May 2012

Former Finisklin Landfill Certificate of Authorisation Application

Addendum

Sligo County Council
Comhairle Chontae Shligigh

MALONE O'REGAN

MALONE O'REGAN

2B Richview Office Park,
Clonskeagh,
Dublin 14.

Tel: +353 01 2602655
Fax: +353 01 2602660
e-mail: enviro@morce.ie

St. Catherine's House,
Catherine Street,
Waterford.

Tel: +353 51 876855
Fax :+353 51 876828
e-mail: info@waterford.morce.ie

13 Mill Street,
Galway.

Tel: +353 91 531069
Fax :+353 91 531084
e-mail: info@morce.ie

TABLE OF CONTENTS

Appendix
Appendix A Schematics, Photos and Specifications for Virtual Curtain System

1.0 Introduction

Malone O'Regan (MOR) was appointed by Sligo County Council to complete an addendum to supplement an Environmental Assessment Report dated March 2011 in regards to the former Finisklin Landfill. Both the Environmental Assessment Report and this addendum will be submitted to the Environmental Protection Agency (EPA) in support of a Certificate of Authorisation under the Waste Management (Certification of Historic Unlicenced Waste Disposal and Recovery Activity) Regulations, 2008. This addendum documents additional works that were completed by MOR following completion of the March 2011 report.

This report should be read in conjunction with the information contained in the original report dated March 2011.

1.1 Relevant Background Information

The former Finisklin Landfill (the site) is a closed landfill located on the outskirts of Sligo Town. The former landfill covers an area of approximately 13 hectares (ha) on the southern shores of the Garavogue River estuary approximately 1.5km north west of Sligo City Centre. The deposition of domestic, commercial and construction and demolition (C&D) wastes and capping material occurred within the site boundary from 1977 in the southern portion of the site until 1994 in the northern portion of the site. Based on a review of historical mapping, reports and aerial photographs, it appears that waste materials have also been deposited external to the site boundary.

The former landfill is bordered to the north by Sligo Harbour and a new Wastewater Treatment Works, to the east by commercial/industrial facilities located on Deepwater Berths Road, to the south by commercial/industrial facilities and to the west by Finisklin Road and a cul-de-sac known as Far Finisklin. The site location is shown on Drawing 1.

MOR was appointed by Sligo County Council to undertake an environmental assessment of the former Finisklin Landfill in accordance with the EPA's published Code of Practice: Environmental Risk Assessment for Unregulated Waste Disposal Sites (2007). In preparing the report of that work, cognisance was also taken of the Waste Management (Certification of Historic Unlicenced Waste Disposal and Recovery Activity) Regulations, 2008, which were published in December 2008. This assessment was completed in March 2011.

The principle objectives of this addendum is to present the findings of six additional landfill gas monitoring events that were completed by MOR at the site and also the findings of a remediation options appraisal in regards to the passive venting measures that were recommended along the north east boundary of the former landfill following the completion of a Tier 2 risk assessment.

2.0 Additional Gas Monitoring

One of the key findings of the Tier 2 gas risk assessment was the variable level of risk presented by the presence of methane and carbon dioxide from the former landfill. Based on these findings, it was recommended that a programme of landfill gas monitoring should be undertaken at both on and off the site and at internal locations along Deepwater Berths Road prior to the installation of the recommended landfill gas venting measures. Initially it was determined to undertake six monthly gas monitoring events at the former Finisklin landfill on behalf of Sligo County Council.

The six scheduled monitoring events that have been completed by MOR are as follows:

Table 1 Summary of Gas Monitoring Events

Landfill Gas Monitoring Event[1]	**Internal Gas Monitoring Event[1]**	**Date**
M22	Event Number 4	10/11/2011 and 11/11/2011
M23	Event Number 5	19/12/2011 and 22/12/2011
M24	Event Number 6	23/01/2012 and 24/01/2012
M25	Event Number 7	13/02/2012 and 14/02/2012
M26	Event Number 8	08/03/2012 and 09/03/2012
M27	Event Number 9	18/04/2012 and 19/04/2012

As per previous monitoring events, monitoring took place at the following locations, which are illustrated on Drawings 2 and 3:

- On-site gas monitoring from boreholes installed within the boundary of the former Finisklin landfill (BH1 - BH11 and BH13 - BH14).
- Off-site gas monitoring from boreholes installed outside the boundary of the former Finisklin landfill (BH20 – BH25).
- Internal monitoring within buildings located along the northern end of Deepwater Berths Road (Erin Recyclers, Cold Chon and Calor Gas) [2].

2.1 Objectives - Additional Gas Monitoring

The man objectives of undertaking this additional gas monitoring were as follows:

1. Reaffirm the findings of the Tier 2 assessment that there is no immediate risk to offsite properties as a result of landfill gas, i.e. confirm that the buildings along the northern end of Deepwater Berths Road (Erin Recyclers, Cold Chon and Calor) are not exposed to any immediate risk due to elevated landfill gas concentrations.

2. Compile additional data on landfill gas generation at the former Finisklin landfill as well as establish whether landfill gas is migrating offsite. This included the compilation of flow measurements to establish information on the rate of gas

[1] For the ease of reporting, we have continued with the numbering previously used in the Malone O'Regan gas monitoring events.
[2] Note: Internal monitoring was not undertaken at Erin Recyclers during Monitoring Event 5 due to access restrictions.

generation at the former landfill, as well as at a number of representative locations around the site boundary.

2.2 Methodology

In order to ensure that a comprehensive survey was undertaken in accordance with all best practice guidelines, two types of landfill gas detectors were used to measure gas concentrations during the survey: a GA2000 landfill gas analyser and a Gastec FID (an intrinsically safe flame ionisation detector (FID)).

The GA2000 landfill gas analyser measures methane, carbon dioxide, oxygen, carbon monoxide, and hydrogen sulphide concentrations and has data logging capabilities. This analyser was used both in the landfill and internal gas surveys.

The FID, measures VOCs equivalent to methane in parts per million (ppm) and is a much more sensitive meter when compared to the landfill gas meter which measures only in terms of percentages (% v/v). It functions by measuring the increase in ions produced when organic matter within the gas it is sampling (i.e. methane) passes through a hydrogen flame (CIRIA C665, 2007). It is specifically recommended in CIRIA C665 (2007) that an FID is used when completing internal gas surveys. The use of the FID is very important for the purpose of the internal gas surveys, as it measures VOCs relative to methane concentrations (ppm) and can identify the ingress of low levels of methane into buildings, e.g. along cracks in the foundations.

All monitoring was undertaken by experienced Malone O'Regan Environmental Consultants in order to provide accurate measurements of landfill gas concentrations. The following parameters were recorded during each gas monitoring event:

- stable and peak methane;
- carbon dioxide;
- oxygen;
- hydrogen sulphide;
- carbon monoxide;
- barometric pressure;
- relative pressure;
- balance of gases;
- residual nitrogen; and,
- flow rate.

2.3 Results

2.3.1 Landfill Gas Monitoring

The landfill monitoring results are displayed on Table 3 and Drawing 2 and are described below.

On-Site Locations

BH1 - BH4

Groundwater monitoring wells BH1 – BH4 are installed within the Glencar Formation at the former landfill and are fitted with landfill gas caps. As per previous monitoring events, the majority of methane levels recorded at BH1 - BH4 were low. Although a peak methane level of 12.5% v/v was recorded during M22 at BH1, the stable methane reading was 0.9%v/v, the highest observed in these wells during monitoring events M22-M77. As per previous monitoring events, carbon dioxide levels were generally low and did not exceed 0.8% v/v (BH1 during M22). Flow rates remained very low and did not exceed 0.5 l/h.

Southern Fill Area (BH7 and BH14)

As per previous monitoring events, elevated levels of peak and stable methane of up to 70.8% v/v (BH14 during M24) were recorded at BH7 and BH14 during monitoring events M22-M24. The carbon dioxide levels in BH14 were broadly consistent with previous monitoring events with a maximum of 6.3% v/v during M22. Carbon dioxide levels in BH7 were slightly lower on average than during earlier sampling events with a peak of 21.7% v/v during M22. Methane and carbon dioxide levels in this well indicate that gas generation is still occurring at a less than peak rate at this location. The flow rates continue to be at very low levels in this portion of the landfill and did not exceed 0.1l/hr. In summary, the landfill at the southern end of the site is now approaching the residual stages of gas production which means that it cannot sustain the migration of large volumes of gas out of the ground.

Middle Area Filled 1985 to 1994 (earlier fill) (BH6, BH11, BH13)

As per previous monitoring events, methane levels recorded during monitoring events M22-M27 at BH11 and BH13 were low, with no detected stable methane levels. No peak methane levels exceeded 0.7% v/v during this monitoring period. Carbon dioxide levels in these wells decreased on average when compared to previous monitoring events and did not exceed 4.5% v/v during this monitoring period.

At BH6, peak methane levels did not exceed 1.7% v/v (M25) except during the last monitoring event (M27) when a peak methane level of 27.4% v/v was recorded. Carbon dioxide levels in this well did not exceed 7.5% v/v (M27). As per previous monitoring events, levels of methane and carbon dioxide at BH6 tend to fluctuate from high to low, indicating variable conditions on this portion of the site. These results are typical of material that is generating low volumes of gas.

Similar to previous monitoring events, overall flow rates were very low for this portion of the site and did not exceed 0.3 l/h except during one monitoring event (M24) at BH6 when a flow rate of 2.1 l/hr was recorded.

Northern Area Filled up to 1994 (BH5, BH8-BH10)

As per previous monitoring events, the results of monitoring events M22-M27 indicate generally high methane concentrations in wells BH5, BH8 and BH9 with peak and stable levels of up to 87.8% v/v (BH8 during M27). Elevated carbon dioxide concentrations of up to 33.6% v/v (BH9 during M22) were observed in BH5 and BH9; however, levels in BH8 decreased on average when compared to previous monitoring events and did not exceed 7.6% v/v during this monitoring period. Similar to previous monitoring events, flow rates in these wells were generally very low and did not exceed 0.3 l/h.

Although methane levels in BH10 were elevated during the first three monitoring events (M22-M24) with peak and stable methane levels of up to 31.6% v/v, during the last three monitoring events (M25-M27) levels decreased to those broadly consistent with historic readings and did not exceed a peak level of 1.2% v/v and a stable level of 0.4% v/v. Elevated carbon dioxide concentrations of up to 5.6% v/v were recorded during the first three monitoring events but did not exceed 0.5% v/v during the last three events. Slightly higher flow rates of up to 3.4 l/h were recorded at BH10 during M23 during the first three monitoring events; flow rates of up to 0.1 l/h were recorded during the last three monitoring events indicating a slight change in landfill conditions at this location.

Overall, the results indicate that active gas generation is still occurring in this portion of the former landfill. However, the gas flow rates recorded during the recent monitoring events continue to be at low levels. As a result, an active landfill gas system is not required and passive venting is considered to be the most appropriate remediation technique.

Off-Site Locations

Areas of Fill Beyond the Eastern and Southern Site Boundary (BH20-BH23)

As per previous monitoring events, methane levels recorded during monitoring events M22-M27 were variable at BH21-BH23 and broadly similar to levels recorded in the wells installed in the former landfill in the southernmost portion of the site. Peak and stable methane levels recorded at BH21-BH23 were up to 90.7% v/v (BH21 during M27). Low methane levels were recorded at BH20 with a maximum peak methane value of 0.9% v/v and a maximum stable methane value of 0.3% v/v during monitoring event M22. Similar to previous monitoring events, overall flow rates were generally very low in BH20 and BH21 and did not exceed 0.7 l/h. Slightly higher flow rates were recorded at BH22 (maximum of 5.9 l/hr during M23) and BH23 (maximum of 7.1 l/hr during M27) relative to historic flow readings in these wells, indicating a slight change in landfill conditions at these locations.

As previously determined, gas detected at these offsite locations could be the result of gas generation from the fill material below these areas rather than offsite migration from the former landfill. The likelihood of this is much greater in the areas to the south, but towards the northern end of the former landfill the possibility that at least some of this gas may be migrating from the former landfill increases due to the age of the waste in the northern portion of the site.

Areas of Fill Beyond Western Site Boundary (BH24 and BH25)

Similar to the previous monitoring events, no stable methane levels were recorded at BH24 and BH25 during monitoring events M22-M27; one peak methane level of 0.1% v/v was recorded at BH25 during M26. Low levels of carbon dioxide were recorded with the highest level being 2.4% v/v (BH24 during M24). The overall flow rates remain very low and did not exceed 0.6 l/h except during the last monitoring event (M27) when the flow rate in BH25 was 5.6 l/h.

2.3.2 Internal Gas Monitoring

The internal monitoring results are displayed in Tables 4-18 and are described below.

Calor Gas

As per monitoring events 1-3, methane was not detected at Calor Gas using the landfill gas meter during monitoring events 4-6, 8 and 9. Low methane levels were detected in a number of locations during monitoring event 7. Detected levels did not exceed 0.1% v/v, which is normally considered to be the action level for methane inside buildings. During monitoring events 5 – 9, very low levels of carbon dioxide were detected at a small number of locations with peak values not exceeding 0.1% v/v except in the toilet during monitoring events 5 and 6 when the levels were 6% v/v. Carbon dioxide was not detected during monitoring event 4.

Methane was detected using the FID at a number of locations during monitoring events 4-8 with the highest maximum methane concentration not exceeding 56ppm or 0.0056% v/v detected in Manhole 11 during monitoring event number 5. Stable methane concentrations were recorded during monitoring events 5 and 7 with the highest recorded level being 22ppm or 0.0022% v/v in the vent at the centre of the yard beside the gantry during monitoring event 7. Neither maximum nor stable methane was detected using the FID during monitoring event 9.

Methane results for monitoring events 4 - 9 were very low and broadly consistent with results from earlier monitoring events.

Cold Chon

During monitoring events 4, 6 and 7 very low levels of methane were detected (0.1% v/v) using the landfill gas meter at a small number of locations with peak values not exceeding 0.1% v/v. Methane was not detected during monitoring events 5, 8 and 9 using the landfill gas meter. During monitoring events 4 - 7 and 9, very low levels of carbon dioxide were detected at a number of locations with peak values not exceeding 0.1% v/v. Carbon dioxide was not detected during monitoring event 8.

Methane was detected using the FID at a number of locations during events 4, 5, 7 and 9 with the highest recorded maximum concentration being 99 ppm or 0.0099% v/v in the production plant drain (beside the toilet) during monitoring event 4. The highest stable methane concentration were recorded during these monitoring events was 53ppm or 0.0055% v/v in the cupboard in the lab during monitoring event 4. Methane was not detected using the FID during monitoring events 6 and 8.

Methane results for monitoring events 4 and 5 were broadly consistent with results from earlier monitoring events while results from monitoring events 6 – 9 were generally slightly lower than those previously recorded.

Erin Recyclers

Methane was detected during all monitoring events at a small number of locations using the landfill gas meter with peak values not exceeding 3.7% v/v (manhole 10 during monitoring event 9). Carbon dioxide was detected at a small number of locations during each monitoring event with a peak value of 1.5% v/v being recorded at Manhole 10 during monitoring event 9.

Methane was detected using the FID at a number of locations during all monitoring events with the highest maximum concentration of 5560 ppm or 0.5560% v/v recorded in Manhole 10 during monitoring event 9. Detected stable methane concentrations were

recorded using the FID during monitoring events 6 – 9 with the highest stable reading being 4870ppm or 0.4870% v/v in Manhole 10 during monitoring event 9.

Methane results were highly variable between monitoring events but broadly consistent with the range of values observed during earlier monitoring events with the exception of a very small number of readings which were higher than those previously recorded.

2.4 Conclusions

Based on the findings of the six recent gas monitoring events, the following conclusions can be made:

- The methane monitoring results are broadly consistent with the findings of the previous gas monitoring results and therefore would not warrant any revisions to the findings of the Tier 2 assessment;
- The results of the internal landfill gas surveys suggest that elevated levels of landfill gasses are primarily located in service ducts and drains in off-site buildings; however, there is no immediate risk to offsite properties along the northern end of Deepwater Berths Road due to the identified landfill gas concentrations;
- Although landfill gas flow rate measurements were variable in some on-site and off-site locations, the results are consistent with gas flows associated with a landfill of this age; and,
- The gas flow rates recorded during the recent monitoring events continue to be at low levels. Therefore, an active landfill gas system is not required and a passive venting system would be considered to be the most appropriate.

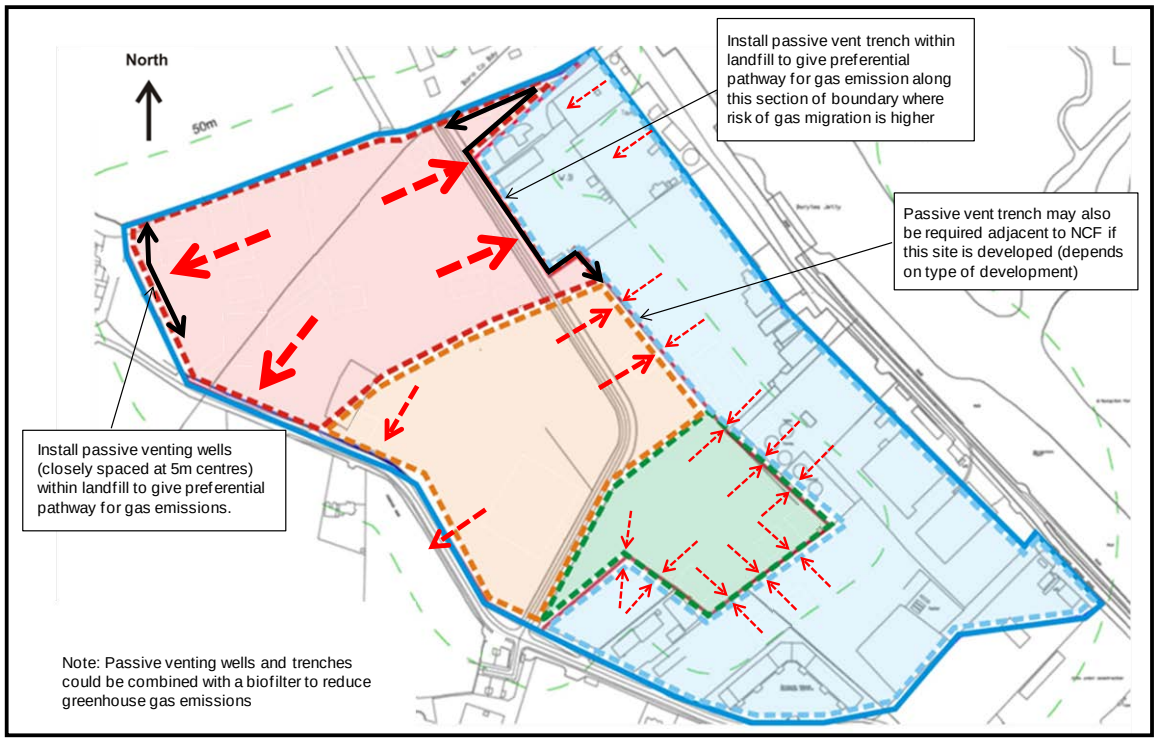
3.0 Remedial Options Appraisal – North East Boundary

3.1 Relevant Background Information

The findings of the Tier 2 detailed gas risk assessment established that the majority of gas being generated at the former landfill at present is most likely escaping through the surface, due to the shallow depth of the landfill and the composition of the landfill cap. It is possible however that horizontal migration of gasses is occurring within the fill material and migrating to off-site properties to the northeast and west of the site in areas adjacent to the last phase of landfilling. Therefore, remedial measures to mitigate against those risks would be required. Due to the ground conditions along the northern portion of the eastern site boundary and the results of on-site and off-site landfill gas monitoring in this area, this boundary was considered to be the high risk location on the site in terms of potential landfill gas migration. While the findings of the internal landfill gas surveys indicate that there is no immediate risk to the adjoining buildings, a potential risk does remain that the gas could accumulate within these buildings. Although the assessment of any such risk is complicated by the fact that waste materials which may be generating landfill gasses are known to be present under these buildings, Sligo County Council has committed to undertaking remedial measures to mitigate the risk of gas migration from wastes located on their site to adjoining off-site properties.

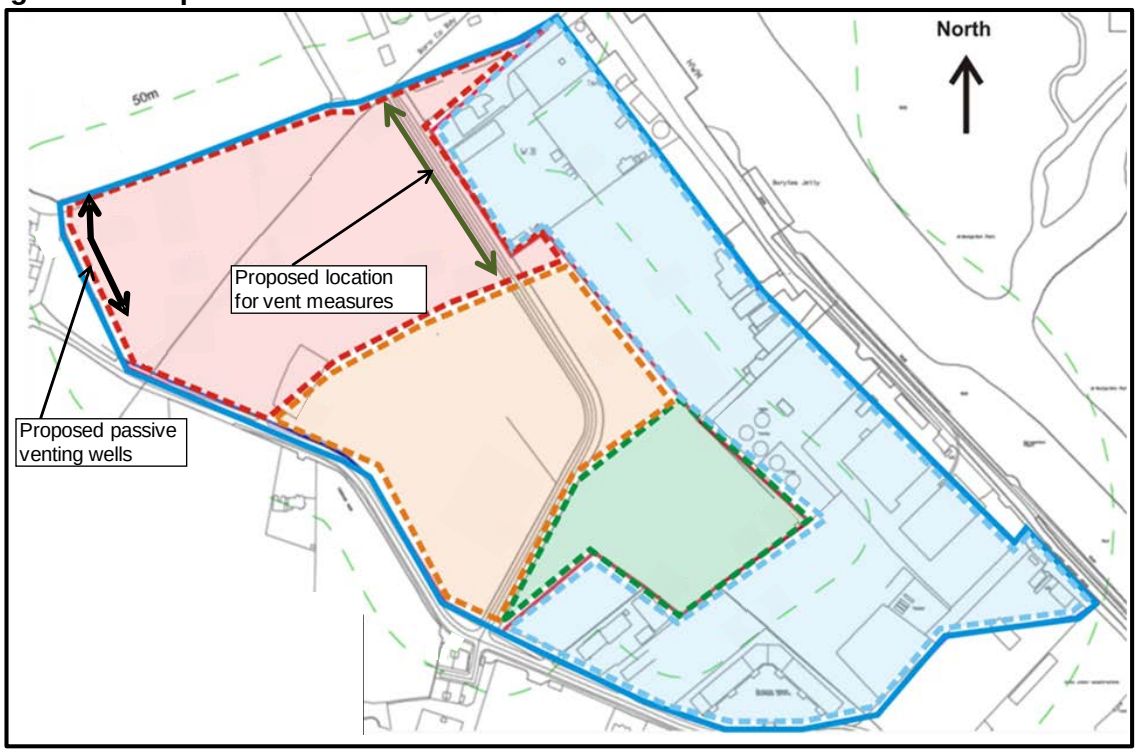
Based on the low volumes of gas being generated at the site, it is not considered that an active landfill gas system is required. Therefore, passive venting systems were considered to be the most appropriate remediation technique for the site. In the March 2011 report it was provisionally recommended that the remedial measures in the northeastern portion of the site would be installed along the eastern side of the road – See Figure 1 below. However, following a more detailed evaluation of the site conditions, the installation of the required venting measures on the eastern side of the road was found not to be a viable option due to a number of constraints. These constraints include the presence of a main trunk sewer, other services that run parallel to the road at this location, the proximity of high boundary walls and trees that recently been planted at this location. In addition to these constraints it was considered by installing the vent measures on the western side of the road as close to the road as possible, that it would break the pathway between the main body of the landfill and these services that could be acting as a conduit to facilitate the offsite migration of LFG.

Figure 1 – Proposed Vent Measures - Original Locations



For the purpose of this remediation options appraisal, all of the options were considered in terms of a location on the western side of the road. It is not considered that the relatively small volume of waste materials that would remain to east of the road would present a significant risk. Also it should be noted that engineering fill materials that were used during the construction of the roadway and these services would act as a vent measure, thereby further reducing any risks from this location. In addition, the installation of vent measures within the small parcel of land in the northeast corner of the site was not deemed feasible due to access restrictions related to underground services and the size and shape of this parcel of land. However, analysis of the landfill gas data and the results of the Tier 2 risk assessment indicated that wastes within this area are not likely to result in significant levels of landfill gas migration to off-site properties following installation of the remedial system along the adjoining roadway.

Figure 2 – Proposed Vent Measures – Revised Locations



3.2 Remedial Options

A number of potential remedial options were considered for the northeast site boundary to prevent any potential migration of landfill gas to offsite locations and to vent this gas in a controlled manner to the atmosphere. These are outlined as follows:

3.2.1 Passive Venting Wells

A proposed passive venting well system would consist of the installation of 300mm boreholes at 1m centres to the base of the fill material and constructed with 160mm diameter perforated vertical pipe with filter sock. All vertical pipes would be connected to a horizontal, 160mm diameter perforated pipe with filter sock located within a gravel-filled trench located in the top 1.0 meters below ground level (mbgl). Vent stack manifolds and vertical risers located at 10m centres along the horizontal gas collection duct would vent the landfill gases to the atmosphere. A schematic diagram of the vent well system is shown in Drawing 5.

3.2.2 Vent Trench

A proposed vent trench system would consist of the excavation of a minimum 1.2m wide trench to the base of the fill material, i.e. 5 – 6 mbgl. This trench would then be lined with a geotextile and backfilled with open graded aggregate around 160mm perforated, vertical pipes with filter sock installed at 1m centres. These pipes would be connected to a horizontal gas collection duct with vent stack manifolds and vertical risers as per the venting well system. Photos of a representative vent trench construction are shown below.

Backfilling the geotextile lined vent trench with course aggregate; horizontal gas collection pipe being installed

Connection of horizontal gas collection pipe to vertical vent stack

3.3.3 Virtual Curtain

Virtual Curtain, a proprietary remediation system used widely in the UK, was also considered for installation along the northeaster site boundary. This system consists of vent nodes constructed of a gas-permeable geocomposite material installed to the base of the fill material at 1 m centres. A horizontal gas collection duct located within a shallow, gravel-filled trench connects the nodes. A prefabricated vent bollard, which vents the diluted landfill gases to the atmosphere, is installed every 10m along the horizontal gas collection duct. Photographs and a schematic diagram of this system are included in Appendix A.

3.3 Evaluation of the Remedial Options

All of the three options would be designed to vent the landfill gasses safely and effectively to the atmosphere. However based on the site specific conditions, the options varied considerably with regard to the ease of installation; potential disruption to site services, health and safety considerations; time required for installation; and cost. A summary table presenting the relative advantages and disadvantages of each option is outlined in Table 2 below.

