

M2.2 Air Monitoring Requirements

POINT 10

Pollutant	Units of measure	Frequency	Sampling Method
Methane	percent by volume	Quarterly	Special Method 1

POINT 11

Pollutant	Units of measure	Frequency	Sampling Method
Methane	percent by volume	Quarterly	Special Method 1

M2.3 Water and/ or Land Monitoring Requirements

POINT 2

Pollutant	Units of measure	Frequency	Sampling Method
Alkalinity (as calcium carbonate)	milligrams per litre	Every 6 months	Grab sample
Chloride	milligrams per litre	Every 6 months	Grab sample
Conductivity	microsiemens per centimetre	Every 6 months	In situ
Dissolved Oxygen	milligrams per litre	Every 6 months	In situ
Iron	milligrams per litre	Every 6 months	Grab sample
Manganese	milligrams per litre	Every 6 months	Grab sample
Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Every 6 months	Grab sample
Nitrogen (ammonia)	milligrams per litre	Every 6 months	Grab sample
pH	pH	Every 6 months	In situ
Phosphorus (total)	milligrams per litre	Every 6 months	Grab sample
Polycyclic aromatic hydrocarbons	milligrams per litre	Every 6 months	Grab sample
Redox potential	millivolts	Every 6 months	In situ
Sulfate	milligrams per litre	Every 6 months	Grab sample
Temperature	degrees Celsius	Every 6 months	In situ
Total Kjeldahl Nitrogen	milligrams per litre	Every 6 months	Grab sample
Total organic carbon	milligrams per litre	Every 6 months	Grab sample
Zinc	milligrams per litre	Every 6 months	Grab sample

POINT 3

Pollutant	Units of measure	Frequency	Sampling Method
Alkalinity (as calcium carbonate)	milligrams per litre	Special Frequency 1	Grab sample
Benzene	milligrams per litre	Special Frequency 1	Grab sample
Calcium	milligrams per litre	Special Frequency 1	Grab sample
Chloride	milligrams per litre	Special Frequency 1	Grab sample
Chromium (total)	milligrams per litre	Special Frequency 1	Grab sample
Conductivity	microsiemens per centimetre	Special Frequency 1	Grab sample
Ethyl benzene	milligrams per litre	Special Frequency 1	Grab sample
Iron	milligrams per litre	Special Frequency 1	Grab sample
Magnesium	milligrams per litre	Special Frequency 1	Grab sample
Manganese	milligrams per litre	Special Frequency 1	Grab sample
Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Special Frequency 1	Grab sample
Nitrogen (ammonia)	milligrams per litre	Special Frequency 1	Grab sample
pH	pH	Special Frequency 1	Grab sample
Phosphorus (total)	milligrams per litre	Special Frequency 1	Grab sample
Potassium	milligrams per litre	Special Frequency 1	Grab sample
Sodium	milligrams per litre	Special Frequency 1	Grab sample
Sulfate	milligrams per litre	Special Frequency 1	Grab sample
Toluene	milligrams per litre	Special Frequency 1	Grab sample
Total Kjeldahl Nitrogen	milligrams per litre	Special Frequency 1	Grab sample
Total organic carbon	milligrams per litre	Special Frequency 1	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 1	Grab sample
Volumetric flowrate	kilolitres per day	Special Frequency 1	Estimate
Xylene	milligrams per litre	Special Frequency 1	Grab sample
Zinc	milligrams per litre	Special Frequency 1	Grab sample

POINT 4

Pollutant	Units of measure	Frequency	Sampling Method
Alkalinity (as calcium carbonate)	milligrams per litre	Every 6 months	Grab sample
Calcium	milligrams per litre	Every 6 months	Grab sample
Chloride	milligrams per litre	Every 6 months	Grab sample
Chromium (total)	milligrams per litre	Every 6 months	Grab sample
Conductivity	microsiemens per centimetre	Every 6 months	Grab sample
Dissolved Oxygen	milligrams per litre	Every 6 months	In situ
Iron	milligrams per litre	Every 6 months	Grab sample
Magnesium	milligrams per litre	Every 6 months	Grab sample
Manganese	milligrams per litre	Every 6 months	Grab sample
Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Every 6 months	Grab sample
Nitrogen (ammonia)	milligrams per litre	Every 6 months	Grab sample
pH	pH	Every 6 months	Grab sample

