

SELECT cells that are highlighted blue contain a dropdown menu click to select one option from the list

[guidance document link](#) cells that contain underlined text click to access relevant guidance documents for this section

Table heading * table headings followed by a symbol have an associated footnote or instructions

Cells with red indicator in top right corner cells that have a red indicator in the top right corner contain a comment box with further instructions or clarification

Please note an interpretation of results is still required. This should be entered in the additional information/comments boxes within the templates. Please size these boxes appropriately to fit your interpretation, if additional space is required please include an appendix to the AER template and merge it as part of the AER PDF document. The excel template should have all cells sized appropriately so that all text is readable before it is converted to PDF document.

| Facility Information Summary | |
|--|--|
| AER Reporting Year | 2014 |
| Licence Register Number | W0070-01 |
| Name of site | Benduff Landfill Site |
| Site Location | Benduff, Rosscarbery, Co. Cork |
| NACE Code | 3821 |
| Class/Classes of Activity | Installation for the disposal of non hazardous waste |
| National Grid Reference (6E, 6 N) | (52E, 53N) |
| A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year and an overview of compliance with your licence listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise. | <p>Description of Activities on Site during 2014: The Facility at Benduff is a closed Landfill. Deposition of waste at the landfill ceased in April 2004 and the final capping works were completed by Q4 2004. The main activity at the site during 2014 was the extraction of gas from the closed landfill (extracted gas is flared on-site).</p> <p>Exceedances of Licence Limits during 2014: None.</p> <p>Overview of Licence Compliance during 2014: The facility remained compliant throughout 2014. The EPA requested further information in relation to elevated levels of ammonia at 2 groundwater monitoring locations in Q4. Data was submitted and the situated continues to be monitored under the regular schedule of environmental monitoring and as recommended by the Risk Screening & Technical Assessment carried out for the facility in 2014.</p> |

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

| | |
|---|-------------------|
| <u>Mairead Hales</u> | <u>30/03/2015</u> |
| Signature | Date |
| Group/Facility manager | |
| (or nominated, suitably qualified and experienced deputy) | |

AIR-summary template Lic No: #REF! Year 2014

Answer all questions and complete all tables where relevant

1 Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licenced emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables

| Additional information | |
|------------------------|---|
| Yes | Current flare installation is a pre-aerated open flare of 50-500 cubic meter per hour capacity. Emissions monitoring is not possible from such an installation. |

Periodic/Non-Continuous Monitoring

2 Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below

| | |
|-----|--|
| N/A | |
|-----|--|

3 Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? [Basic air monitoring checklist](#)

[AGN2](#)

| | |
|-----|--|
| N/A | |
|-----|--|

Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

| Emission reference no: | Parameter/ Substance | Frequency of Monitoring | ELV in licence or any revision therof | Licence Compliance criteria | Measured value | Unit of measurement | Compliant with licence limit | Method of analysis | Annual mass load (kg) | Comments - reason for change in % mass load from previous year if applicable |
|------------------------|----------------------|-------------------------|---------------------------------------|-----------------------------|----------------|---------------------|------------------------------|--------------------|-----------------------|--|
| | SELECT | | | SELECT | | SELECT | SELECT | SELECT | | |
| | SELECT | | | SELECT | | SELECT | SELECT | SELECT | | |
| | SELECT | | | SELECT | | SELECT | SELECT | SELECT | | |
| | SELECT | | | SELECT | | SELECT | SELECT | SELECT | | |

Note 1: Volumetric flow shall be included as a reportable parameter

Continuous Monitoring

4 Does your site carry out continuous air emissions monitoring? If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)

| | |
|--------|--|
| SELECT | |
|--------|--|

5 Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below

| | |
|--------|--|
| SELECT | |
|--------|--|

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6 Do you have a proactive service agreement for each piece of continuous monitoring equipment?

7 Did your site experience any abatement system bypasses? If yes please detail them in table A3 below

Table A2: Summary of average emissions -continuous monitoring

| Emission reference no: | Parameter/ Substance | ELV in licence or any revision therof | Averaging Period | Compliance Criteria | Units of measurement | Annual Emission | Annual maximum | Monitoring Equipment downtime (hours) | Number of ELV exceedences in current reporting year | Comments |
|------------------------|----------------------|---------------------------------------|------------------|---------------------|----------------------|-----------------|----------------|---------------------------------------|---|----------|
| | SELECT | | | SELECT | SELECT | | | | | |
| | SELECT | | | | SELECT | | | | | |
| | SELECT | | | | SELECT | | | | | |
| | SELECT | | | | SELECT | | | | | |
| | SELECT | | | | SELECT | | | | | |

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table [Bypass protocol](#)

| Date* | Duration** (hours) | Location | Reason for bypass | Impact magnitude | Corrective action |
|-------|--------------------|----------|-------------------|------------------|-------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5

| | |
|---|--|
| Table A4: Solvent Management Plan Summary Total VOC Emission limit value | Solvent regulations Please refer to linked solvent regulations to complete table 5 and 6 |
|---|--|

| AIR-summary template | | | | | Lic No: | #REF! | Year | 2014 |
|---|----------------------------------|---|--|---|-------------------------------|-------------------------------------|-----------------------------------|---------------------------------------|
| Reporting year | Total solvent input on site (kg) | Total VOC emissions to Air from entire site (direct and fugitive) | Total VOC emissions as %of solvent input | Total Emission Limit Value (ELV) in licence or any revision thereof | Compliance | | | |
| | | | | | SELECT | | | |
| | | | | | SELECT | | | |
| Table A5: Solvent Mass Balance summary | | | | | | | | |
| | (I) Inputs (kg) | (O) Outputs (kg) | | | | | | |
| Solvent | (I) Inputs (kg) | Organic solvent emission in waste | Solvents lost in water (kg) | Collected waste solvent (kg) | Fugitive Organic Solvent (kg) | Solvent released in other ways e.g. | Solvents destroyed onsite through | Total emission of Solvent to air (kg) |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | Total | |

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER)

Lic No:

#REF1

Year

2014

Additional information

1 Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If **you do not have** licensed emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections

2 Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections

| | |
|-----|---|
| No | |
| Yes | SW1, SW4 & SW5 - Bi-annual visual inspections |