In order to maximise the efficiency of the venting system, the preferred approach would be to install the venting measures as close as possible to west side of the road. Due to the size of the excavation potentially required to install a trench within the fill material i.e to a depth of approximately 5 – 6mbgl, the trench would need to be set back a distance from the road so as not to undermine the structural integrity of the road and adjoining services. In addition, the excavation of a trench to the base of the fill would entail the removal of large volumes of waste materials which would require costly on-site or off-site disposal as well as dewatering from the sections of the excavation which are below the water table and the treatment and/or disposal of this water. There are also increased health and safety risks associated with working around deep excavations and open water. Due to these logistical, health and safety and cost considerations, the vent trench option was excluded from further consideration.

Both the vent well and the Virtual Curtain options posed a much more straightforward method of installation as both could be installed directly adjacent to the road. They both also precluded the generation of large quantities of waste arisings and the need for dewatering as per the vent trench. As the cost of installation of both systems would be broadly similar, the primary difference lay in the programme duration required for installation. The programme for installation of the vent well system is estimated to be approximately 20 weeks whereas the programme for installation of the Virtual Curtain system is estimated at approximately 2 to 5 weeks. In addition the vent wells would result in the generation of some surplus materials, although not in significant quantities, there would be still be a cost associated with the handling of these material. The Virtual Curtain involves the vibration of vertical vent nodes into the waste material thereby significantly reducing the quantity of waste materials.

Therefore, based on programme considerations and the higher costs associated with the handling and disposal of additional wastes generated by the vent well system, it was determined that the Virtual Curtain system would be best suited to the specific requirements of former Finisklin landfill.

Vertical vent nodes that form a key part of the Virtual Curtain System

Vertical vent bollards

Table 2: Assessment of Remedial Options for Northeast Boundary

Option	Option	Advantages	Disadvantages
1	**Passive Venting Wells**	• No open excavation and associated health and safety risks. • Small quantity (~240 m3) of surplus materials would be generated during drilling. • Dewatering and disposal and/or treatment of leachate not required.	• Installation would be a slow process with a possible programme duration of 20 weeks.
2	**Vent trench**	• Proven approach for the interception of horizontal migration of landfill gases.	• Significant health and safety considerations due to the required depth of the trench. • Would have to be installed a distance away from the site boundary due to health and safety considerations. • Potential to generate a significant quantity of surplus waste materials (~2550 m3) that depending on the disposal option agreed with the EPA would have the potential for significant additional costs. • Dewatering required along with associated costs of disposal and possible treatment of dewatered leachate.
3	**Virtual Curtain**	• Could be installed in close proximity to the road. • No open excavation and associated health and safety risks. • Virtually all soil generated during activities can be backfilled into excavation; any excess soil due to bulking is expected to be cover soil which could be reused on site. • Dewatering and disposal and/or treatment of leachate not required. • Significant history of effective usage in the UK. • Short installation programme (2-5weeks).	• To-date not a proven technology in Ireland and hence may require some liaison to satisfy the EPA.

3.3 Preferred Remedial Option – Northeast Boundary

In summary the preferred remedial option for the north east boundary is Virtual Curtain system that will consist of the following:

- A shallow trench will be excavated the length of the installation system.
- A starter hole will then made at 1 m centres at the location of each proposed vertical vent node using a steel rod. If obstructions are encountered when making the starter holes, an excavator will be used to remove the obstruction before continuing with the installation of the starter holes.
- The vertical vent nodes, which are rectangular in section and are made of a gas permeable geocomposite material, will then vibro-inserted to the base of the waste material.
- A 25 – 50mm thick granular layer will be added to the base of the shallow trench and the vent nodes trimmed flush with this bedding layer.
- A geotextile cover will be placed over the bedding layer.
- A horizontal gas collection and dilution duct encapsulated in geotextile will be installed on the bedding layer and over the tops of the vent nodes at an invert of approximately 0.65 mbgl.
- Manifolds and prefabricated vent bollard bases will be installed every 10m along the horizontal gas collection duct.
- The remainder of the trench will be backfilled with soils generated during exaction of the trench.
- Approximately 3m tall vent terminations with diluted gas outlets will be installed to the vent bollard bases.

Photographs of a representative Virtual Curtain system being installed as well as a schematic diagram of the system and detailed specifications for the system are included in Appendix A.

4.0 Proposed Remedial Works

4.1 Landfill Gas Monitoring

4.1.1 Pre-Installation of Vent Measures

Landfill gas monitoring results indicate that landfill gas levels are broadly consistent over the two to three year monitoring period. Therefore, it is recommended that internal and landfill gas monitoring be continued on a quarterly basis until the commencement of the recommended remediation works and will comprise of the following.

- Continued internal monitoring should be undertaken in the buildings along the northern end of Deepwater Berths Road (Erin Recyclers, Cold Chon and Calor).
- Continued landfill gas monitoring of the nearby wells (both inside and outside the landfill) should also be carried out at the same time.

4.1.2 Post-Installation of Vent Measures

Following the installation of the remedial measures along both the north eastern and western site boundaries it is recommend that three monthly monitoring events comprising of both internal and landfill gas monitoring will be undertaken to confirm the effectiveness of the remedial measures. The need for any further monitoring beyond this three month period will be determined following an evaluation of these results.

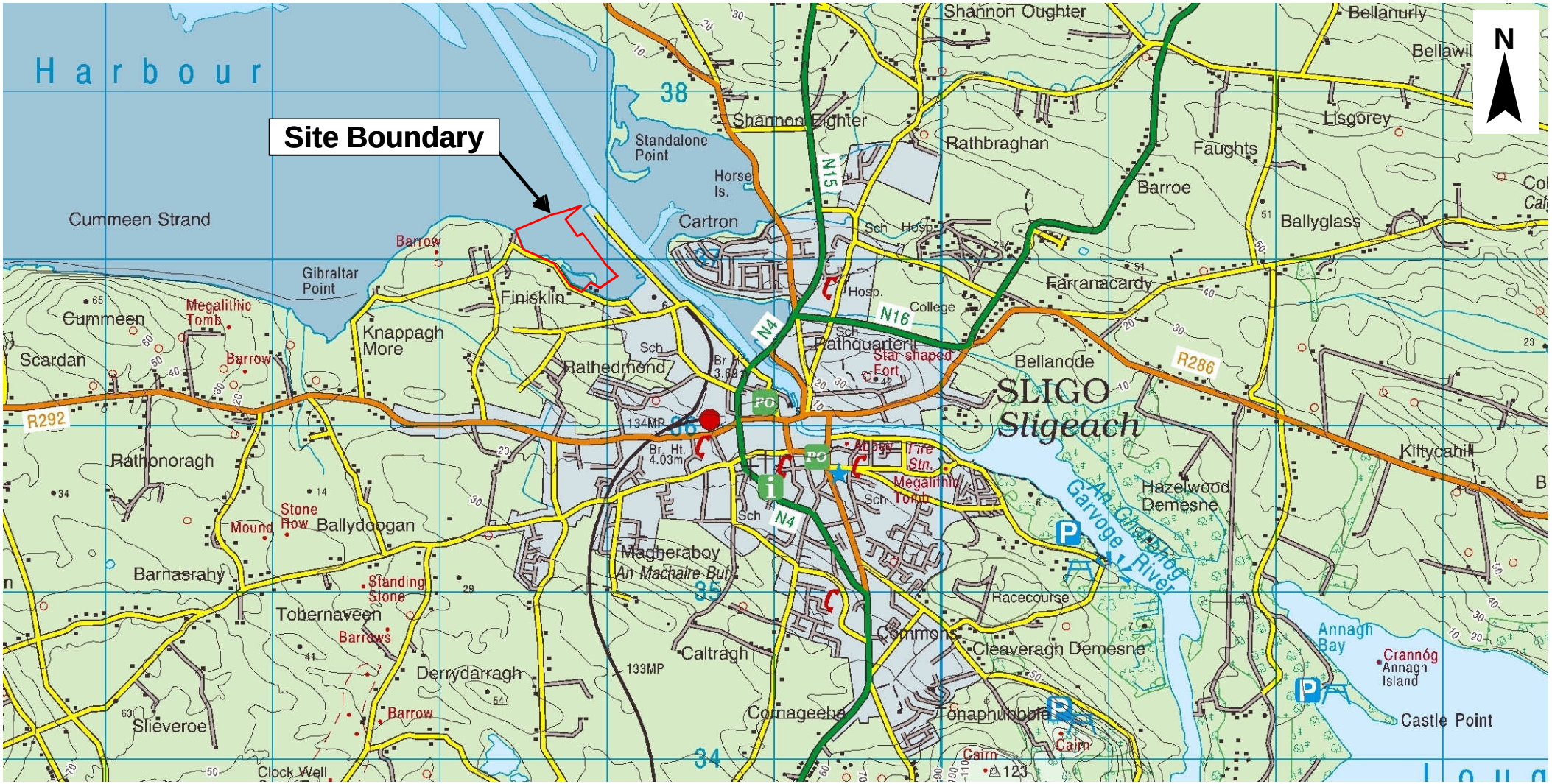
4.2 Landfill Gas – Passive Venting Measures

An assessment of possible remedial options for passive venting of landfill gasses along the northern portion of the eastern site boundary to prevent possible migration toward the off-site buildings along Deepwater Berths Road indicated that the Virtual Curtain system presented the most viable remedial option for this area based on logistical, programme and cost considerations. A passive venting well system, as previously proposed, will be installed along the northern section of the western site boundary.

Sligo County Council is committed to undertaking these remedial works during 2013 subject to receipt of the necessary approval from the EPA.

Note: All other recommendations as outlined in the Environmental Assessment Report dated March 2011 are still applicable.

DRAWINGS



Legend:

Site Boundary

0m 500m 1000m

MALONE O'REGAN
ENVIRONMENTAL SERVICES LTD.

2B Richview Office Park,
Clonskeagh,
DUBLIN 14.

Tel: +353 1 260 2655
Fax: +353 1 260 2660
Email: enviro@morce.ie

Client	Drawing
Sligo County Council	Regional Site Location
Job: Former Finisklin Landfill Certificate of Authorisation Application Addendum	

Job Number	Drawing Number	Status	Sht. Size	Scale	Date	Drawn
E0861	1	Final	A4	as shown	May 12	JA

LEGEND:

- Extent of Fill
- Boundary
- BH1 Groundwater Monitoring Well
- BH5 Leachate/Gas Monitoring Wells
- BH20 Gas Monitoring Wells Installed 2010

N

Event	CH4stable	CH4 peak	CO2	CO
M22	0.0%	0.0%	0.0%	0ppm
M23	0.0%	0.1%	0.0%	0ppm
M24	0.0%	0.1%	0.0%	0ppm
M25	0.0%	0.0%	0.0%	0ppm
M26	0.0%	0.0%	0.0%	0ppm
M27	0.0%	0.0%	0.0%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	0.3%	0.9%	0.5%	0ppm
M23	0.0%	0.0%	0.3%	0ppm
M24	0.0%	0.1%	0.1%	0ppm
M25	0.0%	0.0%	0.2%	0ppm
M26	0.0%	0.2%	0.1%	0ppm
M27	0.0%	0.0%	0.2%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	81.5%	81.7%	7.6%	0ppm
M23	79.6%	79.7%	5.2%	0ppm
M24	63.6%	63.6%	3.7%	0ppm
M25	58.5%	59.7%	3.6%	1ppm
M26	60.3%	60.3%	1.5%	0ppm
M27	87.8%	87.8%	3.3%	1ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	32.4%	80.2%	0.5%	0ppm
M23	14.3%	27.5%	0.0%	2ppm
M24	40.6%	40.6%	2.2%	1ppm
M25	11.2%	17.6%	0.1%	29ppm
M26	67.0%	67.0%	1.5%	1ppm
M27	90.7%	90.7%	2.3%	1ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	31.6%	31.6%	5.6%	0ppm
M23	16.6%	16.6%	3.1%	6ppm
M24	9.8%	9.8%	2.6%	6ppm
M25	0.4%	1.2%	0.3%	0ppm
M26	0.4%	0.7%	0.5%	0ppm
M27	0.0%	0.1%	0.4%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	63.8%	63.8%	33.6%	0ppm
M23	66.0%	66.0%	31.4%	1ppm
M24	67.7%	67.7%	31.0%	2ppm
M25	68.2%	68.2%	30.6%	1ppm
M26	58.2%	58.2%	26.9%	2ppm
M27	66.8%	66.8%	32.2%	2ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	0.4%	0.7%	4.2%	0ppm
M23	0.7%	1.0%	3.2%	0ppm
M24	0.8%	1.1%	6.0%	0ppm
M25	1.2%	1.7%	4.4%	0ppm
M26	0.5%	0.8%	5.3%	0ppm
M27	24.8%	27.4%	7.5%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	0.0%	0.0%	0.4%	0ppm
M23	0.0%	0.0%	0.3%	0ppm
M24	0.0%	0.0%	0.5%	0ppm
M25	0.0%	0.0%	0.1%	0ppm
M26	0.0%	0.0%	0.2%	0ppm
M27	0.0%	0.0%	1.8%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	0.9%	12.5%	0.8%	0ppm
M23	0.0%	0.8%	0.1%	0ppm
M24	0.1%	1.6%	0.2%	0ppm
M25	0.0%	0.3%	0.2%	0ppm
M26	0.1%	0.5%	0.3%	0ppm
M27	0.0%	0.0%	0.2%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	0.0%	0.3%	0.1%	0ppm
M23	0.0%	0.0%	0.0%	0ppm
M24	0.0%	0.0%	0.0%	0ppm
M25	0.0%	0.0%	0.0%	0ppm
M26	0.0%	0.0%	0.0%	0ppm
M27	0.0%	0.0%	0.0%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	44.8%	53.2%	5.0%	0ppm
M23	30.6%	30.7%	4.5%	0ppm
M24	7.7%	7.7%	4.1%	0ppm
M25	0.0%	0.0%	0.2%	0ppm
M26	4.3%	7.8%	0.5%	0ppm
M27	0.0%	0.0%	0.5%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	66.6%	66.7%	6.3%	0ppm
M23	59.1%	59.1%	4.0%	4ppm
M24	70.8%	70.8%	4.3%	2ppm
M25	34.3%	36.4%	1.8%	3ppm
M26	60.6%	60.6%	3.6%	0ppm
M27	57.0%	57.1%	3.8%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	60.9%	61.0%	31.0%	0ppm
M23	60.2%	60.2%	30.4%	3ppm
M24	70.5%	70.5%	21.9%	3ppm
M25	62.8%	62.8%	29.0%	3ppm
M26	54.7%	54.7%	26.9%	4ppm
M27	65.7%	65.7%	28.1%	4ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	0.0%	0.0%	0.7%	0ppm
M23	0.0%	0.2%	0.3%	0ppm
M24	0.0%	0.7%	0.1%	0ppm
M25	0.0%	0.0%	0.2%	0ppm
M26	0.0%	0.4%	0.1%	0ppm
M27	0.0%	0.2%	0.1%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	0.0%	0.0%	0.0%	0ppm
M23	0.0%	0.5%	0.1%	0ppm
M24	0.1%	0.9%	0.4%	0ppm
M25	0.2%	2.6%	0.1%	0ppm
M26	0.0%	0.1%	0.3%	0ppm
M27	0.0%	1.3%	0.3%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M23	0.0%	0.0%	0.6%	0ppm
M24	0.0%	0.0%	2.4%	0ppm
M25	0.0%	0.0%	0.7%	0ppm
M26	0.0%	0.0%	2.1%	0ppm
M27	0.0%	0.0%	0.5%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	0.0%	0.4%	4.5%	0ppm
M23	0.0%	0.1%	2.2%	0ppm
M24	0.0%	0.0%	2.4%	0ppm
M25	0.0%	0.0%	3.0%	0ppm
M26	0.0%	0.0%	2.7%	0ppm
M27	0.0%	0.0%	3.8%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	49.6%	49.5%	21.7%	1ppm
M23	45.6%	45.6%	10.9%	0ppm
M24	47.4%	47.4%	15.6%	1ppm
M25	24.5%	24.5%	6.0%	0ppm
M26	46.7%	46.8%	10.2%	0ppm
M27	47.6%	47.7%	12.2%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	66.5%	68.6%	3.8%	0ppm
M23	45.8%	70.9%	2.4%	0ppm
M24	71.2%	71.5%	2.3%	0ppm
M25	56.6%	57.1%	3.2%	1ppm
M26	66.7%	70.9%	2.2%	0ppm
M27	78.4%	78.4%	3.0%	0ppm

Event	CH4stable	CH4 peak	CO2	CO
M22	0.0%	0.0%	0.0%	0ppm
M23	0.0%	0.5%	0.1%	0ppm
M24	0.1%	0.9%	0.4%	0ppm
M25	0.2%	2.6%	0.1%	0ppm
M26	0.0%	0.1%	0.3%	0ppm
M27	0.0%	1.3%	0.3%	0ppm

0m 75m 150m

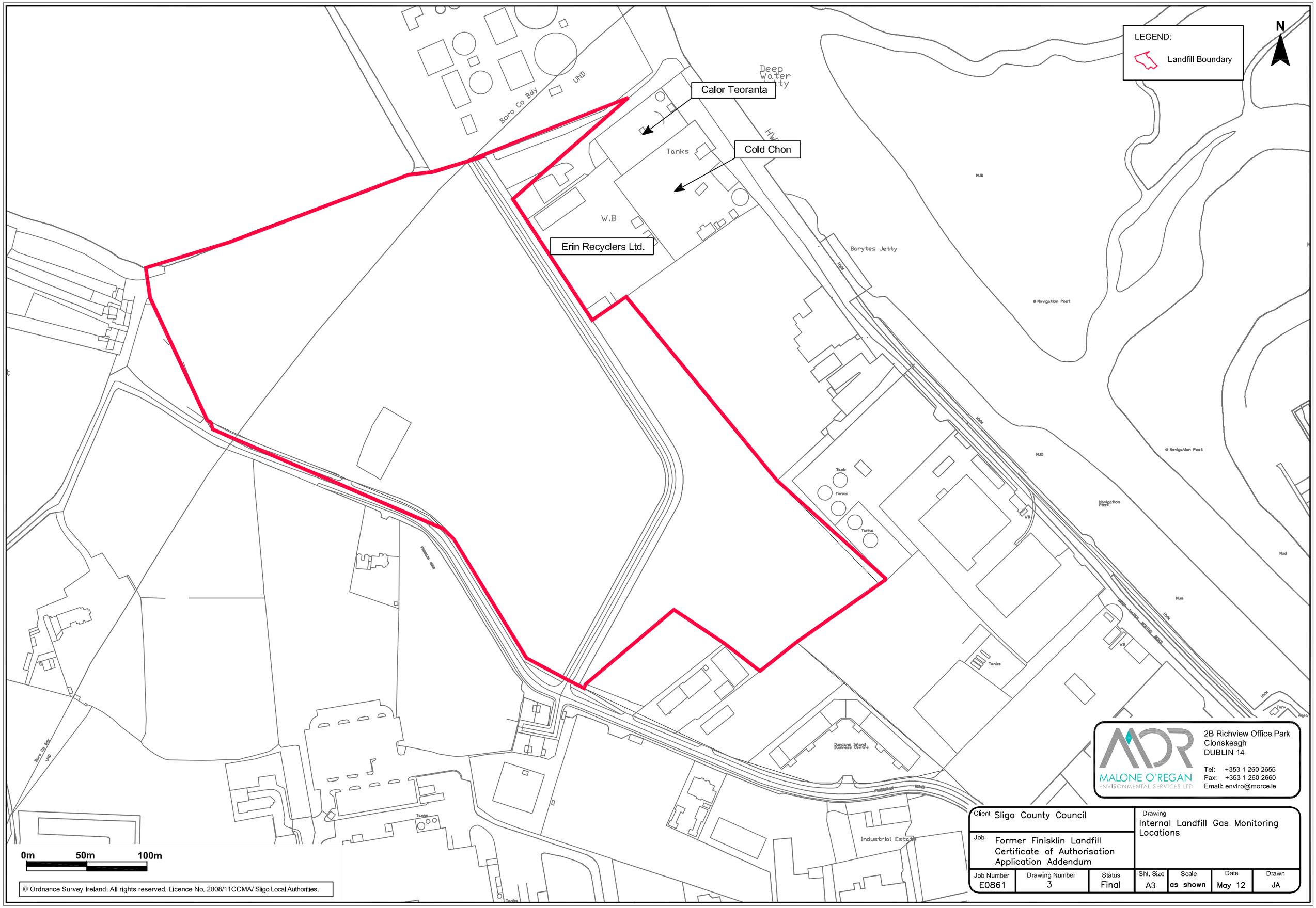
MALONE O'REGAN ENVIRONMENTAL SERVICES LTD
2B Richview Office Park
Clonskeagh
DUBLIN 14
Tel: +353 1 260 2655
Fax: +353 1 260 2660
Email:enviro@morce.ie

Client: Sligo County Council

Job: Former Finisklin Landfill Certificate of Authorisation Application Addendum

Drawing: Landfill Gas Monitoring Results

Job Number	Drawing Number	Status	Sht. Size	Scale	Date	Drawn
E0861	2	Final	A3	as shown	May 22	CMcG



MALONE O'REGAN ENVIRONMENTAL SERVICES LTD
2B Richview Office Park
Clonskeagh
DUBLIN 14
Tel: +353 1 260 2655
Fax: +353 1 260 2660
Email: envlro@morce.le

Client	Sligo County Council
Job	Former Finisklin Landfill Certificate of Authorisation Application Addendum
Drawing	Internal Landfill Gas Monitoring Locations

Job Number	Drawing Number	Status	Sht. Size	Scale	Date	Drawn
E0861	3	Final	A3	as shown	May 12	JA

LEGEND:

Landfill Boundary

N

Passive vent well system

Preferred remedial options

Deep Water Jetty

Boro Co Bdy

UND

Tanks

W.B

HWM

Barytes Jetty

MUD

Navigation Post

Tank

Tanks

Nud

Duncans Island Business Centre

Industrial Estate

FINISKLIN ROAD

0m 50m 100m

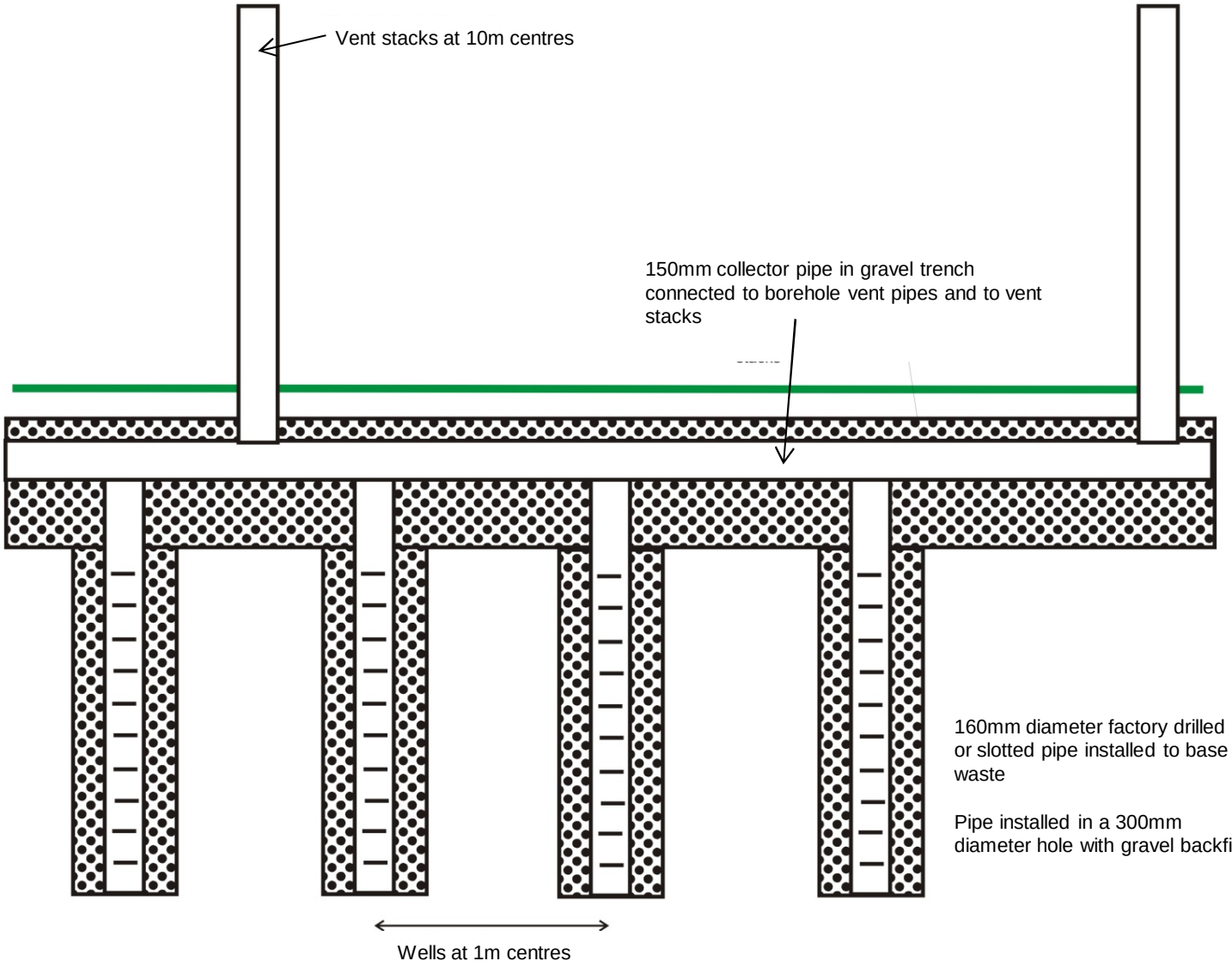
MALONE O'REGAN ENVIRONMENTAL SERVICES LTD

2B Richview Office Park
Clonskeagh
DUBLIN 14

Tel: +353 1 260 2655
Fax: +353 1 260 2660
Email: envlro@morce.le

Client	Sligo County Council
Job	Former Finisklin Landfill Certificate of Authorisation Application Addendum
Drawing	Remediation System Locations

Job Number	Drawing Number	Status	Sht. Size	Scale	Date	Drawn
E0861	4	Final	A3	as shown	May 12	JA



MALONE O'REGAN
ENVIRONMENTAL SERVICES LTD
2B Richview Office Park,
Clonskeagh,
DUBLIN 14.
Tel: +353 1 260 2655
Fax: +353 1 260 2660
Email: enviro@morce.ie

Client: Sligo County Council			Drawing: Schematic of Passive Vent Well System			
Job: Former Finisklin Landfill Certificate of Authorisation Application Addendum						
Job Number: E0861	Drawing Number: 5	Status: Final	Sht. Size: A4	Scale: NTS	Date: May 12	Drawn: JA

