Annual Environmental Report

Name: McGill Environmental Systems (Ireland) Limited

Address: Coom, Glenville, Co. Cork

Waste Licence: W0180-01

Reporting Period: January 1st 2013 – December 31st 2013

Signed:

Fiona O'Sullivan

Summary:

McGill Environmental Systems (Ireland) Limited operate a composting facility at Coom, Glenville, Co Cork, Waste licence W0180-01.

McGill Environmental Systems (Ireland) Ltd. (McGill) was founded by Jim McGill in Ireland in 1996. McGill specializes in the composting of non-hazardous industrial and sewage sludges, and other non-hazardous biodegradable materials. McGill will compost any biodegradable material provided it meets stringent regulatory requirements as well as McGill's own waste acceptance criteria.

McGill specialises in the recovery of biodegradable materials through the process of industrial composting. McGill operate the industrial composting facilities using a controlled static pile, forced aeration system. The process takes place completely indoors. The incoming wastes are mixed with dry finished compost and other dry amendments. The McGill method is based on a scientific enhancement of the natural composting process that creates and maintains an environment conducive to the proliferation of specific microbial populations. These microbes are responsible for biodegradation and, when provided with the right balance of moisture, temperature, and oxygen are able to affect the rapid decay of organic material.

McGill received Animal By Products approval in March 2011 following a six month validation period with the Department of Agriculture, Fisheries and Food. McGill's feedstocks moved significantly towards Animal By Products material during the past two years as a lot of Local Authorities and Industries have reverted to landspreading of their sludges which would have accounted for a significant portion of McGill's incoming waste to date.

The attached Environmental Report covers the period 1st January 2013 to 31st December 3

1.0 Waste activities carried out at the facility and quantity/composition of waste received, disposed of and recovered during the reporting period:

Attached are summary sheets with details of:
All wastes accepted during the year
All amendments accepted during the year
All material moved of site during the reporting period
A weighbridge log is available with details of all loads

See Attachment 1

2.0 Emissions and results of environmental monitoring

A monitoring plan is attached.

- Compost Analysis summary reports for metals and pathogens are attached
- Sludge Analysis Report is attached. All sludges were analysed on a quarterly basis
- McGill conducted dust monitoring on site for three different 28 day periods during 2013.
- Odour Monitoring Ireland were on site on 12th June 2013 and again on 5th November 2013 to conduct PM10 and Bioaerosol monitoring. The results of both these visits showed that there are no significant bioaerosol impacts in the vicinity of the facility and the ambient air concentration levels of PM10 were below the statutory 24-hour average ambient air concentration level of 50ug m3.
- Biofilter sampling was conducted as per the licence requirement and a summary sheet and full methodology is attached. There were no environmental concerns with the results.
- Groundwater sampling was conducted as per the licence requirement and a summary sheet is attached. There were no environmental concerns with the results.
- Surfacewater sampling was conducted as per the licence requirement and a summary sheet is attached. There were no environmental concerns with the results.

See Attachment 2

3.0 Resource and energy consumption summary

Water usage: 292m^3 for the reporting period.

Diesel Usage: 37591 litres of diesel was used during the reporting period to operate equipment in the facility.

Electricity Usage: McGill have used 780795 KwH of electricity at the facility during the reporting year

4.0 Report on development works undertaken during the reporting period, and a timescale for any proposed for the coming year.

There were no development works on site during 2013 and there are no proposed developments for 2014.

5.0 Environmental Management Programme

The Environmental Management Programme is attached. This programme was updated in January 2013 as part of the annual EMS update

See Attachment 3

6.0 Reported Incidents and Complaints summaries

McGill received eight complaints during the reporting period. All eight were made by the one neighbour who contacted Niall Carroll or Fiona O'Sullivan of McGill. Each of these complaints was followed up and responded to immediately.

There were no reportable incidents during the reporting period.

7.0 Financial provisions made under this licence

McGill have put financial provisions in place to cover any Environmental Risk or Closure costs associated with the site as per the decommissioning and aftercare plan and as per the Environmental Liability Risk Assessment. This was looked at during the year and it was determined that there was no additional risks. These provisions are in the form of a guarantee from McGill Compost, USA, parent company of McGill Environmental Systems (Ireland) Limited

8.0 Management Structure

The Management and Staffing Structure for the facility are attached

See Attachment 4

9.0 Information Programme

The Programme for Public information is attached

See Attachment 5

10.0 Foul Water Movement

McGill transported 786.42 tonnes of water from the Biofilter to Mallow WWTP and 31.98 tonnes of water from the Biofilter to Fermoy WWTP during the reporting year.