Table W1 Storm water monitoring

| Location reference | Location relative to site activities | PRTR Parameter | Licensed Parameter | Monitoring date | ELV or trigger level in licence or any revision thereof* | Licence Compliance criteria | Measured value | Unit of measurement | Compliant with licence | Comments |
|--------------------|--------------------------------------|--------------------------------|-------------------------------|-----------------|--|-----------------------------|----------------|----------------------|------------------------|----------|
| SW1 | upstream | | pH | 16/10/2015 | N/A | N/A | 6.00 | pH units | yes | |
| SW1 | upstream | | Temperature | 16/10/2015 | N/A | N/A | 12.10 | degrees C | yes | |
| SW1 | upstream | | Conductivity | 16/10/2015 | N/A | N/A | 190.00 | µS/cm @20oC | yes | |
| SW1 | upstream | | Dissolved Oxygen | 16/10/2015 | N/A | N/A | 5.17 | mg/L | yes | |
| SW1 | upstream | | Ammonia (as N) | 16/10/2015 | N/A | N/A | <0.01 | mg/L | yes | |
| SW1 | upstream | | BOD | 16/10/2015 | N/A | N/A | 1.00 | mg/L | yes | |
| SW1 | upstream | | COD | 16/10/2015 | N/A | N/A | 16.00 | mg/L | yes | |
| SW1 | upstream | Chlorides (as Cl) | | 16/10/2015 | N/A | N/A | 29.21 | mg/L | yes | |
| SW1 | upstream | | Suspended Solids | 16/10/2015 | N/A | N/A | 2.00 | mg/L | yes | |
| SW1 | upstream | | Boron | 16/10/2015 | N/A | N/A | 0.02 | mg/L | yes | |
| SW1 | upstream | | Calcium | 16/10/2015 | N/A | N/A | 15.90 | mg/L | yes | |
| SW1 | upstream | Cadmium and compounds (as Cd) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | |
| SW1 | upstream | Cyanides (as total CN) | | 16/10/2015 | N/A | N/A | 62.00 | µg/L | yes | |
| SW1 | upstream | Chromium and compounds (as Cr) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | |
| SW1 | upstream | Copper and compounds (as Cu) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | |
| SW1 | upstream | | Iron | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | |
| SW1 | upstream | Fluorides (as total F) | | 16/10/2015 | N/A | N/A | 0.12 | mg/L | yes | |
| SW1 | upstream | Mercury and compounds (as Hg) | | 16/10/2015 | N/A | N/A | <1.00 | mg/L | yes | |
| SW1 | upstream | | Potassium | 16/10/2015 | N/A | N/A | 4.81 | mg/L | yes | |
| SW1 | upstream | | Magnesium | 16/10/2015 | N/A | N/A | 3.84 | mg/L | yes | |
| SW1 | upstream | | Manganese (as Mn) | 16/10/2015 | N/A | N/A | 25.00 | µg/L | yes | |
| SW1 | upstream | | Sodium | 16/10/2015 | N/A | N/A | 14.60 | mg/L | yes | |
| SW1 | upstream | Nickel and compounds (as Ni) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | |
| SW1 | upstream | Total phosphorus | | 16/10/2015 | N/A | N/A | 0.03 | mg/L | yes | |
| SW1 | upstream | Lead and compounds (as Pb) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | |
| SW1 | upstream | | Sulphate | 16/10/2015 | N/A | N/A | 7.50 | mg/L SO ₄ | yes | |
| SW1 | upstream | | Total Oxidised Nitrogen (TON) | 16/10/2015 | N/A | N/A | 4.21 | mg/L N | yes | |
| SW1 | upstream | Zinc and compounds (as Zn) | | 16/10/2015 | N/A | N/A | 64.00 | µg/L | yes | |
| SW1 | upstream | | Alkalinity | 16/10/2015 | N/A | N/A | 13.91 | mg/L | yes | |
| SW1 | upstream | | Ortho-phosphate (as PO4) | 16/10/2015 | N/A | N/A | 0.02 | mg/L PO ₄ | yes | |
| SW4 | downstream | | pH | 16/10/2015 | N/A | N/A | 7.60 | pH units | yes | |
| SW4 | downstream | | Temperature | 16/10/2015 | N/A | N/A | 12.10 | degrees C | yes | |
| SW4 | downstream | | Conductivity | 16/10/2015 | N/A | N/A | 406.00 | µS/cm @20oC | yes | |
| SW4 | downstream | | Dissolved Oxygen | 16/10/2015 | N/A | N/A | 7.15 | mg/L | yes | |
| SW4 | downstream | | Ammonia (as N) | 16/10/2015 | N/A | N/A | <0.01 | mg/L | yes | |
| SW4 | downstream | | BOD | 16/10/2015 | N/A | N/A | 7.00 | mg/L | yes | |
| SW4 | downstream | | COD | 16/10/2015 | N/A | N/A | 50.00 | mg/L | yes | |
| SW4 | downstream | Chlorides (as Cl) | | 16/10/2015 | N/A | N/A | 35.33 | mg/L | yes | |
| SW4 | downstream | | Suspended Solids | 16/10/2015 | N/A | N/A | 13.00 | mg/L | yes | |
| SW4 | downstream | | Boron | 16/10/2015 | N/A | N/A | 0.02 | mg/L | yes | |
| SW4 | downstream | | Calcium | 16/10/2015 | N/A | N/A | 49.20 | mg/L | yes | |
| SW4 | downstream | Cadmium and compounds (as Cd) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | |
| SW4 | downstream | Cyanides (as total CN) | | 16/10/2015 | N/A | N/A | 70.00 | µg/L | yes | |
| SW4 | downstream | Chromium and compounds (as Cr) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | |
| SW4 | downstream | Copper and compounds (as Cu) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | |
| SW4 | downstream | | Iron | 16/10/2015 | N/A | N/A | 338.00 | µg/L | yes | |
| SW4 | downstream | Fluorides (as total F) | | 16/10/2015 | N/A | N/A | 0.24 | mg/L | yes | |
| SW4 | downstream | Mercury and compounds (as Hg) | | 16/10/2015 | N/A | N/A | <1.00 | mg/L | yes | |
| SW4 | downstream | | Potassium | 16/10/2015 | N/A | N/A | 19.50 | mg/L | yes | |
| SW4 | downstream | | Magnesium | 16/10/2015 | N/A | N/A | 9.72 | mg/L | yes | |
| SW4 | downstream | | Manganese (as Mn) | 16/10/2015 | N/A | N/A | 411.00 | µg/L | yes | |
| SW4 | downstream | | Sodium | 16/10/2015 | N/A | N/A | 19.00 | mg/L | yes | |
| SW4 | downstream | Nickel and compounds (as Ni) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | |
| SW4 | downstream | Total phosphorus | | 16/10/2015 | N/A | N/A | 0.46 | mg/L | yes | |
| SW4 | downstream | Lead and compounds (as Pb) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | |

| AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) | | | | | | | | | | Lic No: | #REF1 | Year | 2014 |
|---|------------|--------------------------------|-------------------------------|------------|-----|-----|--------|----------------------|-----|---------|-------|------|------|
| SW4 | downstream | | Sulphate | 16/10/2015 | N/A | N/A | 6.73 | mg/L SO ₄ | yes | | | | |
| SW4 | downstream | | Total Oxidised Nitrogen (TON) | 16/10/2015 | N/A | N/A | 7.55 | mg/L N | yes | | | | |
| SW4 | downstream | Zinc and compounds (as Zn) | | 16/10/2015 | N/A | N/A | 174.00 | µg/L | yes | | | | |
| SW4 | downstream | | Alkalinity | 16/10/2015 | N/A | N/A | 94.44 | mg/L | yes | | | | |
| SW4 | downstream | | Ortho-phosphate (as PO4) | 16/10/2015 | N/A | N/A | 0.91 | mg/L PO ₄ | yes | | | | |
| SW5 | downstream | | pH | 16/10/2015 | N/A | N/A | 7.40 | pH units | yes | | | | |
| SW5 | downstream | | Temperature | 16/10/2015 | N/A | N/A | 12.10 | degrees C | yes | | | | |
| SW5 | downstream | | Conductivity | 16/10/2015 | N/A | N/A | 193.00 | µS/cm @20oC | yes | | | | |
| SW5 | downstream | | Dissolved Oxygen | 16/10/2015 | N/A | N/A | 6.14 | mg/L | yes | | | | |
| SW5 | downstream | | Ammonia (as N) | 16/10/2015 | N/A | N/A | <-0.01 | mg/L | yes | | | | |
| SW5 | downstream | | BOD | 16/10/2015 | N/A | N/A | 2.00 | mg/L | yes | | | | |
| SW5 | downstream | | COD | 16/10/2015 | N/A | N/A | 21.00 | mg/L | yes | | | | |
| SW5 | downstream | Chlorides (as Cl) | | 16/10/2015 | N/A | N/A | 33.48 | mg/L | yes | | | | |
| SW5 | downstream | | Suspended Solids | 16/10/2015 | N/A | N/A | 8.00 | mg/L | yes | | | | |
| SW5 | downstream | | Boron | 16/10/2015 | N/A | N/A | 0.02 | mg/L | yes | | | | |
| SW5 | downstream | | Calcium | 16/10/2015 | N/A | N/A | 13.10 | mg/L | yes | | | | |
| SW5 | downstream | Cadmium and compounds (as Cd) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | | | | |
| SW5 | downstream | Cyanides (as total CN) | | 16/10/2015 | N/A | N/A | 92.00 | µg/L | yes | | | | |
| SW5 | downstream | Chromium and compounds (as Cr) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | | | | |
| SW5 | downstream | Copper and compounds (as Cu) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | | | | |
| SW5 | downstream | | Iron | 16/10/2015 | N/A | N/A | 35.00 | µg/L | yes | | | | |
| SW5 | downstream | Fluorides (as total F) | | 16/10/2015 | N/A | N/A | 0.10 | mg/L | yes | | | | |
| SW5 | downstream | Mercury and compounds (as Hg) | | 16/10/2015 | N/A | N/A | <1.00 | mg/L | yes | | | | |
| SW5 | downstream | | Potassium | 16/10/2015 | N/A | N/A | 3.54 | mg/L | yes | | | | |
| SW5 | downstream | | Magnesium | 16/10/2015 | N/A | N/A | 4.19 | mg/L | yes | | | | |
| SW5 | downstream | | Manganese (as Mn) | 16/10/2015 | N/A | N/A | 51.00 | µg/L | yes | | | | |
| SW5 | downstream | | Sodium | 16/10/2015 | N/A | N/A | 17.00 | mg/L | yes | | | | |
| SW5 | downstream | Nickel and compounds (as Ni) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | | | | |
| SW5 | downstream | Total phosphorus | | 16/10/2015 | N/A | N/A | 0.03 | mg/L | yes | | | | |
| SW5 | downstream | Lead and compounds (as Pb) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | | | | |
| SW5 | downstream | | Sulphate | 16/10/2015 | N/A | N/A | 9.87 | mg/L SO ₄ | yes | | | | |
| SW5 | downstream | | Total Oxidised Nitrogen (TON) | 16/10/2015 | N/A | N/A | 3.69 | mg/L N | yes | | | | |
| SW5 | downstream | Zinc and compounds (as Zn) | | 16/10/2015 | N/A | N/A | <20.00 | µg/L | yes | | | | |
| SW5 | downstream | | Alkalinity | 16/10/2015 | N/A | N/A | 107.98 | mg/L | yes | | | | |
| SW5 | downstream | | Ortho-phosphate (as PO4) | 16/10/2015 | N/A | N/A | 0.08 | mg/L PO ₄ | yes | | | | |

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

| Emission reference no: | Emission released to | Parameter/ SubstanceNote 1 | Type of sample | Frequency of monitoring | Averaging period | ELV or trigger values in licence or any revision thereof ^{Note 2} | Licence Compliance criteria | Measured value | Unit of measurement | Compliant with licence | Method of analysis | Procedural reference source | Procedural reference standard number | Annual mass load (kg) | Comments |
|------------------------|----------------------|----------------------------|----------------|-------------------------|------------------|--|-----------------------------|----------------|---------------------|------------------------|--------------------|-----------------------------|--------------------------------------|-----------------------|----------|
| | SELECT | SELECT | SELECT | | SELECT | | SELECT | | SELECT | SELECT | SELECT | SELECT | | | |

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

Continuous monitoring

Additional Information

5 Does your site carry out continuous emissions to water/sewer monitoring?

| | |
|----|--|
| No | |
|----|--|

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6 Did continuous monitoring equipment experience downtime? If yes please record downtime in table W4 below

| | |
|--------|--|
| SELECT | |
|--------|--|

7 Do you have a proactive service contract for each piece of continuous monitoring equipment on site?

| | |
|--------|--|
| SELECT | |
|--------|--|

8 Did abatement system bypass occur during the reporting year? If yes please complete table W5 below

| | |
|--------|--|
| SELECT | |
|--------|--|

Table W4: Summary of average emissions -continuous monitoring

| Emission reference no: | Emission released to | Parameter/ Substance | ELV or trigger values in licence or any revision thereof | Averaging Period | Compliance Criteria | Units of measurement | Annual Emission for current reporting year (kg) | % change +/- from previous reporting year | Monitoring Equipment downtime (hours) | Number of ELV exceedences in reporting year | Comments |
|------------------------|----------------------|----------------------|--|------------------|---------------------|----------------------|---|---|---------------------------------------|---|----------|
| | SELECT | SELECT | | SELECT | SELECT | SELECT | | | | | |
| | SELECT | SELECT | | SELECT | SELECT | SELECT | | | | | |

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

| Date | Duration (hours) | Location | Resultant emissions | Reason for bypass | Corrective action* | Was a report submitted to the EPA? | When was this report submitted? |
|------|------------------|----------|---------------------|-------------------|--------------------|------------------------------------|---------------------------------|
| | | | | | | SELECT | |
| | | | | | | | |
| | | | | | | | |

*Measures taken or proposed to reduce or limit bypass frequency

Bund testing

dropdown menu click to see options

Additional information

Are you required by your licence to undertake integrity testing on bunds and containment structures? If yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed the integrity test-all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)

- 1 Please provide integrity testing frequency period
 - 2 Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)
 - 3 How many bunds are on site?
 - 4 How many of these bunds have been tested within the required test schedule?
 - 5 How many mobile bunds are on site?
 - 6 Are the mobile bunds included in the bund test schedule?
 - 7 How many of these mobile bunds have been tested within the required test schedule?
 - 8 How many sumps on site are included in the integrity test schedule?
 - 9 How many of these sumps are integrity tested within the test schedule?
- Please list any sump integrity failures in table B1**
- 11 Do all sumps and chambers have high level liquid alarms?
 - 12 If yes to Q11 are these failsafe systems included in a maintenance and testing programme?
 - 13 Is the Fire Water Retention Pond included in your integrity test programme?

| | |
|---------|--|
| Yes | |
| 3 years | |
| No | |
| 1 | |
| 1 | |
| 0 | |
| N/A | |
| N/A | |
| N/A | |
| N/A | |
| Yes | |
| Yes | |
| N/A | |

Table B1: Summary details of bund /containment structure integrity test

| Bund/Containment structure ID | Type | Specify Other type | Product containment | Actual capacity | Capacity required* | Type of integrity test | Other test type | Test date | Integrity reports maintained on site? | Results of test | Integrity test failure explanation <50 words | Corrective action taken | Scheduled date for retest | Results of retest(if in current reporting year) |
|-------------------------------|---------------------|--------------------|---------------------|-----------------|--------------------|------------------------|-----------------|-----------|---------------------------------------|-----------------|--|-------------------------|---------------------------|---|
| | reinforced concrete | | | | | SELECT | | | SELECT | SELECT | | SELECT | | |
| | SELECT | | | | | SELECT | | | SELECT | SELECT | | SELECT | | |

* Capacity required should comply with 25% or 110% containment rule as detailed in your licence

Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance?