TABLES

E0861 Former Finisklin Landfill
Certificate of Authorisation Application Addendum

Table 3: Landfill Gas Monitoring Results

Monitoring Well I.D.	Monitoring Event	Monitoring Date	Monitoring Time (24 hr)	Stable Methane (CH_4)	Peak Methane (CH_4)	LEL	Carbon Dioxide (CO_2)	Oxygen (O_2)	Nitrogen (N_2)	Balance	Hydrogen Sulphide (H_2S)	Carbon Monoxide (CO)	Flow Measurement	Atmospheric Pressure	Relative Pressure	Residual Nitrogen	Depth to Water	Water Level	Low Tide Times	High Tide Times
			Units	%	%	%	%	%	%	%	ppm	ppm	l/h	mb	mb	%	mbTOC	mAOD	24 hr	
BH1	M22	10/11/2011	15:22	0.9	***12.5***	18.0	*0.8*	20.2	-	78.1	0.0	0.0	0.0	1013	-1.12	1.74	4.017	1.554	11:10/23:19	05:20/17:37
	M23	19/12/2011	13:25	0.0	0.8	0.0	0.1	21.3	-	78.6	0.0	0.0	0.5	1009	-0.64	0.00	5.992	-0.421	05:56/18:31	12:23:00
	M24	23/01/2012	13:41	0.1	***1.6***	2.0	0.2	21.4	-	78.3	0.0	0.0	0.0	1019	-0.55	0.00	4.135	1.436	11:40/23:58	05:42/18:10
	M25	13/02/2012	15:17	0.0	0.3	0.0	0.2	21.5	-	78.3	0.0	0.0	-0.1	1033	-0.50	0.00	3.813	1.758	03:04/15:26	09:31/22:01
	M26	08/03/2012	14:44	0.1	0.5	2.0	0.3	21.4	-	78.2	0.0	0.0	0.0	1025	-0.42	0.00	4.130	1.441	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	13:40	0.0	0.0	0.0	0.2	21.5		78.3	0.0	0.0	0.0	986	-0.03	0.00	4.104	1.467	11:11/23:27	05:03/17:27
BH2	M22	10/11/2011	16:32	0.0	0.0	0.0	0.0	20.9	-	79.1	0.0	0.0	0.1	1013	-0.02	0.10	4.770	1.568	11:10/23:19	05:20/17:37
	M23	19/12/2011	14:56	0.0	0.1	0.0	0.0	21.5	-	78.5	0.0	0.0	0.0	1009	0.58	0.00	4.192	2.146	05:56/18:31	12:23:00
	M24	23/01/2012	13:19	0.0	0.1	0.0	0.0	21.5	-	78.5	0.0	0.0	0.0	1019	-0.60	0.00	4.827	1.511	11:40/23:58	05:42/18:10
	M25	13/02/2012	14:30	0.0	0.0	0.0	0.0	21.5	-	78.5	0.0	0.0	0.0	1033	-0.63	0.00	4.509	1.829	03:04/15:26	09:31/22:01
	M26	08/03/2012	14:24	0.0	0.0	0.0	0.0	21.7	-	78.3	0.0	0.0	0.0	1025	-0.41	0.00	4.956	1.382	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	13:25	0.0	0.0	0.0	0.0	21.4		78.6	0.0	0.0	0.0	986	-0.04	0.00	4.946	1.392	11:11/23:27	05:03/17:27
BH3	M22	10/11/2011	16:22	0.0	0.3	0.0	0.1	20.6	-	79.3	0.0	0.0	0.0	1014	-0.07	1.43	3.923	2.000	11:10/23:19	05:20/17:37
	M23	19/12/2011	14:39	0.0	0.0	0.0	0.0	21.5	-	78.5	0.0	0.0	0.0	1009	-0.54	0.00	3.455	2.468	05:56/18:31	12:23:00
	M24	23/01/2012	14:53	0.0	0.0	0.0	0.0	21.6	-	78.4	0.0	0.0	0.0	1018	-0.53	0.00	3.971	1.952	11:40/23:58	05:42/18:10
	M25	13/02/2012	15:59	0.0	0.0	0.0	0.0	21.7		78.3	0.0	0.0	0.0	1033	-0.62	0.00	3.589	2.334	03:04/15:26	09:31/22:01
	M26	08/03/2012	15:30	0.0	0.0	0.0	0.0	21.7	-	78.3	0.0	0.0	0.0	1025	-0.34	0.00	4.084	1.839	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	14:35	0.0	0.0	0.0	0.0	21.5		78.5	0.0	0.0	0.0	986	0.06	0.00	4.136	1.787	11:11/23:27	05:03/17:27
BH4	M22	10/11/2011	13:05	0.0	0.0	0.0	0.0	20.8	-	79.2	0.0	0.0	0.0	1012	-0.28	0.58	-	-	11:10/23:19	05:20/17:37
	M23	19/12/2011	11:44	0.0	0.5	0.0	0.1	21.0	-	78.9	0.0	0.0	0.0	1008	-0.58	0.00	-	-	05:56/18:31	12:23:00
	M24	23/01/2012	12:00	0.1	0.9	2.0	0.4	21.0	-	78.5	0.0	0.0	0.0	1019	-0.57	0.00	-	-	11:40/23:58	05:42/18:10
	M25	13/02/2012	12:21	0.2	***2.6***	4.0	0.1	21.6	-	78.1	0.0	0.0	-0.2	1034	-0.40	0.00	-	-	03:04/15:26	09:31/22:01
	M26	08/03/2012	13:16	0.0	0.1	0.0	0.3	21.2	-	78.5	0.0	0.0	0.0	1025	-0.29	0.00	-	-	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	11:19	0.0	***1.3***	0.0	0.3	21.2		78.5	0.0	0.0	0.0	985	-0.23	0.00	-	-	11:11/23:27	05:03/17:27
BH5	M22	10/11/2011	15:33	***60.9***	***61.0***	>>>	***31.0***	1.8	-	6.3	0.0	0.0	0.0	1013	-0.05	0.00	3.525	3.497	11:10/23:19	05:20/17:37
	M23	19/12/2011	13:43	***60.2***	***60.2***	>>>	***30.4***	0.2	-	9.2	0.0	3.0	0.0	1009	-0.60	8.44	3.527	3.495	05:56/18:31	12:23:00
	M24	23/01/2012	13:31	***70.5***	***70.5***	>>>	***21.9***	0.5	-	7.1	0.0	3.0	0.0	1019	-0.49	5.21	3.473	3.549	11:40/23:58	05:42/18:10
	M25	13/02/2012	15:00	**62.8**	**62.8**	>>>	**29.0**	1.0	-	7.2	0.0	3.0	0.0	1033	-0.67	3.42	3.466	3.556	03:04/15:26	09:31/22:01
	M26	08/03/2012	15:11	**54.7**	**54.7**	>>>	**26.9**	2.1	-	16.3	0.0	4.0	0.1	1025	-0.16	8.36	3.606	3.416	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	14:10	**65.7**	**65.7**	>>>	**28.1**	0.7		5.5	1.0	4.0	0.0	986	0.12	2.85	3.582	3.440	11:11/23:27	05:03/17:27
BH6	M22	10/11/2011	11:28	0.4	0.7	8.0	***4.2***	14.1	-	81.3	0.0	0.0	0.0	1013	-0.05	28.00	2.643	1.805	11:10/23:19	05:20/17:37
	M23	19/12/2011	10:43	0.7	1.0	14.0	***3.2***	15.9	-	80.2	0.0	0.0	0.0	1008	-0.51	20.10	2.355	2.093	05:56/18:31	12:23:00
	M24	23/01/2012	11:16	0.8	***1.1***	16.0	***6.0***	5.6	-	87.6	0.0	0.0	-2.1	1019	-0.42	66.43	2.668	1.780	11:40/23:58	05:42/18:10
	M25	13/02/2012	11:31	***1.2***	***1.7***	24.0	***4.4***	9.1	-	85.3	0.0	0.0	-0.1	1034	-0.54	50.90	2.377	2.071	03:04/15:26	09:31/22:01
	M26	08/03/2012	12:40	0.5	0.8	10.0	***5.3***	6.4	-	87.8	0.0	0.0	0.0	1025	-0.38	63.61	2.717	1.731	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	10:42	***24.8***	***27.4***	>>>	***7.5***	3.3		64.4	0.0	0.0	0.0	985	-0.36	51.93	2.714	1.734	11:11/23:27	05:03/17:27
BH7	M22	10/11/2011	13:20	***49.6***	***49.5***	>>>	***21.7***	0.3	-	28.4	0.0	1.0	0.0	1012	-0.05	27.27	-	-	11:10/23:19	05:20/17:37
	M23	19/12/2011	11:51	***45.6***	***45.6***	>>>	***10.9***	0.1	-	43.4	0.0	0.0	0.0	1008	-0.45	43.02	-	-	05:56/18:31	12:23:00
	M24	23/01/2012	12:16	***47.4***	***47.4***	>>>	***15.6***	0.0	-	37.0	0.0	1.0	0.1	1019	-0.47	37.00	-	-	11:40/23:58	05:42/18:10
	M25	13/02/2012	17:32	***24.5***	***24.5***	>>>	***6.0***	8.3	-	61.2	0.0	0.0	0.0	1034	-0.77	29.83	-	-	03:04/15:26	09:31/22:01
	M26	08/03/2012	13:23	***46.7***	***46.8***	>>>	***10.2***	0.0	-	43.1	0.0	0.0	0.0	1025	-0.22	43.10	-	-	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	11:26	***47.6***	***47.7***	>>>	***12.2***	0.0		40.2	0.0	0.0	0.0	985	-0.16	40.20	-	-	11:11/23:27	05:03/17:27
BH8	M22	10/11/2011	15:45	***81.5***	***81.7***	>>>	***7.6***	0.6	-	10.3	0.0	0.0	0.3	1013	-0.09	8.03	Dry	Dry	11:10/23:19	05:20/17:37
	M23	19/12/2011	13:58	***79.6***	***79.7***	>>>	***5.2***	0.0	-	15.2	0.0	0.0	0.0	1009	-0.55	15.20	Dry	Dry	05:56/18:31	12:23:00
	M24	23/01/2012	14:30	***63.6***	***63.6***	>>>	***3.7***	0.0	-	32.7	0.0	0.0	0.1	1018	-0.36	32.70	Dry	Dry	11:40/23:58	05:42/18:10
	M25	13/02/2012	14:44	***58.5***	***59.7***	>>>	***3.6***	0.4	-	37.5	0.0	1.0	0.0	1033	-0.60	35.99	Dry	Dry	03:04/15:26	09:31/22:01
	M26	08/03/2012	14:32	***60.3***	***60.3***	>>>	*1.5*	1.2	-	37.0	0.0	0.0	0.0	1025	-0.30	32.46	Dry	Dry	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	12:57	***87.8***	***87.8***	>>>	***3.3***	0.0		8.9	0.0	1.0	0.0	986	-0.10	8.90	Dry	Dry	11:11/23:27	05:03/17:27
BH9	M22	10/11/2011	15:04	***63.8***	***63.8***	>>>	***33.6***	0.5	-	2.1	0.0	0.0	0.0	1013	-0.14	0.21	Dry	Dry	11:10/23:19	05:20/17:37
	M23	19/12/2011	13:12	***66.0***	***66.0***	>>>	***31.4***	0.0	-	2.6	3.0	1.0	0.0	1009	-0.71	2.60	Dry	Dry	05:56/18:31	12:23:00
	M24	23/01/2012	13:57	***67.7***	***67.7***	>>>	***31.0***	0.0	-	1.3	0.0	2.0	0.1	1019	-0.49	1.30	Dry	Dry	11:40/23:58	05:42/18:10
	M25	13/02/2012	15:30	***68.2***	***68.2***	>>>	***30.6***	0.0		1.2	1.0	1.0	0.1	1033	-0.57	1.20	Dry	Dry	03:04/15:26	09:31/22:01
	M26	08/03/2012	14:53	***58.2***	***58.2***	>>>	***26.9***	0.0	-	14.9	0.0	2.0	0.0	1025	-0.40	14.90	Dry	Dry	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	13:52	***66.8***	***66.8***	>>>	***32.2***	0.0		1.0	3.0	2.0	0.0	986	-0.03	1.00	Dry	Dry	11:11/23:27	05:03/17:27
BH10	M22	11/11/2011	12:50	***31.6***	***31.6***	>>>	***5.6***	0.2	-	62.6	0.0	0.0	0.1	1002	-0.36	61.84	2.155	3.585	11:10/23:19	05:20/17:37
	M23	19/12/2011	14:14	***16.6***	***16.6***	>>>	***3.1***	8.7	-	71.6	0.0	6.0	-3.4	1009	-0.54	38.71	2.015	3.725	05:56/18:31	12:23:00
	M24	23/01/2012	13:10	***9.8***	***9.8***	>>>	***2.6***	11.6	-	76.0	0.0	6.0	-2.6	1019	-4.19	32.15	2.006	3.734	11:40/23:58	05:42/18:10
	M25	13/02/2012	14:18	0.4	***1.2***	8.0	0.3	20.8		78.5	0.0	0.0	0.1	1033	-0.74	0.00	1.972	3.768	03:04/15:26	09:31/22:01
	M26	08/03/2012	14:11	0.4	0.7	8.0	0.5	20.6	-	78.5	0.0	0.0	0.0	1025	-0.28	0.63	2.065	3.675	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	13:19	0.0	0.1	0.0	0.4	20.9		78.7	0.0	0.0	-0.1	986	-0.34	0.00	1.906	3.834	11:11/23:27	05:03/17:27
BH11	M22	10/11/2011	14:30	0.0	0.0	0.0	*0.7*	20.1	-	79.2	0.0	0.0	0.0	1013	0.17	3.22	-	-	11:10/23:19	05:20/17:37
	M23	19/12/2011	12:45	0.0	0.2	0.0	*0.3*	21.1	-	78.6	0.0	0.0	0.0	1009	-0.66	0.00	-	-	05:56/18:31	12:23:00
	M24	23/01/2012	14:16	0.0	0.7	0.0	*0.1*	21.4	-	78.5	0.0	0.0	0.0	1018	-0.55	0.00	-	-	11:40/23:58	05:42/18:10
	M25	13/02/2012	15:49	0.0	0.0	0.0	0.2	21.5		78.3	0.0	0.0	0.0	1033	-0.54	0.00	-	-	03:04/15:26	09:31/22:01
	M26	08/03/2012	15:21	0.0	0.4	0.0	0.1	21.5	-	78.4	0.0	0.0	0.0	1025	-0.50	0.00	-	-	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	14:23	0.0	0.2	0.0	0.1	21.5		78.4	0.0	0.0	0.0	986	0.24	0.00	-	-	11:11/23:27	05:03/17:27
BH13	M22	10/11/2011	14:11	0.0	0.4	0.0	***4.5***	15.9	-	79.6	0.0	0.0	0.0	1013	-0.06	19.50	-	-	11:10/23:19	05:20/17:37
	M23	19/12/2011	14:32	0.0	0.1	0.0	***2.2***	18.7	-	79.1	0.0	0.0	-0.3	1009	-0.62	8.41	-	-	05:56/18:31	12:23:00
	M24	23/01/2012	14:46	0.0	0.0	0.0	***2.4***	19.6	-	78.0	0.0	0.0	0.0	1018	-0.55	3.91	-	-	11:40/23:58	05:42/18:10
	M25	13/02/2012	16:06	0.0	0.0	0.0	***3.0***	16.9		80.1	0.0	0.0	0.0	1033	-1.79	16.22	-	-	03:04/15:26	09:31/22:01
	M26	08/03/2012	15:37	0.0	0.0	0.0	***2.7***	19.0	-	78.3	0.0	0.0	0.0	1025	-0.39	6.48	-	-	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	14:44	0.0	0.0	0.0	***3.8***	15.1		81.1	0.0	0.0	0.0	986	0.06	24.02	-	-	11:11/23:27	05:03/17:27
BH14	M22	10/11/2011	12:39	***66.6***	***66.7***	>>>	***6.3***	0.2	-	26.9	1.0	0.0	0.0	1012	6.29	26.14	3.505	2.178	11:10/23:19	05:20/17:37
	M23	19/12/2011	11:31	***59.1***	***59.1***	>>>	***4.0***	0.7	-	36.2	1.0	4.0	0.1	1008	-0.54	33.55	2.778	2.905	05:56/18:31	12:23:00
	M24	23/01/2012	11:48	***70.8***	***70.8***	>>>	***4.3***	0.0	-	24.9	0.0	2.0	0.1	1019	-0.42	24.90	3.239	2.444	11:40/23:58	05:42/18:10
	M25	13/02/2012	12:06	***34.3***	***36.4***	>>>	***1.8***	8.7		55.2	0.0	3.0	0.0	1034	-0.61	22.31	2.983	2.700	03:04/15:26	09:31/22:01
	M26	08/03/2012	13:06	***60.6***	***60.6***	>>>	***3.6***	0.3	-	35.5	0.0	0.0	0.0	1025	-0.22	34.37	3.300	2.383	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	11:11	***57.0***	***57.1***	>>>	***3.8***	0.4		38.8	0.0	0.0	0.0	985	-0.11	37.29	3.284	2.399	11:11/23:27	05:03/17:27
BH20	M22	10/11/2011	10:55	0.3	0.9	6.0	0.5	16.7	-	82.5	0.0	0.0	0.0	1013	0.06	19.37	2.425	-	11:10/23:19	05:20/17:37
	M23	19/12/2011	10:19	0.0	0.0	0.0	0.3	16.7	-	83.0	0.0	0.0	0.0	1008	-0.59	19.87	2.210	-	05:56/18:31	12:23:00
	M24	23/01/2012	10:54	0.0	0.1	0.0	0.1	20.2	-	79.7	0.0	0.0	0.0	1019	-0.56	3.34	2.355	-	11:40/23:58	05:42/18:10
	M25	13/02/2012	11:09	0.0	0.0	0.0	0.2	18.1		81.7	0.0	0.0	-0.7	1034	-0.71	13.28	1.972	-	03:04/15:26	09:31/22:01
	M26	08/03/2012	12:12	0.0	0.2	0.0	0.1	20.5	-	79.4	0.0	0.0	0.0	1025	-0.43	1.91	2.399	-	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	10:24	0.0	0.0	0.0	0.2	20.3		79.5	0.0	0.0	0.0	985	-0.38	2.77	2.411	-	11:11/23:27	05:03/17:27
BH21	M23a	19/12/2011	17:28	***32.4***	***80.2***	>>>	0.5	12.1	-	55.0	0.0	0.0	0.0	1010	-0.61	9.26	-	-	05:56/18:31	12:23:00
	M23b	22/12/2011	15:09	***14.3***	***27.5***	>>>	0.0	18.0	-	67.7	0.0	2.0	0.0	1015	-0.21	0.00	-	-	09:24/21:53	03:21/15:49
	M24	23/01/2012	15:55	***40.6***	***40.6***	>>>	***2.2***	0.0	-	57.2	0.0	1.0	0.1	1019	-4.03	57.20	-	-	11:40/23:58	05:42/18:10
	M25	14/02/2012	12:29	***11.2***	***17.6***	>>>	0.1	13.0		75.7	0.0	29.0	0.0	1034	-0.35	26.56	-	-	03:54/16:18	10:26/23:04
	M26	08/03/2012	16:14	***67.0***	***67.0***	>>>	*1.5*	0.3	-	31.2	0.0	1.0	0.0	1026	-0.54	30.07	-	-	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	15:36	***90.7***	***90.7***	>>>	***2.3***	0.0		7.0	0.0	1.0	0.0	986	-3.84	7.00	-	-	11:11/23:27	05:03/17:27
BH22	M22	10/11/2011	11:47	***44.8***	***53.2***	>>>	***5.0***	6.1	-	44.1	0.0	0.0	-2.2	1013	-6.05	21.04	0.720	-	11:10/23:19	05:20/17:37
	M23	19/12/2011	11:01	***30.6***	***30.7***	>>>	***4.5***	4.4	-	60.5	0.0	0.0	5.9	1008	4.91	43.87	0.553	-	05:56/18:31	12:23:00
	M24	23/01/2012	11:35	***7.7***	***7.7***	>>>	***4.1***	13.4	-	74.8	0.0	0.0	0.0	1019	-0.46	24.15	1.082	-	11:40/23:58	05:42/18:10
	M25	13/02/2012	16:22	0.0	0.0	0.0	0.2	21.5		78.3	0.0	0.0	0.0	1033	-0.59	0.00	0.420	-	03:04/15:26	09:31/22:01
	M26	08/03/2012	13:52	***4.3***	***7.8***	86.0	0.5	20.3	-	74.9	0.0	0.0	0.0	1025	-0.34	0.00	0.700	-	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	12:38	0.0	0.0	0.0	0.5	20.6		78.9	0.0	0.0	0.0	986	-4.10	1.03	0.738	-	11:11/23:27	05:03/17:27
BH23	M22	10/11/2011	13:35	***66.5***	***68.6***	>>>	***3.8***	4.3	-	25.4	0.0	0.0	0.8	1012	-0.11	9.15	1.430	-	11:10/23:19	05:20/17:37
	M23	19/12/2011	12:06	***45.8***	***70.9***	>>>	***2.4***	6.1	-	45.7	13.0	0.0	3.6	1008	-0.55	22.64	1.452	-	05:56/18:31	12:23:00
	M24	23/01/2012	12:30	***71.2***	***71.5***	>>>	***2.3***	0.0	-	26.5	0.0	0.0	4.9	1019	6.07	26.50	1.678	-	11:40/23:58	05:42/18:10
	M25	13/02/2012	17:40	***56.6***	***57.1***	>>>	***3.2***	0.0	-	40.2	11.0	1.0	1.6	1034	-0.74	7.32	1.155	-	03:04/15:26	09:31/22:01
	M26	08/03/2012	13:35	***66.7***	***70.9***	>>>	***2.2***	0.8	-	30.3	0.0	0.0	3.3	1025	3.58	27.28	1.453	-	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	11:47	***78.4***	***78.4***	>>>	***3.0***	0.0		18.6	4.0	0.0	7.1	986	7.20	18.60	1.336	-	11:11/23:27	05:03/17:27
BH24	M23	19/12/2011	15:20	0.0	0.0	0.0	*0.6*	17.7	-	81.7	0.0	0.0	0.0	1009	-0.58	14.79	1.015	-	05:56/18:31	12:23:00
	M24	23/01/2012	15:11	0.0	0.0	0.0	***2.4***	12.2	-	85.4	0.0	0.0	0.0	1018	-0.77	39.28	1.207	-	11:40/23:58	05:42/18:10
	M25	13/02/2012	18:05	0.0	0.0	0.0	*0.7*	17.4	-	81.9	0.0	0.0	0.0	1034	-0.76	16.13	1.132	-	03:04/15:26	09:31/22:01
	M26	08/03/2012	16:57	0.0	0.0	0.0	***2.1***	11.7	-	86.2	0.0	0.0	0.0	1025	-0.45	41.97	1.088	-	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	17:50	0.0	0.0	0.0	0.5	19.5		80.0	0.0	0.0	0.0	987	-8.20	6.29	1.240	-	11:11/23:27	05:03/17:27
BH25	M22	10/11/2011	16:53	0.0	0.0	0.0	0.4	20.7	-	78.9	0.0	0.0	0.6	1014	0.00	0.65	1.370	-	11:10/23:19	05:20/17:37
	M23	19/12/2011	15:43	0.0	0.0	0.0	0.3	21.3	-	78.4	0.0	0.0	0.0	1010	-0.72	0.00	1.078	-	05:56/18:31	12:23:00
	M24	23/01/2012	15:30	0.0	0.0	0.0	0.5	21.2	-	78.3	0.0	0.0	-0.4	1019	-0.62	0.00	1.590	-	11:40/23:58	05:42/18:10
	M25	13/02/2012	18:28	0.0	0.0	0.0	0.1	21.4		78.5	0.0	0.0	0.0	1034	-0.66	0.00	1.041	-	03:04/15:26	09:31/22:01
	M26	08/03/2012	16:43	0.0	0.1	0.0	0.2	21.4	-	78.4	0.0	0.0	0.0	1026	-0.54	0.00	1.250	-	11:48/ 23:24	05:52/ 18:13
	M27	18/04/2012	17:32	0.0	0.0	0.0	***1.8***	20.0		78.2	0.0	0.0	5.6	987	8.62	2.60	1.260	-	11:11/23:27	05:03/17:27
EPA 1997 Thresholds[1]				1.0	1.0	~	1.5	~	~	~	~	~	~	~	~	~	~	~	~	~
DOE Exposure Limits[2]				1.0	1.0	~	0.5	~	~	~	~	~	~	~	~	~	~	~	~	~

Notes:
LEL denotes Lower Explosive Limit (expressed as percentage of 5% v/v methane).
>>> denotes exceeds the LEL.
~ denotes no threshold available.
- denotes measurement not recorded.
mbTOC denotes metres below top of casing.
mAOD denotes metres above ordnance datum.

