sodium                 | milligrams per<br>litre |  |  |  |
| Sulfate                | milligrams per<br>litre |  |  |  |
| Temperature            | degrees<br>Celsius      |  |  |  |
| Total organic carbon   | milligrams per<br>litre |  |  |  |
| Total Phenolics        | milligrams per<br>litre |  |  |  |
| Total suspended solids | milligrams per<br>litre |  |  |  |

### **Monitoring Point 3**

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

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

### **Monitoring Point 4**

Gas accumulation monitoring, Inside all buildings within 250 metres of deposited waste.

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

### **Monitoring Point 5**



WOLLONGONG CITY COUNCIL Licence 5862

Groundwater quality monitoring , Monitoring point labelled GABH02 on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297754.9 N6184377

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



### WOLLONGONG CITY COUNCIL Licence 5862

| Nitrite                          | milligrams per<br>litre    |  |  |  |
|----------------------------------|----------------------------|--|--|--|
| Nitrogen (ammonia)               | milligrams per<br>litre    |  |  |  |
| Organochlorine pesticides        | milligrams per<br>litre    |  |  |  |
| Organophosphate pesticides       | milligrams per<br>litre    |  |  |  |
| рН                               | рН                         |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre    |  |  |  |
| Potassium                        | milligrams per<br>litre    |  |  |  |
| Sodium                           | milligrams per<br>litre    |  |  |  |
| Standing Water<br>Level          | metres                     |  |  |  |
| Sulfate                          | milligrams per<br>litre    |  |  |  |
| Toluene                          | milligrams per<br>litre    |  |  |  |
| Total dissolved solids           | milligrams per<br>litre    |  |  |  |
| Total organic carbon             | milligrams per<br>litre    |  |  |  |
| Total petroleum hydrocarbons     | milligrams per<br>litre    |  |  |  |
| Total Phenolics                  | milligrams per<br>litre    |  |  |  |
| Xylene                           | milligrams per<br>litre    |  |  |  |
| Zinc                             | milligrams per<br>kilogram |  |  |  |

### **Monitoring Point 9**

Groundwater quality monitoring, Monitoring point labelled GMW102 on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297952.6 N6184807

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



### WOLLONGONG CITY COUNCIL Licence 5862

| Arsenic                          | milligrams per<br>litre        |  |  |  |
|----------------------------------|--------------------------------|--|--|--|
| Barium                           | milligrams per<br>litre        |  |  |  |
| Benzene                          | milligrams per<br>litre        |  |  |  |
| Cadmium                          | milligrams per<br>litre        |  |  |  |
| Calcium                          | milligrams per<br>litre        |  |  |  |
| Chloride                         | milligrams per<br>litre        |  |  |  |
| Chromium (hexavalent)            | milligrams per<br>litre        |  |  |  |
| Chromium (total)                 | milligrams per<br>litre        |  |  |  |
| Cobalt                           | milligrams per<br>litre        |  |  |  |
| Conductivity                     | microsiemens<br>per centimetre |  |  |  |
| Copper                           | milligrams per<br>litre        |  |  |  |
| Ethyl benzene                    | micrograms<br>per litre        |  |  |  |
| Fluoride                         | milligrams per<br>litre        |  |  |  |
| Lead                             | milligrams per<br>litre        |  |  |  |
| Magnesium                        | milligrams per<br>litre        |  |  |  |
| Manganese                        | micrograms<br>per litre        |  |  |  |
| Mercury                          | milligrams per<br>litre        |  |  |  |
| Nitrate                          | milligrams per<br>litre        |  |  |  |
| Nitrite                          | milligrams per<br>litre        |  |  |  |
| Nitrogen (ammonia)               | litre                          |  |  |  |
| Organochlorine pesticides        | milligrams per<br>litre        |  |  |  |
| Organophosphate pesticides       | milligrams per<br>litre        |  |  |  |
| рН                               | рН                             |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre        |  |  |  |
| Potassium                        | milligrams per<br>litre        |  |  |  |