Attachment 1

Waste Figures

Waste Licence W0180-01

Reporting Period 1st January 2013 - 31st December 2013

Incoming Waste Material

EWC Code	Description	Tonnage
020204	SLUDGES FROM ON SITE EFFLUNT TREATMENT	130
020502	DAIRY INDUSTRY	4.22
020704	DRINKS INDUSTRY	35.44
030305	PAPER INDUSTRY	8.64
070599	WASTE LEAVES	698.96
070599	WASTES NOT OTHERWSIE SPECIFIED	91.06
070699	COSMETICS INDUSTRY	56.56
191212	ORGANIC FINES	13853.9
200125	EDIBLE OILS AND FATS	212.08
200304	MUNICIPAL WASTE	22.06
		15112.92

Material Removed from Site

Product	Destination	Quantity (tonnes)
CLO- Stabilised MSW Fines EWC Code 190599	Daily Landfill Cover	1792.36
CLOR- Oversize Inorganic Material EWC Code 190599	Landfill Void	6661.18
Biofilter Water	WWTP	818.4
	Total	**9271.94**

Incoming Amendment

Amendment	Quantity (tonnes)
SAWDUST	**248.7**
WOODCHIP	**309.68**
Total	**558.38**

Attachment 2

Lab Analysis

Trace Element Results

		Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	PAH	PCB's
	Class I Standard	**0.7**	**100**	**100**	**100**	**0.5**	**50**	**200**		
	Class II Standard	**1.5**	**150**	**150**	**150**	**1**	**75**	**400**		
	Stabilised Biowaste	**5**	**600**	**600**	**500**	**5**	**150**	**1500**		
McGill Reference	***Lab Reference***	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
GLV-Q1-13	0360/299/01	<0.01	10.83	149.57	172.07	0.406	34.381	497.87	<0.05	<0.005
GLV Q2-13	0360/314/01	0.145	9.195	94.235	168.17	0.171	24.438	334.19	<0.05	<0.005
GLV Q3-13	0360/3208/01	0.082	12.693	131.05	111.18	0.948	43.036	462.08	<0.05	<0.05
GLV Q4-13	0360/333/01	<0.01	12.055	127.75	176.49	0.297	19.887	594.73	<0.05	<0.005

All samples were tested by Euro Environmental Services, Drogheda

Stability Results

Parameter	AT4
Unit	mg O2 g
Method Ref:	Oxitop
Upper Limit	10
Lab Sample No.	
13-34375	3.8
13-34933	1.7
358756	3.7
40551	3
40977	3.7
41128	1.7
41224	1.3
41672	2.2
41980	7.2
42213	7.8
42249	3.5
42375A	2.5
42375B	7
42758	6.2
42478	4.7
43151	8
42756A	7.6
42756B	4.8
43152A	9.3
43152B	1.8
43163A	8.8
43163B	6.7
43516	4.6
43528	8.8
43529A	7.9
43529B	5.8
43925A	8.1