Bold denotes level exceeds EPA threshold.
Italics denotes level exceeds DOE exposure limit.
Low and High Tide information from Easy Tide Predictions & Tide Tables 2012 (All Ireland).
1: Environmental Protection Agency (EPA) 1997: Landfill Manuals - Landfill operational Practices. EPA, Ireland.
2: Department of the Environment (1994): Protection of New Buildings and Occupants from Landfill Gas. DOE, Ireland
All gas readings were collected using the GA2000 Gas Analyser

E0861 Former Finisklin Landfill
Certificate of Authorisation Application

Table 4 Internal Gas Monitoring Survey Results - Event 4 - 11/11/2011 - Calor Gas

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH4 (ppm)		
	Start time	End time	% CH4	%LEL CH4	Peak CH4 (%)	% CO2	O2	Balance	CO ppm	H2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Reception office (ambient)	13:21	00:00	0	0	0	0	20.6	79.4	0	0	1002	0	-	0	2
Around skirting board in reception office	13:22	13:23	0	0	0	0	20.6	79.4	0	0	1002	0	-	0	2
Canteen under sink	13:23	13:24	0	0	0	0	20.7	79.3	0	0	1002	-0.02	-	0	3
Toilet	13:24	13:25	0	0	0	0	20.7	79.3	0	0	1002	-0.02	0	0	0
Tin Shed	13:30	13:31	0	0	0	0	20.7	79.3	0	0	1002	-0.02	0	0	0
Small Pumphouse (ambient)	13:32	13:33	0	0	0	0	20.7	79.3	0	0	1002	-0.02	0	0	0
Large Pumphouse (ambient)	13:35	13:36	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Telephone Box	13:37	13:38	0	0	0	0	20.7	79.3	0	0	1002	0.03	-	0	1
Pipe 1 (yellow)	14:05	14:05	0	0	0	0	20.7	79.3	0	0	1002	0.03	-	0	1
Pipe 2 (yellow)	14:04	14:05	0	0	0	0	20.7	79.3	0	0	1002	0.03	-	0	1
Pipe 3 (yellow)	14:03	14:04	0	0	0	0	20.7	79.3	0	0	1002	0.03	-	0	1
Pipe 4 (metal pipe wooden cover)	13:43	13:44	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Pipe 5 (set of black cables at lamp post)	13:44	13:45	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Pipe 6	13:45	13:46	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Pipe 7 (metal pipe with wooden stopper)	14:02	14:03	0	0	0	0	20.7	79.3	0	0	1002	0.03	-	0	1
Manhole 1 (at back of blue container)	14:11	14:11	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Manhole 2 (near gantry)	14:01	14:02	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Manhole 3 (new MH)	13:47	13:48	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Manhole 4 (new MH)	13:49	13:50	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Manhole 5 (new MH)	13:50	13:51	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Manhole 6 (new MH)	13:51	13:52	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Manhole 7 (new MH)	13:52	13:53	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Drain 1 (under blue container)	14:11	14:12	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Drain 2 (could not be located)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drain 3	14:00	14:01	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Drain 4 (south of gantry)	14:08	14:09	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Drain 5 (south of gantry)	14:09	14:10	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Vent (centre of yard beside gantry)	14:06	14:06	0	0	0	0	20.7	79.3	0	0	1002	0.03	-	0	13
Hole 1	14:33	14:34	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Hole 2	14:10	14:11	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0
Hole 3 (beside small pumphouse)	14:07	14:08	0	0	0	0	20.7	79.3	0	0	1002	0.03	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application Addendum

Table 5 Internal Gas Monitoring Survey Results - Event 5 - 22/12/2011 - Calor Gas

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH4 (ppm)		
	Start time	End time	% CH4	%LEL CH4	Peak CH4 (%)	% CO2	O2	Balance	CO ppm	H2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	10:23	10:23	0	0	0	0	21.2	78.8	0	0	1019	-0.35	0	0	0
Reception office (ambient)	10:26	10:26	0	0	0	0	21.2	78.8	0	0	1019	-0.35	0	0	0
Around skirting board in reception office	10:28	10:28	0	0	0	0	21.3	78.7	0	0	1019	-0.35	0	0	0
Reception ESB cables (LHS-A)	10:30	10:30	0	0	0	0	21.3	78.7	0	0	1019	-0.35	0	0	0
Reception ESB cables (RHS-B)	10:31	10:31	0	0	0	0	21.4	78.6	0	0	1019	-0.35	0	0	0
Toilet	10:31	10:31	0	0	0	0	21.4	78.6	0	0	1017	-0.35	0	0	0
Toilet at waste pipe	10:32	10:32	0	0	0	0	21.4	78.6	0	0	1019	-0.35	0	0	0
At pipes under sink	10:33	10:33	0	0	0	0	21.4	78.6	0	0	1019	-0.35	0	0	0
Canteen/Kitchen	10:34	10:35	0	0	0	0	21.5	78.5	0	0	1019	-0.35	0	0	0
Canteen under sink	10:35	10:36	0	0	0	0	21.4	78.6	0	0	1019	-0.35	0	0	0
In shower in bathroom	10:33	10:34	0	0	0	0	21.4	78.6	0	0	1019	-0.35	0	0	0
Ambient pump house door	10:38	10:38	0	0	0	0	21.5	78.5	0	0	1019	-0.35	0	0	0
Under blue container	10:42	10:42	0	0	0	0	21.5	78.5	0	0	1019	-0.35	0	0	0
Brown side tin shed	10:43	10:44	0	0	0	0	21.6	78.4	0	0	1019	-0.35	0	0	0
Gantry/large pump house Ambient	10:45	10:45	0	0	0	0	21.6	78.4	0	0	1019	-0.35	8	0	11
Gantry/large pump house hole cables	10:46	10:46	0	0	0	0	21.6	78.4	0	0	1019	-0.35	13	0	27
Manhole 2 (near gantry)	11:08	11:08	0	0	0	0	21.8	78.2	0	0	1019	-0.35	0	0	0
Drain 1 (under blue container)	10:42	10:42	0	0	0	0	21.5	78.5	0	0	1018	-0.35	0	0	0
Drain 2 (could not be located)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drain 3	11:16	11:17	0	0	0	0	21.7	78.2	0	0	1019	-0.35	0	0	0
Vent (centre of yard beside gantry)	11:21	11:22	0	0	0	0	21.8	78.2	0	0	1019	-0.35	9	0	16
Pipe 1 (yellow)	11:24	11:25	0	0	0	0	21.8	78.2	0	0	1019	-0.35	0	0	0
Pipe 2 (yellow)	11:26	11:26	0	0	0	0	21.8	78.2	0	0	1019	-0.35	0	0	0
Pipe 3 (yellow)	11:27	11:27	0	0	0	0	21.8	78.2	0	0	1019	-0.35	0	0	0
Pipe 4 (metal pipe wooden cover)	11:29	11:29	0	0	0	0	21.9	78.1	0	0	1019	-0.35	0	0	0
Pipe 5 (set of black cables at lamp post)	11:32	11:33	0	0	0	0	21.9	78.1	0	0	1019	-0.35	0	0	0
Pipe 6	11:33	11:34	0	0	0	0	21.9	78.1	0	0	1019	-0.35	0	0	0
Pipe 7 (metal pipe with wooden stopper)	11:35	11:36	0	0	0	0	21.9	78.1	0	0	1019	-0.35	0	0	0
Pipe 8	11:37	11:37	0	0	0	0	21.9	78.1	0	0	1019	-0.35	0	0	0
Pipe 9	11:41	11:42	0	0	0	0	21.8	78.2	0	0	1018	-0.11	0	0	0
Hole 1	11:46	11:46	0	0	0	0	21.8	78.2	0	0	1018	-0.13	0	0	0
Hole 2	11:43	11:44	0	0	0	0	21.8	78.2	0	0	1018	-0.13	0	0	0
Hole 3	11:45	11:45	0	0	0	0	21.8	78.2	0	0	1018	-0.13	0	0	0
Telephone box	11:48	11:48	0	0	0	0	21.8	78.2	0	0	1018	-0.13	0	0	0
Manhole 3	11:49	11:50	0	0	0	0	21.8	78.2	0	0	1018	-0.13	0	0	0
Manhole 4	11:57	11:57	0	0	0	0	21.8	78.2	0	0	1018	-0.13	0	0	0
Manhole 5	11:58	11:58	0	0	0	0	21.8	78.2	0	0	1018	-0.13	0	0	0
Manhole 6	11:59	11:59	0	0	0	0	21.8	78.2	0	0	1018	-0.13	0	0	0
Manhole 7	12:00	12:00	0	0	0	0	21.8	78.2	0	0	1018	-0.13	0	0	0
Drain 4	11:49	11:50	0	0	0	0	21.8	78.2	0	0	1018	-0.13	0	0	0
Manhole 10	11:01	11:01	0	0	0	0	21.8	78.2	0	0	1019	-0.35	0	0	0
Manhole 9	11:02	11:02	0	0	0	0	21.8	78.2	0	0	1019	-0.35	2	0	5
Manhole 8	11:08	11:08	0	0	0	0	21.8	78.2	0	0	1019	-0.35	0	0	0
Manhole 2 (next to gantry)	11:11	11:12	0	0	0	0	21.8	78.2	0	0	1019	-0.35	0	0	0
Manhole 11	11:16	11:17	0	0	0	0	21.8	78.2	0	0	1019	-0.35	4	0	56
Drain 5	11:50	11:50	0	0	0	0	21.8	78.2	0	0	1018	-0.13	0	0	0
Manhole 12	11:54	11:54	0	0	0	0	21.7	78.1	0	0	1012	-0.13	0	0	0
Manhole 13 (old manhole)	11:55	11:56	0	0	0	0	21.7	78.1	0	0	1012	-0.13	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application

Table 6 Internal Gas Monitoring Survey Results - Event 6 - 24/01/2012 - Calor Gas

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	09:18	09:19	0	0	0	0	21.8	78.2	0	0	1014	-0.29	0	0	0
Reception office (ambient)	09:20	09:20	0	0	0	0	21.8	78.2	0	0	1014	-0.29	0	0	0
Around skirting board in reception office	09:20	09:21	0	0	0	0	21.8	78.2	0	0	1014	-0.29	0	0	0
Reception ESB cables (LHS-A)	09:21	09:21	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Reception ESB cables (RHS-B)	09:22	09:22	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Toilet	09:22	09:23	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Toilet at waste pipe	09:23	09:24	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
At pipes under sink	09:25	09:25	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Canteen/Kitchen	09:25	09:26	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Canteen under sink	09:24	09:25	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
In shower in bathroom	09:25	09:26	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Ambient pump house door	09:26	09:26	0	0	0	0	22.0	78.0	0	0	1014	-0.29	0	0	0
Under blue container	09:26	09:26	0	0	0	0	22.0	78.0	0	0	1014	-0.29	0	0	0
Brown side tin shed	09:26	09:26	0	0	0	0	22.0	78.0	0	0	1014	-0.29	0	0	0
Gantry/large pump house Ambient	10:29	10:29	0	0	0	0	22.2	77.8	0	0	1014	-0.20	0	0	18
Gantry/large pump house hole cables	10:20	10:21	0	0	0	0	22.2	77.8	0	0	1014	-0.20	0	0	0
Manhole 1 (at back of blue container)	09:28	09:29	0	0	0	0	21.9	78.1	0	0	1014	-0.20	0	0	0
Manhole 2 (near gantry)	10:08	10:09	0	0	0	0	22.2	77.8	0	0	1014	-0.20	0	0	0
Drain 1 (under blue container)	09:27	09:28	0	0	0	0	22.0	78.0	0	0	1014	-0.29	0	0	0
Drain 2 (Could not be located)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drain 3	10:03	10:04	0	0	0	0	22.2	77.8	0	0	1014	-0.20	0	0	0
Vent (centre of yard beside gantry)	09:59	10:01	0	0	0	0	21.9	78.1	0	0	1014	-0.20	0	0	0
Pipe 1 (yellow)	09:38	09:39	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Pipe 2 (yellow)	09:39	09:40	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Pipe 3 (yellow)	09:40	09:40	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Pipe 4 (metal pipe wooden cover)	10:09	10:10	0	0	0	0	22.0	78.0	0	0	1014	-0.20	0	0	0
Pipe 5 (set of black cables at lamp post)	10:16	10:17	0	0	0	0	22.1	77.9	0	0	1014	-0.20	0	0	0
Pipe 6	09:50	09:51	0	0	0	0	22.0	78.0	0	0	1014	-0.29	0	0	0
Pipe 7 (metal pipe with wooden stopper)	09:43	09:44	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Pipe 8	10:18	10:18	0	0	0	0	22.1	77.9	0	0	1014	-0.20	0	0	0
Pipe 9	09:48	09:49	0	0	0	0	22.0	78.0	0	0	1014	-0.29	0	0	0
Hole 1	09:31	09:31	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Hole 2	10:04	10:05	0	0	0	0	22.1	77.9	0	0	1014	-0.20	0	0	0
Hole 3	09:32	09:32	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Telephone box	10:00	10:00	0	0	0	0	22.1	77.9	0	0	1014	-0.20	0	0	0
Manhole 3	09:50	09:50	0	0	0	0	22.1	77.9	0	0	1014	-0.20	0	0	0
Manhole 4	09:48	09:49	0	0	0	0	21.9	78.1	0	0	1014	-0.29	0	0	0
Manhole 5	09:47	09:47	0	0	0	0	22.0	78.0	0	0	1014	-0.29	0	0	0
Manhole 6	09:48	09:49	0	0	0	0	22.0	78.0	0	0	1014	-0.29	0	0	0
Manhole 7	09:46	09:48	0	0	0	0	22.0	78.0	0	0	1014	-0.29	0	0	0
Drain 4	10:13	10:13	0	0	0	0	22.2	77.8	0	0	1014	-0.20	0	0	0
Manhole 10	10:00	10:00	0	0	0	0	22.1	77.9	0	0	1014	-0.20	0	0	0
Manhole 9	10:00	10:01	0	0	0	0	22.1	77.9	0	0	1014	-0.20	0	0	0
Manhole 8	10:02	10:03	0	0	0	0	22.1	77.9	0	0	1014	-0.20	0	0	0
Manhole 2 (next to gantry)	10:02	10:03	0	0	0	0	22.1	77.9	0	0	1014	-0.20	0	0	0
Manhole 11	10:11	10:12	0	0	0	0	22.2	77.8	0	0	1014	-0.20	0	0	0
Drain 5	09:53	09:54	0	0	0	0	22.2	77.8	0	0	1014	-0.20	0	0	0
Manhole 12	09:53	09:54	0	0	0	0	22.0	78.0	0	0	1014	-0.29	0	0	0
Manhole 13 (old manhole)	10:15	10:16	0	0	0	0	22.1	77.9	0	0	1014	-0.29	0	0	0
Manhole 14 (behind toilet/shower)	09:29	09:30	0	0	0	0	22.0	78.0	0	0	1014	-0.29	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application

Table 7 Internal Gas Monitoring Survey Results - Event 7 - 14/02/2012 - Calor Gas

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	08:59	08:59	0.1	1	0.1	0.1	21.8	78.0	0	0	1035	-0.24	0	0	0
Reception office (ambient)	09:00	09:00	0.1	1	0.1	0	22.1	77.8	0	0	1035	-0.31	0	0	0
Around skirting board in reception office	09:01	09:01	0.1	1	0.1	0	22.1	77.8	0	0	1035	-0.31	0	0	0
Reception ESB cables (LHS-A)	09:02	09:02	0.1	1	0.1	0.1	22.1	77.7	0	0	1035	-0.31	0	0	0
Reception ESB cables (RHS-B)	09:02	09:02	0.1	0	0	0.1	22.1	77.7	0	0	1035	-0.31	0	0	0
Toilet	09:04	09:04	0	0	0	0	22.1	77.9	0	0	1035	-0.31	0	0	0
Toilet at waste pipe	09:05	09:05	0	0	0	0	22.1	77.9	0	0	1035	-0.29	0	0	0
At pipes under sink	09:06	09:06	0	0	0.1	0	22.1	77.9	0	0	1035	-0.31	0	0	0
Canteen/Kitchen	09:06	09:06	0	0	0	0	22.1	77.9	0	0	1035	-0.31	0	0	1
Canteen under sink	09:06	09:07	0	0	0	0	22.1	77.9	0	0	1035	-0.31	0	0	0
In shower in bathroom	09:08	09:08	0	0	0	0	22.1	77.9	0	0	1035	-0.31	0	0	0
Ambient pump house door	09:09	09:09	0	0	0	0	22.1	77.9	0	0	1035	-0.31	0	0	0
Under blue container	09:10	09:10	0	0	0.1	0	22.1	77.9	0	0	1035	-0.31	0	0	0
Brown side tin shed	09:11	09:11	0.1	1	0.1	0	22.1	77.8	0	0	1035	-0.31	0	0	0
Gantry/large pump house Ambient	09:46	09:46	0.1	0	0.1	0	22.1	77.8	0	0	1035	-0.29	0	0	18
Gantry/large pump house hole cables	09:47	09:47	0	0	0	0	22.1	77.9	0	0	1035	-0.29	0	0	0
Manhole 1 (at back of blue container)	09:12	09:12	0	0	0	0	22.1	77.9	0	0	1035	-0.31	0	0	0
Manhole 2 (near gantry)	09:42	09:42	0	0	0	0	22.3	77.7	0	0	1035	-0.29	0	0	0
Drain 1 (under blue container)	09:12	09:12	0	0	0	0	22.1	77.9	0	0	1035	-0.31	0	0	0
Drain 2 (Could not be located)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drain 3	09:38	09:38	0.1	1	0.1	0	22.3	77.6	0	0	1035	-0.29	0	0	0
Vent (centre of yard beside gantry)	09:22	09:23	0.1	1	0.1	0	22.2	77.7	0	0	1035	-0.31	22	0	26
Pipe 1 (yellow)	09:16	09:16	0	0	0	0	22.2	77.8	0	0	1035	-0.31	0	0	0
Pipe 2 (yellow)	09:14	09:15	0	0	0	0	22.2	77.8	0	0	1035	-0.31	0.1	0	8
Pipe 3 (yellow)	09:17	09:17	0.1	1	0.1	0	22.2	77.7	0	0	1035	-0.31	0	0	0
Pipe 4 (metal pipe wooden cover)	09:27	09:27	0	0	0	0	22.1	77.9	0	0	1035	-0.31	0	0	0
Pipe 5 (set of black cables at lamp post)	09:29	09:29	0.1	1	0.1	0	22.2	77.7	0	0	1035	-0.31	0	0	12
Pipe 6	09:32	09:32	0.1	1	0.1	0	22.3	77.6	0	0	1035	-0.31	0	0	0
Pipe 7 (metal pipe with wooden stopper)	09:18	09:18	0.1	1	0.1	0	22.2	77.7	0	0	1035	-0.31	0	0	0
Pipe 8	09:29	09:29	0.1	1	0.1	0	22.2	77.7	0	0	1035	-0.31	0	0	0
Pipe 9	09:33	09:33	0.1	1	0.1	0	22.3	77.6	0	0	1035	-0.31	0	0	1
Hole 1	09:24	09:24	0.1	0	0.1	0	22.2	77.7	0	0	1035	-0.31	0	0	0
Hole 2	09:39	09:39	0	0	0	0	22.3	77.7	0	0	1035	-0.29	0	0	0
Hole 3	09:14	09:14	0	0	0	0	22.2	77.8	0	0	1035	-0.31	0	0	0
Telephone box	09:41	09:41	0.1	1	0.1	0	22.3	77.6	0	0	1035	-0.29	0	0	0
Manhole 3	09:30	09:30	0.1	1	0.1	0	22.3	77.6	0	0	1035	-0.31	0	0	0
Manhole 4	09:32	09:32	0.1	1	0.1	0	22.3	77.6	0	0	1035	-0.31	0	0	0
Manhole 5	09:34	09:34	0.1	1	0.1	0	22.3	77.6	0	0	1035	-0.31	0	0	0
Manhole 6	09:35	09:35	0.1	1	0.1	0	22.3	77.6	0	0	1035	-0.31	0	0	0
Manhole 7	09:36	09:36	0.1	0	0.1	0	22.3	77.6	0	0	1035	-0.31	0	0	0
Drain 4	09:45	09:45	0	0	0.1	0	22.3	77.7	0	0	1035	-0.31	0	0	0
Manhole 10	09:21	09:21	0	0	0.1	0.1	22.1	77.8	0	0	1035	-0.31	0	0	0
Manhole 9	09:20	09:20	0	0	0	0	22.1	77.9	0	0	1035	-0.31	0	0	0
Manhole 8	09:19	09:19	0	0	0	0	22.1	77.9	0	0	1035	-0.31	0	0	0
Manhole 11	09:43	09:43	0	0	0.1	0	22.3	77.7	0	0	1035	-0.29	0	0	0
Drain 5	09:44	09:44	0	0	0.1	0	22.3	77.7	0	0	1035	-0.29	0	0	0
Manhole 12	09:26	09:26	0.1	1	0.1	0	22.1	77.8	0	0	1035	-0.31	0	0	0
Manhole 13 (old manhole)	09:30	09:31	0.1	1	0.1	0	22.3	77.6	0	0	1035	-0.31	0	0	0
Manhole 14 (behind toilet/shower)	09:12	09:12	0.1	1	0.1	0	22.1	77.8	0	0	1035	-0.31	0	0	0
Manhole 15 (next to hole 1)	09:25	09:25	0.1	1	0.1	0	22.1	77.8	0	0	1035	-0.31	0	0	0
Large Pumphouse/Gantry (Cables on wall)	09:48	09:48	0.1	1	0.1	0	22.3	77.6	0	0	1035	-0.29	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application Addendum

Table 8 Internal Gas Monitoring Survey Results - Event 8 - 09/03/2012 - Calor Gas

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	09:06	09:06	0	0	0	0	21.5	78.5	0	0	1025	-0.07	0	0	0
Reception office (ambient)	09:08	09:08	0	0	0	0	21.5	78.5	0	0	1025	-0.07	0	0	0
Around skirting board in reception office	09:09	09:09	0	0	0	0	21.5	78.5	0	0	1025	-0.07	0	0	0
Reception ESB cables (LHS-A)	09:11	09:11	0	0	0	0	21.5	78.5	0	0	1025	-0.07	0	0	0
Reception ESB cables (RHS-B)	09:10	09:10	0	0	0	0	21.5	78.5	0	0	1025	-0.07	0	0	0
Toilet	09:14	09:14	0	0	0	0	21.6	78.4	0	0	1025	-0.07	0	0	0
Toilet at waste pipe	09:15	09:15	0	0	0	0	21.6	78.4	0	0	1025	-0.07	0	0	0
At pipes under sink	09:16	09:16	0	0	0	0	21.6	78.4	0	0	1025	-0.07	0	0	0
Canteen/Kitchen	09:12	09:12	0	0	0	0	21.6	78.4	0	0	1025	-0.07	0	0	0
Canteen under sink	09:13	09:13	0	0	0	0	21.6	78.4	0	0	1025	-0.07	0	0	0
In shower in bathroom	09:17	09:17	0	0	0	0	21.6	78.4	0	0	1025	-0.07	0	0	0
Ambient pump house door	09:18	09:18	0	0	0	0	21.7	78.3	0	0	1025	-0.07	0	0	3
Under blue container	09:19	09:19	0	0	0	0	21.7	78.3	0	0	1025	-0.07	0	0	0
Brown side tin shed	09:19	09:19	0	0	0	0	21.7	78.3	0	0	1025	-0.07	0	0	0
Gantry/large pump house Ambient	10:03	10:03	0	0	0	0	22.2	77.8	0	0	1025	-0.07	0	0	0
Gantry/large pump house hole cables	10:03	10:03	0	0	0	0	22.2	77.8	0	0	1025	-0.07	0	0	0
Manhole 1 (at back of blue container)	09:21	09:21	0	0	0	0.1	21.7	78.2	0	0	1025	-0.07	0	0	0
Manhole 2 (near gantry)	09:55	09:55	0	0	0	0	22.1	77.9	0	0	1025	-0.07	0	0	0
Drain 1 (under blue container)	09;22	09;22	0	0	0	0	21.7	78.3	0	0	1025	-0.07	0	0	0
Drain 2 (Could not be located)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drain 3	09:52	09:52	0	0	0	0	22.1	77.9	0	0	1025	-0.07	0	0	0
Vent (centre of yard beside gantry)	09:50	09:50	0	0	0	0	22.2	77.8	0	0	1025	-0.07	0	0	0
Pipe 1 (yellow)	09:26	09:26	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Pipe 2 (yellow)	09:27	09:27	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Pipe 3 (yellow)	09:28	09:28	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Pipe 4 (metal pipe wooden cover)	09:42	09:42	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Pipe 5 (set of black cables at lamp post)	09:36	09:36	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Pipe 6	09:33	09:33	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Pipe 7 (metal pipe with wooden stopper)	09:29	09:29	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Pipe 8	09:40	09:40	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Pipe 9	09:31	09:31	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Hole 1	09:43	09:43	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Hole 2	09:50	09:50	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Hole 3	10:05	10:05	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Telephone box	09:53	09:53	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Manhole 3	09:36	09:36	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Manhole 4	09:32	09:32	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Manhole 5	09:30	09:30	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Manhole 6	09:30	09:30	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Manhole 7	09:29	09:29	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Drain 4	09:59	09:59	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Manhole 10	09:45	09:45	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Manhole 9	09:40	09:40	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Manhole 8	09:47	09:47	0	0	0	0	22.2	77.8	0	0	1025	-0.07	0	0	0
Manhole 12	09:41	09:41	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Manhole 11	10:02	10:02	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Drain 5	10:00	10:00	0	0	0	0	21.8	78.2	0	0	1025	-0.07	0	0	0
Manhole 13 (old manhole)	09:35	09:35	0	0	0	0	22.0	78.0	0	0	1025	-0.07	0	0	0
Manhole 14 (behind toilet/shower)	09:24	09:24	0	0	0	0	22.1	77.9	0	0	1025	-0.07	0	0	0
Manhole 15 (next to hole 1)	09:44	09:44	0	0	0	0	22.1	77.9	0	0	1025	-0.07	0	0	0
Manhole 16	09:37	09:37	0	0	0	0	22.1	77.9	0	0	1025	-0.07	0	0	0
Large Pumphouse/Gantry (Cables on wall)	10:05	10:05	0	0	0	0	22.2	77.8	0	0	1025	-0.07	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application Addendum

Table 9 Internal Gas Monitoring Survey Results - Event 9 - 19/04/2012 - Calor Gas