# WOLLONGONG CITY COUNCIL

Licence 5862

| Sodium                       | milligrams per<br>litre    |  |  |  |
|------------------------------|----------------------------|--|--|--|
| Standing Water<br>Level      | metres                     |  |  |  |
| Sulfate                      | milligrams per<br>litre    |  |  |  |
| Toluene                      | milligrams per<br>litre    |  |  |  |
| Total dissolved solids       | milligrams per<br>litre    |  |  |  |
| Total organic carbon         | milligrams per<br>litre    |  |  |  |
| Total petroleum hydrocarbons | milligrams per<br>litre    |  |  |  |
| Total Phenolics              | milligrams per<br>litre    |  |  |  |
| Xylene                       | milligrams per<br>litre    |  |  |  |
| Zinc                         | milligrams per<br>kilogram |  |  |  |

### **Monitoring Point 10**

Groundwater quality monitoring, Monitoring point labelled GMW103 on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298470.2 N6184603

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



### WOLLONGONG CITY COUNCIL Licence 5862

| Chromium (total)                 | milligrams per<br>litre        |  |  |  |
|----------------------------------|--------------------------------|--|--|--|
| Cobalt                           | milligrams per<br>litre        |  |  |  |
| Conductivity                     | microsiemens<br>per centimetre |  |  |  |
| Copper                           | milligrams per<br>litre        |  |  |  |
| Ethyl benzene                    | micrograms<br>per litre        |  |  |  |
| Fluoride                         | milligrams per<br>litre        |  |  |  |
| Lead                             | milligrams per<br>litre        |  |  |  |
| Magnesium                        | milligrams per<br>litre        |  |  |  |
| Manganese                        | micrograms<br>per litre        |  |  |  |
| Mercury                          | milligrams per<br>litre        |  |  |  |
| Nitrate                          | milligrams per<br>litre        |  |  |  |
| Nitrite                          | milligrams per<br>litre        |  |  |  |
| Nitrogen (ammonia)               | milligrams per<br>litre        |  |  |  |
| Organochlorine pesticides        | milligrams per<br>litre        |  |  |  |
| Organophosphate pesticides       | milligrams per<br>litre        |  |  |  |
| pН                               | рН                             |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre        |  |  |  |
| Potassium                        | milligrams per<br>litre        |  |  |  |
| Sodium                           | milligrams per<br>litre        |  |  |  |
| Standing Water<br>Level          | metres                         |  |  |  |
| Sulfate                          | milligrams per<br>litre        |  |  |  |
| Toluene                          | milligrams per<br>litre        |  |  |  |
| Total dissolved solids           | milligrams per<br>litre        |  |  |  |
| Total organic carbon             | milligrams per<br>litre        |  |  |  |
| Total petroleum hydrocarbons     | milligrams per<br>litre        |  |  |  |



### WOLLONGONG CITY COUNCIL

Licence 5862

| Total Phenolics | milligrams per<br>litre    |  |  |  |
|-----------------|----------------------------|--|--|--|
| Xylene          | milligrams per<br>litre    |  |  |  |
| Zinc            | milligrams per<br>kilogram |  |  |  |

### **Monitoring Point 11**

Groundwater quality monitoring, Monitoring point labelled GMW104 on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297597.9 N6184508

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



### WOLLONGONG CITY COUNCIL Licence 5862

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

### **Monitoring Point 12**

Groundwater quality monitoring, Monitoring point labelled GMW105 on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298433.3 N6184397



### WOLLONGONG CITY COUNCIL

Licence 5862

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



### WOLLONGONG CITY COUNCIL Licence 5862

| Organochlorine pesticides        | milligrams per<br>litre    |  |  |  |
|----------------------------------|----------------------------|--|--|--|
| Organophosphate pesticides       | milligrams per<br>litre    |  |  |  |
| рН                               | рН                         |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre    |  |  |  |
| Potassium                        | milligrams per<br>litre    |  |  |  |
| Sodium                           | milligrams per<br>litre    |  |  |  |
| Standing Water<br>Level          | metres                     |  |  |  |
| Sulfate                          | milligrams per<br>litre    |  |  |  |
| Toluene                          | milligrams per<br>litre    |  |  |  |
| Total dissolved solids           | milligrams per<br>litre    |  |  |  |
| Total organic carbon             | milligrams per<br>litre    |  |  |  |
| Total petroleum hydrocarbons     | milligrams per<br>litre    |  |  |  |
| Total Phenolics                  | milligrams per<br>litre    |  |  |  |
| Xylene                           | milligrams per<br>litre    |  |  |  |
| Zinc                             | milligrams per<br>kilogram |  |  |  |