All samples were tested by Bord Na Mona, Newbridge, Co. Kildare

Pathogen Results

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
970847	64/6189		<10
970847	64/6190		<10
970847	64/6191		<10
970847	64/6192		<10
970847	64/6193		<10
970847	64/6194		<10
970847	64/6195		<10
970847	64/6196		<10
970847	64/6197		<10
970847	64/6198		<10
985110	64/74607	Not Detected	
985110	64/74608	Not Detected	
985110	64/74609	Not Detected	
985110	64/74610	Not Detected	
985110	64/74611	Not Detected	
977038	64/37547		<10
977038	64/37548		<10
977038	64/37549		<10
977038	64/37550		<10
977038	64/37551		<10
977038	64/37552		<10
977038	64/37553		<10
977038	64/37554		720
977038	64/37555		70
977038	64/37556		<10
985110	64/74597		<10
985110	64/74598		<10
985110	64/74599		<10
985110	64/74600		<10
985110	64/74601		<10
985110	64/74602		<10
985110	64/74603		<10
985110	64/74604		<10
985110	64/74605		<10
985110	64/74606		<10
985108	64/74667		<10
985108	64/74668		<10
985108	64/74669		<10
985108	64/74670		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
985108	64/74671		<10
985108	64/74672		<10
985108	64/74673		<10
985108	64/74674		<10
985108	64/74675		<10
985108	64/74676		<10
1006664	65/35348		<10
1006664	65/35349		<10
1006664	65/35350		<10
1006664	65/35351		<10
1006664	65/35352		<10
1006664	65/35353		<10
1006664	65/35354		<10
1006664	65/35355		<10
1006664	65/35356		<10
1006664	65/35357		<10
1006667	65/36551		<10
1006667	65/36552		<10
1006667	65/36553		<10
1006667	65/36554		<10
1006667	65/36555		<10
1006667	65/36556		<10
1006667	65/36557		<10
1006667	65/36558		<10
1006667	65/36559		<10
1006667	65/36560		<10
1006669	65/59662		<10
1006669	65/59661		<10
1006669	65/59660		<10
1006669	65/59659		<10
1006669	65/59658		<10
1006669	65/59657		<10
1006669	65/59656		<10
1006669	65/59655		<10
1006669	65/59654		<10
1006669	65/59653		<10
1008851	65/68726		<10
1008851	65/68725		<10
1008851	65/68724		<10
1008851	65/68723		<10
1008851	65/68722		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1008851	65/68721		<10
1008851	65/68720		<10
1008851	65/68719		<10
1008851	65/68718		<10
1008851	65/68717		<10
1008851	65/68711	Not Detected	
1008851	65/68710	Not Detected	
1008851	65/68709	Not Detected	
1008851	65/68708	Not Detected	
1008851	65/68707	Not Detected	
1017297	66/2999		<10
1017297	66/3000		<10
1017297	66/3001		<10
1017297	66/3002		<10
1017297	66/3003		<10
1017297	66/3004		<10
1017297	66/3005		<10
1017297	66/3006		<10
1017297	66/3007		<10
1017297	66/3008		<10
1023229	66/32359		<10
1023229	66/32360		<10
1023229	66/32361		<10
1023229	66/32362		<10
1023229	66/32363		<10
1023229	66/32364		<10
1023229	66/32365		<10
1023229	66/32366		<10
1023229	66/32367		<10
1023229	66/32368		<10
1028627	66/53450		<10
1028627	66/53451		<10
1028627	66/53452		<10
1028627	66/53453		<10
1028627	66/53454		<10
1028627	66/53455		<10
1028627	66/53456		<10
1028627	66/53457		<10
1028627	66/53458		<10
1028627	66/53459		<10
1036541	66/87896		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1036541	66/87897		<10
1036541	66/87898		<10
1036541	66/87899		<10
1036541	66/87900		<10
1036541	66/87901		<10
1036541	66/87902		<10
1036541	66/87903		<10
1036541	66/87904		<10
1036541	66/87905		<10
1037261	66/87891	Not Detected	
1037261	66/87892	Not Detected	
1037261	66/87893	Not Detected	
1037261	66/87894	Not Detected	
1037261	66/87895	Not Detected	
1039468	67/5943		<10
1039468	67/5944		<10
1039468	67/5945		<10
1039468	67/5946		<10
1039468	67/5947		<10
1039469	67/5971		<10
1039469	67/5972		<10
1039469	67/5973		<10
1039469	67/5974		<10
1039469	67/5975		<10
1048655	67/38291		<10
1048655	67/38292		<10
1048655	67/38293		<10
1048655	67/38294		<10
1048655	67/38295		<10
1048655	67/38296		<10
1048655	67/38297		<10
1048655	67/38298		<10
1048655	67/38299		<10
1048655	67/38300		<10
1052128	67/55933		<10
1052128	67/55934		<10
1052128	67/55935		<10
1052128	67/55936		<10
1052128	67/55937		<10
1052128	67/55938		<10
1052128	67/55939		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1052128	67/55940		<10
1052128	67/55941		<10
1052128	67/55942		<10
1059600	67/85585		<10
1059600	67/85586		<10
1059600	67/85587		<10
1059600	67/85588		<10
1059600	67/85589		<10
1059600	67/85590		<10
1059600	67/85591		<10
1059600	67/85592		<10
1059600	67/85593		<10
1059600	67/85594		<10
1058162	67/85529	Not Detected	
1058162	67/85530	Not Detected	
1058162	67/85531	Not Detected	
1058162	67/85532	Not Detected	
1058162	67/85533	Not Detected	
1064220	68/11068		<10
1064220	68/11069		<10
1064220	68/11070		<10
1064220	68/11071		<10
1064220	68/11072		<10
1064220	68/11073		<10
1064220	68/11074		<10
1064220	68/11075		<10
1064220	68/11076		<10
1064220	68/11077		<10
1071703	68/40850		<10
1071703	68/40851		<10
1071703	68/40852		<10
1071703	68/40853		<10
1071703	68/40854		<10
1071703	68/40855		<10
1071703	68/40856		<10
1071703	68/40857		<10
1071703	68/40858		<10
1071703	68/40859		<10
1075778	68/64636		<10
1075778	68/64637		<10
1075778	68/64638		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1075778	68/64639		<10
1075778	68/64640		<10
1075778	68/64641		<10
1075778	68/64642		<10
1075778	68/64643		<10
1075778	68/64644		<10
1075778	68/64645		<10
1082652	68/91971		<10
1082652	68/91972		<10
1082652	68/91973		<10
1082652	68/91974		<10
1082652	68/91975		<10
1082652	68/91976		<10
1082652	68/91977		<10
1082652	68/91978		<10
1082652	68/91979		<10
1082652	68/91980		<10
1087921	69/16876	Not Detected	
1087921	69/16877	Not Detected	
1087921	69/16878	Not Detected	
1087921	69/16879	Not Detected	
1087921	69/16880	Not Detected	
1087921	69/16881		<10
1087921	69/16882		<10
1087921	69/16883		<10
1087921	69/16884		<10
1087921	69/16885		<10
1087921	69/16886		<10
1087921	69/16887		<10
1087921	69/16888		<10
1087921	69/16889		<10
1087921	69/16890		<10
1094895	69/42876		<10
1094895	69/42877		<10
1094895	69/42878		<10
1094895	69/42879		<10
1094895	69/42880		<10
1094895	69/42881		<10
1094895	69/42882		<10
1094895	69/42883		<10