[bunding and storage guidelines](#)

- 15 Are channels/transfer systems to remote containment systems tested?
- 17 Are channels/transfer systems compliant in both integrity and available volume?

| | |
|------------|--|
| Commentary | |
| SELECT | |
| SELECT | |
| SELECT | |

Pipeline/underground structure testing

Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc? If yes please fill out table 2 below listing

- 1 all underground structures and pipelines on site **which failed the integrity test and all which have not been tested within the integrity test period as specified**
 - 2 Please provide integrity testing frequency period
- *please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)

| | |
|--------|--|
| SELECT | |
| SELECT | |

Table B2: Summary details of pipeline/underground structures integrity test

| Structure ID | Type system | Material of construction: | Does this structure have Secondary containment? | Type of secondary containment | Type integrity testing | Integrity reports maintained on site? | Results of test | Integrity test failure explanation <50 words | Corrective action taken | Scheduled date for retest | Results of retest(if in current reporting year) |
|--------------|-------------|---------------------------|---|-------------------------------|------------------------|---------------------------------------|-----------------|--|-------------------------|---------------------------|---|
| | SELECT | SELECT | SELECT | SELECT | SELECT | SELECT | SELECT | | | | SELECT |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Please use commentary for additional details not answered by tables/ questions above

| | | | | |
|---|---------|----------|------|------|
| Groundwater/Soil monitoring template | Lic No: | W0070-01 | Year | 2014 |
|---|---------|----------|------|------|

| | | Comments | |
|----|--|--|--|
| 1 | Are you required to carry out groundwater monitoring as part of your licence requirements? | yes | Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please include a groundwater/contaminated land monitoring results interpretation as an additional section in this AER |
| 2 | Are you required to carry out soil monitoring as part of your licence requirements? | no | |
| 3 | Do you extract groundwater for use on site? If yes please specify use in comment section | no | |
| 4 | Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Template Report (link in cell G8) and submit separately through ALDER as a licensee return AND answer questions 5-12 below. | Groundwater monitoring template yes | GW quality is in line with previous years. Groundwater quality is impacted by the presence of a very weak leachate in the immediate vicinity of the site. However, the impact reduces with distance away from the landfill most likely as a result of dilution effects. The Tier 3 Risk Assessment recommends that the groundwater monitoring programme should continue to be used to determine if the impacts on groundwater are reducing over time as leachate generation further reduces. |
| 5 | Is the contamination related to operations at the facility (either current and/or historic) | yes | |
| 6 | Have actions been taken to address contamination issues? If yes please summarise remediation strategies proposed/undertaken for the site | no | |
| 7 | Please specify the proposed time frame for the remediation strategy | N/A | |
| 8 | Is there a licence condition to carry out/update ELRA for the site? | no | |
| 9 | Has any type of risk assessment been carried out for the site? | yes | |
| 10 | Has a Conceptual Site Model been developed for the site? | yes | |
| 11 | Have potential receptors been identified on and off site? | yes | |
| 12 | Is there evidence that contamination is migrating offsite? | yes | |

Table 1: Upgradient Groundwater monitoring results

| Date of sampling | Sample location reference | Parameter/ Substance | Methodology | Monitoring frequency | Maximum Concentration++ | Average Concentration+ | unit | GTV's* | SW EQS | Upward trend in pollutant concentration over last 5 years of monitoring data |
|------------------|---------------------------|-------------------------|--------------------------|----------------------|-------------------------|------------------------|-----------|-------------|--------|--|
| 20/08/2014 | MW4 | Ammonia | konelab aquakem SOP 2057 | Quarterly | 0.33 | 0.18 | mg/l | 0.065-0.175 | <0.014 | no |
| 20/08/2014 | MW4 | Conductivity | Electrometry SOP 2076 | Quarterly | 282 | 150.25 | uS/cm20°C | 800-1875 | | no |
| 20/08/2014 | MW4 | pH | Electrometry SOP 2004 | Quarterly | 6.6 | 6.2 | pH units | | | no |
| 20/08/2014 | MW4 | Temperature | Temp. Probe | Quarterly | 15 | 12.15 | Deg. C | | | no |
| 20/08/2014 | MW4 | Chloride | konelab aquakem SOP 2065 | Quarterly | 55 | 26.84 | mg/l | 24-187.5 | 250 | no |
| 20/08/2014 | MW4 | Dissolved Oxygen | Oxygen Meter SOP 2006 | Quarterly | 8.54 | 7.3 | mg/l O2 | | | no |
| 20/08/2014 | MW4 | Potassium | ICP-MS | Quarterly | 4.16 | 1.54 | mg/l | | | no |
| 20/08/2014 | MW4 | Sodium | ICP-MS | Quarterly | 26.9 | 13.22 | mg/l | | 250 | no |
| 20/08/2014 | MW4 | Total Oxidised Nitrogen | konelab aquakem SOP 2058 | Quarterly | 1.65 | 1.13 | mg/l | | | no |
| 20/08/2014 | MW4 | Total Organic Carbon | Oxidation & Colourimetry | Quarterly | 1.2 | 0.8 | mg/l | | | no |
| 20/08/2014 | MW4 | Phenols | Not Known | Quarterly | 0.03 | 0.01 | ug/l | | | no |
| 20/08/2014 | MW4 | Boron | ICP-MS | Annual | 0.01 | N/A | mg/l | 0.75 | | no |
| 20/08/2014 | MW4 | Cadmium | ICP-MS | Annual | <20.00 | N/A | ug/l | N/A | | no |
| 20/08/2014 | MW4 | Calcium | ICP-MS | Annual | 11.8 | N/A | mg/l | | | no |
| 20/08/2014 | MW4 | Chromium | ICP-MS | Annual | <20.00 | N/A | ug/l | 37.5 | 4.7 | no |
| 20/08/2014 | MW4 | Copper | ICP-MS | Annual | <20.00 | N/A | ug/l | 1500 | 5 | no |
| 20/08/2014 | MW4 | Iron | ICP-MS | Annual | 1659 | N/A | ug/l | | | no |
| 20/08/2014 | MW4 | Lead | ICP-MS | Annual | <20.00 | N/A | ug/l | 18.75 | 7.2 | no |
| 20/08/2014 | MW4 | Magnesium | ICP-MS | Annual | 3.04 | N/A | mg/l | | | no |
| 20/08/2014 | MW4 | Zinc | ICP-MS | Annual | 71 | N/A | ug/l | | 40 | no |

| Groundwater/Soil monitoring template | | | | Lic No: | W0070-01 | Year | 2014 | | | |
|--------------------------------------|-----|-----------------------|-----------------------------------|---------|----------|------|----------------------|-------|-------|----|
| 20/08/2014 | MW4 | Mercury | ICP-MS | Annual | <1.00 | N/A | ug/l | 0.75 | 0.05 | no |
| 20/08/2014 | MW4 | Manganese | ICP-MS | Annual | 373 | N/A | ug/l | | | no |
| 20/08/2014 | MW4 | Phosphate | konelab aquakem SOP 2061 | Annual | 0.02 | N/A | mg/l PO ₄ | | | no |
| 20/08/2014 | MW4 | Cyanide - Tot | Steam Distillation & Colourimetry | Annual | <20.00 | N/A | ug/l | 37.5 | 10 | no |
| 20/08/2014 | MW4 | Flouride | Ion Selective Electrode | Annual | 2 | N/A | mg/l | | 0.5 | no |
| 20/08/2014 | MW4 | Sulphate | konelab aquakem SOP 2062 | Annual | 26.82 | N/A | mg/l SO ₄ | 187.5 | | no |
| 20/08/2014 | MW4 | Total Alkalinity | konelab aquakem SOP 2064 | Annual | 64.73 | N/A | mg/l | | | no |
| 20/08/2014 | MW4 | Total Phosphorous | ICP-MS | Annual | 0.07 | N/A | mg/l P | | 0.075 | no |
| 20/08/2014 | MW4 | Total Disolved Solids | Filt./Evap. & Drying @ 105°C | Annual | 108 | N/A | mg/l | | | no |
| 20/08/2014 | MW4 | E. Coli | Quanti-tray SOP 2090 | Annual | 12.2 | N/A | MPN/100ml | | | no |
| 20/08/2014 | MW4 | Total Coliforms | Quanti-tray SOP 2090 | Annual | 1046.2 | N/A | MPN/100ml | | | no |