### **Monitoring Point 13**

Groundwater quality monitoring, Monitoring point labelled GMW106 on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298356.8 N6184294

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



### WOLLONGONG CITY COUNCIL Licence 5862

| Benzene                          | milligrams per<br>litre        |  |  |  |
|----------------------------------|--------------------------------|--|--|--|
| Cadmium                          | milligrams per<br>litre        |  |  |  |
| Calcium                          | milligrams per<br>litre        |  |  |  |
| Chloride                         | milligrams per<br>litre        |  |  |  |
| Chromium (hexavalent)            | milligrams per<br>litre        |  |  |  |
| Chromium (total)                 | milligrams per<br>litre        |  |  |  |
| Cobalt                           | milligrams per<br>litre        |  |  |  |
| Conductivity                     | microsiemens<br>per centimetre |  |  |  |
| Copper                           | milligrams per<br>litre        |  |  |  |
| Ethyl benzene                    | micrograms<br>per litre        |  |  |  |
| Fluoride                         | milligrams per<br>litre        |  |  |  |
| Lead                             | milligrams per<br>litre        |  |  |  |
| Magnesium                        | milligrams per<br>litre        |  |  |  |
| Manganese                        | micrograms<br>per litre        |  |  |  |
| Mercury                          | milligrams per<br>litre        |  |  |  |
| Nitrate                          | milligrams per<br>litre        |  |  |  |
| Nitrite                          | milligrams per<br>litre        |  |  |  |
| Nitrogen (ammonia)               | milligrams per<br>litre        |  |  |  |
| Organochlorine pesticides        | milligrams per<br>litre        |  |  |  |
| Organophosphate pesticides       | milligrams per<br>litre        |  |  |  |
| pH                               | рН                             |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre        |  |  |  |
| Potassium                        | milligrams per<br>litre        |  |  |  |
| Sodium                           | milligrams per<br>litre        |  |  |  |
| Standing Water<br>Level          | metres                         |  |  |  |



# WOLLONGONG CITY COUNCIL

Licence 5862

| Sulfate                      | milligrams per<br>litre    |  |  |  |
|------------------------------|----------------------------|--|--|--|
| Toluene                      | milligrams per<br>litre    |  |  |  |
| Total dissolved solids       | milligrams per<br>litre    |  |  |  |
| Total organic carbon         | milligrams per<br>litre    |  |  |  |
| Total petroleum hydrocarbons | milligrams per<br>litre    |  |  |  |
| Total Phenolics              | milligrams per<br>litre    |  |  |  |
| Xylene                       | milligrams per<br>litre    |  |  |  |
| Zinc                         | milligrams per<br>kilogram |  |  |  |

### **Monitoring Point 14**

Groundwater quality monitoring, Monitoring point labelled GMW108S on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297870.2 N6184262

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



### WOLLONGONG CITY COUNCIL Licence 5862

| Conductivity                     | microsiemens<br>per centimetre |  |  |  |
|----------------------------------|--------------------------------|--|--|--|
| Copper                           | milligrams per<br>litre        |  |  |  |
| Ethyl benzene                    | micrograms<br>per litre        |  |  |  |
| Fluoride                         | milligrams per<br>litre        |  |  |  |
| Lead                             | milligrams per<br>litre        |  |  |  |
| Magnesium                        | milligrams per<br>litre        |  |  |  |
| Manganese                        | micrograms<br>per litre        |  |  |  |
| Mercury                          | milligrams per<br>litre        |  |  |  |
| Nitrate                          | milligrams per<br>litre        |  |  |  |
| Nitrite                          | milligrams per<br>litre        |  |  |  |
| Nitrogen (ammonia)               | milligrams per<br>litre        |  |  |  |
| Organochlorine pesticides        | milligrams per<br>litre        |  |  |  |
| Organophosphate pesticides       | milligrams per<br>litre        |  |  |  |
| pH                               | рН                             |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre        |  |  |  |
| Potassium                        | milligrams per<br>litre        |  |  |  |
| Sodium                           | milligrams per<br>litre        |  |  |  |
| Standing Water<br>Level          | metres                         |  |  |  |
| Sulfate                          | milligrams per<br>litre        |  |  |  |
| Toluene                          | milligrams per<br>litre        |  |  |  |
| Total dissolved solids           | milligrams per<br>litre        |  |  |  |
| Total organic carbon             | milligrams per<br>litre        |  |  |  |
| Total petroleum hydrocarbons     | milligrams per<br>litre        |  |  |  |
| Total Phenolics                  | milligrams per<br>litre        |  |  |  |
| Xylene                           | milligrams per<br>litre        |  |  |  |