1094895	69/42884		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1094895	69/42885		<10
1101921	69/76313		<10
1101921	69/76314		<10
1101921	69/76315		<10
1101921	69/76316		<10
1101921	69/76317		<10
1101921	69/76318		<10
1101921	69/76319		<10
1101921	69/76320		<10
1101921	69/76321		<10
1101921	69/76322		<10
1107985	70/2934		<10
1107985	70/2935		<10
1107985	70/2936		<10
1107985	70/2937		<10
1107985	70/2938		<10
1107985	70/2939		<10
1107985	70/2940		<10
1107985	70/2941		<10
1107985	70/2942		<10
1107985	70/2943		<10
1112793	70/17643	Not Detected	
1112793	70/17644	Not Detected	
1112793	70/17645	Not Detected	
1112793	70/17646	Not Detected	
1112793	70/17647	Not Detected	
1110559	70/17603		<10
1110559	70/17604		<10
1110559	70/17605		<10
1110559	70/17606		<10
1110559	70/17607		<10
1110559	70/17608		<10
1110559	70/17609		<10
1110559	70/17610		<10
1110559	70/17611		<10
1110559	70/17612		<10
1118178	70/50465		<10
1118178	70/50466		<10
1118178	70/50467		<10
1118178	70/50468		<10
1118178	70/50469		<10
1118178	70/50470		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1118178	70/50471		<10
1118178	70/50472		<10
1118178	70/50473		<10
1118178	70/50474		<10
1125348	70/75136		<10
1125348	70/75137		<10
1125348	70/75138		<10
1125348	70/75139		<10
1125348	70/75140		9.2x10(3)
1133178	71/3116		<10
1133178	71/3117		<10
1133178	71/3118		<10
1133178	71/3119		<10
1133178	71/3120		<10
1133178	71/3121		<10
1133178	71/3122		<10
1133178	71/3123		<10
1133178	71/3124		<10
1133178	71/3125		<10
1146449	71/56381		<10
1146449	71/56382		<10
1146449	71/56383		<10
1146449	71/56384		<10
1146449	71/56385		<10
1146449	71/56386		<10
1146449	71/56387		<10
1146449	71/56388		<10
1146449	71/56389		<10
1146449	71/56390		<10
1147332	71/56376	Not Detected	
1147332	71/56377	Not Detected	
1147332	71/56378	Not Detected	
1147332	71/56379	Not Detected	
1147332	71/56380	Not Detected	
1153797	71/94403		<10
1153797	71/94404		<10
1153797	71/94405		<10
1153797	71/94406		<10
1153797	71/94407		<10
1153797	71/94408		<10
1153797	71/94409		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1153797	71/94410		<10
1153797	71/94411		<10
1153797	71/94412		<10
1160060	72/17380		<10
1160060	72/17381		<10
1160060	72/17382		<10
1160060	72/17383		<10
1160060	72/17384		<10
1160060	72/17385		<10
1160060	72/17386		<10
1160060	72/17387		73
1160060	72/17388		<10
1160060	72/17389		1.2 x10(3)
1160721	72/17264	Not Detected	
1160721	72/17265	Not Detected	
1160721	72/17266	Not Detected	
1160721	72/17267	Not Detected	
1160721	72/17268	Not Detected	
1165865	72/43934		<10
1165865	72/43935		<10
1165865	72/43936		<10
1165865	72/43937		<10
1165865	72/43938		<10
1165865	72/43939		<10
1165865	72/43940		<10
1165865	72/43941		<10
1165865	72/43942		<10
1165865	72/43943		<10
1171273	72/67510		<10
1171273	72/67511		<10
1171273	72/67512		<10
1171273	72/67513		<10
1171273	72/67514		<10
1171273	72/67515		<10
1171273	72/67516		<10
1171273	72/67517		<10
1171273	72/67518		<10
1171273	72/67519		<10
1177605	72/93068		<10
1177605	72/93069		<10
1177605	72/93070		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1177605	72/93071		<10
1177605	72/93072		<10
1177605	72/93073		<10
1177605	72/93074		<10
1177605	72/93075		<10
1177605	72/93076		<10
1177605	72/93077		<10
1183489	73/17315		<10
1183489	73/17316		<10
1183489	73/17317		<10
1183489	73/17318		<10
1183489	73/17319		<10
1183489	73/17320		<10
1183489	73/17321		<10
1183489	73/17322		<10
1183489	73/17323		<10
1183489	73/17324		<10
1183489	73/17325		<10
1183489	73/17326		<10
1190195	73/42596		<10
1190195	73/42597		<10
1190195	73/42598		<10
1190195	73/42599		<10
1190195	73/42600		<10
1190195	73/42601		<10
1190195	73/42602		<10
1190195	73/42603		<10
1190195	73/42604		<10
1190195	73/42605		<10
1190195	73/42606		<10
1190195	73/42607		<10
1194809	73/65716		<10
1194809	73/65715		<10
1194809	73/65714		<10
1194809	73/65713		<10
1194809	73/65712		<10
1194809	73/65711		<10
1194809	73/65710		<10
1194809	73/65709		<10
1194809	73/65708		<10
1194809	73/65707		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1194809	73/65706		<10
1194809	73/65722		<10
1197374	73/65721	Not Detected	
1197374	73/65720	Not Detected	
1197374	73/65719	Not Detected	
1197374	73/65718	Not Detected	
1197374	73/65717	Not Detected	
1199969	73/80782		<10
1199969	73/80783		<10
1199969	73/80784		<10
1199969	73/80785		<10
1199969	73/80786		<10
1199969	73/80787		<10
1199969	73/80788		<10
1199969	73/80789		<10
1199969	73/80790		<10
1199969	73/80791		<10
1199969	73/80792		<10
1199969	73/80793		<10
1209213	74/19285		<10
1209213	74/19286		<10
1209213	74/19287		<10
1209213	74/19288		<10
1209213	74/19289		<10
1209213	74/19290		<10
1209213	74/19291		<10
1209213	74/19292		<10
1209213	74/19293		<10
1209213	74/19294		<10
1209213	74/19295		<10
1209213	74/19296		<10
1215359	74/43815		<10
1215359	74/43816		<10
1215359	74/43817		<10
1215359	74/43818		<10
1215359	74/43819		<10
1215359	74/43820		<10
1215359	74/43821		<10
1215359	74/43822		<10
1215359	74/43823		<10
1215359	74/43824		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1215359	74/43825		<10
1215359	74/43826		<10
1219520	74/58433	Not Detected	
1219520	74/58434	Not Detected	
1219520	74/58435	Not Detected	
1219520	74/58436	Not Detected	
1219520	74/58437	Not Detected	
1219277	74/58404		<10
1219277	74/58405		<10
1219277	74/58406		<10
1219277	74/58407		<10
1219277	74/58408		<10
1219277	74/58409		<10
1219277	74/58410		<10
1219277	74/58411		<10
1219277	74/58412		<10
1219277	74/58413		<10
1219277	74/58414		<10
1219277	74/58415		<10
1226496	74/81164		<10
1226496	74/81165		<10
1226496	74/81166		<10
1226496	74/81167		<10
1226496	74/81168		<10
1226496	74/81169		<10
1226496	74/81170		<10
1226496	74/81171		<10
1226496	74/81172		<10
1226496	74/81173		<10
1226496	74/81174		<10
1226496	74/81175		<10
1234066	75/15361		<10
1234066	75/15362		<10
1234066	75/15363		<10
1234066	75/15364		<10
1234066	75/15365		<10
1234066	75/15366		<10
1234066	75/15367		<10
1234066	75/15368		<10
1234066	75/15369		10
1234066	75/15370		<10