Phosphorus (total)	milligrams per litre	Every 6 months	Grab sample
Potassium	milligrams per litre	Every 6 months	Grab sample
Redox potential	millivolts	Every 6 months	In situ
Sodium	milligrams per litre	Every 6 months	Grab sample
Sulfate	milligrams per litre	Every 6 months	Grab sample
Temperature	degrees Celsius	Every 6 months	In situ
Total Kjeldahl Nitrogen	milligrams per litre	Every 6 months	Grab sample
Total organic carbon	milligrams per litre	Every 6 months	Grab sample
Total suspended solids	milligrams per litre	Every 6 months	Grab sample
Volumetric flowrate	kilolitres per day	Every 6 months	Estimate
Zinc	milligrams per litre	Every 6 months	Grab sample

POINT 6,7,12

Pollutant	Units of measure	Frequency	Sampling Method
Alkalinity (as calcium carbonate)	milligrams per litre	Quarterly	Grab sample
Chloride	milligrams per litre	Quarterly	Grab sample
Conductivity	microsiemens per centimetre	Quarterly	In situ
Dissolved Oxygen	milligrams per litre	Quarterly	In situ
Iron	milligrams per litre	Quarterly	Grab sample
Manganese	milligrams per litre	Quarterly	Grab sample
Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Quarterly	Grab sample
Nitrogen (ammonia)	milligrams per litre	Quarterly	Grab sample
pH	pH	Quarterly	In situ
Polycyclic aromatic hydrocarbons	milligrams per litre	Quarterly	Grab sample
Redox potential	millivolts	Quarterly	In situ
Standing Water Level	metres	Quarterly	In situ
Sulfate	milligrams per litre	Quarterly	Grab sample
Temperature	degrees Celsius	Quarterly	In situ
Total Kjeldahl Nitrogen	milligrams per litre	Quarterly	Grab sample
Total organic carbon	milligrams per litre	Quarterly	Grab sample
Zinc	milligrams per litre	Quarterly	Grab sample

POINT 9

Pollutant	Units of measure	Frequency	Sampling Method
Alkalinity (as calcium carbonate)	milligrams per litre	Quarterly	Grab sample
Arsenic	milligrams per litre	Quarterly	Grab sample
Benzene	milligrams per litre	Quarterly	Grab sample
Calcium	milligrams per litre	Quarterly	Grab sample
Chloride	milligrams per litre	Quarterly	Grab sample

Chromium (total)	milligrams per litre	Quarterly	Grab sample
Conductivity	microsiemens per centimetre	Quarterly	In situ
Copper	milligrams per litre	Quarterly	Grab sample
Cyanide (total)	milligrams per litre	Quarterly	Grab sample
Dissolved Oxygen	milligrams per litre	Quarterly	In situ
Ethyl benzene	milligrams per litre	Quarterly	Grab sample
Iron	milligrams per litre	Quarterly	Grab sample
Lead	milligrams per litre	Quarterly	Grab sample
Magnesium	milligrams per litre	Quarterly	Grab sample
Manganese	milligrams per litre	Quarterly	Grab sample
Mercury	milligrams per litre	Quarterly	Grab sample
Nickel	milligrams per litre	Quarterly	Grab sample
Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Quarterly	Grab sample
Nitrogen (ammonia)	milligrams per litre	Quarterly	Grab sample
pH	pH	Quarterly	In situ
Polycyclic aromatic hydrocarbons	milligrams per litre	Quarterly	Grab sample
Potassium	milligrams per litre	Quarterly	Grab sample
Redox potential	millivolts	Quarterly	In situ
Sodium	milligrams per litre	Quarterly	Grab sample
Sulfate	milligrams per litre	Quarterly	Grab sample
Temperature	degrees Celsius	Quarterly	In situ
Toluene	milligrams per litre	Quarterly	Grab sample
Total Kjeldahl Nitrogen	milligrams per litre	Quarterly	Grab sample
Total organic carbon	milligrams per litre	Quarterly	Grab sample
Xylene	milligrams per litre	Quarterly	Grab sample
Zinc	milligrams per litre	Quarterly	Grab sample