### WOLLONGONG CITY COUNCIL Licence 5862

| Zinc | milligrams per<br>kilogram |  |  |  |
|------|----------------------------|--|--|--|

### **Monitoring Point 15**

Groundwater quality monitoring, Monitoring point labelled GMW108D on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297871.4 N6184262

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



# WOLLONGONG CITY COUNCIL

Licence 5862

| Mercury                          | milligrams per<br>litre    |  |  |  |
|----------------------------------|----------------------------|--|--|--|
| Nitrate                          | milligrams per<br>litre    |  |  |  |
| Nitrite                          | milligrams per<br>litre    |  |  |  |
| Nitrogen (ammonia)               | milligrams per<br>litre    |  |  |  |
| Organochlorine pesticides        | milligrams per<br>litre    |  |  |  |
| Organophosphate pesticides       | milligrams per<br>litre    |  |  |  |
| рН                               | pН                         |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre    |  |  |  |
| Potassium                        | milligrams per<br>litre    |  |  |  |
| Sodium                           | milligrams per<br>litre    |  |  |  |
| Standing Water<br>Level          | metres                     |  |  |  |
| Sulfate                          | milligrams per<br>litre    |  |  |  |
| Toluene                          | milligrams per<br>litre    |  |  |  |
| Total dissolved solids           | milligrams per<br>litre    |  |  |  |
| Total organic carbon             | milligrams per<br>litre    |  |  |  |
| Total petroleum hydrocarbons     | milligrams per<br>litre    |  |  |  |
| Total Phenolics                  | milligrams per<br>litre    |  |  |  |
| Xylene                           | milligrams per<br>litre    |  |  |  |
| Zinc                             | milligrams per<br>kilogram |  |  |  |

### **Monitoring Point 16**

Groundwater quality monitoring, Monitoring point labelled GMW109S on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297605.7 N6184068



### WOLLONGONG CITY COUNCIL

Licence 5862

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



### WOLLONGONG CITY COUNCIL Licence 5862

| Organochlorine pesticides        | milligrams per<br>litre    |  |  |  |
|----------------------------------|----------------------------|--|--|--|
| Organophosphate pesticides       | milligrams per<br>litre    |  |  |  |
| рН                               | рН                         |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre    |  |  |  |
| Potassium                        | milligrams per<br>litre    |  |  |  |
| Sodium                           | milligrams per<br>litre    |  |  |  |
| Standing Water<br>Level          | metres                     |  |  |  |
| Sulfate                          | milligrams per<br>litre    |  |  |  |
| Toluene                          | milligrams per<br>litre    |  |  |  |
| Total dissolved solids           | milligrams per<br>litre    |  |  |  |
| Total organic carbon             | milligrams per<br>litre    |  |  |  |
| Total petroleum hydrocarbons     | milligrams per<br>litre    |  |  |  |
| Total Phenolics                  | milligrams per<br>litre    |  |  |  |
| Xylene                           | milligrams per<br>litre    |  |  |  |
| Zinc                             | milligrams per<br>kilogram |  |  |  |

### **Monitoring Point 17**

Groundwater quality monitoring, Monitoring point labelled GMW110 on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297572.6 N6184266