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1234066	75/15371		540
1234066	75/15372		<10
1239586	75/38947		<10
1239586	75/38948		<10
1239586	75/38949		<10
1239586	75/38950		<10
1239586	75/38951		<10
1239586	75/38952		<10
1239586	75/38953		<10
1239586	75/38954		<10
1239586	75/38955		<10
1239586	75/38956		<10
1239586	75/38957		<10
1239586	75/38958		<10
1244696	75/56828		<10
1244696	75/56829		<10
1244696	75/56830		<10
1244696	75/56831		<10
1244696	75/56832		<10
1244696	75/56833		<10
1244696	75/56834		<10
1244696	75/56835		<10
1244696	75/56836		<10
1244696	75/56837		<10
1244696	75/56838		<10
1244696	75/56839		<10
1250550	75/89313		<10
1250550	75/89314		<10
1250550	75/89315		<10
1250550	75/89316		<10
1250550	75/89317		<10
1250550	75/89318		<10
1250550	75/89319		<10
1250550	75/89320		<10
1250550	75/89321		<10
1250550	75/89322		<10
1250550	75/89323		<10
1250550	75/89324		<10
1252032	75/89225	Not Detected	
1252032	75/89226	Not Detected	
1252032	75/89227	Not Detected	

Certificate No.	Lab Ref:	Result Salmonella per 25g	Result Ecoli CFU/g
1252032	75/89228	Not Detected	
1252032	75/89229	Not Detected	
1254040	76/5523		<10
1254040	76/5524		<10
1254040	76/5525		<10
1254040	76/5526		<10
1254040	76/5527		<10
1254040	76/5528		<10
1254040	76/5529		<10
1254040	76/5530		<10
1254039	76/5531		<10
1254039	76/5532		<10
1254039	76/5533		<10
1254039	76/5534		<10
1261649	76/34287		<10
1261649	76/34288		<10
1261649	76/34289		<10
1261649	76/34290		<10
1261649	76/34291		<10
1261649	76/34292		<10
1261649	76/34293		<10
1261649	76/34294		<10
1261649	76/34295		<10
1261649	76/34296		<10
1261649	76/34297		<10
1261649	76/34298		<10
1273513	76/84770		<10
1273513	76/84771		<10
1273513	76/84772		<10
1273513	76/84773		<10
1273513	76/84774		<10
1273513	76/84775		<10
1261709	76/34303	Not Detected	
1261709	76/34304	Not Detected	
1261709	76/34305	Not Detected	
1261709	76/34306	Not Detected	
1261709	76/34307	Not Detected	

All compost was tested by Exova Laboratories Cork. Any batch of compost produced on site which did not met the Pathogen requirements of Waste Licence W0180-01 and Animal By Products Regulations where required was reprocessed back through the facility