.+ where average indicates arithmetic mean

++. maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Table 2: Downgradient Groundwater monitoring results

| Date of sampling | Sample location reference | Parameter/ Substance | Methodology | Monitoring frequency | Maximum Concentration | Average Concentration | unit | GTV's* | SW EQS | Upward trend in yearly average pollutant concentration over last 5 years of monitoring data |
|------------------|---------------------------|-------------------------|-----------------------------------|----------------------|-----------------------|-----------------------|----------------------|-------------|--------|---|
| 20/08/2014 | MW1 | Ammonia | konelab aquakem SOP 2057 | Quarterly | 3.2 | 2.85 | mg/l | 0.065-0.175 | <0.014 | no |
| 20/08/2014 | MW1 | Conductivity | Electrometry SOP 2076 | Quarterly | 725 | 640.75 | uS/cm20°C | 800-1875 | | no |
| 20/08/2014 | MW1 | pH | Electrometry SOP 2004 | Quarterly | 6.7 | 6.63 | pH units | | | no |
| 20/08/2014 | MW1 | Temperature | Temp. Probe | Quarterly | 15.2 | 12.75 | Deg. C | | | no |
| 20/08/2014 | MW1 | Chloride | konelab aquakem SOP 2065 | Quarterly | 43.7 | 37.49 | mg/l | 24-187.5 | 250 | no |
| 20/08/2014 | MW1 | Dissolved Oxygen | Oxygen Meter SOP 2006 | Quarterly | 5.1 | 3.83 | mg/l O ₂ | | | no |
| 20/08/2014 | MW1 | Potassium | ICP-MS | Quarterly | 12.3 | 11.6 | mg/l | | | no |
| 20/08/2014 | MW1 | Sodium | ICP-MS | Quarterly | 29.3 | 27.38 | mg/l | | 250 | no |
| 20/08/2014 | MW1 | Total Oxidised Nitrogen | konelab aquakem SOP 2058 | Quarterly | 1.35 | 0.81 | mg/l | | | no |
| 20/08/2014 | MW1 | Total Organic Carbon | Oxidation & Colourimetry | Quarterly | 3.9 | 1.55 | mg/l | | | no |
| 20/08/2014 | MW1 | Phenols | Not Known | Quarterly | 0.05 | 0.02 | ug/l | | | no |
| 20/08/2014 | MW1 | Boron | ICP-MS | Annual | 0.07 | N/A | mg/l | 0.75 | | no |
| 20/08/2014 | MW1 | Cadmium | ICP-MS | Annual | <20.00 | N/A | ug/l | N/A | | no |
| 20/08/2014 | MW1 | Calcium | ICP-MS | Annual | 110 | N/A | mg/l | | | no |
| 20/08/2014 | MW1 | Chromium | ICP-MS | Annual | <20.00 | N/A | ug/l | 37.5 | 4.7 | no |
| 20/08/2014 | MW1 | Copper | ICP-MS | Annual | <20.00 | N/A | ug/l | 1500 | 5 | no |
| 20/08/2014 | MW1 | Iron | ICP-MS | Annual | 88 | N/A | ug/l | | | no |
| 20/08/2014 | MW1 | Lead | ICP-MS | Annual | <20.00 | N/A | ug/l | 18.75 | 7.2 | no |
| 20/08/2014 | MW1 | Magnesium | ICP-MS | Annual | 26.1 | N/A | mg/l | | | no |
| 20/08/2014 | MW1 | Zinc | ICP-MS | Annual | <20 | N/A | ug/l | | 40 | no |
| 20/08/2014 | MW1 | Mercury | ICP-MS | Annual | <1 | N/A | ug/l | 0.75 | 0.05 | no |
| 20/08/2014 | MW1 | Manganese | ICP-MS | Annual | 1.6 | N/A | ug/l | | | no |
| 20/08/2014 | MW1 | Phosphate | konelab aquakem SOP 2061 | Annual | 0.01 | N/A | mg/l PO ₄ | | | no |
| 20/08/2014 | MW1 | Cyanide - Tot | Steam Distillation & Colourimetry | Annual | 3 | N/A | ug/l | 37.5 | 10 | no |
| 20/08/2014 | MW1 | Flouride | Ion Selective Electrode | Annual | 0.41 | N/A | mg/l | | 0.5 | no |
| 20/08/2014 | MW1 | Sulphate | konelab aquakem SOP 2062 | Annual | 135.21 | N/A | mg/l SO ₄ | 187.5 | | no |
| 20/08/2014 | MW1 | Total Alkalinity | konelab aquakem SOP 2064 | Annual | 199.34 | N/A | mg/l | | | no |
| 20/08/2014 | MW1 | Total Phosphorous | ICP-MS | Annual | 0.04 | N/A | mg/l P | | 0.075 | no |
| 20/08/2014 | MW1 | Total Disolved Solids | Filt./Evap. & Drying @ 105°C | Annual | 322 | N/A | mg/l | | | no |
| 20/08/2014 | MW1 | E. Coli | Quanti-tray SOP 2090 | Annual | <1 | N/A | MPN/100ml | | | no |
| 20/08/2014 | MW1 | Total Coliforms | Quanti-tray SOP 2090 | Annual | 44.8 | N/A | MPN/100ml | | | no |
| 20/08/2014 | MW2 | Ammonia | konelab aquakem SOP 2057 | Quarterly | 1.77 | 0.46 | mg/l | 0.065-0.175 | <0.014 | no |