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



### WOLLONGONG CITY COUNCIL Licence 5862

| Benzene                          | milligrams per<br>litre        |  |  |  |
|----------------------------------|--------------------------------|--|--|--|
| Cadmium                          | milligrams per<br>litre        |  |  |  |
| Calcium                          | milligrams per<br>litre        |  |  |  |
| Chloride                         | milligrams per<br>litre        |  |  |  |
| Chromium (hexavalent)            | milligrams per<br>litre        |  |  |  |
| Chromium (total)                 | milligrams per<br>litre        |  |  |  |
| Cobalt                           | milligrams per<br>litre        |  |  |  |
| Conductivity                     | microsiemens<br>per centimetre |  |  |  |
| Copper                           | milligrams per<br>litre        |  |  |  |
| Ethyl benzene                    | micrograms<br>per litre        |  |  |  |
| Fluoride                         | milligrams per<br>litre        |  |  |  |
| Lead                             | milligrams per<br>litre        |  |  |  |
| Magnesium                        | milligrams per<br>litre        |  |  |  |
| Manganese                        | micrograms<br>per litre        |  |  |  |
| Mercury                          | milligrams per<br>litre        |  |  |  |
| Nitrate                          | milligrams per<br>litre        |  |  |  |
| Nitrite                          | milligrams per<br>litre        |  |  |  |
| Nitrogen (ammonia)               | milligrams per<br>litre        |  |  |  |
| Organochlorine pesticides        | milligrams per<br>litre        |  |  |  |
| Organophosphate pesticides       | milligrams per<br>litre        |  |  |  |
| pH                               | pН                             |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre        |  |  |  |
| Potassium                        | milligrams per<br>litre        |  |  |  |
| Sodium                           | milligrams per<br>litre        |  |  |  |
| Standing Water<br>Level          | metres                         |  |  |  |



# WOLLONGONG CITY COUNCIL

Licence 5862

| Sulfate                      | milligrams per<br>litre    |  |  |  |
|------------------------------|----------------------------|--|--|--|
| Toluene                      | milligrams per<br>litre    |  |  |  |
| Total dissolved solids       | milligrams per<br>litre    |  |  |  |
| Total organic carbon         | milligrams per<br>litre    |  |  |  |
| Total petroleum hydrocarbons | milligrams per<br>litre    |  |  |  |
| Total Phenolics              | milligrams per<br>litre    |  |  |  |
| Xylene                       | milligrams per<br>litre    |  |  |  |
| Zinc                         | milligrams per<br>kilogram |  |  |  |

### **Monitoring Point 18**

Groundwater quality monitoring, Monitoring point labelled GMW111 on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297588.6 N6184385

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



### WOLLONGONG CITY COUNCIL Licence 5862

| Conductivity                     | microsiemens<br>per centimetre |  |  |  |
|----------------------------------|--------------------------------|--|--|--|
| Copper                           | milligrams per<br>litre        |  |  |  |
| Ethyl benzene                    | micrograms<br>per litre        |  |  |  |
| Fluoride                         | milligrams per<br>litre        |  |  |  |
| Lead                             | milligrams per<br>litre        |  |  |  |
| Magnesium                        | milligrams per<br>litre        |  |  |  |
| Manganese                        | micrograms<br>per litre        |  |  |  |
| Mercury                          | milligrams per<br>litre        |  |  |  |
| Nitrate                          | milligrams per<br>litre        |  |  |  |
| Nitrite                          | milligrams per<br>litre        |  |  |  |
| Nitrogen (ammonia)               | milligrams per<br>litre        |  |  |  |
| Organochlorine pesticides        | milligrams per<br>litre        |  |  |  |
| Organophosphate pesticides       | milligrams per<br>litre        |  |  |  |
| pH                               | рН                             |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre        |  |  |  |
| Potassium                        | milligrams per<br>litre        |  |  |  |
| Sodium                           | milligrams per<br>litre        |  |  |  |
| Standing Water<br>Level          | metres                         |  |  |  |
| Sulfate                          | milligrams per<br>litre        |  |  |  |
| Toluene                          | milligrams per<br>litre        |  |  |  |
| Total dissolved solids           | milligrams per<br>litre        |  |  |  |
| Total organic carbon             | milligrams per<br>litre        |  |  |  |
| Total petroleum hydrocarbons     | milligrams per<br>litre        |  |  |  |
| Total Phenolics                  | milligrams per<br>litre        |  |  |  |
| Xylene                           | milligrams per<br>litre        |  |  |  |



# WOLLONGONG CITY COUNCIL

| icence | 5862   |
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| Zinc | milligrams per |  |  |  |
|------|----------------|--|--|--|
|      | kilogram       |  |  |  |

### **Monitoring Point 19**

Groundwater quality monitoring, Monitoring point labelled GMW109D on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297604.9 N6184068