Sludge Analysis

Lab Reference	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg	Lead mg/kg	Mercury mg/kg	Molybdenum mg/kg	Nickel mg/kg	Selenium	Zinc mg/kg
0360/304/01	0.00078	0.018	0.0935	0.033	0.00118	<.005	0.0093	0.067	1.871
0360/304/02	0.0023	0.195	0.796	0.729	0.0047	0.097	0.364	0.0208	94.37
0360/304/03	0.0166	0.356	4.994	0.376	0.0033	0.058	0.332	0.016	8.01
0360/304/04	0.093	4.304	31.33	23.91	0.064	1.56	11.61	0.464	89.54
C13-May 551	1.13	116	905	112	1.001	12	244	0.42	1491
C13-May 552	<0.25	23	54.5	74.1	0.147	3.25	51.2	<0.25	243
0360/315/02	<0.01	0.023	5.875	0.128	<0.002	0.043	<.1	<.1	2.697
0360/315/01	<.1	0.112	0.852	0.114	0.0003	0.058	0.036	0.744	14.67
0360/317/01	0.099	1.313	33.796	3.989	0.038	1.015	13.233	0.826	52.44
0360/321/01	0.0024	0.116	2.421	0.099	0.0008	0.028	0.166	0.0059	2.828
0360/321/02	0.00136	0.028	0.15	0.0466	0.00019	0.01	0.026	0.054	2.492
C13-Oct 666	1.04	19.63	5397	40.9	<0.025	12.5	24.6	0.069	1116
C13-Oct 667	0.18	15.2	54.5	21.2	<0.025	1.97	25.4	0.51	536
C13-Oct 668	0.67	13.8	86.5	40.7	0.24	5.38	12.6	2.47	581

All sludge samples was tested by Euro Environmental Services, Drogheda and Southern Scientific Services, Killarney

Dust Analysis

McGill Reference	*Lab Reference*	*Units*	*Result*
GLV DM1 S1-2013	0360/309/01	**mg/m2/day**	72.87
GLV DM2 S1-2013	0360/309/02	**mg/m2/day**	119.53
GLV DM3 S1-2013	0360/309/03	**mg/m2/day**	72.87
GLV DM1 S2 2013	0360/323/01	**mg/m2/day**	22.78
GLV DM2 S2 2013	0360/323/02	**mg/m2/day**	115.86
GLV DM3 S2 2013	0360/323/03	**mg/m2/day**	27.26
GLV DM1 R3 2013	0360/338/01	**mg/m2/day**	86.5
GLV DM2 R3 2013	0360/338/02	**mg/m2/day**	161.99
GLV DM3 R3 2013	0360/338/03	**mg/m2/day**	38.79

All results are below the limits specified in Waste Licence W0180-01

All analysis was conducted by Euro Environmental Services, Drogheda

Biofilter Monitoring

Colormetric Indicator Tube Testing

	Jun-13			Oct-13		
Sample	**Ammonia NH3 (ppm)**	**Hydrogen Sulfide H_2S (ppm)**	**Total Mercaptans R•SH**	**Ammonia NH3 (ppm)**	**Hydrogen Sulfide H_2S (ppm)**	**Total Mercaptans R•SH**
S1	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
S2	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
S3	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
S4	<5	Not detected	Not detected	Not detected	Not detected	Not detected
S5	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
S6	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
S7	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
S8	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
S9	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
S10	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
S11	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
S12	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
S13						

Lab Analysis

	McGill Ref	**GLV - Biofilter 1 -2013**	**GLV - Bio 2**
	Lab Ref	**0360/313/01**	**C13-Oct 663**
	Units		
% Moisture Content	%	74.62	68.9
Ammonia (Solid)	mg/kg fw as NH3	13.03	185
pH	ph Units	4.7	7
Total Viable Counts	cfu/g	1950000	18000000

All lab analysis was conducted by Southern Scientific Services, Drogheda

Biofilter Water Monitoring

		McGill Reference	GLV - Biofilter Water
		Lab Reference	**0360/341/01**
		Units	
BOD	Electrometry	mg/L	190
pH	Electrometry	ph Units	8
Solids (Total Suspended)	Filtration / Drying @104c	mg/L	363

All analysis was conducted by Euro Environmental Services, Drogheda

Groundwater Monitoring

		McGill Reference	GLV-GW1-2013	GLV-GW2-2013	GLV-GW3-2013	GLV-GW4-2013	*Indicator*
		Lab Reference	74/81095	74/81096	74/81097	74/81098	***Parametric***
			74/81103	74/81104	74/81105	74/81106	***Value***
Parameter	**Analytical Technique**	**Units**					
Depth			**3.51m**	**2.48m**	**1.8m**	**Tap**	
Ammonical N	Colorimetry	mg/L as N	0.08	<0.06	<0.06	<0.06	0.3 mg/l
Chloride			13	14	14	11	250 mg/l
ElectricalConductivity	Electrometry	pH units	288	290	233	163	2500 uS cm-1
pH	Filtration/Drying @104C	mg/L	6.5	7	6.6	5.9	
Coliforms (Faecal)	Filtration/Incubation @ 37c/24H	no/100ml	<3	<3	<3	<3	0
Coliforms (Total)	Electrometry	uscm-1@25C	9	4	4	<3	0

Groundwater samples were taken by Niall Carroll, McGill Environmental Systems. Samples were extracted using a Waterra Inertial Pump.

Each monitoring well has its own baler to prevent cross-contamination. Wells were purged prior to collecting the sample.