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	09:34	09:34	0	0	0.0	0.0	20.6	79.4	0	0	994	0.10	0	0	0
Reception office (ambient)	09:35	09:35	0	0	0.0	0.0	20.6	79.4	0	0	994	0.10	0	0	0
Around skirting board in reception office	09:35	09:35	0	0	0.0	0.0	20.6	79.4	0	0	994	0.10	0	0	0
Reception ESB cables (LHS-A)	09:36	09:36	0	0	0.0	0.1	20.6	79.4	0	0	994	0.10	0	0	0
Reception ESB cables (RHS-B)	09:37	09:37	0	0	0.0	0.1	20.6	79.4	0	0	994	0.10	0	0	0
Toilet	09:37	09:37	0	0	0.0	0.0	20.6	79.4	0	0	994	0.10	0	0	0
Toilet at waste pipe	09:38	09:38	0	0	0.0	0.0	20.6	79.4	0	0	994	0.10	0	0	0
At pipes under sink	09:38	09:38	0	0	0.0	0.0	20.6	79.4	0	0	994	0.10	0	0	0
Canteen/Kitchen	09:39	09:39	0	0	0.0	0.0	20.6	79.4	0	0	994	0.10	0	0	0
Canteen under sink	09:39	09:39	0	0	0.0	0.0	20.6	79.4	0	0	994	0.10	0	0	0
In shower in bathroom	09:39	09:39	0	0	0.0	0.0	20.6	79.4	0	0	994	0.10	0	0	0
Ambient pump house door	09:41	09:41	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Under blue container	09:42	09:42	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Brown side tin shed	09:43	09:43	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Gantry/large pump house Ambient	10:09	10:09	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Gantry/large pump house hole cables	10:10	10:10	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Manhole 1 (at back of blue container)	09:44	09:44	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Manhole 2 (near gantry)	09:44	09:44	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Drain 1 (under blue container)	09:45	09:45	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Drain 2 (Could not be located)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drain 3	10:13	10:13	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Vent (centre of yard beside gantry)	10:17	10:17	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Pipe 1 (yellow)	09:47	09:47	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Pipe 2 (yellow)	09:47	09:47	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Pipe 3 (yellow)	09:48	09:48	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Pipe 4 (metal pipe wooden cover)	10:01	10:01	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Pipe 5 (set of black cables at lamp post)	09:58	09:58	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Pipe 6	09:55	09:55	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Pipe 7 (metal pipe with wooden stopper)	09:58	09:58	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Pipe 8	09:59	09:59	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Pipe 9	09:53	09:53	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Hole 1	10:22	10:22	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Hole 2	10:14	10:14	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Hole 3	09:46	09:46	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Telephone box	10:07	10:07	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Manhole 3	09:56	09:56	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Manhole 4	09:59	09:59	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Manhole 5	09:52	09:52	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Manhole 6	09:51	09:51	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Manhole 7	09:50	09:50	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Drain 4	10:00	10:00	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Manhole 10	10:20	10:20	0	0	0.0	0.1	20.8	79.2	0	0	994	0.10	0	0	0
Manhole 9	10:19	10:19	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Manhole 8	10:19	10:19	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Manhole 2 (next to gantry)	10:06	10:06	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Manhole 11	10:05	10:05	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Drain 5	10:03	10:03	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Manhole 12	10:00	10:00	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Manhole 13 (old manhole)	09:57	09:57	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Manhole 14 (behind toilet/shower)	09:46	09:46	0	0	0.0	0.0	20.7	79.3	0	0	994	0.10	0	0	0
Manhole 15 (next to hole 1)	10:23	10:23	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Manhole 16	10:04	10:04	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0
Large Pumphouse/Gantry (Cables on wall)	10:11	10:11	0	0	0.0	0.0	20.8	79.2	0	0	994	0.10	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application

Table 10 Internal Gas Monitoring Survey Results - Event 4 - 11/11/2011 - Cold Chon

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH4 (ppm)		
	Start time	End time	% CH4	%LEL CH4	Peak CH4 (%)	% CO2	O2	Balance	CO ppm	H2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Bungalow reception ambient	10:50	10:51	0	0	0	0	21	79	0	0	1003	-0.02	-	-	-
Bungalow reception skirting board	-	-	-	-	-	-	-	-	-	-	-	-	-	28	34
Bungalow office/reception	10:51	10:52	0	0	0	0.1	21	78.9	0	0	1003	-0.02	-	-	-
Bungalow office/reception skirting board	-	-	0	0	0	0.1	21	78.9	0	0	1003	-0.02	41	-	-
Bungalow kitchen (ambient)	10:57	10:58	0	0	0	0	21	79	0	0	1003	-0.02	-	22	24
Bungalow kitchen (under sink)	10:53	10:54	0	0	0	0.1	21	78.9	0	0	1003	-0.02	-	-	-
Bungalow toilet ambient	11:04	11:05	0	0	0	0	20.8	79.2	0	0	1002	-0.02	0	-	-
Bungalow computer network room	11:03	11:04	0	0	0	0.1	20.9	79.1	0	0	1003	-0.02	15	-	-
Bungalow main office (ambient)	10:58	10:59	0	0	0	0	21	79	0	0	1003	-0.02	-	-	-
Bungalow main office skirting	11:00	11:01	0	0	0	0	21	79	0	0	1003	-0.02	-	11	17
Vehicle maintenance pit	11:40	11:41	0	0	0	0	21	79	0	0	1002	-0.03	0	-	-
Grid 1 (beside diesel tank)	01:51	11:52	0	0	0	0	21	79	0	0	1002	-0.03	-	0	1
Grid 2 (beside compressor room)	11:50	11:51	0	0	0	0	21	79	0	0	1002	-0.03	-	0	1
Production plant entrance (ambient)	10:02	10:03	0	0	0	0	20.9	79.1	0	0	1003	0.06	-	-	-
Production plant (ambient)	10:13	10:14	0	0	0	0	20.9	79.1	0	0	1003	0.06	1	-	-
Production plant control room	10:15	10:15	0	0	0	0	20.9	79.1	0	0	1003	0.06	-	0	3
Production Plant Drain (beside toilet)	10:16	10:17	0	0	0	0.1	20.9	79	0	0	1003	0.06	-	-	99
Production Plant Toilet	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1
Compressor Room (back of bitumin tanks)	10:32	10:33	0	0	0	0	20.9	79.1	1	0	1003	0.04	-	2	3
Lab (ambient)	10:04	10:05	0	0	0	0	20.9	79.1	0	0	1004	0.08	-	1	4
Lab skirting	-	-	0	0	0	0	20.9	79.1	0	0	1004	0.08	0	-	-
Lab store	10:06	10:07	0	0	0	0	20.9	79.1	0	0	1004	0.08	16	-	-
Cupboard in lab	10:07	10:08	0.1	1	0.1	0	20.9	79	0	0	1004	0.08	53	-	-
Reception to sales/dispatch office	09:40	09:50	0	0	0	0.1	20.5	79.4	0	0	1004	0.14	0	-	-
Sales/dispatch office	09:43	09:44	0	0	0	0.1	20.6	79.3	0	0	1004	0.14	-	3	26
Sales/dispatch office cabinet	09:44	09:45	0	0	0	0	20.6	79.4	0	0	1004	0.14	-	-	-
Small Back Room (ambient)	09:46	09:47	0	0	0	0.1	20.6	79.3	0	0	1004	0.14	-	3	6
Small Back Room Skirting	09:47	09:48	0	0	0	0.1	20.6	79.3	0	0	1004	0.14	-	-	-
Diesel Pumphouse	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-
Diesel Pumphouse pipe	10:34	10:35	0	0	0	0	21	79.1	0	0	1003	0.04	-	-	-
Production office (Portacabin) ambient	12:04	12:05	0	0	0	0	21	79	0	0	1002	-0.02	-	0	1
Toilets (beside production office) ambient	10:46	10:47	0	0	0	0	21	79	0	0	1003	-0.02	-	3	4
Drain 7 (toilets beside production office)	10:46	10:47	0	0	0	0.1	21.1	78.9	0	0	1003	0.04	4	-	-
At shower drain	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4
Drain 8 (outside production office toilets)	11:17	11:18	0	0	0	0	20.9	79.1	0	0	1002	-0.03	2	-	-
Locker room	10:40	10:41	0	0	0	0	21	79	1	0	1003	0.04	0	3	6
Canteen (ambiient)	10:43	10:44	0	0	0	0	21.1	78.9	0	0	1003	0.04	-	0	5
Under canteen sink	10:42	10:43	0	0	0	0	21	79	0	0	1003	0.04	-	-	-
Drain 5 (downpipe drain)	11:21	11:22	0	0	0	0	21	79	0	0	1002	-0.03	-	0	1
Drain 6 (downpipe drain)	11:19	11:20	0	0	0	0	20.9	79.1	0	0	1002	-0.03	-	1	2
Paint store (ambient)	12:00	12:04	0	0	0	0	21	79	0	0	1002	-0.03	0	0	0
Workshop (ambient)	09:54	09:56	0	0	0	0	20.7	79.0	0	0	1004	0.08	0	0	0
Toolstore	09:58	09:59	0	0	0	0	20.8	79.3	0	0	1004	0.08	0	0	0
Boiler room ambient	10:20	10:21	0	0	0	0	21	79	0	0	1003	0.06	2	-	-
Pipe 2 (orange plastic, by interceptor)	11:43	11:44	0	0	0	0	21	79	0	0	1002	-0.03	0	0	0
Pipe 3 (black plastic, by interceptor)	11:44	11:45	0	0	0	0.1	21	79	0	0	1002	-0.03	1	-	-
Pipe 5 (white metal, by production plant	10:01	10:02	0	0	0	0	20.9	79.1	0	0	1004	0.08	-	-	-
Weighbridge	09:49	09:50	0	0	0	0	20.7	79.3	0	0	1004	0.14	-	4	5
Drain 3 (SW drain in yard)	11:24	11:25	0	0	0	0	21	79	0	0	1002	-0.03	0	0	0
Drain 9 (roof drain at corner of bungalow)	11:07	11:08	0	0	0	0	20.9	79.1	0	0	1002	-0.03	0	0	0
Drain 10 (roof drain at corner of bungalow)	11:09	11:10	0	0	0	0	20.9	79.1	0	0	1002	-0.03	-	1	3
Drain 11 (roof drain at corner of bungalow)	11:13	11:14	0	0	0	0	20.9	79.1	0	0	1002	-0.03	1	-	-
Drain 12 (SW by diesel pump)	11:53	11:54	0	0	0	0	21	79	0	0	1002	-0.03	0	0	0
Drain 14 (SW drain in centre of tanks)	11:56	11:57	0	0	0	0	21	79	0	0	1002	-0.03	0	0	0
Drain 1 (SW drain in yard)	11:28	11:29	0	0	0	0	21	79	0	0	1002	-0.03	0	0	0
Drain 2 (SW drain in yard)	11:11	11:12	0	0	0	0	20.9	79.1	1	0	1002	-0.03	-	3	4
Manhole A	11:27	11:28	0	0	0	0	21	79	0	0	1002	-0.03	0	0	0
Manhole B (No access)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manhole C (No access)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application Addendum

Table 11 Internal Gas Monitoring Survey Results - Event 5 - 22/12/2011 - Cold Chon

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH4 (ppm)		
	Start time	End time	% CH4	%LEL CH4	Peak CH4 (%)	% CO2	O2	Balance	CO ppm	H2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	09:53	09:54	0	0	0	0	21.5	78.5	0	0	1019	-0.52	0	0	0
Bungalow entrance ambient	09:57	09:57	0	0	0	0.1	21.5	78.5	0	0	1019	-0.52	0	0	0
Bungalow entrance skirting board	09:58	09:58	0	0	0	0.1	21.5	78.5	0	0	1019	-0.52	-	-	-
Bungalow reception ambient	10:01	10:02	0	0	0	0.1	21.5	78.5	0	0	1019	-0.52	0	0	0
Bungalow reception skirting board	10:01	10:02	0	0	0	0.1	21.4	78.4	0	0	1019	-0.52	0	0	0
Bungalow kitchen (under sink)	10:01	10:02	0	0	0	0.1	21.4	78.4	0	0	1019	-0.52	0	0	0
Bungalow toilet ambient	10:03	10:03	0	0	0	0	21.3	78.7	0	0	1019	-0.52	0	0	0
Bungalow toilet under sink	10:03	10:03	0	0	0	0	21.3	78.6	0	0	1019	-0.57	0	0	0
Bungalow toilet at waste pipe	10:04	10:04	0	0	0	0	21.3	78.6	0	0	1019	-0.52	0	0	0
Bungalow computer network room	10:09	10:10	0	0	0	0	21.3	78.7	0	0	1019	-0.52	0	0	0
Bungalow main office	10:10	10:11	0	0	0	0	21.3	78.7	0	0	1019	-0.52	0	0	0
Bungalow main office skirting	10:13	10:14	0	0	0	0	21.3	78.7	0	0	1019	-0.52	0	0	0
Bungalow main office cupboard	10:13	10:14	0	0	0	0	21.3	78.7	0	0	1019	-0.52	-	-	-
Maintenance shed (open shed)	12:24	12:24	0	0	0	0	21.7	78.3	0	0	1017	-0.38	0	0	0
Vehicle maintenance pit	12:25	12:26	0	0	0	0	21.7	78.3	0	0	1017	-0.38	0	0	0
Shed/store (compressor room)	12:30	12:31	0	0	0	0	21.7	78.3	0	0	1017	-0.38	0	0	0
Diesel tank	12:34	12:35	0	0	0	0	21.7	78.3	0	0	1017	-0.38	0	0	0
Grid 1 (beside diesel tank)	12:35	12:36	0	0	0	0	21.7	78.3	0	0	1017	-0.38	0	0	0
Grid 2 (beside compressor room)	12:38	12:39	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Production plant entrance ambient	12:39	12:39	0	0	0	0	21.7	78.3	0	0	1017	-0.38	0	0	0
Production plant, pitumen 2	12:40	12:40	0	0	0	0	21.7	78.3	0	0	1017	-0.38	0	0	0
Production plant entrance, electrified pump	12:41	12:41	0	0	0	0	21.7	78.3	0	0	1017	-0.38	-	-	-
Production plant skirting	12:43	12:44	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Production plant control room ambient	12:42	12:43	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Production plant control room (at cables)	12:48	12:49	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Production plant D15	12:44	12:45	0	0	0	0	21.8	78.2	0	0	1017	-0.38	-	-	-
Production plant Cupboard	12:50	12:51	0	0	0	0	21.8	78.2	0	0	1017	-0.38	-	-	-
Lab (ambient)	12:51	12:52	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	4
Lab skirting	12:52	12:52	0	0	0	0	21.8	78.2	0	0	1017	-0.38	3	0	6
Lab (under sink)	12:53	12:54	0	0	0	0	21.8	78.2	0	0	1017	-0.38	1	0	1
Lab store ambient	12:54	12:55	0	0	0	0	21.8	78.2	0	0	1017	-0.38	1	0	1
Cupboard in lab	12:55	12:56	0	0	0	0	21.8	78.2	0	0	1017	-0.38	7	0	13
Reception to sales/dispatch office	13:00	13:01	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Sales/dispatch office ambient	13:01	13:02	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Sales/dispatch office skirting board	13:02	13:03	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Sales/dispatch office cupboard	13:03	13:03	0	0	0	0	21.8	78.2	0	0	1017	-0.38	-	-	-
Sales/dispatch store	13:03	13:04	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Store skirting board	13:04	13:05	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Locker in store	13:04	13:04	0	0	0	0	21.8	78.2	0	0	1017	-0.38	-	-	-
Production office (Portacabin) ambient	13:08	13:09	0	0	0	0.1	21.7	78.2	0	0	1017	-0.38	0	0	0
Production office skirting board	13:09	13:09	0	0	0	0.1	21.7	78.2	0	0	1017	-0.38	0	0	0
Under production office	13:09	13:11	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Toilets (beside production office) ambient	13:12	13:13	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Toilets (beside production office) at rear	13:14	13:15	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Drain 7 (toilets beside production office)	13:18	13:19	0	0	0	0	21.7	78.3	0	0	1017	-0.38	0	0	0
Toilet waste pipe 1 (LHS)	13:15	13:16	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Toilet waste pipe 2 (RHS)	13:16	13:17	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
At shower drain	13:17	13:18	0	0	0	0	21.7	78.3	0	0	1017	-0.38	0	0	0
Drain 8 (outside production office toilets)	13:18	13:19	0	0	0	0	21.7	78.3	0	0	1017	-0.38	0	0	0
Locker room	13:24	13:25	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Locker room skirting board	13:25	13:26	0	0	0	0	21.8	78.2	0	0	1017	-0.38	-	-	-
Locker room behind locker	13:26	13:27	0	0	0	0	21.7	78.2	0	0	1017		-	-	-
Canteen ambient	13:29	13:30	0	0	0	0.1	21.7	78.2	0	0	1017	-0.38	0	0	0
Canteen skirting board	13:31	13:32	0	0	0	0.1	21.7	78.2	0	0	1017	-0.38	0	0	0
Under canteen sink	13:33	13:34	0	0	0	0.1	21.7	78.2	0	0	1017	-0.38	0	0	0
Drain 5 (downpipe drain)	13:35	13:36	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Drain 4 (SW drain in front of locker room)	13:36	13:37	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Drain 6 (downpipe drain)	13:21	13:22	0	0	0	0	21.8	78.2	0	0	1017	-0.38	0	0	0
Small store (oil spill gone)	14:42	14:43	0	0	0	0	21.9	78.1	0	0	1016	-0.18	0	0	0
Paint store	14:40	14:41	0	0	0	0	21.9	78.1	0	0	1016	-0.18	0	0	0
Workshop	14:42	14:43	0	0	0	0	21.8	78.2	0	0	1016	-0.18	0	0	0
Workshop skirting	14:43	14:44	0	0	0	0	21.9	78.1	0	0	1016	-0.18	0	0	0
Toolstore	14:44	14:45	0	0	0	0	21.9	78.1	0	0	1016	-0.18	0	0	0
Boiler room ambient	13:43	13:44	0	0	0	0	21.9	78.1	0	0	1017	-0.38	0	0	0
Boiler room skirting	13:45	13:46	0	0	0	0	21.9	78.1	0	0	1017	-0.38	0	0	0
Pipe 1 (boiler room entrance)	13:46	13:47	0	0	0	0	21.9	78.1	0	0	1017	-0.38	0	0	0
Pipe 2 (orange plastic, by interceptor)	13:48	13:49	0	0	0	0	22	78	0	0	1017	-0.38	0	0	0
Pipe 3 (black plastic, by interceptor)	13:50	13:51	0	0	0	0	21.9	78.1	0	0	1017	-0.38	0	0	0
Pipe 4 (at corner of small store)	13:56	13:57	0	0	0	0	21.8	78.1	0	0	1016	-0.12	0	0	0
Pipe 5 (white metal, by entrance)	13:57	13:58	0	0	0	0	21.9	78.2	0	0	1016	-0.12	0	0	0
Weighbridge	14:27	14:28	0	0	0	0	21.9	78.1	0	0	1016	-0.10	0	0	0
Drain 3 (SW drain in yard)	15:17	15:18	0	0	0	0	21.8	78.2	0	0	1016	-0.12	0	0	0
Drain 9 (roof drain at corner of bungalow)	14:08	14:09	0	0	0	0	21.8	78.2	0	0	1016	-0.12	0	0	0
Drain 10 (roof drain at corner of bungalow)	14:07	14:08	0	0	0	0	21.8	78.2	0	0	1016	-0.12	0	0	0
Drain 11 (roof drain at corner of bungalow)	14:08	14:08	0	0	0	0	21.7	78.3	0	0	1016	-0.17	0	0	0
Interceptor	14:25	14:26	0	0	0	0	21.8	78.2	0	0	1016	-0.18	0	0	0
Drain 12 (SW by diesel pump)	14:22	14:23	0	0	0	0	21.8	78.2	0	0	1016	-0.18	0	0	0
Drain 13 (red brick)	14:24	14:25	0	0	0	0	21.9	78.1	0	0	1016	-0.10	0	0	0
Drain 14 (SW drain in centre of tanks)	14:20	14:21	0	0	0	0	21.8	78.2	0	0	1016	-0.18	0	0	0
Drain 1 (SW drain in yard)	14:11	14:12	0	0	0	0	21.9	78.1	0	0	1016	-0.12	0	0	0
Drain 2 (SW drain in yard)	14:19	14:19	0	0	0	0	21.8	78.2	0	0	1016	-0.18	0	0	0
Manhole A	14:12	14:13	0	0	0	0	21.8	78.2	0	0	1016	-0.12	-	-	-
Manhole B	14:10	14:11	0	0	0	0	21.8	78.2	0	0	1016	-0.12	0	0	0
Manhole C (No access)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manhole D	14:13	14:14	0	0	0	0	21.9	78.1	0	0	1016	-0.17	-	-	-

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill

Certificate of Authorisation Application Addendum

Table 12 Internal Gas Monitoring Survey Results - Event 6 - 23/01/2012 - Cold Chon

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	16:05	16:05	0	0	0	0	21.6	78.4	0	0	1019	-0.46	0	0	2
Bungalow entrance ambient	16:06	16:06	0	0	0	0	21.6	78.4	0	0	1019	-0.47	0	0	0
Bungalow entrance skirting board	16:07	16:07	0	0	0	0	21.6	78.4	0	0	1019	-0.48	0	0	0
Bungalow reception ambient	16:08	16:08	0	0	0	0	21.6	78.4	0	0	1019	-0.48	0	0	0
Bungalow reception skirting board	16:08	16:08	0	0	0	0	21.6	78.4	0	0	1019	-0.48	0	0	0
Bungalow kitchen (under sink)	16:09	16:09	0	0	0	0	21.5	78.5	0	0	1019	-0.48	0	0	0
Bungalow toilet ambient	16:01	16:01	0	0	0	0	21.5	78.5	0	0	1019	-0.46	0	0	0
Bungalow toilet under sink	16:01	16:01	0	0	0	0	21.5	78.5	0	0	1019	-0.46	0	0	0
Bungalow toilet at waste pipe	16:01	16:01	0	0	0	0	21.5	78.5	0	0	1019	-0.46	0	0	0
Bungalow computer network room	16:12	16:12	0	0	0	0	21.4	78.6	0	0	1019	-0.48	0	0	0
Bungalow main office	16:11	16:11	0	0	0	0	21.4	78.6	0	0	1019	-0.47	0	0	0
Bungalow main office skirting	16:10	16:10	0	0	0	0	21.3	78.7	0	0	1019	-0.48	0	0	0
Bungalow main office cupboard	16:10	16:10	0	0	0	0	21.4	78.6	0	0	1019	-0.46	0	0	0
Maintenance shed (open shed)	17:46	17:46	0	0	0	0	21.4	78.6	0	0	1019	-0.48	0	0	0
Vehicle maintenance pit	17:02	17:02	0	0	0	0	21.4	78.6	0	0	1019	-0.49	0	0	0
Shed/store (compressor room)	17:06	17:06	0	0	0	0	21.5	78.5	0	0	1019	-0.48	0	0	0
Diesel tank	17:08	17:08	0	0	0	0	21.5	78.5	0	0	1019	-0.52	0	0	0
Grid 1 (beside diesel tank)	17:20	17:20	0	0	0	0	21.4	78.6	0	0	1019	-0.51	0	0	0
Grid 2 (beside compressor room)	17:21	17:21	0	0	0	0	21.7	78.3	0	0	1019	-0.43	0	0	0
Production plant entrance ambient	16:20	16:20	0	0	0	0	21.4	78.6	0	0	1019	-0.42	0	0	0
Production plant, pitumen 2	16:21	16:21	0	0	0	0	21.4	78.6	0	0	1019	-0.43	0	0	0
Production plant entrance, electrified pump	16:21	16:21	0	0	0	0	21.4	78.6	0	0	1019	-0.44	0	0	0
Production plant skirting	16:22	16:22	0	0	0	0	21.4	78.6	0	0	1019	-0.45	0	0	0
Production plant control room ambient	16:22	16:22	0	0	0	0	21.5	78.5	0	0	1019	-0.48	0	0	0
Production plant control room (at cables)	16:23	16:23	0	0	0	0	21.5	78.5	0	0	1019	-0.46	0	0	0
Production plant D15	16:23	16:23	0	0	0	0	21.5	78.5	0	0	1019	-0.46	0	0	0
Production plant Cupboard	16:24	16:24	0	0	0	0	21.5	78.5	0	0	1019	-0.48	0	0	0
Lab (ambient)	16:25	16:25	0	0	0	0	21.5	78.5	0	0	1019	-0.48	0	0	0
Lab skirting	16:25	16:25	0	0	0	0	21.5	78.5	0	0	1019	-0.47	0	0	0
Lab (under sink)	16:26	16:26	0	0	0	0	21.5	78.5	0	0	1019	-0.51	0	0	0
Lab store ambient	16:26	16:26	0	0	0	0	21.5	78.5	0	0	1019	-0.53	0	0	0
Cupboard in lab	16:27	16:27	0	0	0	0	21.6	78.4	0	0	1019	-0.54	0	0	0
Reception to sales/dispatch office	16:14	16:14	0	0	0	0	21.6	78.4	0	0	1019	-0.48	0	0	0
Sales/dispatch office ambient	16:14	16:14	0	0	0	0	21.6	78.4	0	0	1019	-0.48	0	0	0
Sales/dispatch office skirting board	16:15	16:15	0	0	0	0	21.6	78.4	0	0	1019	-0.48	0	0	0
Sales/dispatch office cupboard	16:16	16:16	0	0	0	0	21.4	78.6	0	0	1019	-0.48	0	0	0
Sales/dispatch store	16:16	16:16	0	0	0	0	21.4	78.6	0	0	1019	-0.48	0	0	0
Store skirting board	16:17	16:17	0	0	0	0	21.4	78.6	0	0	1019	-0.48	0	0	0
Locker in store	16:17	16:17	0	0	0	0	21.3	78.7	0	0	1019	-0.50	0	0	0
Production office (Portacabin) ambient	17:50	17:50	0	0	0	0	21.3	78.7	0	0	1019	-0.51	0	0	0
Production office skirting board	17:51	17:51	0	0	0	0	21.3	78.7	0	0	1019	-0.52	0	0	0
Under production office	17:53	17:53	0	0	0	0	21.4	78.6	0	0	1019	-0.51	0	0	0
Toilets (beside production office) ambient	17:40	17:40	0	0	0	0	21.4	78.6	0	0	1019	-0.51	0	0	0
Toilets (beside production office) at rear	17:40	17:40	0	0	0	0	21.4	78.6	0	0	1019	-0.48	0	0	0
Drain 7 (toilets beside production office)	17:41	17:41	0	0	0	0	22	78	0	0	1019	-0.48	0	0	0
Toilet waste pipe 1 (LHS)	17:42	17:42	0	0	0	0	22	78	0	0	1019	-0.48	0	0	0
Toilet waste pipe 2 (RHS)	17:42	17:42	0	0	0	0	22	78	0	0	1019	-0.48	0	0	0
At shower drain	17:43	17:43	0	0	0	0	22	78	0	0	1019	-0.48	0	0	0
Drain 8 (outside production office toilets)	17:43	17:43	0	0	0	0	22	78	0	0	1019	-0.48	0	0	0
Locker room	17:55	17:55	0	0	0	0	21.1	78.9	0	0	1019	-0.48	0	0	0
Locker room skirting board	17:55	17:55	0	0	0	0	21.1	78.9	0	0	1019	-0.48	0	0	0
Locker room behind locker	17:56	17:56	0	0	0	0	21.2	77.8	0	0	1019	-0.48	0	0	0
Canteen ambient	16:39	16:39	0	0	0	0	21.9	78.1	0	0	1019	-0.46	0	0	0
Canteen skirting board	16:39	16:39	0	0	0	0	21.9	78.1	0	0	1019	-0.46	0	0	0
Under canteen sink	16:40	16:40	0	0	0	0	21.9	78.1	0	0	1019	-0.46	0	0	0
Drain 5 (downpipe drain)	16;33	16;33	0	0	0	0	21.9	78.1	0	0	1019	-0.48	0	0	0
Drain 4 (SW drain in front of locker room)	16:34	16:34	0	0	0	0	21.9	78.1	0	0	1019	-0.51	0	0	0
Drain 6 (downpipe drain)	16:32	16:32	0	0	0	0	21.9	78.1	0	0	1019	-0.51	0	0	0
Small store (oil spill gone)	16:42	16:42	0	0	0	0	21.9	78.1	0	0	1019	-0.50	0	0	0
Paint store	16:42	16:42	0	0	0	0	21.9	78.1	0	0	1019	-0.51	0	0	0
Workshop	16:43	16:43	0	0	0	0	21.9	78.1	0	0	1019	-0.48	0	0	0
Workshop skirting	16:44	16:44	0	0	0	0	21.9	78.1	0	0	1019	-0.48	0	0	1
Toolstore	16:45	16:45	0	0	0	0	21.9	78.1	0	0	1019	-0.48	0	0	0
Boiler room ambient	16:59	16:59	0	0	0	0	21.5	78.5	0	0	1019	-0.49	0	0	0
Boiler room skirting	16:59	16:59	0	0	0	0	21.5	78.5	0	0	1019	-0.49	0	0	0
Pipe 1 (boiler room entrance)	17:10	17:10	0	0	0	0.1	21.5	78.4	0	0	1019	-0.48	0	0	0
Pipe 2 (orange plastic, by interceptor)	17:12	17:12	0	0	0	0.1	21.5	78.4	0	0	1019	-0.48	0	0	0
Pipe 3 (black plastic, by interceptor)	17:13	17:13	0	0	0	0.1	21.5	78.4	0	0	1019	-0.48	0	0	0
Pipe 4 (at corner of small store)	17:24	17:24	0	0	0	0.1	21.5	78.4	0	0	1019	-0.48	0	0	0
Pipe 5 (white metal, by entrance)	17:26	17:26	0	0	0	0	21.9	78.1	0	0	1019	-0.48	0	0	0
Weighbridge	17:36	17:36	0	0	0	0	22.1	7.9	0	0	1019	-0.48	0	0	0
Drain 3 (SW drain in yard)	17:28	17:28	0	0	0	0	21.9	78.9	0	0	1019	-0.48	0	0	0
Drain 9 (roof drain at corner of bungalow)	17:29	17:29	0	0	0	0	21.9	78.9	0	0	1019	-0.48	0	0	0
Drain 10 (roof drain at corner of bungalow)	17:30	17:30	0	0	0	0	22	78	0	0	1019	-0.48	0	0	0
Drain 11 (roof drain at corner of bungalow)	17:31	17:31	0	0	0	0	22	78	0	0	1019	-0.48	0	0	0
Interceptor	17:32	17:32	0	0	0	0	22	78	0	0	1019	-0.48	0	0	0
Drain 12 (SW by diesel pump)	17:33	17:33	0	0	0	0	21.6	78.4	0	0	1019	-0.48	0	0	0
Drain 13 (red brick)	17:14	17:14	0	0	0	0.1	21.5	78.4	0	0	1019	-0.48	0	0	0
Drain 14 (SW drain in centre of tanks)	17:17	17:17	0	0	0	0.1	21.5	78.4	0	0	1019	-0.47	0	0	0
Drain 1 (SW drain in yard)	17:18	17:18	0.1	0	0.1	0.1	21.5	78.4	0	0	1019	-0.48	0	0	0
Drain 2 (SW drain in yard)	17:32	17:32	0	0	0	0	22	78	0	0	1019	-0.48	0	0	0
Manhole A	17:36	17:36	0	0	0	0	22	78	0	0	1019	-0.48	0	0	0
Manhole B	17:34	17:34	0	0	0	0	22	78	0	0	1019	-0.48	0	0	0
Manhole C (No access)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manhole D	17:36	17:36	0	0	0	0	22.1	77.9	0	0	1019	-0.48	0	0	0
Hole/Drain in middle of yard	17:37	17:37	0	0	0	0	22.1	77.9	0	0	1019	-0.47	0	0	0
Pipe 6 (front of locker room)	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application Addendum