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



# WOLLONGONG CITY COUNCIL

Licence 5862

| Mercury                          | milligrams per<br>litre    |  |  |  |
|----------------------------------|----------------------------|--|--|--|
| Nitrate                          | milligrams per<br>litre    |  |  |  |
| Nitrite                          | milligrams per<br>litre    |  |  |  |
| Nitrogen (ammonia)               | milligrams per<br>litre    |  |  |  |
| Organochlorine pesticides        | milligrams per<br>litre    |  |  |  |
| Organophosphate pesticides       | milligrams per<br>litre    |  |  |  |
| рН                               | рН                         |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre    |  |  |  |
| Potassium                        | milligrams per<br>litre    |  |  |  |
| Sodium                           | milligrams per<br>litre    |  |  |  |
| Standing Water<br>Level          | metres                     |  |  |  |
| Sulfate                          | milligrams per<br>litre    |  |  |  |
| Toluene                          | milligrams per<br>litre    |  |  |  |
| Total dissolved solids           | milligrams per<br>litre    |  |  |  |
| Total organic carbon             | milligrams per<br>litre    |  |  |  |
| Total petroleum hydrocarbons     | milligrams per<br>litre    |  |  |  |
| Total Phenolics                  | milligrams per<br>litre    |  |  |  |
| Xylene                           | milligrams per<br>litre    |  |  |  |
| Zinc                             | milligrams per<br>kilogram |  |  |  |

### **Monitoring Point 20**

Groundwater quality monitoring, Monitoring point labelled BH6 on Figure 15 titled "Current Site Investigation Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297807.4 N6184052



### WOLLONGONG CITY COUNCIL

Licence 5862

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



# WOLLONGONG CITY COUNCIL

Licence 5862

| Organochlorine pesticides        | milligrams per<br>litre    |  |  |  |
|----------------------------------|----------------------------|--|--|--|
| Organophosphate pesticides       | milligrams per<br>litre    |  |  |  |
| рН                               | рН                         |  |  |  |
| Polycyclic aromatic hydrocarbons | milligrams per<br>litre    |  |  |  |
| Potassium                        | milligrams per<br>litre    |  |  |  |
| Sodium                           | milligrams per<br>litre    |  |  |  |
| Standing Water<br>Level          | metres                     |  |  |  |
| Sulfate                          | milligrams per<br>litre    |  |  |  |
| Toluene                          | milligrams per<br>litre    |  |  |  |
| Total dissolved solids           | milligrams per<br>litre    |  |  |  |
| Total organic carbon             | milligrams per<br>litre    |  |  |  |
| Total petroleum hydrocarbons     | milligrams per<br>litre    |  |  |  |
| Total Phenolics                  | milligrams per<br>litre    |  |  |  |
| Xylene                           | milligrams per<br>litre    |  |  |  |
| Zinc                             | milligrams per<br>kilogram |  |  |  |

#### **Monitoring Point 21**

Subsurface gas monitoring, Monitoring point labelled LFG MW1 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298084 N6184278

| Pollutant | Unit of measure   | No. of<br>samples<br>required | No. of<br>samples<br>collected<br>and<br>analysed | Lowest<br>sample<br>value | Highest<br>sample<br>value |
|-----------|-------------------|-------------------------------|---|---------------------------|----------------------------|
| Methane   | percent by volume |                               |   |                           |                            |

### **Monitoring Point 22**

Subsurface gas monitoring, Monitoring point labelled LFG MW2 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298202 N6184228



#### **WOLLONGONG CITY COUNCIL**

Licence 5862

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

#### **Monitoring Point 23**

Subsurface gas monitoring, Monitoring point labelled LFG MW3 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298297 N6184244

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

### **Monitoring Point 24**

Subsurface gas monitoring, Monitoring point labelled LFG MW4 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298376 N6184303

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

### **Monitoring Point 25**

Subsurface gas monitoring, Monitoring point labelled LFG MW5 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298438 N6184381

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

#### **Monitoring Point 26**



**WOLLONGONG CITY COUNCIL** 

Licence 5862

Subsurface gas monitoring, Monitoring point labelled LFG MW6 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298376 N6184303

| Pollutant | Unit of measure   | No. of<br>samples<br>required | No. of<br>samples<br>collected<br>and<br>analysed | Lowest<br>sample<br>value | Highest<br>sample<br>value |
|-----------|-------------------|-------------------------------|---|---------------------------|----------------------------|
| Methane   | percent by volume |                               |   |                           |                            |