All analysis was conducted by Exova, Cork

Surfacewater Monitoring

		McGill Reference	74/81058
		Lab Reference	**GLV-SW1 (2013)**
Parameter	**Analytical Technique**	**Units**	
Ammonia	Colorimetry	mg/L as N	0.13
BOD	Electrometry	mg/L	3
Coliforms (Faecal)	Filtration/Incubation @ 44c/24H	no/100ml	<3
Coliforms (Total)	Filtration/Incubation @ 37c/24H	no/100ml	<3
Conductivity	Electrometry	uscm-1@25C	226
pH	Electrometry	pH units	7.4
Solids (Total Suspended)	Filtration/Drying @104C	mg/L	10

Surfacewater sample was taken by Fiona O'Sullivan, McGill Environmental Systems.

The surface water was clean and there was a lot of water in the stream at the time of sampling.

All analysis was conducted by Exova, Cork

Particulate & Bioaerosol Monitoring

	Reference Concentration Range	12th June 2013	5th Nov 2013
PM10	50 ug/m3 PM10	9.6	8.5

Bioaerosol Monitoring 22nd June 2012

	Reference Concentration Range	Glen 1	Glen 2	Glen 3
Aspergillus fumigatus	1000-5000 CFU m3	<8	<25	<21
Mesophilic Bacteria	5000 - 10000 CFU m3	26	39	94

Bioaerosol Monitoring 5th November 2013

	Reference Concentration Range	Glen 1	Glen 2	Glen 3
Aspergillus fumigatus	1000-5000 CFU m3	<6	<28	<23
Mesophilic Bacteria	5000 - 10000 CFU m3	15	31	75

All mnitoring was carried out by Odour Monitoring Ireland.

Full reports are available

Noise Monitoring

Monitoring Point	Start Time	Sampling Interval Minutes	L(A)eq	L(A)10	L(A)90	Audible Noise Sources
N1	12.12	30	53.18	56.43	46.21	Very little daytime on site noise audible.
	12.43	30	51.79	54.27	41.85	1 x HGV entered site and some car/van traffic
	13.15	30	52.7	55.7	44.9	
	19.04	30	43.6	36.6	29.4	No night time noise from site activities audible at location
N2	10.28	30	50.1	52.7	46	Sources of low audible day time noise from ventilation from the main compost plant, mobile plant operating on site. HGV arrived on site and backed into building from yard.
	10.59	30	49.2	52.1	44.4	
	11.32	30	47.84	50.45	42.97	
	19.12	30	36.4	36.94	34.77	Sources of low audible day time noise from ventilation from the main compost plant approx 40m away
N3	10.23	30	50.8	53.06	46.73	Sources of low audible day time noise from ventilation from the main compost plant, mobile plant operating on site approx 90m away
	10.54	30	50.9	54.06	44.38	
	13.15	30	52.7	55.7	44.9	
	19.44	30	37.58	37.55	36.01	Sources of low audible day time noise from ventilation from the main compost plant approx 90m away

Monitoring Point	Tonal or Impulsive Noise from Site Activity	Comments and Interference
N1	No	No tonal or impulsive noise from site activity during day or evening time noise monitoring
N2	No	No tonal or impulsive noise from site activity during day or evening time noise monitoring
N3	No	No tonal or impulsive noise from site activity during day or evening time noise monitoring

Interferences

Noise levels at N1 are prone to road and farm traffic on the local road that runs adjacent to the site entrance. Birdsong is also a source of interference noise during daytime readings at all three locations. There may have been some interference caused by the technician negotiating rough terrain in the vicinity of the meter at N2 and N3.

Conclusion

Daytime noise levels were within the permitted day time noise level of 55dB(A) at all three noise measurement locations – N1, N2 and N3. Evening time noise levels were within the permitted day time noise level of 50dB(A) at all three noise measurement locations – N1, N2 and N3. There was no significant tonal or impulsive noise from activities during daytime and night noise monitoring.

Noise monitoring was conducted on site by KD Environmental on 22nd November 2013

Full reports are available

Attachment 3

Environmental Objectives and Targets

W0180-01/7 Objectives and Targets

Objective	Target
Implement EMS	1. Ongoing informing all management and employees of their duties and responsibilities re EMS
HACCP Plan	1. Ongoing control of HACCP plan for site
Training	1. All employees to complete Fas / Cre course or receive on-site training
Develop written procedures	1. Standard Operating Procedures are in place for the main aspects of the process 2. SOP's will be developed on an ongoing basis
Staff	1. Adequate cover if an employee is on holidays or away from the facility 2. Training in advance notification of absence
Raw Material Usage	1. Monitor Raw Material usage and analyse results 2. Put procedures in place to maximise efficiency of raw material usage
Ongoing	Other objectives and targets will be identified.
Energy Efficiency	Ongoing reduction of energy usage

Attachment 4

Environmental Management Programme

W0180-01/8 Environmental Mangement Programme

The responsibility of implementing the Environmental Management System lies with the appointed Environmental Team:

Fiona O'Sullivan	Environmental Manager
Lucinda Blyth	Administration Manager
Noel Lyons	General Manager
Niall Carroll	Factory Manager

The Environmental Management Programme (EMP) for McGill Environmental Systems (Irl.) Ltd. will be updated on an annual basis.