| Groundwater/Soil monitoring template | | | | Lic No: | W0070-01 | Year | 2014 | | |
|--------------------------------------|-----|-------------------------|-----------------------------------|-----------|----------|--------|----------------------|-------------|-----------|
| 20/08/2014 | MW2 | Conductivity | Electrometry SOP 2076 | Quarterly | 541 | 394.75 | uS/cm20°C | 800-1875 | no |
| 20/08/2014 | MW2 | pH | Electrometry SOP 2004 | Quarterly | 7.7 | 5.68 | pH units | | no |
| 20/08/2014 | MW2 | Temperature | Temp. Probe | Quarterly | 13.1 | 9.18 | Deg. C | | no |
| 20/08/2014 | MW2 | Chloride | konelab aquakem SOP 2065 | Quarterly | 67.99 | 42.96 | mg/l | 24-187.5 | 250 no |
| 20/08/2014 | MW2 | Dissolved Oxygen | Oxygen Meter SOP 2006 | Quarterly | 8.39 | 4.59 | mg/l O2 | | no |
| 20/08/2014 | MW2 | Potassium | ICP-MS | Quarterly | 4.21 | 1.91 | mg/l | | no |
| 20/08/2014 | MW2 | Sodium | ICP-MS | Quarterly | 33.1 | 24.33 | mg/l | | 250 no |
| 20/08/2014 | MW2 | Total Oxidised Nitrogen | konelab aquakem SOP 2058 | Quarterly | 2.25 | 1.09 | mg/l | | no |
| 20/08/2014 | MW2 | Total Organic Carbon | Oxidation & Colourimetry | Quarterly | 2.2 | 0.73 | mg/l | | no |
| 20/08/2014 | MW2 | Phenols | Not Known | Quarterly | 0.01 | 0.004 | ug/l | | no |
| 20/08/2014 | MW2 | Boron | ICP-MS | Annual | N/A | N/A | mg/l | 0.75 | no |
| 20/08/2014 | MW2 | Cadmium | ICP-MS | Annual | N/A | N/A | ug/l | N/A | no |
| 20/08/2014 | MW2 | Calcium | ICP-MS | Annual | N/A | N/A | mg/l | | no |
| 20/08/2014 | MW2 | Chromium | ICP-MS | Annual | N/A | N/A | ug/l | 37.5 | 4.7 no |
| 20/08/2014 | MW2 | Copper | ICP-MS | Annual | N/A | N/A | ug/l | 1500 | 5 no |
| 20/08/2014 | MW2 | Iron | ICP-MS | Annual | N/A | N/A | ug/l | | no |
| 20/08/2014 | MW2 | Lead | ICP-MS | Annual | N/A | N/A | ug/l | 18.75 | 7.2 no |
| 20/08/2014 | MW2 | Magnesium | ICP-MS | Annual | N/A | N/A | mg/l | | no |
| 20/08/2014 | MW2 | Zinc | ICP-MS | Annual | N/A | N/A | ug/l | | 40 no |
| 20/08/2014 | MW2 | Mercury | ICP-MS | Annual | N/A | N/A | ug/l | 0.75 | 0.05 no |
| 20/08/2014 | MW2 | Manganese | ICP-MS | Annual | N/A | N/A | ug/l | | no |
| 20/08/2014 | MW2 | Phosphate | konelab aquakem SOP 2061 | Annual | N/A | N/A | mg/l PO ₄ | | no |
| 20/08/2014 | MW2 | Cyanide - Tot | Steam Distillation & Colourimetry | Annual | N/A | N/A | ug/l | 37.5 | 10 no |
| 20/08/2014 | MW2 | Flouride | Ion Selective Electrode | Annual | N/A | N/A | mg/l | | 0.5 no |
| 20/08/2014 | MW2 | Sulphate | konelab aquakem SOP 2062 | Annual | N/A | N/A | mg/l SO ₄ | 187.5 | no |
| 20/08/2014 | MW2 | Total Alkalinity | konelab aquakem SOP 2064 | Annual | N/A | N/A | mg/l | | no |
| 20/08/2014 | MW2 | Total Phosphorous | ICP-MS | Annual | N/A | N/A | mg/l P | | 0.075 no |
| 20/08/2014 | MW2 | Total Disolved Solids | Filt./Evap. & Drying @ 105°C | Annual | N/A | N/A | mg/l | | no |
| 20/08/2014 | MW2 | E. Coli | Quanti-tray SOP 2090 | Annual | N/A | N/A | MPN/100ml | | no |
| 20/08/2014 | MW2 | Total Coliforms | Quanti-tray SOP 2090 | Annual | N/A | N/A | MPN/100ml | | no |
| 20/08/2014 | MW3 | Ammonia | konelab aquakem SOP 2057 | Quarterly | 1.02 | 0.35 | mg/l | 0.065-0.175 | <0.014 no |
| 20/08/2014 | MW3 | Conductivity | Electrometry SOP 2076 | Quarterly | 304 | 236.25 | uS/cm20°C | 800-1875 | no |
| 20/08/2014 | MW3 | pH | Electrometry SOP 2004 | Quarterly | 6.7 | 6.5 | pH units | | no |
| 20/08/2014 | MW3 | Temperature | Temp. Probe | Quarterly | 13.7 | 6.3 | Deg. C | | no |
| 20/08/2014 | MW3 | Chloride | konelab aquakem SOP 2065 | Quarterly | 38.28 | 30.89 | mg/l | 24-187.5 | 250 no |
| 20/08/2014 | MW3 | Dissolved Oxygen | Oxygen Meter SOP 2006 | Quarterly | 5.98 | 4.47 | mg/l O2 | | no |
| 20/08/2014 | MW3 | Potassium | ICP-MS | Quarterly | 16.3 | 7.64 | mg/l | | no |
| 20/08/2014 | MW3 | Sodium | ICP-MS | Quarterly | 21.9 | 14.45 | mg/l | | 250 no |
| 20/08/2014 | MW3 | Total Oxidised Nitrogen | konelab aquakem SOP 2058 | Quarterly | 10.44 | 3.34 | mg/l | | no |
| 20/08/2014 | MW3 | Total Organic Carbon | Oxidation & Colourimetry | Quarterly | 2.3 | 1.25 | mg/l | | no |
| 20/08/2014 | MW3 | Phenols | Not Known | Quarterly | 0.02 | 0.01 | ug/l | | no |
| 20/08/2014 | MW3 | Boron | ICP-MS | Annual | N/A | N/A | mg/l | 0.75 | no |
| 20/08/2014 | MW3 | Cadmium | ICP-MS | Annual | N/A | N/A | ug/l | N/A | no |
| 20/08/2014 | MW3 | Calcium | ICP-MS | Annual | N/A | N/A | mg/l | | no |
| 20/08/2014 | MW3 | Chromium | ICP-MS | Annual | N/A | N/A | ug/l | 37.5 | 4.7 no |
| 20/08/2014 | MW3 | Copper | ICP-MS | Annual | N/A | N/A | ug/l | 1500 | 5 no |
| 20/08/2014 | MW3 | Iron | ICP-MS | Annual | N/A | N/A | ug/l | | no |
| 20/08/2014 | MW3 | Lead | ICP-MS | Annual | N/A | N/A | ug/l | 18.75 | 7.2 no |
| 20/08/2014 | MW3 | Magnesium | ICP-MS | Annual | N/A | N/A | mg/l | | no |
| 20/08/2014 | MW3 | Zinc | ICP-MS | Annual | N/A | N/A | ug/l | | 40 no |
| 20/08/2014 | MW3 | Mercury | ICP-MS | Annual | N/A | N/A | ug/l | 0.75 | 0.05 no |

| Groundwater/Soil monitoring template | | | | Lic No: | W0070-01 | Year | 2014 | | | |
|--------------------------------------|-----|-----------------------|-----------------------------------|---------|----------|------|----------------------|-------|-------|----|
| 20/08/2014 | MW3 | Manganese | ICP-MS | Annual | N/A | N/A | ug/l | | | no |
| 20/08/2014 | MW3 | Phosphate | konelab aquakem SOP 2061 | Annual | N/A | N/A | mg/l PO ₄ | | | no |
| 20/08/2014 | MW3 | Cyanide - Tot | Steam Distillation & Colourimetry | Annual | N/A | N/A | ug/l | 37.5 | 10 | no |
| 20/08/2014 | MW3 | Flouride | Ion Selective Electrode | Annual | N/A | N/A | mg/l | | 0.5 | no |
| 20/08/2014 | MW3 | Sulphate | konelab aquakem SOP 2062 | Annual | N/A | N/A | mg/l SO ₄ | 187.5 | | no |
| 20/08/2014 | MW3 | Total Alkalinity | konelab aquakem SOP 2064 | Annual | N/A | N/A | mg/l | | | no |
| 20/08/2014 | MW3 | Total Phosphorous | ICP-MS | Annual | N/A | N/A | mg/l P | | 0.075 | no |
| 20/08/2014 | MW3 | Total Disolved Solids | Filt./Evap. & Drying @ 105°C | Annual | N/A | N/A | mg/l | | | no |
| 20/08/2014 | MW3 | E. Coli | Quanti-tray SOP 2090 | Annual | N/A | N/A | MPN/100ml | | | no |
| 20/08/2014 | MW3 | Total Coliforms | Quanti-tray SOP 2090 | Annual | N/A | N/A | MPN/100ml | | | no |