#### **Monitoring Point 27**

Subsurface gas monitoring, Monitoring point labelled LFG MW7 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298470 N6184553

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

#### **Monitoring Point 28**

Subsurface gas monitoring, Monitoring point labelled LFG MW8 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298376 N6184303

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

#### **Monitoring Point 29**

Subsurface gas monitoring, Monitoring point labelled LFG MW9 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298465 N6184645

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



WOLLONGONG CITY COUNCIL Licence 5862

### **Monitoring Point 30**

Subsurface gas monitoring, Monitoring point labelled LFG MW10 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298448 N6184684

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

#### **Monitoring Point 31**

Subsurface gas monitoring, Monitoring point labelled LFG MW11 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298400 N6184695

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

### **Monitoring Point 32**

Subsurface gas monitoring, Monitoring point labelled LFG MW12 on Figure 14 titled "Proposed Landfill Gas Monitoring Locations" dated 6 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E298351 N6184701

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

#### **Monitoring Point 33**

Stormwater monitoring point, Downstream monitoring point labelled 4 on Figure 13 titled "Proposed Surface Water Monitoring Locations" dated 26 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297767 N6183396



#### **WOLLONGONG CITY COUNCIL**

Licence 5862

| Pollutant                         | Unit of measure                | No. of samples required | No. of samples collected | Lowest sample value | Mean of sample | Highest sample value |
|-----------------------------------|--------------------------------|-------------------------|--------------------------|---------------------|----------------|----------------------|
|                                   |                                | . oquii ou              | and<br>analysed          |                     |                | , and                |
| Alkalinity (as calcium carbonate) | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Ammonia                           | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Calcium                           | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Chloride                          | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Conductivity                      | microsiemens<br>per centimetre |                         |                          |                     |                |                      |
| Dissolved Oxygen                  | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Filterable iron                   | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Fluoride                          | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Magnesium                         | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Nitrate                           | milligrams per<br>litre        |                         |                          |                     |                |                      |
| рН                                | рН                             |                         |                          |                     |                |                      |
| Potassium                         | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Sodium                            | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Sulfate                           | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Temperature                       | degrees<br>Celsius             |                         |                          |                     |                |                      |
| Total organic carbon              | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Total Phenolics                   | milligrams per<br>litre        |                         |                          |                     |                |                      |
| Total suspended solids            | milligrams per<br>litre        |                         |                          |                     |                |                      |

### **Monitoring Point 34**

Stormwater monitoring point, Upstream monitoring point labelled 6 on Figure 13 titled "Proposed Surface Water Monitoring Locations" dated 26 March 2012 (Whytes Gully New Landfill Cell EA - Volume IV). E297495 N6184504



# WOLLONGONG CITY COUNCIL

Licence 5862

| Pollutant                         | Unit of measure                | No. of samples required | No. of samples collected and analysed | Lowest<br>sample<br>value | Mean of sample | Highest<br>sample<br>value |
|-----------------------------------|--------------------------------|-------------------------|---------------------------------------|---------------------------|----------------|----------------------------|
| Alkalinity (as calcium carbonate) | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Ammonia                           | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Calcium                           | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Chloride                          | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Conductivity                      | microsiemens<br>per centimetre |                         |                                       |                           |                |                            |
| Dissolved Oxygen                  | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Filterable iron                   | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Fluoride                          | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Magnesium                         | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Nitrate                           | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| рН                                | рН                             |                         |                                       |                           |                |                            |
| Potassium                         | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Sodium                            | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Sulfate                           | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Temperature                       | degrees<br>Celsius             |                         |                                       |                           |                |                            |
| Total organic carbon              | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Total Phenolics                   | milligrams per<br>litre        |                         |                                       |                           |                |                            |
| Total suspended solids            | milligrams per<br>litre        |                         |                                       |                           |                |                            |

### Name of the uploaded file containing point data ▼

Whytes Gully Return 2021.pdf

### **B2 Concentration Monitoring Comments**

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



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#### **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 | No    |  |
|--|-------|--|
| and reporting requirements)?   | NO NO |  |

### C2. Details of Non-Compliance with Licence

### Licence condition number not complied with ▼

L2 Concentration Limits

### Summary of particulars of the non-compliance ▼

Exceedances of Total Suspended Solid limit for discharge at Monitoring Point 1.