Table 13 Internal Gas Monitoring Survey Results - Event 7 - 14/02/2012 - Cold Chon

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	11:48	11:48	0	0	0	0	22.1	77.9	0	0	1034	-0.37	0	0	0
Bungalow entrance ambient	11:42	11:42	0	0	0	0	22.1	77.9	0	0	1034	-0.37	0	0	0
Bungalow entrance skirting board	12:15	12:15	0	0	0	0	22	78	0	0	1034	-0.35	0	0	0
Bungalow reception ambient	12:17	12:17	0	0	0	0.1	22.1	77.8	0	0	1034	-0.35	0	0	0
Bungalow reception skirting board	12:18	12:18	0	0	0	0.1	22.1	77.8	0	0	1034	-0.35	0	0	0
Bungalow kitchen (under sink)	12:21	12:21	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Bungalow toilet ambient	12:18	12:18	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Bungalow toilet under sink	12:19	12:19	0	0	0	0.1	22.1	77.8	0	0	1034	-0.35	0	0	0
Bungalow toilet at waste pipe	12:20	12:20	0	0	0	0.1	22.1	77.8	0	0	1034	-0.35	0	0	0
Bungalow computer network room	12:42	12:42	0	0	0	0.1	22	77.9	0	0	1034	-0.33	0	0	0
Bungalow main office	12:40	12:40	0	0	0	0.1	22.1	77.8	0	0	1034	-0.35	0	0	0
Bungalow main office skirting	12:41	12:41	0	0	0	0.1	22.1	77.8	0	0	1034	-0.35	0	0	0
Bungalow main office cupboard	10:42	10:42	0	0	0	0.1	22.1	77.8	0	0	1034	-0.35	0	0	0
Maintenance shed (open shed)	10:42	10:42	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Vehicle maintenance pit	10:41	10:41	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Shed/store (compressor room)	10:46	10:46	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Diesel tank	10:36	10:36	0	0	0	0	22	78	0	0	1034	-0.35	0	0	0
Grid 1 (beside diesel tank)	10:36	10:36	0	0	0.1	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Grid 2 (beside compressor room)	10:40	10:40	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Production plant entrance ambient	10:14	10:14	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Production plant, pitumen 2	10:15	10:15	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Production plant entrance, electrified pump	10:16	10:16	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Production plant skirting	10:17	10:17	0	0	0	0	22	78	0	0	1034	-0.35	0	0	0
Production plant control room ambient	10:19	10:19	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Production plant control room (at cables)	10:20	10:20	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Production plant D15	10:23	10:23	0	0	0	0	22	78	0	0	1034	-0.35	0	0	0
Production plant Cupboard	10:21	10:21	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Lab (ambient)	12:02	12:02	0	0	0	0	22.1	77.9	0	0	1034	-0.39	0	0	0
Lab skirting	12:02	12:02	0	0	0	0	22.1	77.9	0	0	1034	-0.39	0	0	0
Lab (under sink)	12:03	12:03	0	0	0	0	22	78	0	0	1034	-0.39	0	0	0
Lab store ambient	12:05	12:05	0	0	0	0	22.1	77.9	0	0	1034	-0.39	0	0	0
Cupboard in lab	12:03	12:03	0	0	0	0	22.1	77.9	0	0	1034	-0.39	0	0	0
Reception to sales/dispatch office	10:10	10:10	0	0	0	0.1	21.9	78	0	0	1034	-0.39	0	0	0
Sales/dispatch office ambient	11:56	11:56	0	0	0	0	22.1	77.9	0	0	1034	-0.39	0	0	0
Sales/dispatch office skirting board	11:57	11:57	0	0	0	0	22	78	0	0	1034	-0.39	0	0	0
Sales/dispatch office cupboard	11:58	11:58	0	0	0	0	22	78	0	0	1034	-0.39	0	0	0
Sales/dispatch store	11:59	11:59	0	0	0	0	22.1	77.9	0	0	1034	-0.39	0	0	0
Store skirting board	12:00	12:00	0	0	0	0	22.1	77.9	0	0	1034	-0.39	0	0	0
Locker in store	12:01	12:01	0	0	0	0.1	22.1	77.8	0	0	1034	-0.39	0	0	0
Production office (Portacabin) ambient	12:02	12:02	0	0	0	0	22.1	77.9	0	0	1034	-0.39	0	0	0
Production office skirting board	12:07	12:07	0	0	0	0.1	21.9	78	0	0	1034	-0.39	0	0	0
Under production office	12:08	12:08	0	0	0	0	22.1	77.9	0	0	1034	-0.39	0	0	0
Toilets (beside production office) ambient	11:42	11:42	0	0	0	0	22.1	77.9	0	0	1034	-0.48	0	0	0
Toilets (beside production office) at rear	11:43	11:43	0	0	0	0	22.3	77.7	0	0	1034	-0.48	0	0	0
Drain 7 (toilets beside production office)	11:43	11:43	0	0	0	0	22.3	77.7	0	0	1034	-0.48	0	0	0
Toilet waste pipe 1 (LHS)	11:44	11:44	0	0	0	0	22.3	77.7	0	0	1034	-0.35	0	0	0
Toilet waste pipe 2 (RHS)	11:43	11:43	0	0	0	0	22.3	77.7	0	0	1034	-0.35	0	0	0
At shower drain	11:43	11:43	0	0	0	0	22.3	77.7	0	0	1034	-0.35	0.1	0.1	0.1
Drain 8 (outside production office toilets)	11:26	11:26	0	0	0	0	22.2	77.8	0	0	1034	-0.35	0	0	0
Locker room	12:11	12:11	0	0	0	0	21.9	78.1	0	0	1034	-0.35	0	0	0
Locker room skirting board	12:12	12:12	0	0	0	0	22	78	0	0	1034	-0.35	0	0	0
Locker room behind locker	12:13	12:13	0	0	0	0	21.9	78.1	0	0	1034	-0.35	0	0	0
Canteen ambient	12:13	12:13	0	0	0	0	21.9	78.1	0	0	1034	-0.35	0	0	0
Canteen skirting board	12:14	12:14	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Under canteen sink	12:13	12:13	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 5 (downpipe drain)	11:31	11:31	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 4 (SW drain in front of locker room)	11:30	11:30	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 6 (downpipe drain)	11:27	11:27	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Small store (oil spill gone)	11:50	11:50	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Paint store	11:54	11:54	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Workshop	10:11	10:11	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Workshop skirting	10:12	10:12	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Toolstore	11:55	11:55	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Boiler room ambient	10:29	10:29	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Boiler room skirting	10:30	10:30	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Pipe 1 (boiler room entrance)	10:31	10:31	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Pipe 2 (orange plastic, by interceptor)	10:48	10:48	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Pipe 3 (black plastic, by interceptor)	10:49	10:49	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Pipe 4 (at corner of small store)	11:37	11:37	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Pipe 5 (white metal, by entrance)	11:38	11:38	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Weighbridge	11:39	11:39	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 3 (SW drain in yard)	11:32	11:32	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 9 (roof drain at corner of bungalow)	11:24	11:24	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 10 (roof drain at corner of bungalow)	11:07	11:07	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 11 (roof drain at corner of bungalow)	11:36	11:36	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Interceptor	10:50	10:50	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 12 (SW by diesel pump)	10:38	10:38	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 13 (red brick)	10:52	10:52	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 14 (SW drain in centre of tanks)	11:36	11:36	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 1 (SW drain in yard)	10:57	10:57	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Drain 2 (SW drain in yard)	11:04	11:04	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Manhole A	11:01	11:01	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Manhole B	11:05	11:05	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Manhole C	12:35	12:35	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Manhole D	10:58	10:58	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Hole/Drain in middle of yard	11:01	11:01	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Manhole E	11:09	11:09	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Manhole F	11:23	11:23	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Manhole G	11:24	11:24	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Manhole H	11:25	11:25	0	0	0	0	22.1	77.9	0	0	1034	-0.35	0	0	0
Toilets prodcution plant ambient	10:25	10:25	0	0	0	0	22.0	78.0	0	0	1034	-0.33	0	0	0
Toilets prodcution plant urinal	10:26	10:26	0	0	0	0	22.0	78.0	0	0	1034	-0.33	0	0	0
Toilets prodcution plant under sink	10:27	10:27	0	0	0	0	22.0	78.0	0	0	1034	-0.33	0	0	0
Toilets production plant toilet back room ambient	10:27	10:27	0	0	0	0	22.0	78.0	0	0	1034	-0.33	0	0	0
Pipe 6 (front of locker room)	11:30	11:30	0	0	0	0	22.2	78.8	0	0	1034	-0.32	0	0	0
Pipe 8 (red pipe near lampost)	10:44	10:44	0	0	0	0	22.0	78.0	0	0	1034	-0.28	0	0	0
Pipe 8 (electric cables on wall, maintenance shed)	10:54	10:54	0	0	0	0	22.0	78.0	0	0	1034	-0.28	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application Addendum

Table 14 Internal Gas Monitoring Survey Results - Event 8 - 09/03/2012 - Cold Chon

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	12:55	12:55	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow entrance ambient	12:56	12:56	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow entrance skirting board	14:12	14:12	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow reception ambient	14:14	14:14	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow reception skirting board	14:15	14:15	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow kitchen (under sink)	14:16	14:16	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow toilet ambient	14:17	14:17	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow toilet under sink	14:17	14:17	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow toilet at waste pipe	14:18	14:18	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow computer network room	14:18	14:18	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow main office	14:18	14:18	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow main office skirting	14:19	14:19	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Bungalow main office cupboard	14:20	14:20	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Maintenance shed (open shed)	13:45	13:45	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Vehicle maintenance pit	13:46	13:46	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Shed/store (compressor room)	13:24	13:24	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Diesel tank	13:20	13:20	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Grid 1 (beside diesel tank)	13:22	13:22	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Grid 2 (beside compressor room)	13:22	13:22	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Production plant entrance ambient	13:18	13:18	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Production plant, pitumen 2	13:19	13:19	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Production plant entrance, electrified pump	13:19	13:19	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Production plant skirting	13:20	13:20	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Production plant control room ambient	13:21	13:21	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Production plant control room (at cables)	13:21	13:21	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Production plant D15	13:24	13:24	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Production plant Cupboard	13:22	13:22	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Lab (ambient)	14:22	14:22	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Lab skirting	14:22	14:22	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Lab (under sink)	14:24	14:24	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Lab store ambient	14:24	14:24	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Cupboard in lab	14:23	14:23	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Reception to sales/dispatch office	12:47	12:47	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Sales/dispatch office ambient	12:47	12:47	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Sales/dispatch office skirting board	12:48	12:48	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Sales/dispatch office cupboard	12:49	12:49	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Sales/dispatch store	12:51	12:51	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Store skirting board	12:52	12:52	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Locker in store	12:53	12:53	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Production office (Portacabin) ambient	12:58	12:58	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Production office skirting board	12:59	12:59	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Under production office	13:01	13:01	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Toilets (beside production office) ambient	13:04	13:04	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Toilets (beside production office) at rear	13:03	13:03	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 7 (toilets beside production office)	13:03	13:03	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Toilet waste pipe 1 (LHS)	13:03	13:03	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Toilet waste pipe 2 (RHS)	13:04	13:04	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
At shower drain	13:05	13:05	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 8 (outside production office toilets)	13:03	13:03	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Locker room	13:09	13:09	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Locker room skirting board	13:11	13:11	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Locker room behind locker	13:10	13:10	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Canteen ambient	13:11	13:11	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Canteen skirting board	13:11	13:11	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Under canteen sink	13:12	13:12	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 5 (downpipe drain)	13:07	13:07	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 4 (SW drain in front of locker room)	13:13	13:13	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 6 (downpipe drain)	13:02	13:02	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Small store (oil spill gone)	14:20	14:20	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Paint store	14:33	14:33	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Workshop	13:16	13:16	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Workshop skirting	13:17	13:17	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Toolstore	14:21	14:21	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Boiler room ambient	13:27	13:27	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Boiler room skirting	13:28	13:28	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Pipe 1 (boiler room entrance)	13:29	13:29	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Pipe 2 (orange plastic, by interceptor)	13:29	13:29	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Pipe 3 (black plastic, by interceptor)	13:40	13:40	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Pipe 4 (at corner of small store)	14:00	14:00	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Pipe 5 (white metal, by entrance)	13:08	13:08	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Weighbridge	12:54	12:54	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 3 (SW drain in yard)	14:14	14:14	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 9 (roof drain at corner of bungalow)	14:06	14:06	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 10 (roof drain at corner of bungalow)	14:02	14:02	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 11 (roof drain at corner of bungalow)	14:03	14:03	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Interceptor	13:34	13:34	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 12 (SW by diesel pump)	13:31	13:31	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 13 (red brick)	13:37	13:37	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 14 (SW drain in centre of tanks)	14:12	14:12	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 1 (SW drain in yard)	13:53	13:53	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Drain 2 (SW drain in yard)	14:00	14:00	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Manhole A	14:00	14:00	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Manhole B	13:57	13:57	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Manhole C	13:55	13:55	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Manhole D	13:56	13:56	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Hole/Drain in middle of yard	13:57	13:57	0	0	0	0	22.0	78.0	0	0	1027	-0.35	0	0	0
Manhole E	14:04	14:04	0	0	0	0	22.1	77.9	0	0	1027	-0.12	0	0	0
Manhole F	14:06	14:06	0	0	0	0	22.1	77.9	0	0	1027	-0.12	0	0	0
Manhole G	14:05	14:05	0	0	0	0	22.1	77.9	0	0	1028	-0.12	0	0	0
Manhole H	13:00	13:00	0	0	0	0	21.8	78.2	0	0	1027	-0.33	0	0	0
Pipe 6 (in front of locker room)	13:08	13:08	0	0	0	0	21.8	78.2	0	0	1027	-0.21	0	0	0
Pipe 7 (Red pipe near lampost)	13:41	13:41	0	0	0	0	21.8	78.2	0	0	1027	-0.33	0	0	0
Pipe 8 (electric cables on wall, maintenannce shed)	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Lamppost	13:42	13:42	0	0	0	0	21.8	78.2	0	0	1027	-0.07	0	0	0
Toilets production plant ambient	13:50	13:50	0	0	0	0	21.9	78.1	0	0	1027	-0.08	0	0	0
Toilets production plant urinal	13:50	13:50	0	0	0	0	21.9	78.1	0	0	1027	-0.08	0	0	0
Toilets production plant under sink	13:51	13:51	0	0	0	0	21.9	78.1	0	0	1027	-0.08	0	0	0
Toilets production plant toilet back room ambient	13:52	13:52	0	0	0	0	21.9	78.1	0	0	1027	-0.08	0	0	0
Manhole I	13:57	13:57	0	0	0	0	22.1	77.9	0	0	1027	-0.12	0	0	0
Manhole J	13:57	13:57	0	0	0	0	22.1	77.9	0	0	1027	-0.12	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application Addendum

Table 15 Internal Gas Monitoring Survey Results - Event 9 - 19/04/2012 - Cold Chon

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	12:30	12:31	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow entrance ambient	12:31	12:31	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow entrance skirting board	12:32	12:32	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow reception ambient	12:33	12:34	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow reception skirting board	12:34	12:34	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow kitchen (under sink)	12:33	12:33	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow toilet ambient	12:34	12:35	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow toilet under sink	12:37	12:37	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow toilet at waste pipe	12:38	12:38	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow computer network room	12:39	12:39	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow main office	12:40	12:40	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow main office skirting	12:41	12:41	0	0	0	0.1	21.1	78.8	0	0	994	-0.05	0	0	0
Bungalow main office cupboard	12:42	12:42	0	0	0	0.0	21.1	78.8	0	0	994	-0.05	0	0	0
Maintenance shed (open shed)	13:02	13:02	0	0	0	0.0	21.1	78.8	0	0	994	-0.05	0	0	0
Vehicle maintenance pit	13:03	13:03	0	0	0	0.0	21.1	78.8	0	0	994	-0.05	0	0	0
Shed/store (compressor room)	13:04	13:04	0	0	0	0.0	21.1	78.8	0	0	994	-0.05	0	0	0
Diesel tank	13:00	13:00	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Grid 1 (beside diesel tank)	12:59	12:59	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Grid 2 (beside compressor room)	13:01	13:01	0	0	0	0.0	21.2	78.9	0	0	994	-0.07	0	0	0
Production plant entrance ambient	13:46	13:46	0	0	0	0.0	21.2	78.8	0	0	994	-0.07	0	0	0
Production plant, pitumen 2	13:47	13:47	0	0	0	0.0	21.2	78.8	0	0	994	-0.07	0	0	0
Production plant entrance, electrified pump	13:48	13:48	0	0	0	0.0	21.2	78.8	0	0	994	-0.07	0	0	0
Production plant skirting	13:49	13:49	0	0	0	0.0	21.2	78.8	0	0	994	-0.06	0	0	0
Production plant control room ambient	13:50	13:50	0	0	0	0.0	21.2	78.8	0	0	994	-0.06	0	0	0
Production plant control room (at cables)	13:51	13:51	0	0	0	0.0	21.2	78.8	0	0	994	-0.06	0	0	0
Production plant D15	13:52	13:52	0	0	0	0.0	21.2	78.8	0	0	994	-0.06	0	0	0
Production plant Cupboard	13:53	13:53	0	0	0	0.0	21.2	78.8	0	0	994	-0.06	0	0	0
Lab (ambient)	14:30	14:30	0	0	0	0.0	21.1	78.9	0	0	993	-0.07	0	0	0
Lab skirting	14:31	14:31	0	0	0	0.0	21.1	78.9	0	0	993	-0.07	0	0	0
Lab (under sink)	14:32	14:32	0	0	0	0.0	21.1	78.9	0	0	993	-0.07	0	0	0
Lab store ambient	14:33	14:33	0	0	0	0.0	21.1	78.9	0	0	993	-0.07	0	0	0
Cupboard in lab	14:34	14:34	0	0	0	0.0	21.1	78.9	0	0	993	-0.07	0	0	0
Reception to sales/dispatch office	13:40	13:40	0	0	0	0.0	21.1	78.8	0	0	994	-0.07	0	0	0
Sales/dispatch office ambient	13:41	13:41	0	0	0	0.0	21.1	78.8	0	0	994	-0.07	0	0	0
Sales/dispatch office skirting board	13:41	13:41	0	0	0	0.0	21.1	78.8	0	0	994	-0.07	0	0	0
Sales/dispatch office cupboard	13:41	13:42	0	0	0	0.0	21.1	78.8	0	0	994	-0.07	0	0	0
Sales/dispatch store	13:42	13:42	0	0	0	0.0	21.1	78.8	0	0	994	-0.07	0	0	0
Store skirting board	13:43	13:43	0	0	0	0.0	21.1	78.8	0	0	994	-0.07	0	0	0
Locker in store	13:44	13:44	0	0	0	0.0	21.1	78.8	0	0	994	-0.07	0	0	0
Production office (Portacabin) ambient	13:23	13:23	0	0	0	0.0	21.2	78.8	0	0	994	-0.07	0	0	0
Production office skirting board	13:25	13:25	0	0	0	0.0	21.2	78.8	0	0	994	-0.07	0	0	0
Under production office	13:26	13:26	0	0	0	0.0	21.2	78.8	0	0	994	-0.07	0	0	0
Toilets (beside production office) ambient	12:52	12:52	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Toilets (beside production office) at rear	12:52	12:52	0	0	0	0.0	21.2	78.8	0	0	993	-0.05	10	10	10
Drain 7 (toilets beside production office)	12:51	12:51	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Toilet waste pipe 1 (LHS)	12:51	12:51	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Toilet waste pipe 2 (RHS)	12:51	12:51	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
At shower drain	12:51	12:51	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Drain 8 (outside production office toilets)	12:50	12:50	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Locker room	12:53	12:53	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Locker room skirting board	12:55	15:55	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Locker room behind locker (No lockers in the room)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Canteen ambient	12:52	12:52	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Canteen skirting board	12:52	12:52	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Under canteen sink	12:53	12:53	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Drain 5 (downpipe drain)	12:55	12:56	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Drain 4 (SW drain in front of locker room)	12:56	12:56	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Drain 6 (downpipe drain)	12:50	12:50	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Small store (oil spill gone)	13:30	13:30	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Paint store	13:36	13:36	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Workshop	13:37	13:37	0	0	0	0.0	21.1	78.9	0	0	994	-0.05	0	0	0
Workshop skirting	13:38	13:38	0	0	0	0.0	21.1	78.9	0	0	994	-0.05	0	0	0
Toolstore	13:39	13:39	0	0	0	0.0	21.1	78.9	0	0	994	-0.05	0	0	0
Boiler room ambient	14:00	14:00	0	0	0	0.0	21.1	78.9	0	0	994	-0.05	0	0	0
Boiler room skirting	14:01	14:01	0	0	0	0.0	21.1	78.9	0	0	994	-0.05	0	0	0
Pipe 1 (boiler room entrance)	14:02	14:02	0	0	0	0.0	21.1	78.9	0	0	994	-0.05	0	0	0
Pipe 2 (orange plastic, by interceptor)	13:08	13:08	0	0	0	0.0	21.2	78.8	0	0	993	-0.05	0	0	0
Pipe 3 (black plastic, by interceptor)	13:09	13:09	0	0	0	0.0	21.2	78.8	0	0	993	-0.05	0	0	0
Pipe 4 (at corner of small store)	13:31	13:31	0	0	0	0.0	21.1	78.7	0	0	993	-0.06	0	0	0
Pipe 5 (white metal, by entrance)	13:33	13:33	0	0	0	0.0	21.1	78.7	0	0	993	-0.06	0	0	0
Weighbridge	13:45	13:45	0	0	0	0.0	21.1	78.7	0	0	993	-0.06	0	0	0
Drain 3 (SW drain in yard)	12:57	12:57	0	0	0	0.0	21.2	78.9	0	0	993	-0.07	0	0	0
Drain 9 (roof drain at corner of bungalow)	12:44	12:44	0	0	0	0.1	21.1	78.8	0	0	994	-0.07	0	0	0
Drain 10 (roof drain at corner of bungalow)	12:48	12:49	0	0	0	0.0	21.1	78.8	0	0	994	-0.07	0	0	0
Drain 11 (roof drain at corner of bungalow)	12:46	12:46	0	0	0	0.0	21.1	78.8	0	0	994	-0.07	0	0	0
interceptor	03:07	13:07	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Drain 12 (SW by diesel pump)	12:58	12:58	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Drain 13 (red brick)	13:05	13:05	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Drain 14 (SW drain in centre of tanks)	12:57	12:57	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Drain 1 (SW drain in yard)	13:12	13:12	0	0	0	0.0	21.2	78.8	0	0	993	-0.07	0	0	0
Drain 2 (SW drain in yard)	12:48	12:48	0	0	0	0.1	21.1	78.8	0	0	994	-0.07	0	0	0
Manhole A	13:20	13:20	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Manhole B	12:49	12:49	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Manhole C	13:15	13:15	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Manhole D	13:12	13:12	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Hole/Drain in middle of yard	13:17	13:17	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Manhole E	12:42	12:42	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Manhole F	12:43	12:43	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Manhole G	12:44	12:44	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Manhole H	12:44	12:44	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Pipe 6 (in front of locker room)	12:56	12:56	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Pipe 7 (Red pipe near lampost)	13:10	13:10	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Pipe 8(electric cables on wall, maintenannce shed)	14:25	18:25	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Lamppost	13:10	13:10	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Toilets in production plant ambient	12:45	12:45	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Toilets in production plant skirting	13:54	13:54	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Toilets in production plant under sink	13:54	13:54	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Toilets in production plant back	13:55	13:55	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Manhole I	13:21	13:21	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0
Manhole J	13:22	13:22	0	0	0	0.0	21.2	78.8	0	0	994	-0.05	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application