*please note exceedance of generic assessment criteria (GAC) such as a Groundwater Threshold Value (GTV) or an Interim Guideline Value (IGV) or an upward trend in results for a substance indicates that further interpretation of monitoring results is required. In addition to completing the above table, please complete the Groundwater Monitoring Guideline Template Report at the link provided and submit separately through ALDER as a licensee return or as otherwise instructed by the EPA.

[Groundwater monitoring template](#)

More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance (see the link in G31)

[Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites \(EPA 2013\)](#)

**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), If the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)

Table 3: Soil results

| Date of sampling | Sample location reference | Parameter/ Substance | Methodology | Monitoring frequency | Maximum Concentration | Average Concentration | unit |
|------------------|---------------------------|----------------------|-------------|----------------------|-----------------------|-----------------------|--------|
| | | | | | | | SELECT |
| | | | | | | | SELECT |

Where additional detail is required please enter it here in 200 words or less

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| | | | | | | | |
|--|--|--|--|--|--|--|--|

[Click here to access EPA guidance on Environmental Liabilities and Financial provision](#)

| | | Commentary | |
|----|---|-------------------|--|
| 1 | ELRA initial agreement status | Not Required | |
| 2 | ELRA review status | SELECT | |
| 3 | Amount of Financial Provision cover required as determined by the latest ELRA | Specify | |
| 4 | Financial Provision for ELRA status | SELECT | |
| 5 | Financial Provision for ELRA - amount of cover | Specify | |
| 6 | Financial Provision for ELRA - type | SELECT | |
| 7 | Financial provision for ELRA expiry date | Enter expiry date | |
| 8 | Closure plan initial agreement status | SELECT | |
| 9 | Closure plan review status | SELECT | |
| 10 | Financial Provision for Closure status | SELECT | |
| 11 | Financial Provision for Closure - amount of cover | Specify | |
| 12 | Financial Provision for Closure - type | SELECT | |
| 13 | Financial provision for Closure expiry date | Enter expiry date | |

| | | | | |
|---|---------|-------|------|------|
| Environmental Management Programme/Continuous Improvement Programme template | Lic No: | #REF! | Year | 2014 |
|---|---------|-------|------|------|

| | Highlighted cells contain dropdown menu click to view | Additional Information |
|---|---|--|
| 1 | Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information | Yes Site procedures make up the EMS |
| 2 | Does the EMS reference the most significant environmental aspects and associated impacts on-site | Yes |
| 3 | Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements | Yes |
| 4 | Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence | Yes |

Environmental Management Programme (EMP) report

| Objective Category | Target | Status (% completed) | How target was progressed | Responsibility | Intermediate outcomes |
|-------------------------------|---|----------------------|---|----------------|---|
| Reduction of emissions to Air | Maintain/Improve landfill gas extraction regime | Ongoing | Regular & frequent field gas balancing | Individual | Improved Environmental Management Practices |
| Groundwater protection | Prevent GW/SW contamination | Ongoing | Ongoing analyses of environmental monitoring results to retermine if remedial action is necessary | Individual | Improved Environmental Management Practices |

| | | | |
|--|------------------|------|------|
| Noise monitoring summary report | Lic No: W0070-01 | Year | 2014 |
|--|------------------|------|------|

- 1 Was noise monitoring a licence requirement for the AER period?
If yes please fill in table N1 noise summary below
- 2 Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? [Noise Guidance note NG4](#)
- 3 Does your site have a noise reduction plan
- 4 When was the noise reduction plan last updated?
- 5 Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?

Table N1: Noise monitoring summary

| Date of monitoring | Time period | Noise location (on site) | Noise sensitive location -NSL (if applicable) | LA _{eq} | LA ₉₀ | LA ₁₀ | LA _{max} | Tonal or Impulsive noise* (Y/N) | If tonal /impulsive noise was identified was 5dB penalty applied? | Comments (ex. main noise sources on site, & extraneous noise ex. road traffic) | Is <u>site</u> compliant with noise limits (day/evening/night)? |
|--------------------|-------------|--------------------------|---|------------------|------------------|------------------|-------------------|---------------------------------|---|--|---|
| | | | | | | | | SELECT | SELECT | | SELECT |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options?

| |
|--|
| ** please explain the reason for not taking action/resolution of noise issues? |
| Any additional comments? (less than 200 words) |

Resource Usage/Energy efficiency summary

Lic No:

#REF!

Year

2014

Additional information

- 1 When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below
- 2 Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information
[SEAI - Large Industry Energy Network \(LIEN\)](#)
- 3 Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information

| | |
|-----|---|
| N/A | |
| No | Cork County Council has energy usage reduction team in operation countywide |
| N/A | |

| Energy Use | Previous year | Current year | Production +/- % compared to previous reporting year** | Energy Consumption +/- % vs overall site production* |
|--|---------------|--------------|--|--|
| Total Energy Used (MWHrs) | 4583 | 2859 | | |
| Total Energy Generated (MWHrs) | 0 | 0 | | |
| Total Renewable Energy Generated (MWHrs) | 0 | 0 | | |
| Electricity Consumption (MWHrs) | 4583 | 2859 | | |
| Fossil Fuels Consumption: | N/A | | | |
| Heavy Fuel Oil (m3) | | | | |
| Light Fuel Oil (m3) | | | | |
| Natural gas (m3) | | | | |
| Coal/Solid fuel (metric tonnes) | | | | |
| Peat (metric tonnes) | | | | |
| Renewable Biomass | | | | |
| Renewable energy generated on site | | | | |

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

| Water use | Water extracted Previous year m3/yr. | Water extracted Current year m3/yr. | Production +/- % compared to previous reporting year** | Energy Consumption +/- % vs overall site production* | Water Emissions | | Water Consumption | |
|----------------|--------------------------------------|-------------------------------------|--|--|--|--|------------------------|--|
| | | | | | Volume Discharged back to environment(m ³ /yr): | Volume used i.e not discharged to environment e.g. released as steam m3/yr | Unaccounted for Water: | |
| Groundwater | | | | | | | | |
| Surface water | | | | | | | | |
| Public supply | | | | | | | | |
| Recycled water | | | | | | | | |
| Total | | | | | | | | |

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

| | Total | Landfill | Incineration | Recycled | Other |
|------------------------|-------|----------|--------------|----------|-------|
| Hazardous (Tonnes) | | | | | |
| Non-Hazardous (Tonnes) | | | | | |

Resource Usage/Energy efficiency summary Lic No: #REF! Year 2014

Table R4: Energy Audit finding recommendations

| Date of audit | Recommendations | Description of Measures proposed | Origin of measures | Predicted energy savings % | Implementation date | Responsibility | Completion date | Status and comments |
|---------------|-----------------|----------------------------------|--------------------|----------------------------|---------------------|----------------|-----------------|---------------------|
| | | | SELECT | | | | | |
| | | | SELECT | | | | | |
| | | | SELECT | | | | | |