#### Further details on particulars of non-compliance, if required ▼

Dates were as follows: 13/8/20, 31/10/20-3/11/20, 22/3/21-26/3/21, 29/3/21-31/3/21, 7/5/21-9/5/21

#### Number of times occurred ▼

#### Date(s) when the non-compliance occurred, if applicable ▼

see above

#### Cause of non-compliance ▼

A series of heavy rainfall events (close together) that broke the previous drought conditions resulting in excessive flows into the stormwater management system. Subsequently, the system overflowed with higher than normal TSS levels. pH was in range.

#### Action taken or that will be taken to mitigate any adverse effects of the non-compliance ▼

Water in the storage pond was flocculated and biologically treated to stabilise the system. The ponds are also in the process of being desilted to increase capacity. Details are provided in the attached annual report

#### Action taken or that will be taken to prevent a recurrence of the non-compliance ▼

The stormwater management plan is being updated to include proactive and long term strategies to prevent reoccurence in the future. This includes a comprehensive water balance. Details are provided in the attached annual report.

#### Uploaded Document Name ▼

#### **Uploaded Document Description** ▼



WOLLONGONG CITY COUNCIL Licence 5862

#### Licence condition number not complied with ▼

R2 3

#### Summary of particulars of the non-compliance ▼

Methane levels recorded over 500 ppm on 4 occasions.

#### Further details on particulars of non-compliance, if required ▼

A variation bringing in changes to R2 (Notification of Environmental Harm) was introduced during this reporting period resulting in this as a non-compliance.

#### Number of times occurred ▼

4

#### Date(s) when the non-compliance occurred, if applicable ▼

8/9/20, 15/3/21, 23/4/21

#### Cause of non-compliance ▼

Change in License via a new Variation.

#### Action taken or that will be taken to mitigate any adverse effects of the non-compliance ▼

All readings recorded over 500 ppm will be reported in the future within 24 hours. Regular sampling was undertaken and levels returned to < 500 ppm by the next monthly sampling event.

#### Action taken or that will be taken to prevent a recurrence of the non-compliance ▼

A new data management system has been put in place that will notify any non-compliance levels in data as soon as received. New gas infrastructure being put in place to collect methane thus minimising the chance of this recurrence. Further detail and location of the new infrastructure is provided in the annual report.

#### Uploaded Document Name ▼

| Uį | pload | led C | ocument l | Descri | ption ▼ |
|----|-------|-------|-----------|--------|---------|
|----|-------|-------|-----------|--------|---------|

## D. Statement of Compliance - Load Based Fee Calculation





WOLLONGONG CITY COUNCIL Licence 5862

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.

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

|   | Incident Response Management Plan (PIRMP) A of the Protection of the Environment | Yes |
|---|--|-----|
| Is the PIRMP available at the premis                              | ses?   | Yes |
| Is the PIRMP available in a promine                               | nt position on a publicly accessible website?                                    | Yes |
| Address of the web page where the PIRMP can be accessed ▼         |  |     |
| https://wollongong.nsw.gov.au/yo                                  | our-council/plans-and-reports/waste-site-reports                                 |     |
| Has the PIRMP been tested?  |  | Yes |
| The PIRMP was last tested on 14-4-2021                            |  |     |
| Has the PIRMP been updated?                                       |  | Yes |
| The PIRMP was last updated on 14-4-2021                           |  |     |
| Number of times the PIRMP was activated in this reporting period? |  | 0   |
| The PIRMP was activated on  |  |     |

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

| 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? | Yes |  |
|---|-----|--|
| Do you operate a website?   | Yes |  |
| Is the pollution monitoring data published on your website in accordance with the EPA's written requirements for publishing pollution monitoring data?  | Yes |  |
| Address of the web page where the pollution monitoring data can be accessed ▼   |     |  |
| https://wollongong.nsw.gov.au/your-council/plans-and-reports/waste-site-reports   |     |  |



WOLLONGONG CITY COUNCIL Licence 5862

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

| 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? | No  |
|---|-----|
| 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?                                | Yes |
| 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?  | Yes |
| 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.

| Signature |  |
|-----------|--|
| Name      |  |



WOLLONGONG CITY COUNCIL Licence 5862

| Position |   |   |  |
|----------|---|---|--|
| Date     | / | / |  |

#### 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.