Table 16 Internal Gas Monitoring Survey Results Event 4 - 11/11/2011 - Erin Recyclers

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH4 (ppm)		
	Start time	End time	% CH4	%LEL CH4	Peak CH4 (%)	% CO2	O2	Balance	CO ppm	H2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Entrance to reception (ambient)	14:30	14:31	0	0	0	0.1	20.6	79.3	0	0	1002	0.06	0	0	0
Reception (office 1)	14:31	14:32	0	0	0	0.1	20.6	79.3	0	0	1002	0.06	-	0	1
Reception (office 1) around skirting board	-	-	0	0	0	0.1	20.6	79.3	0	0	1002	0.06	-	-	-
Conference room	14:33	14:33	0	0	0	0	20.5	79.4	0	0	1002	0.06	-	0	1
Conference room (skirting)	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1
Ladies toilets	14:35	14:35	0	0	0	0	20.6	79.4	0	0	1002	0.06	0	0	0
Back office	14:37	14:37	0	0	0	0.1	20.5	79.4	0	0	1002	0.06	-	-	-
Back office (skirting)	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Gents toilets	14:36	14:36	0	0	0	0.1	20.6	79.4	0	0	1002	0.06	0	0	0
Kitchen (ambient)	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Kitchen (under sink)	14:34	14:34	0	0	0	0.1	20.5	79.4	0	0	1002	0.06	-	-	-
Office at front (office 2) (ambient)	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1
Office at front skirting board	14:32	14:32	0	0	0	0.1	20.6	79.3	0	0	1002	0.06	-	-	-
Crack in weighbridge	15:24	15:24	0	0	0	0	20.8	79.2	0	0	1003	0.06	-	0	1
At Green Recycling unit	15:03	15:04	0	0	0	0	20.7	79.3	0	0	1003	0.06	-	0	2
Pipe 8 (black plastic beside office)	15:15	15:16	0	0	0	0	20.5	79.5	0	0	1003	0.06	0	0	0
Pipe 9 (cable in it, beside office)	15:27	15:27	0	0	0	0	20.9	79.2	0	0	1003	0.06	0	0	0
Pipe 10 (red, blue rope, behind office)	15:26	15:26	0	0	0	0	20.9	79.2	0	0	1003	0.06	0	0	0
Pipe 11 (orange, back of office)	15:25	15:25	0	0	0	0	20.8	79.2	0	0	1003	0.06	0	0	0
Pipe 13 (at diesel pump)	15:05	15:06	0	0	0	0.9	19	80.1	0	0	1003	0.06	-	80	190
Pipe 15 (new buidling beside front shed)	15:21	15:22	0	0	0	0	20.8	79.2	0	0	1003	0.06	-	0	1
Pipe 16 (new building beside front shed)	15:22	15:22	0	0	0	0	20.8	79.2	0	0	1003	0.06	-	0	1
Pipe 3 (at foot of stairs in shed,no cables)	14:40	14:41	0	0	0	0	20.5	79.5	0	0	1003	0.06	0	0	0
Pipe 4 (at foot of stairs, cables in it)	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Front shed (ambient)	14:40	14:41	0	0	0	0	20.6	79.4	0	0	1002	0.06	-	-	-
Maintenance pit	14:43	14:43	0	0	0	0	20.7	79.3	0	0	1003	0.06	0	0	0
Pipe 6 at inside	14:43	14:43	0	0	0	0	20.6	79.4	0	0	1003	0.06	0	0	0
Workshop LHS	14:45	14:45	0	0	0	0	20.7	79.3	0	0	1003	0.06	-	-	
Workshop RHS	14:44	14:44	0	0	0	0	20.6	79.4	0	0	100	0.06	0	0	0
Back garage/ smaller shed	15:00	15:06	0	0	0	0	20.7	79.3	0	0	1003	0.06	-	0	2
Drain 1 (SW, behind large shed)	15:20	15:21	0.1	2	0.1	0.1	20.6	79.2	0	0	1003	0.06	-	200	700
Drain 2 (SW, in front of large shed)	15:59	15:20	0	0	0	0	20.7	79.3	0	0	1003	0.06	-	0	1
Drain 3 (SW, in front of large shed)	15:16	15:17	0	0	0	0	20.7	79.3	0	0	1003	0.06	-	0	1
Drain 4 (SW, by entrance)	15:24	15:24	0	0	0	0	20.8	79.2	0	0	1003	0.06	0	0	0
Manhole 2 (in front of front shed)	15:18	15:18	0	0	0	0	20.7	79.3	0	0	1003	0.06	-	0	1
Manhole 3 (in front of front shed)	15:17	15:17	0	0	0	0	20.7	79.3	0	0	1003	0.06	-	0	1

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation

Table 17 Internal Gas Monitoring Survey Results - Event 6 - 24/01/2012 - Erin Recyclers

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	10:59	10:59	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1014	-0.48	0	0	0
Entrance to reception (ambient)	10:59	10:59	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1014	-0.48	0	0	0
Entrance to reception (skirting)	11:00	11:00	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1014	-0.48	0	0	0
Reception (office 1)	11:01	11:01	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1014	-0.48	0	0	0
Reception (office 1) skirting	11:01	11:01	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1014	-0.48	0	0	0
Conference room (ambient)	11:09	11:09	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1014	-0.48	0	0	0
Conference room (skirting)	11:10	11:10	0.0	0.0	0.0	0.1	21.5	78.4	0.0	0.0	1014	-0.48	0	0	0
Store (ambient)	10:07	10:07	0.0	0.0	0.0	0.1	21.6	78.4	0.0	0.0	1014	-0.48	0	0	0
Hall (ambient)	11:11	11:11	0.0	0.0	0.0	0.1	21.5	78.5	0.0	0.0	1014	-0.48	0	0	0
Hall skirting board	11:07	11:07	0.0	0.0	0.0	0.0	21.5	78.5	0.0	0.0	1014	-0.48	0	0	0
Ladies toilets	11:18	11:18	0.0	0.0	0.0	0.0	21.4	78.6	0.0	0.0	1014	-0.26	0	0	0
Toilet at waste pipe	11:20	11:20	0.0	0.0	0.0	0.1	21.5	78.4	0.0	0.0	1014	-0.26	0	0	0
Sink at pipes	11:19	11:19	0.0	0.0	0.0	0.0	21.4	78.6	0.0	0.0	1014	-0.26	0	0	0
Back office	11:21	11:21	0.0	0.0	0.0	0.1	21.4	78.5	0.0	0.0	1014	-0.26	0	0	0
Back office (skirting)	11:22	11:22	0.0	0.0	0.0	0.1	21.4	78.5	0.0	0.0	1015	-0.26	0	0	0
Gents toilets	11:19	11:19	0.0	0.0	0.0	0.0	21.4	78.6	0.0	0.0	1015	-0.26	0	0	0
Toilet at waste pipe	11:16	11:16	0.0	0.0	0.0	0.1	21.4	78.5	0.0	0.0	1015	-0.26	0	0	0
Toilet at sink pipe	11:17	11:17	0.0	0.0	0.0	0.1	21.4	78.5	0.0	0.0	1015	-0.26	0	0	0
Kitchen (ambient)	11:13	11:13	0.0	0.0	0.0	0.1	21.4	78.5	0.0	0.0	1015	-0.25	0	0	0
Kitchen (under sink)	11:!4	11:!4	0.0	0.0	0.0	0.0	21.4	78.6	0.0	0.0	1015	-0.25	0	0	0
Around skirting board in kitchen	11:15	11:15	0.0	0.0	0.0	0.0	21.4	78.6	0.0	0.0	1015	-0.26	0	0	0
Office at front (office 2) (ambient)	11:09	11:09	0.0	0.0	0.0	0.0	21.4	78.6	0.0	0.0	1014	-0.48	0	0	0
Office at front skirting board	11:04	11:04	0.0	0.0	0.0	0.1	21.6	78.3	0.0	0.0	1014	-0.48	0	0	0
Office 2 ESB cables	11:05	11:05	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1014	-0.48	0	0	0
Crack in weighbridge	11:05	11:05	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1014	-0.26	0	0	0
Trench at back of office with	11:27	11:27	0.0	0.0	0.0	0.0	21.5	78.5	0.0	0.0	1014	-0.26	0	0	0
Green recycling unit location 1	11:58	11:58	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.28	0	0	0
Green recycling unit location 2	11:59	11:59	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.28	0	0	0
Large grid in yard	11:46	11:46	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1014	-0.22	0	0	0
Pipe 7 (black plastic)	11:36	11:36	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1014	-0.26	0	0	0
Pipe 8 (black plastic)	11:38	11:38	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1014	-0.26	0	0	0
Pipe 9 (cable in it, beside office)	11:36	11:36	0.0	0.0	0.0	0.1	21.6	78.4	0.0	0.0	1014	-0.26	0	0	0
Pipe 10 (red, blue rope)	11:32	11:32	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1014	-0.26	0	0	0
Pipe 11 A (orange, back of office)	11:30	11:30	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1014	-0.26	0	0	0
Pipe 12 (yellow in trench)	11:27	11:27	0.0	0.0	0.0	0.0	21.5	78.5	0.0	0.0	1014	-0.26	0	0	0
Pipe 13 (at diesel pump)	11:44	11:44	0.0	0.0	0.0	0.1	21.6	78.3	0.0	0.0	1014	-0.26	0	0	0
Pipe 11 B	11:31	11:31	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1014	-0.26	0	0	0
Under office building location A	13:10	13:10	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Under office building location B	13:17	13:17	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Drain 5 (at entrance)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pipe 1 (behind large shed)	13:21	13:21	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 2 (behind large shed)	13:22	13:22	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 3 (at foot of stairs)	12:38	12:38	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1014	-0.16	0	0	0
Pipe 4 (at foot of stairs)	12:39	12:39	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1014	-0.16	0	0	0
Front shed (ambient)	12:26	12:26	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1014	-0.16	0	0	0
Front shed Bay 1	12:27	12:27	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1014	-0.16	0	0	0
Front shed Bay 2	12:28	12:28	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.16	0	0	0
Front shed Bay 3	12:29	12:29	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.16	0	0	0
Front shed at ESB cables	12:44	12:44	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.18	0	0	0
Under stairs in front shed	12:41	12:41	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.18	0	0	0
Perimeter of front shed	13:05	13:05	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.18	0	0	2700
Maintenance pit	13:02	13:02	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.18	1	0	38
Gap in wall by maintenance pit	13:11	13:11	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 5 (side of pit under steps)	13:00	13:00	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	3	2	4
Workshop/toolshed	13:09	13:09	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Perimeter of tool shed	13:10	13:10	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Central crack in base of tool shed	13:11	13:11	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Under base of toolshed green	13:09	13:09	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.16	0	0	0
Under base of toolshed red side	13:20	13:20	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.16	0	0	0
Back garage Ambient A	12:01	12:01	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.16	0	0	0
Back garage Ambient B	12:02	12:02	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Back garage wall	12:02	12:02	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.16	0	0	0
Crack in floor of garage 1	12:05	12:05	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Crack in floor of garage 2	12:05	12:05	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Drain 1	13:19	13:19	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Drain 2	12:18	12:18	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Drain 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drain 4 (SW, by entrance)	13:17	13:17	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Drain 5 (long, at entrance)	13:18	13:18	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Manhole 1	12:50	12:50	2.7	53.0	2.7	1.2	21.0	75.1	0.0	0.0	1014	-0.18	3640	2050	4124
Manhole 2	13:11	13:11	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Manhole 3	12:19	12:19	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.16	0	0	0
Manhole 4	11:48	11:48	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1014	-0.28	0	0	0
Manhole 5	11:47	11:47	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1014	-0.28	0	0	0
Manhole 6	11:56	11:56	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.28	0	0	0
Manhole 7	11:59	11:59	0.0	0.0	0.0	0.1	21.9	78.1	0.0	0.0	1014	-0.28	0	0	0
Manhole 8	11:51	11:51	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.28	0	0	0
Manhole 9	11:51	11:51	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.28	0	0	0
Manhole 10	12:16	12:16	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.16	0	0	110
Pipe 13 A	13:24	13:24	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 13 B	13:24	13:24	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 14 A	13:25	13:25	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 14 B	13:25	13:25	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 15 A	13:26	13:26	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 15 B	13:26	13:26	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 16	13:28	13:28	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 17	13:29	13:29	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 18	13:30	13:30	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1014	-0.22	0	0	0
Pipe 19	13:31	13:31	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1014	-0.22	0	0	0
Pipe 20	13:32	13:32	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1014	-0.22	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application Addendum

Table 18 Internal Gas Monitoring Survey Results - Event 7 - 14/02/2012 - Erin Recyclers

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	13:02	13:02	0.0	0.0	0.1	0.0	21.8	78.2	0.0	0.0	1035	-0.31	0	0	0
Entrance to reception (ambient)	13:03	13:03	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1035	-0.31	0	0	0
Entrance to reception (skirting)	13:04	13:04	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1035	-0.31	0	0	0
Reception (office 1)	13:04	13:04	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1035	-0.31	0	0	0
Reception (office 1) around skirting board	13:05	13:05	0.0	0.0	0.0	0.1	21.8	78.1	0.0	0.0	1035	-0.31	0	0	0
Conference room (ambient)	13:05	13:05	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1035	-0.31	0	0	0
Conference room (skirting)	13:05	13:05	0.0	0.0	0.0	0.1	21.9	78.0	0.0	0.0	1035	-0.31	0	0	0
Store (ambient)	13:06	13:06	0.0	0.0	0.0	0.1	21.8	78.1	0.0	0.0	1035	-0.31	0	0	0
Hall (ambient)	13:10	13:10	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1035	-0.31	0	0	0
Hall skirting board	13:12	13:12	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1035	-0.31	0	0	0
Ladies toilets	13:13	13:13	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1035	-0.31	0	0	0
Toilet at waste pipe	13:16	13:16	0.0	0.0	0.0	0.1	21.6	78.3	0.0	0.0	1035	-0.31	0	0	0
Sink at pipes	13:17	13:17	0.0	0.0	0.0	0.1	21.0	78.9	0.0	0.0	1035	-0.31	0	0	0
Back office	13:20	13:20	0.0	0.0	0.0	0.1	21.6	78.3	0.0	0.0	1035	-0.31	0	0	0
Back office (skirting)	13:26	13:26	0.0	0.0	0.0	0.1	21.6	78.3	0.0	0.0	1035	-0.31	0	0	0
Gents toilets	13:18	13:18	0.0	0.0	0.0	0.1	21.4	78.5	0.0	0.0	1035	-0.31	0	0	0
Toilet at waste pipe	13:18	13:18	0.0	0.0	0.0	0.1	21.4	78.5	0.0	0.0	1035	-0.31	0	0	0
Toilet at sink pipe	13:19	13:19	0.0	0.0	0.0	0.1	21.4	78.5	0.0	0.0	1035	-0.31	0	0	0
Kitchen (ambient)	13:13	13:13	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1035	-0.31	0	0	0
Kitchen (under sink)	13:14	13:14	0.0	0.0	0.0	0.0	21.4	78.6	0.0	0.0	1035	-0.31	0	0	0
Around skirting board in kitchen	13:15	13:15	0.0	0.0	0.0	0.0	21.4	78.6	0.0	0.0	1035	-0.31	0	0	0
Office at front (office 2) (ambient)	13:11	13:11	0.0	0.0	0.0	0.0	21.4	78.6	0.0	0.0	1035	-0.31	0	0	0
Office at front skirting board	13:11	13:11	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1035	-0.31	0	0	0
Office 2 ESB cables	13:09	13:09	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1035	-0.31	0	0	0
Crack in weighbridge	13:22	13:22	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1035	-0.31	0	0	0
Trench at back of office with yellow pipe	13:23	13:23	0.0	0.0	0.0	0.0	21.5	78.5	0.0	0.0	1034	-0.31	0	0	0
Under green recycling unit location 1	13:24	13:24	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1034	-0.31	0	0	0
Under green recycling unit location 2	13:25	13:25	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1034	-0.31	0	0	0
Large grid in yard	13:33	13:33	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1034	-0.31	0	0	0
Pipe 7 (black plastic beside office)	13:30	13:30	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1034	-0.31	0	0	0
Pipe 8 (black plastic beside office)	13:31	13:31	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1034	-0.31	0	0	0
Pipe 9 (cable in it, beside office)	13:29	13:29	0.0	0.0	0.0	0.2	21.4	78.4	0.0	0.0	1034	-0.31	0	0	0
Pipe 10 (red, blue rope, behind office)	13:27	13:27	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1034	-0.31	0	0	0
Pipe 11 A (orange, back of office)	13:26	13:26	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1034	-0.31	0	0	0
Pipe 12 (yellow in trench)	-	-	0.0	0.0	0.0	0.0	21.5	78.5	0.0	0.0	1034	-0.31	0	0	0
Pipe 13 (at diesel pump)	13:37	13:37	0.0	0.0	0.0	0.3	21.6	78.3	0.0	0.0	1034	-0.31	0	0	0
Pipe 11 B	13:37	13:37	0.0	0.0	0.0	0.0	21.6	78.4	0.0	0.0	1034	-0.31	0	0	0
Under office building location A	13:38	13:38	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1034	-0.31	0	0	0
Under office building location B	13:38	13:38	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1034	-0.31	0	0	0
Drain 5 (at entrance)	14:20	14:20	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1034	-0.31	0	0	0
Pipe 1 (behind large shed)	14:22	14:22	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Pipe 2 (behind large shed)	14:23	14:23	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Pipe 3 (at foot of stairs in shed,no cables)	13:58	13:58	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Pipe 4 (at foot of stairs, cables in it)	13:59	13:59	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Front shed (ambient)	13:52	13:52	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Front shed Bay 1	13:54	13:54	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Front shed Bay 2	13:55	13:55	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Front shed Bay 3	13:56	13:56	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Front shed at ESB cables	13:57	13:57	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Under stairs in front shed	14:00	14:00	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Around inside perimeter of front shed	13:52	13:52	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Maintenance pit	14:11	14:11	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Gap in wall by maintenance pit	14:07	14:07	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Pipe 5 (side of pit under steps)	14:10	14:10	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Pipe 6 at outside (beside pit, cable in it)	14:08	14:08	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Pipe 6 at inside	14:08	14:08	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Workshop/toolshed	14:12	14:12	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Around inside perimeter of tool shed	14:13	14:13	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Central crack in base of tool shed (back)	14:13	14:13	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Under base of toolshed green side (front)	14:14	14:14	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Under base of toolshed red side (back)	14:23	14:23	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Back garage/ smaller shed Ambient A	13:41	13:41	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Back garage/ smaller shed Ambient B	13:43	13:43	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Back garage wall (originally trench)	13:04	13:04	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Crack in floor of garage 1	13:45	13:45	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Crack in floor of garage 2	13:46	13:46	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Drain 1 (SW, behind large shed)	14:23	14:23	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Drain 2 (SW, in front of large shed)	14:13	14:13	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Drain 3 (SW, in front of large shed)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drain 4 (SW, by entrance)	14:31	14:31	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Drain 5 (long, at entrance)	14:32	14:32	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Manhole 1 (in front shed)	14:03	14:03	2.7	53.0	2.7	0.0	22.1	77.9	0.0	0.0	1033	-0.31	20	11	60
Manhole 2 (in front of front shed)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manhole 3 (in front of front shed)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manhole 4 (metal sheet with hole in centre)	14:17	14:17	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1033	-0.31	0	0	127
Manhole 5 (metal sheet beside manhole 4)	14:18	14:18	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1033	-0.31	0	0	0
Manhole 6 (in front of green recycling unit)	13:40	13:40	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Manhole 7 (in front of green recycling unit)	13:41	13:41	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Manhole 8	13:34	13:34	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Manhole 9	13:35	13:35	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Manhole 10	13:48	13:48	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Pipe 13 A	14:24	14:24	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Pipe 13 B	14:24	14:24	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Pipe 14 A	14:25	14:25	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Pipe 14 B	14:25	14:25	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Pipe 15 A	14:26	14:26	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Pipe 15 B	14:27	14:27	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Pipe 16	14:27	14:27	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Pipe 17	14:28	14:28	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Pipe 18	14:29	14:29	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1033	-0.31	0	0	0
Pipe 19	14:29	14:29	0.0	0.0	0.0	0.0	22.1	77.9	0.0	0.0	1033	-0.31	0	0	0
Pipe 20	14:30	14:30	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1033	-0.31	0	0	0
Pipe 21 (Green Pipe)	13:52	13:52	0.0	0.0	0.0	0.0	22.2	77.8	0.0	0.0	1033	-0.31	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application Addendum

Table 19 Internal Gas Monitoring Survey Results - Event 8 - 09/03/2012 - Erin Recyclers

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	10:26	10:27	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.27	0	0	0
Entrance to reception (ambient)	10:27	10:27	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.27	0	0	0
Entrance to reception (skirting)	10:28	10:28	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.27	0	0	0
Reception (office 1)	10:29	10:29	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.27	0	0	0
Reception (office 1) around skirting board	10:30	10:30	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.27	0	0	0
Conference room (ambient)	10:36	10:36	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.27	0	0	0
Conference room (skirting)	10:37	10:37	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1026	-0.27	0	0	0
Store (ambient)	10:35	10:35	0.0	0.0	0.0	0.1	21.9	78.0	0.0	0.0	1026	-0.27	0	0	0
Hall (ambient)	10:38	10:38	0.0	0.0	0.0	0.1	21.8	78.1	0.0	0.0	1026	-0.27	0	0	0
Hall skirting board	10:39	10:39	0.0	0.0	0.0	0.1	21.8	78.1	0.0	0.0	1026	-0.27	0	0	0
Ladies toilets	10:45	10:45	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1026	-0.27	0	0	0
Toilet at waste pipe	10:46	10:46	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1026	-0.27	0	0	0
Sink at pipes	10:47	10:47	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1026	-0.27	0	0	0
Back office	10:43	10:43	0.0	0.0	0.0	0.1	21.8	78.1	0.0	0.0	1026	-0.27	0	0	0
Back office (skirting)	10:44	10:44	0.0	0.0	0.0	0.1	21.8	78.1	0.0	0.0	1026	-0.27	0	0	0
Gents toilets	10:47	10:48	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1026	-0.27	0	0	0
Toilet at waste pipe	10:49	10:49	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1026	-0.27	0	0	0
Toilet at sink pipe	10:49	10:50	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1026	-0.27	0	0	0
Kitchen (ambient)	10:40	10:40	0.0	0.0	0.0	0.1	21.7	78.1	0.0	0.0	1026	-0.27	0	0	0
Kitchen (under sink)	10:41	10:41	0.0	0.0	0.0	0.1	21.8	78.1	0.0	0.0	1026	-0.27	0	0	0
Around skirting board in kitchen	10:42	10:42	0.0	0.0	0.0	0.1	21.8	78.1	0.0	0.0	1026	-0.27	0	0	0
Office at front (office 2) (ambient)	10:31	10:31	0.0	0.0	0.0	0.1	21.8	78.1	0.0	0.0	1026	-0.27	0	0	0
Office at front skirting board	10:32	10:33	0.0	0.0	0.0	0.1	21.8	78.1	0.0	0.0	1026	-0.27	0	0	0
Office 2 ESB cables	10:33	10:34	0.0	0.0	0.0	0.1	21.8	78.1	0.0	0.0	1026	-0.27	0	0	0
Crack in weighbridge	12:10	12:11	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Trench at back of office with yellow pipe	12:51	12:51	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1026	-0.12	0	0	0
Under green recycling unit location 1	11:12	11:12	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Under green recycling unit location 2	11:13	11:13	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Large grid in yard	10:04	10:05	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 7 (black plastic beside office)	10:56	10:56	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1026	-0.08	0	0	0
Pipe 8 (black plastic beside office)	10:57	10:57	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1026	-0.08	0	0	0
Pipe 9 (cable in it, beside office)	10:55	10:55	0.0	0.0	0.0	0.1	21.6	78.3	0.0	0.0	1026	-0.08	0	0	0
Pipe 10 (red, blue rope, behind office)	10:51	10:51	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1026	-0.08	0	0	0
Pipe 11 A (orange, back of office)	10:53	10:53	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1026	-0.08	0	0	0
Pipe 12 (yellow in trench)	10:51	10:51	0.0	0.0	0.0	0.0	21.7	78.3	0.0	0.0	1026	-0.08	0	0	0
Pipe 13 (at diesel pump)	11:11	11:12	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Pipe 11 B	10:52	10:52	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1026	-0.08	0	0	0
Under office building location A	12:13	12:14	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Under office building location B	12:14	12:15	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Drain 5 (at entrance)	10:50	10:50	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1026	-0.27	0	0	0
Pipe 1 (behind large shed)	12:19	12:19	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Pipe 2 (behind large shed)	12:20	12:21	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.24	0	0	0
Pipe 3 (at foot of stairs in shed,no cables)	10:38	10:38	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Pipe 4 (at foot of stairs, cables in it)	10:39	10:40	0.2	0.3	0.2	0.6	21.1	80.1	0.0	0.0	1026	-0.12	94	71	154
Front shed (ambient)	11:30	11:30	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Front shed Bay 1	11:31	11:32	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Front shed Bay 2	11:32	11:33	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Front shed Bay 3	11:34	11:34	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.11	0	0	0
Front shed at ESB cables	11:47	11:48	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1027	-0.12	0	0	0
Under stairs in front shed	11:40	11:41	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Around inside perimeter of front shed	11:37	11:37	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Maintenance pit	11:54	11:54	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	4	5	7
Gap in wall by maintenance pit	11:56	11:56	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Pipe 5 (side of pit under steps)	11:55	11:55	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	2	3	3
Pipe 6 at outside (beside pit, cable in it)	11:58	11:58	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Pipe 6 at inside	11:59	11:59	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Workshop/toolshed	12:00	12:00	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Around inside perimeter of tool shed	12:01	12:02	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Central crack in base of tool shed (back)	10:02	10:03	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Under base of toolshed green side (front)	10:03	10:04	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Under base of toolshed red side (back)	12:17	12:18	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Back garage/ smaller shed Ambient A	11:17	11:18	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Back garage/ smaller shed Ambient B	11:18	11:18	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Back garage wall (originally trench)	11:21	11:22	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Crack in floor of garage 1	11:20	11:20	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Crack in floor of garage 2	11:19	11:19	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Drain 3 (SW, behind large shed)	12:06	12:06	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Drain 2 (SW, in front of large shed)	12:05	12:05	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Drain 1 (SW, in front of large shed)	12:23	12:24	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Drain 4 (SW, by entrance)	10:49	10:49	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1026	-0.02	0	0	0
Drain 5 (long, at entrance)	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Manhole 1 (in front shed)	10:50	10:51	0.2	0.3	0.2	0.2	21.9	77.7	0.0	0.0	1027	-0.11	848	950	780
Manhole 2 (in front of front shed)	12:07	12:07	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Manhole 3 (in front of front shed)	12:08	12:08	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Manhole 4 (metal sheet with hole in centre)	11:00	11:00	0.1	0.2	0.2	0.2	21.6	78.1	0.0	0.0	1026	-0.08	750	133	1140
Manhole 5 (metal sheet beside manhole 4)	11:01	11:01	0.0	0.0	0.0	0.1	21.9	78.0	0.0	0.0	1026	-0.12	0	0	0
Manhole 6 (in front of green recycling unit)	11:15	11:15	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Manhole 7 (in front of green recycling unit)	11:10	11:10	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Manhole 8	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Manhole 9	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Manhole 10	11:23	11:24	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Pipe 13 A	12:24	12:25	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 13 B	12:25	12:25	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 14 A	12:26	12:26	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 14 B	12:26	12:27	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 15 A	12:27	12:27	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 15 B	12:27	12:28	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 16	12:28	12:29	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 17	12:29	12:29	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 18	12:30	12:30	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 19	12:23	12:23	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 20	12:24	12:24	0.0	0.0	0.0	0.0	21.9	78.1	0.0	0.0	1026	-0.12	0	0	0
Pipe 21 (Green pipe)	10:56	10:58	0.0	0.0	0.0	0.0	21.8	78.2	0.0	0.0	1026	-0.08	0	0	0
Manhole 8	11:08	11:09	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0
Manhole 9	11:09	11:10	0.0	0.0	0.0	0.0	22.0	78.0	0.0	0.0	1026	-0.12	0	0	0

Note:
- denotes no reading taken.