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry) please complete the following information

| | Unit ID | Unit ID | Unit ID | Unit ID | Station Total |
|---|---------|---------|---------|---------|---------------|
| Technology | | | | | |
| Primary Fuel | | | | | |
| Thermal Efficiency | | | | | |
| Unit Date of Commission | | | | | |
| Total Starts for year | | | | | |
| Total Running Time | | | | | |
| Total Electricity Generated (GWH) | | | | | |
| House Load (GWH) | | | | | |
| KWH per Litre of Process Water | | | | | |
| KWH per Litre of Total Water used on Site | | | | | |

| | | | | |
|----------------------|---------|-------|------|------|
| WASTE SUMMARY | Lic No: | #REF! | Year | 2014 |
|----------------------|---------|-------|------|------|

Table 4 Environmental monitoring-landfill only [Landfill Manual-Monitoring Standards](#)

| | | | | | | | | |
|---|---|---|---|---|--|---|---|----------|
| Was meteorological monitoring in compliance with Landfill Directive (LD) standard in reporting year + | Was leachate monitored in compliance with LD standard in reporting year | Was Landfill Gas monitored in compliance with LD standard in reporting year | Was SW monitored in compliance with LD standard in reporting year | Have GW trigger levels been established | Were emission limit values agreed with the Agency (ELVs) | Was topography of the site surveyed in reporting year | Has the statement under S53(A)(5) of WMA been submitted in reporting year | Comments |
| Yes | Yes | Yes | Yes | No | Yes | No | Yes | |

→ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

| | | | | | | |
|-----------------------|-------------------------|---|-------------------|---|------------------------------------|----------|
| Area uncapped* | Area with temporary cap | Area with final cap to LD Standard m ² ha, a | Area capped other | Area with waste that should be permanently capped to date under licence | What materials are used in the cap | Comments |
| SELECT UNIT | SELECT UNIT | | | | | |
| N/A - Landfill Closed | | | | | | |

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9 Is leachate from your site treated in a Waste Water Treatment Plant?

SELECT

10 Is leachate released to surface water? If yes please complete leachate mass load information below

SELECT

| | | | | | | | |
|---|-------------------------------------|-------------------------------------|--|--|----------------------------|------------------------------------|----------|
| Volume of leachate in reporting year(m ³) | Leachate (BOD) mass load (kg/annum) | Leachate (COD) mass load (kg/annum) | Leachate (NH ₄) mass load (kg/annum) | Leachate (Chloride) mass load kg/annum | Leachate treatment on-site | Specify type of leachate treatment | Comments |
| 0 | | | | | No | | |

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

Table 7 Landfill Gas-Landfill only

| | | | | |
|---|----------------------------|----------------------------------|---|----------|
| Gas Captured&Treated by LFG System m ³ | Power generated (MW / KWh) | Used on-site or to national grid | Was surface emissions monitoring performed during the reporting year? | Comments |
| CH ₄ - 7430 | 0 | | No | |

[Guidance to completing the PRTR workbook](#)

AER Returns Workbook

Version 1.1.18

| | |
|-----------------------|------|
| REFERENCE YEAR | 2014 |
|-----------------------|------|

1. FACILITY IDENTIFICATION

| | |
|----------------------------|-----------------------|
| Parent Company Name | Cork County Council |
| Facility Name | Benduff Landfill Site |
| PRTR Identification Number | W0070 |
| Licence Number | W0070-01 |

Classes of Activity

| No. | class_name |
|-----|--------------------------------------|
| - | Refer to PRTR class activities below |

| | |
|--|---|
| Address 1 | Benduff |
| Address 2 | Rosscarbery |
| Address 3 | |
| Address 4 | |
| | Cork |
| Country | Ireland |
| Coordinates of Location | -9.06927 51.5933 |
| River Basin District | IESW |
| NACE Code | 3821 |
| Main Economic Activity | Treatment and disposal of non-hazardous waste |
| AER Returns Contact Name | Mairead Hales |
| AER Returns Contact Email Address | Mairead.Hales@CorkCoCo.ie |
| AER Returns Contact Position | Executive Engineer |
| AER Returns Contact Telephone Number | 021 4276891 (Ext. 7045) |
| AER Returns Contact Mobile Phone Number | 086 6018493 |
| AER Returns Contact Fax Number | 023 8858814 |
| Production Volume | 0.0 |
| Production Volume Units | |
| Number of Installations | 0 |
| Number of Operating Hours in Year | 0 |
| Number of Employees | 1 |
| User Feedback/Comments | |
| Web Address | |

2. PRTR CLASS ACTIVITIES

| Activity Number | Activity Name |
|-----------------|---|
| 5(d) | Landfills |
| 5(c) | Installations for the disposal of non-hazardous waste |
| 50.1 | General |

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

| | |
|---|----|
| Is it applicable? | No |
| Have you been granted an exemption ? | |
| If applicable which activity class applies (as per Schedule 2 of the regulations) ? | |
| Is the reduction scheme compliance route being used ? | |

4. WASTE IMPORTED/ACCEPTED ONTO SITE

[Guidance on waste imported/accepted onto site](#)

| | |
|--|--|
| Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ? | |
|--|--|

This question is only applicable if you are an IPPC or Quarry site

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

| RELEASES TO AIR | | | | | | Please enter all quantities in this section in KGs | | | |
|-----------------|---------------|--------|-------------|-------------------|------------------|--|------------------------|----------------------|--|
| POLLUTANT | | METHOD | | | | QUANTITY | | | |
| No. Annex II | Name | M/C/E | Method Used | | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year | |
| 01 | Methane (CH4) | C | OTH | LandGEM Modelling | 0.0 | 211719.0 | 0.0 | 211719.0 | |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

| RELEASES TO AIR | | | | | | Please enter all quantities in this section in KGs | | | |
|-----------------|------|--------|-------------|--|------------------|--|------------------------|----------------------|--|
| POLLUTANT | | METHOD | | | | QUANTITY | | | |
| No. Annex II | Name | M/C/E | Method Used | | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year | |
| | | | | | 0.0 | 0.0 | 0.0 | 0.0 | |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

| RELEASES TO AIR | | | | | | Please enter all quantities in this section in KGs | | | |
|-----------------|------|--------|-------------|--|------------------|--|------------------------|----------------------|--|
| POLLUTANT | | METHOD | | | | QUANTITY | | | |
| Pollutant No. | Name | M/C/E | Method Used | | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year | |
| | | | | | 0.0 | 0.0 | 0.0 | 0.0 | |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T (total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Benduff Landfill Site

| Please enter summary data on the quantities of methane flared and / or utilised | T (Total) kg/Year | M/C/E | Method Used | | Facility Total Capacity m3 per hour |
|---|-------------------|-------|-------------|----------------------------|-------------------------------------|
| | | | Method Code | Designation or Description | |
| Total estimated methane generation (as per site model) | 216808.0 | C | OTH | LandGEM Modelling | N/A |
| Methane flared | 5089.0 | C | OTH | Landfill Gas Survey | 500.0 (Total Flaring Capacity) |
| Methane utilised in engine/s | 0.0 | | | | 0.0 (Total Utilising Capacity) |
| Net methane emission (as reported in Section A above) | 211719.0 | C | OTH | LandGEM Modelling | N/A |