POINT 13

Pollutant	Units of measure	Frequency	Sampling Method
Alkalinity (as calcium carbonate)	milligrams per litre	Every 6 months	Grab sample
Chloride	milligrams per litre	Every 6 months	Grab sample
Conductivity	microsiemens per centimetre	Every 6 months	In situ
Dissolved Oxygen	milligrams per litre	Every 6 months	In situ
Iron	milligrams per litre	Every 6 months	Grab sample
Manganese	milligrams per litre	Every 6 months	Grab sample
Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Every 6 months	Grab sample
Nitrogen (ammonia)	milligrams per litre	Every 6 months	Grab sample
pH	pH	Every 6 months	In situ
Polycyclic aromatic hydrocarbons	milligrams per litre	Every 6 months	Grab sample
Redox potential	millivolts	Every 6 months	In situ

Standing Water Level	metres	Every 6 months	In situ
Sulfate	milligrams per litre	Every 6 months	Grab sample
Temperature	degrees Celsius	Every 6 months	In situ
Total Kjeldahl Nitrogen	milligrams per litre	Every 6 months	Grab sample
Total organic carbon	milligrams per litre	Every 6 months	Grab sample
Zinc	milligrams per litre	Every 6 months	Grab sample

POINT 14

Pollutant	Units of measure	Frequency	Sampling Method
Alkalinity (as calcium carbonate)	milligrams per litre	Every 6 months	Grab sample
Calcium	milligrams per litre	Every 6 months	Grab sample
Chloride	milligrams per litre	Every 6 months	Grab sample
Chromium (total)	milligrams per litre	Every 6 months	In situ
Conductivity	microsiemens per centimetre	Every 6 months	Grab sample
Dissolved Oxygen	milligrams per litre	Every 6 months	In situ
Iron	milligrams per litre	Every 6 months	Grab sample
Magnesium	milligrams per litre	Every 6 months	Grab sample
Manganese	milligrams per litre	Every 6 months	Grab sample
Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Every 6 months	Grab sample
Nitrogen (ammonia)	milligrams per litre	Every 6 months	Grab sample
pH	pH	Every 6 months	In situ
Phosphorus (total)	milligrams per litre	Every 6 months	Grab sample
Potassium	milligrams per litre	Every 6 months	Grab sample
Redox potential	millivolts	Every 6 months	In situ
Sodium	milligrams per litre	Every 6 months	Grab sample
Sulfate	milligrams per litre	Every 6 months	Grab sample
Temperature	degrees Celsius	Every 6 months	In situ
Total Kjeldahl Nitrogen	milligrams per litre	Every 6 months	Grab sample
Total organic carbon	milligrams per litre	Every 6 months	In situ
Total suspended solids	milligrams per litre	Every 6 months	Grab sample
Zinc	milligrams per litre	Every 6 months	Grab sample

M2.4 The monitoring frequency referred to as “Special Frequency 1” in Condition M2.1 of this licence is defined to be once in the first 24 hours after detection of the discharge and then weekly whilst the discharge continues

M2.5 The Special Method referred to as “Special Method 1” in condition M2.1 of this licence is in accordance with Benchmark Techniques No. 17 (Surface Gas Emission Monitoring) and Benchmark Technique No. 18 (Gas Accumulation Monitoring) defined in the document “*Environmental Guidelines: Solid Waste Landfills, NSW EPA 1996.*”

M4 Weather monitoring

M4.1 The licensee must monitor daily rainfall at the landfill.

M7 Requirement to monitor volume or mass

M7.1 For each discharge point or utilisation area specified below, the licensee must monitor:

- a) the volume of liquids discharged to water or applied to the area;
- b) the mass of solids applied to the area;
- c) the mass of pollutants emitted to the air;

at the frequency and using the method and units of measure, specified below.

POINT 3

Frequency	Unit of Measure	Sampling Method
Daily during any discharge	kilolitres per day	Estimate

POINT 5

Frequency	Unit of Measure	Sampling Method
Daily during any discharge	kilolitres per day	By Calculation (volume flow rate or pump capacity multiplied by operating time)

POINT 9

Frequency	Unit of Measure	Sampling Method
Monthly	kilolitres	By Calculation (volume flow rate or pump capacity multiplied by operating time)

M8 Other monitoring and recording conditions

M8.1 The licensee must monitor the remaining disposal capacity (in cubic metres) of the landfill.