E0861 Former Finisklin Landfill
Certificate of Authorisation Application Addendum

Table 20 Internal Gas Monitoring Survey Results - Event 9 - 19/04/2012 - Erin Recyclers

Location Surveyed	GA2000 results												FID results		
													VOCs equivalent to CH_4 (ppm)		
	Start time	End time	% CH_4	%LEL CH_4	Peak CH_4 (%)	% CO_2	O_2	Balance	CO ppm	H_2S ppm	Barometric Pressure	Relative Pressure	Stable	Minimum	Maximum
Ambient outdoor reading	10:37	10:38	0.0	0.0	0.0	0.0	20.7	79.3	0.0	0.0	994.0	0.10	0	0	0
Entrance to reception (ambient)	10:37	10:37	0.0	0.0	0.0	0.1	20.6	79.3	0.0	0.0	994.0	0.10	0	0	0
Entrance to reception (skirting)	10:38	10:39	0.0	0.0	0.0	0.0	20.7	79.3	0.0	0.0	994.0	0.10	0	0	0
Reception (office 1)	10:39	10:39	0.0	0.0	0.0	0.0	20.7	79.3	0.0	0.0	994.0	0.10	0	0	0
Reception (office 1) around skirting board	10:40	10:40	0.0	0.0	0.0	0.0	20.7	79.3	0.0	0.0	994.0	0.10	0	0	0
Conference room (ambient)	10:44	10:44	0.0	0.0	0.0	0.0	20.8	79.3	0.0	0.0	994.0	0.10	0	0	0
Conference room (skirting)	10:44	10:45	0.0	0.0	0.0	0.0	20.8	79.3	0.0	0.0	994.0	0.10	0	0	0
Store (ambient)	10:53	10:53	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.10	0	0	0
Hall (ambient)	10:48	10:48	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.10	0	0	0
Hall skirting board	10:48	10:49	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.10	0	0	0
Ladies toilets	10:54	10:54	0.0	0.0	0.0	0.2	20.6	79.2	0.0	0.0	994.0	0.02	0	0	0
Toilet at waste pipe	10:54	10:55	0.0	0.0	0.0	0.1	20.7	79.2	0.0	0.0	994.0	0.02	0	0	0
Sink at pipes	10:55	10:55	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.06	0	0	0
Back office	10:49	10:50	0.0	0.0	0.0	0.1	20.7	79.2	0.0	0.0	994.0	0.10	0	0	0
Back office (skirting)	10:50	10:51	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.10	0	0	0
Gents toilets	10:52	10:52	0.0	0.0	0.0	0.1	20.7	79.2	0.0	0.0	994.0	0.10	0	0	0
Toilet at waste pipe	10:52	10:53	0.0	0.0	0.0	0.1	20.7	79.2	0.0	0.0	994.0	0.10	0	0	0
Toilet at sink pipe	10:53	10:53	0.0	0.0	0.0	0.1	20.7	79.2	0.0	0.0	994.0	0.10	0	0	0
Kitchen (ambient)	10:45	10:45	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.10	0	0	0
Kitchen (under sink)	10:47	10:47	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.10	0	0	0
Around skirting board in kitchen	10:46	10:46	0.0	0.0	0.0	0.1	20.6	79.3	0.0	0.0	994.0	0.10	0	0	0
Office at front (office 2) (ambient)	10:41	10:41	0.0	0.0	0.0	0.0	20.7	79.3	0.0	0.0	994.0	0.10	0	0	0
Office at front skirting board	10:41	10:42	0.0	0.0	0.0	0.0	20.7	79.3	0.0	0.0	994.0	0.10	0	0	0
Office 2 ESB cables	10:42	10:42	0.0	0.0	0.0	0.0	20.7	79.3	0.0	0.0	994.0	0.10	0	0	0
Crack in weighbridge	10:55	10:56	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.02	0	0	0
Trench at back of office with yellow pipe	10:57	10:57	0.0	0.0	0.0	0.0	20.9	79.1	0.0	0.0	994.0	0.02	0	0	0
Under green recycling unit location 1	10:58	10:58	0.0	0.0	0.0	0.0	20.9	79.1	0.0	0.0	994.0	0.02	0	0	0
Under green recycling unit location 2	10:59	10:59	0.0	0.0	0.0	0.0	20.9	79.1	0.0	0.0	994.0	0.02	0	0	0
Large grid in yard	11:07	11:07	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.02	0	0	0
Pipe 7 (black plastic beside office)	11:00	11:01	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.02	0	0	0
Pipe 8 (black plastic beside office)	11:01	11:02	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.02	0	0	0
Pipe 9 (cable in it, beside office)	11:02	11:03	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.02	0	0	0
Pipe 10 (red, blue rope, behind office)	11:03	11:04	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.02	0	0	0
Pipe 11 A (orange, back of office)	11:04	11:04	0.0	0.0	0.0	0.0	20.8	79.2	0.0	0.0	994.0	0.02	0	0	0
Pipe 12 (yellow in trench)	10:57	10:58	0.0	0.0	0.0	0.0	20.9	79.1	0.0	0.0	994.0	0.02	0	0	0
Pipe 13 (at diesel pump)	11:08	11:08	0.0	0.0	0.0	0.3	20.2	79.5	0.0	0.0	994.0	0.02	0	0	0
Pipe 11 B	11:05	11:06	0.0	0.0	0.0	0.0	20.9	79.1	0.0	0.0	994.0	0.02	0	0	0
Under office building location A	11:11	11:12	0.0	0.0	0.0	0.0	21.1	78.9	0.0	0.0	994.0	0.02	0	0	0
Under office building location B	11:12	11:13	0.0	0.0	0.0	0.0	21.1	78.9	0.0	0.0	994.0	0.02	0	0	0
Drain 5 (at entrance)	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Pipe 1 (behind large shed)	12:09	12:09	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	993.0	-0.06	0	0	0
Pipe 2 (behind large shed)	12:10	12:10	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	993.0	-0.06	0	0	0
Pipe 3 (at foot of stairs in shed,no cables)	11:31	11:31	0.0	0.0	0.0	0.1	21.2	78.7	0.0	0.0	994.0	0.02	0	0	0
Pipe 4 (at foot of stairs, cables in it)	11:30	11:30	0.0	0.0	0.0	0.6	20.6	78.8	0.0	0.0	994.0	0.02	0	0	0
Front shed (ambient)	11:29	11:29	0.0	0.0	0.0	0.0	21.1	78.8	0.0	0.0	994.0	0.02	0	0	0
Front shed Bay 1	11:32	11:32	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	994.0	0.02	0	0	0
Front shed Bay 2	11:33	11:33	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	994.0	0.02	0	0	0
Front shed Bay 3	11:34	11:34	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	994.0	0.02	0	0	0
Front shed at ESB cables	11:43	11:43	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	994.0	0.02	0	0	0
Under stairs in front shed	11:42	11:42	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	994.0	0.02	0	0	0
Around inside perimeter of front shed	11:26	11:27	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	994.0	0.02	3237	12	4840
Maintenance pit	11:48	11:48	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	994.0	-0.03	0	0	0
Gap in wall by maintenance pit	11:50	11:50	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	994.0	-0.03	0	0	0
Pipe 5 (side of pit under steps)	11:49	11:49	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	994.0	-0.03	0	0	0
Pipe 6 at outside (beside pit, cable in it)	11:51	11:51	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	994.0	-0.03	0	0	0
Pipe 6 at inside	11:51	11:52	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	994.0	-0.03	0	0	0
Workshop/toolshed	11:52	11:52	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	994.0	-0.03	0	0	0
Around inside perimeter of tool shed	11:54	11:54	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	993.0	-0.04	0	0	0
Central crack in base of tool shed (back)	11:55	11:55	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	993.0	-0.04	0	0	0
Under base of toolshed green side (front)	11:56	11:56	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	993.0	-0.04	0	0	0
Under base of toolshed red side (back)	12:11	12:11	0.0	0.0	0.0	0.0	21.3	78.7	0.0	0.0	993.0	-0.06	0	0	0
Back garage/ smaller shed Ambient A	11:17	11:17	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	994.0	0.02	0	0	0
Back garage/ smaller shed Ambient B	11:18	11:18	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	994.0	0.02	0	0	0
Back garage wall (originally trench)	11:19	11:19	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	994.0	0.02	0	0	0
Crack in floor of garage 1	11:20	11:20	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	994.0	0.02	0	0	0
Crack in floor of garage 2	11:21	11:21	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	994.0	0.02	0	0	0
Drain 1 (SW, behind large shed)	12:12	12:12	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	993.0	-0.06	0	0	0
Drain 2 (SW, in front of large shed)	11:58	11:58	0.0	0.0	0.0	0.0	21.1	78.8	0.0	0.0	994.0	-0.04	0	0	0
Drain 3 (SW, in front of large shed)	11:59	11:59	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	994.0	-0.04	0	0	0
Drain 4 (SW, by entrance)	12:05	12:05	0.0	0.0	0.0	0.0	21.1	78.9	0.0	0.0	994.0	-0.06	0	0	0
Drain 5 (long, at entrance)	12:06	12:06	0.0	0.0	0.0	0.0	21.1	78.9	0.0	0.0	994.0	-0.06	0	0	0
Manhole 1 (in front shed)	11:55	11:55	0.6	12.0	0.6	0.2	20.9	78.3	0.0	0.0	994.0	-0.03	281	141	394
Manhole 2 (in front of front shed)	11:59	12:00	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	994.0	-0.04	10	8	42
Manhole 3 (in front of front shed)	12:00	12:01	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	994.0	-0.04	0	0	0
Manhole 4 (metal sheet with hole in centre)	11:07	11:07	0.2	3.0	0.2	0.6	20.0	79.3	0.0	0.0	994.0	0.02	860	600	1410
Manhole 5 (metal sheet beside manhole 4)	12:02	12:03	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	994.0	0.04	0	0	0
Manhole 6 (in front of green recycling unit)	11:15	11:15	0.0	0.0	0.0	0.2	20.9	78.9	0.0	0.0	994.0	0.07	0	0	0
Manhole 7 (in front of green recycling unit)	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Manhole 8	11:09	11:10	0.0	0.0	0.0	0.0	21.1	78.9	0.0	0.0	994.0	0.02	0	0	0
Manhole 9	11:10	11:10	0.0	0.0	0.0	0.0	21.1	78.9	0.0	0.0	994.0	0.02	0	0	0
Manhole 10	11:23	11:25	3.0	48.0	3.7	1.5	20.2	75.5	0.0	0.0	994.0	0.02	4870	3450	5560
Pipe 13 A	11:13	11:13	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	993.0	-0.06	0	0	0
Pipe 13 B	11:13	11:14	0.0	0.0	0.0	0.0	21.2	78.8	0.0	0.0	993.0	-0.06	0	0	0
Pipe 14 A	11:14	11:14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	993.0	-0.06	0	0	0
Pipe 14 B	11:14	11:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	993.0	-0.06	0	0	0
Pipe 15 A	11:15	11:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	993.0	-0.06	0	0	0
Pipe 15 B	11:15	11:16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	993.0	-0.06	0	0	0
Pipe 16	11:16	11:17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	993.0	-0.06	0	0	0
Pipe 17	11:17	11:18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	993.0	-0.06	0	0	0
Pipe 18	11:18	11:18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	993.0	-0.06	0	0	0
Pipe 19	11:19	11:19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	993.0	-0.06	0	0	0
Pipe 20	11:20	11:20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	993.0	-0.06	0	0	0
Pipe 21 (Green pipe)	11:07	11:07	0.0	0.0	0.0	0.0	20.9	79.1	0.0	0.0	994.0	0.02	0	0	0
Perimeter Front Large shed wall	11:27	11:28	0.0	0.0	0.0	0.0	21.1	78.8	0.0	0.0	994.0	0.02			

Note:
- denotes no reading taken.

APPENDIX A

SPECIFICATION

Element: Gas Interception, Dilution & Dispersal Measures

Type: Modular Preformed Vibro-Inserted Geosynthetic System

Shall comprise 410mm wide x 50mm thick preformed geocomposite vent nodes encapsulated with a non-woven needle-punched geotextile filter fabric.The vent nodes shall be inserted using high frequency vibro method to prescribed depth and centres. The nodes shall terminate into a ventilation duct located maximum 1000mm below ground level. The dimensions of the vent duct shall be as shown in the design drawings and shall be connected to a series of vent inlet and outlet components positioned at precribed centres. The above ground venting components shall be as described in the design drawings

Typical physical properties shall be : -

Properties	**Test Method**	**Unit**	**Value**
Geotextile			
Tensile strength			
Strip test 20 cm	BS6096.1	kN/m	8.2
Elongation at max. load		35%	45
At 5% elongation	BS6096	KN/m	3.35
Wide width 50 cm	NF-G 38 014	KN/m	8.8
elongation at max. load		31%	43
Grab strength	DIN S 3858	N	565
Grab strength	ASTM 1682 mod 200 mm	N	700
Elongation at max. load		> 60%	> 60
Puncture resistance (CBR)			
Max. load	BS6906/4	N	1270
Displacment		mm	50
Burst strength	ASTM D-3786	Kn/m²	1350
Trapeziodial Tear Strength	ASTM D-1117	N	370
Cone Drop Test			
Hole diameter	BS 6906/6	mm	29
Permability Coefficient 'K'			
under 2 kN/m²	EMPA/ITF/	$10^{-4}ms^{-1}$	7
under 200 kN/m²	DF.V00RST	$10^{-4}ms^{-1}$	5
Permittivity			
under 2 kN/m²	EMPA/ITF/	S^{-1}	1.5
under 200 kN/m²		S^{-1}	1.2
Flow Rate at 10 cm head	BS 6906/3	l/m²s	100
Transmissivity			
under 20 kN/M²	EMPA	$10^{-7}m^2s^{-1}$	5
under 200 kN/m²		$10^{-7}m^2s^{-1}$	1.5
Max Pore Size			
Dry sieving (O_{90})	BS6906/2	µm	160
Wet sieving (O_{95})	EMPAFranzius	µm	160
Hydrodynamic seiving (O_{95})	NF-G 38-017	µm	160
Nodes			
Nominal Thickness	50mm		
Material	polypropylene		
Crush resistance at 5%deflection		Kn/m²	600(min.)
In-plane flow (hard platen)	Vertical	l/min	800
hydraulic gradient	Horizontal	l/min	80
Instrinsic Permeability (k)	DoE approved method	sq.m	min.$1.9x10^{-5}$
Forcheimer Term (c)	DoE approved	s/m	<12.0
Upper Vent Duct			
Nominal Thickness	150mm		
Material	polypropylene		
Crush resistance	unconfined	Kn/m²	715
Volumetric void ratio	min	%	95
Surface perforation area	min	%	52

Installing Interception System

The geocomposite vent nodes shall be installed using purpose made plant and equipment designed to ensure the nodes are installed in a manner that will not damage the integrity of the venting components and avoids excavation and removal of soil.

Venting Ancillaries

The geocomposite nodes shall terminate into a vent duct. The duct shall be connected to propeitary gas venting components as detailed in the contract drawings. The venting ancillaries shall be deemed part of the general system and shall be approved by The Engineer.

Design

The system shall be designed in accordance with the guidance provided in the Ground Gas Handbook (Wilson et al, 2009) and Wilson and Shuttleworth (Design and performance of a passive dilution gas migration barrier, Ground Engineering, January 2002).
A design report shall be provided that is signed by Chartered Engineer

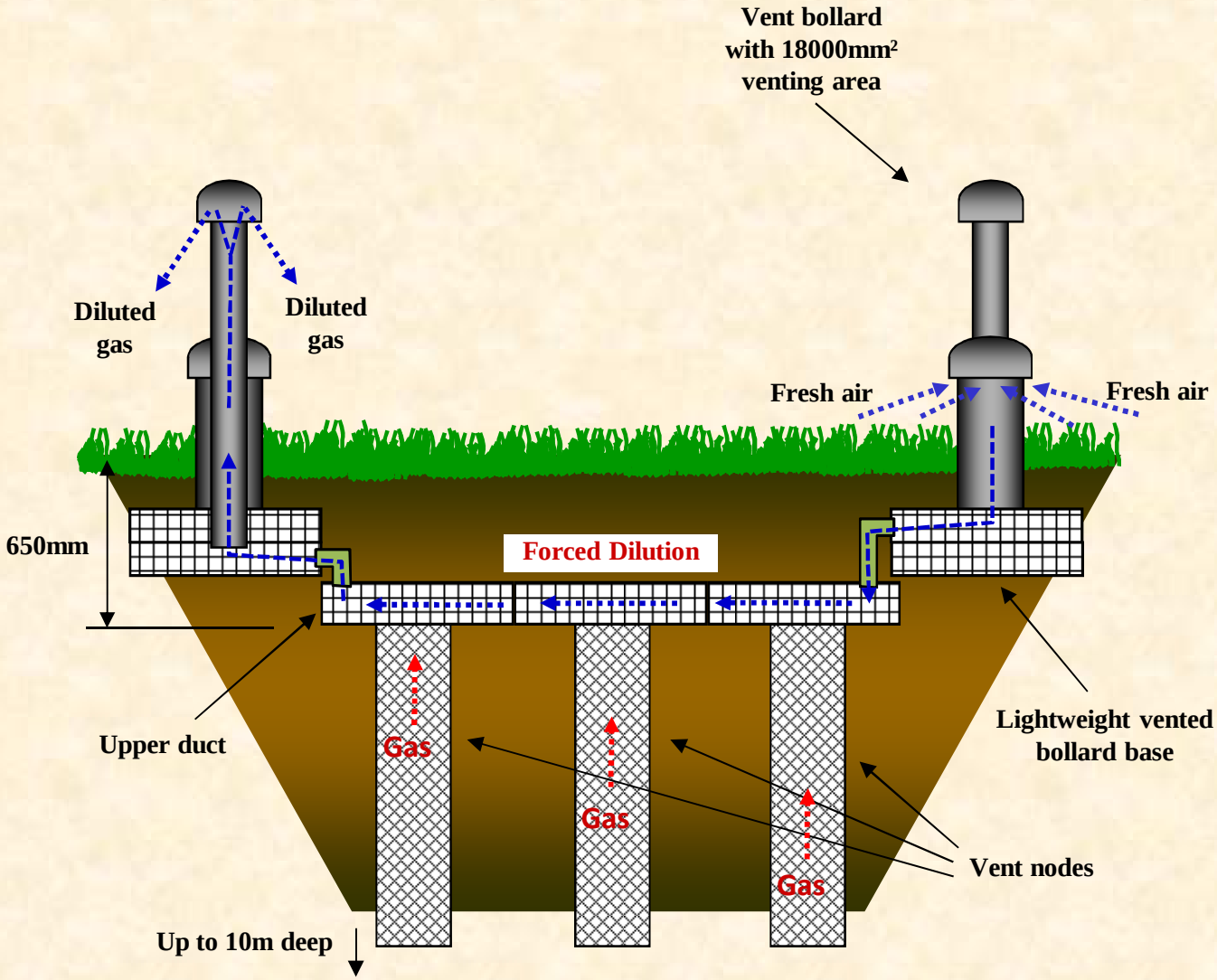
The design report shall demonstrate:

1 That the barrier intercepts the appropriate pathways to prevent gas migration
2 That the vent nodes have sufficient capacity to vent the anticipated gas flow
3 That the ventilation ducts and stacks have sufficient capacity to dilute gas at the outlets to the design equilibrium concentration.

Manufacturer: Vertase FLI
Number One
Middle Bridge Business Park
Bristol Road
Portishead
Bristol
BS20 6PN

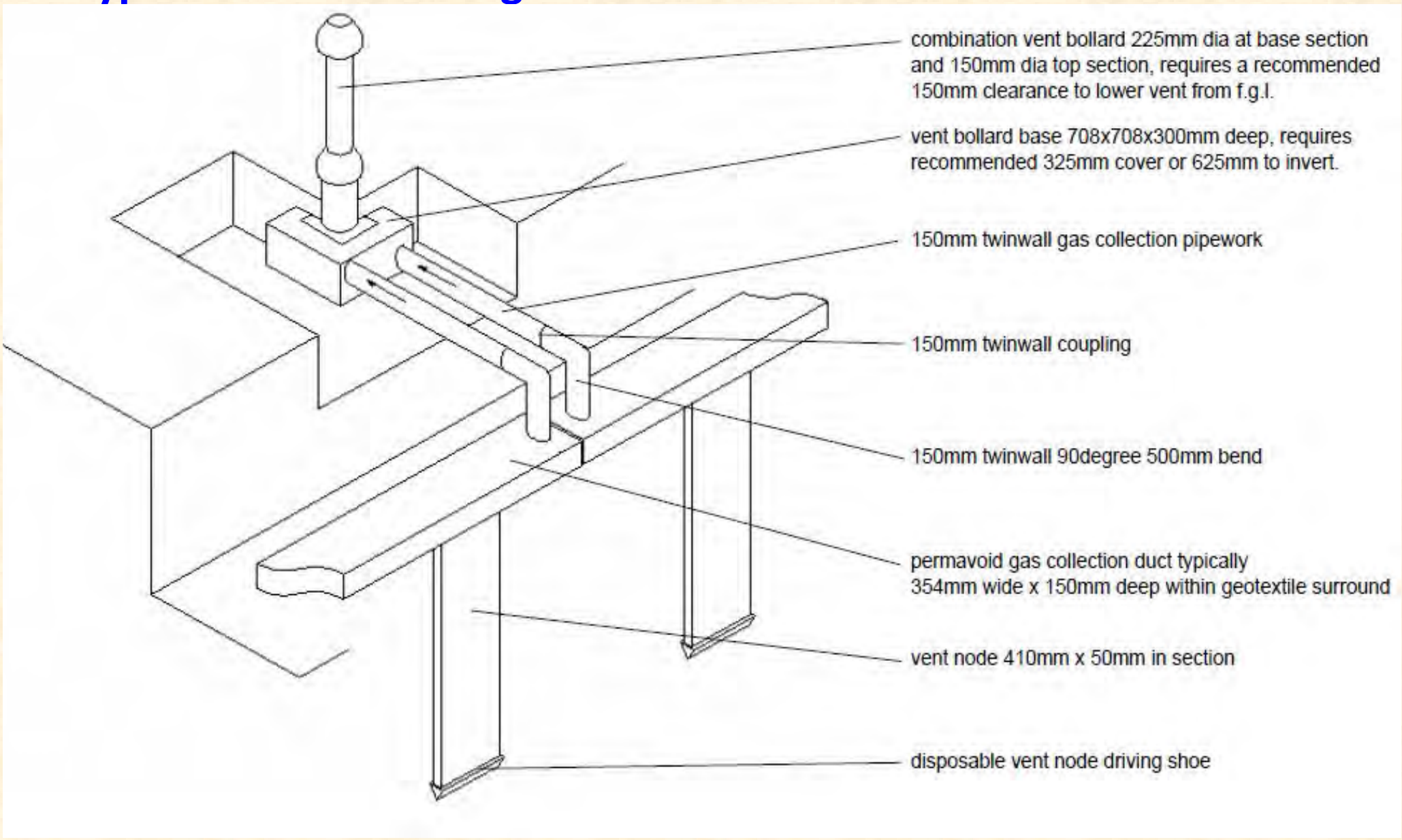
Product Reference: Virtual Curtain System

Virtual Curtain - Forced Dilution Principle



- Vibro inserted vent nodes to provide preferential pathway and create low pressure curtain
- Above ground inlet and outlet create differential air flow
- Induces negative pressure within duct and vent nodes that attract migrating gases
- Collects and dilutes gases within upper duct
- Treated gases vented to atmosphere via surface components

Typical General Arrangement



Installation Process

Outer steel casing inserted using high frequency vibration unit

Installation Process

Outer casing acts as temporary shield

Insert Geosynthetic Vent Node.

Installation Process

Remove Outer Casing

Installation Process

Trim Node to level and prepare geotextile

Pull node flaps through rolled out geotextile .

Installation Process

Lay geocellular duct.

Secure using ties

Installation Process

Place prefabricated vent bases

Secure combination vent terminations