The EMP for McGill Environmental Systems (Irl.) Ltd. is as follows:

Environmental Management Plan	Responsibility	Target Date
Implement conditions of Waste Licence	F O'Sullivan	Ongoing
Inhouse training of Staff	N Carroll	Ongoing
Continuous Training of Operators in EWC Codes and Acceptance of Same	F O'Sullivan	Ongoing
Update HACCP	F O'Sullivan	December 2014
Reduce Amendment Usage	F O'Sullivan	December 2014
Update EMP and EMS	F O'Sullivan	Ongoing
Energy Usage	F O'Sullivan	Ongoing
Monitoring as per Waste Licence and ABP Requirements	F O'Sullivan	Ongoing

Attachment 5

Management Structure

MCL5 Structure and Responsibility

Roles and Qualifications

James H. McGill, Chief Scientific Advisor. Mr. McGill is an environmental engineer with over 30 years in the field. He qualified with a primary arts degree from Trinity College, Dublin, and went on to study science at Rutgers University, where he earned a masters degree in environmental science. He taught same and undertook environmental research at Rutgers. Mr. McGill was a founder of the McGill group of companies and has worked on major waste management and bioremediation projects in the U.S., Europe, and Asia. Jim has 25 years international experience in Environmental Engineering. He has worked on major environmental projects in the US and for the US Government overseas. He has designed industrial composting plants in North Carolina, The Philippines and Thailand. He has also worked on Bioremediation projects in Sweden. Jim is a director of Molaisín Compost Ltd.

M. Noel Lyons, Managing Director. Mr. Lyons is also a founder of the McGill group and president of McGill (U.S.), with 17 years in the field of waste management. He is a graduate of the Waterford Institute of Technology and holds a certificate of supervisory management (with distinction) from the Irish Management Institute, and a certificate of technical competency in composting from the University of Maine. Noel is responsible for overall guidance and management of the company. Noel has a unique combination of technical and sales knowledge in feedstocks, composting and transportation. He has accomplished significant business results in challenging enterprise environments over the past 15 years. Noel has pioneered product marketing of compost as a revenue-producing service in North Carolina. Noel is currently splitting his time between America and Ireland. Noel is a director of Molaisín Compost Ltd.

Niall Carroll, Facilities Manager. Mr. Carroll has been with McGill (Ireland) since its start-up, managing daily operations and serving as a technical specialist serving for Ireland and U.S. plants. His expertise is in factory management with particular knowledge in machine maintenance. Niall spent three months at the McGill Composting factory in North Carolina in early 2000 where he was trained in compost plant management. He has completed courses in the United States to qualify him for position of factory

manager, and to enable him to train in others for this position, including qualifying as Compost Facility Operator and Process Engineer at the University of Winthrop in Charlotte, South Carolina. This course would be of similar level to recommended Fás course. He has also completed an intensive course in Composting in North Carolina. Niall is facilities manager of McGill Environmental Systems (Ireland) Ltd. Niall is responsible for the daily operation of the composting facility and it is his duty to oversee any delegated work, and ensure that it is completed to a satisfactory standard.

Fiona O'Sullivan, Environmental Manager. Fiona graduated from University College Dublin with a primary Degree in Agricultural Science and a Masters Degree in Environmental Science from Sligo Institute of Technology. Fiona has extensive knowledge of waste management and planning regulations and plays a key role in the company's planning and waste permit/license applications. Fiona is responsible for ensuring environmental compliance with all regulations and permits, and monitoring incoming sludges and outgoing compost.

Lucinda Blyth, Administration Manager. Lucinda has been with McGill since 2002. Among her responsibilities are office administration, human resources and record keeping. Lucinda's previous experience includes six years as Assistant to the Chairman of a Private Bank in London, several years as Administration Manager at a Strategy Consultancy based in London, Paris and Rome. Lucinda has also spent time working for a middle-eastern royal family organizing the logistics and staffing of several large palaces and houses throughout the world and a fleet of aeroplanes worldwide. Lucinda is responsible for the day to day running of the office, payroll and all office administration and human resources.

Attachment 6

Communications Procedure

W0180-01/10 Communications Procedure

1. The purpose of this procedure is to describe the methods of communication at McGill Environmental Systems (Irl.) Ltd.

2. The procedure applies to all communications, internal and external.

3. The procedure refers to:

Waste Licence W0180-01

Planning Permission S/02/2853

4. Internal Communication

- Management Review of EMS
- Notice Board

The organization regards verbal communication to be an important aspect due to its size.

5 External Communication

As per Licence Notification: In the event of any incident which may result in water, soil or air pollution, the Environmental Manager shall immediately report the incident to the Licensing Authority by phone or fax and shall confirm the communication in writing within 24 hours.

- Records of external communication are kept by the Administration Manager and the Environmental Manager. These records consist of letters, faxes and telephone conversations.

6 Complaints

- Complaints are handled by the Environmental Manager. Details of the complaint are recorded. Responses to complaints can be by phone or written.

7 Enquiries

- As per Waste Licence. Members of the public are welcome on site and can obtain information concerning the environmental performance of the licence holder at all reasonable times.

8 Emergency Response

- Local Fire Stations and Guards are aware of where the facility is situated
- Employees are made aware of emergency exits and location of emergency equipment
- In the event of an employee sustaining a work related injury and is absent for more than three working days, a report is to be sent to the Safety Authority detailing the incident.