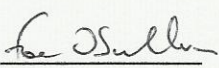


Annual Environmental Report

Name: Molaisín Compost Limited
Address: Kilmolash, Cappoquin, Co Waterford
Waste Licence: W0245-01
Reporting Period: January 1st 2012 – December 31st 2012

Signed: 

Fiona O'Sullivan

Summary:

Molaisín Compost Limited (Molaisín) commenced waste activities at the facility at Kilmolash, Cappoquin, Co Waterford in 2005. Molaisín operated under a Waterford County Council waste permit up to August 2010. Since August 10th Molaisín has operated under EPA Waste Licence W0245-01.

Molaisín specializes in the composting of non-hazardous industrial and sewage sludges, and other non-hazardous biodegradable materials. Molaisín will compost any biodegradable material provided it meets stringent regulatory requirements as well as Molaisín's own waste acceptance criteria.

Molaisín specialises in the recovery of biodegradable materials through the process of industrial composting. Molaisín 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 Molaisín 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.

The composting of non-hazardous industrial sludges and biosolids produces a very valuable end product from material that was previously considered a waste. The finished product adds an important micronutrient and humus-rich stable material to soil. The compost produced by Molaisín is a class 1 compost. All compost produced on site is sent for Horticultural use.

The attached Environmental Report covers the period 1st January 2012 to 31st December 2012.

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

Molaisín Compost Limited accepted waste during the reporting period for composting. Molaisín operate an industrial composting facility 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.

Attached are summary sheets with details of:

All wastes accepted during the year – no Animal By Products Material is accepted on site

All amendments accepted during the year

All compost moved of site during the reporting period

A weighbridge log is available with details of all loads

See Attachment 1

2.0 Emissions from the facility:

There were no emissions from the facility during the reporting period. Air is extracted from the facility through a biofiltration system. The biofilter was monitored during the reporting period both independently and by Molaisín Compost Limited and there were no emissions noted.

See Attachment 2

3.0 Resource consumption summary

Diesel Usage: 34857 litres of diesel was used during the reporting period to operate equipment in the facility.

Electricity Usage: From Electricity Bills McGill have used approximately 396084 Kwh of electricity at the facility during the reporting period.

4.0 Complaint Summary

There were two complaints made about the facility during the reporting period. These were both related to odour. One was reported to the EPA and the other directly to an employee of Molaisín. All complaints were followed up immediately and responses made to the EPA and the complainant.

5.0 Schedule of Environmental Objectives and Targets

See Attachment 3

6.0 Environmental Management Programme

See Attachment 4

7.0 Noise Monitoring Report Summary

Noise monitoring was conducted on site by KD Environmental on 21st November 2012. Daytime noise levels were within the permitted day time noise level of 55dB(A) at three noise measurement locations – N1, N2 and N3. Noise levels were above 55dB(A) at N4 but this was due to off site road traffic and activities of a neighbouring farm. Noise at N4 is not due to Molaisín Compost activities.

Evening time noise levels were within the permitted evening time noise level of 50 dB(A) at all four noise measurement locations – N1, N2, N3 and N4.

There was no significant tonal or impulsive noise from activities during daytime and evening noise monitoring.

The full noise monitoring report is available.

8.0 Ambient Monitoring Summary

All monitoring conducted during the year is reported in Attachment 2

9.0 Emissions and results of environmental monitoring.

- 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 four different 30 day periods during 2012. The results of these are attached.
- Odour Monitoring Ireland (OMI) conducted quarterly Odour Monitoring on site. Bioaerosol and PM10 monitoring was conducted on site by OMI on 22nd June 2012 and 19th November 2012. The results of these visits showed that there were no significant odours or 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

10.0 Tank and pipeline testing and inspection report

A report on pipeline testing showing that there are no leaks or spills, this report was submitted to the Agency on completion.

11.0 Reported Incidents Summary

There were no reportable incidents during the reporting year.

12.0 Energy Efficiency audit report summary

Molaisín Compost are using an average of 49KwH electricity and 4.35 litres of diesel per tonne of biosolids accepted at the facility. This is a reduction on the usage of both diesel and electricity used in 2011 showing that the facility is becoming more energy efficient. Molaisín hired an independent consultant during the reporting year to look at our Electricity usage and savings are expected in 2013.

13.0 Report on the assessment of the efficiency of the use of raw materials in processes and the reduction in waste generated.

Amendments for the composting process are the only raw materials used on site at Molaisín Compost Limited. The ratio of amendments to waste used during the reporting period was 0.26 tonnes amendment: 1 tonne waste, this figure is lower than in 2011 showing increased efficiency in the facility.

There was a 56% reduction in the volume of waste accepted versus compost produced.

14.0 Report on progress made and proposals being developed to minimise water demand and the volume of trade effluent discharges

There are no effluent discharges from the process or facility at Molaisín Compost. Water is not added to the process, the only water used is for the cleaning of delivery trucks and equipment to ensure that no waste is carried from the facility out onto the site. The amount of water used cannot be reduced without compromising the cleanliness of the vehicles, equipment, and the site.

15.0 Development/Infrastructural works summary

A section of concrete in the reception area was replaced as it was showing evidence of wear and tear from vehicle movement.

16.0 Management and Staffing Structure

See Attachment 5

17.0 Public Information Programme

See Attachment 6

18.0 Review of Decommissioning management plan / Closure, restoration and aftercare management plan and Statement of measures in relation to Prevention of Environmental Damage and remedial Actions (Environmental Liabilities)

The Environmental Liabilities Risk Assessment and Decommissioning Plan was reviewed and it is deemed to be sufficient and require no alterations.

19.0 Review of Nuisance Controls

A daily check takes place for Vermin, Birds, Flies, Mud, Dust, Odour, Surface Water, and Biofilter Odour.

20.0 Volume of trade effluent / leachate produced and transported off site

There was no trade effluent or leachate produced on site during the reporting period.

Attachment 1

Waste Licence W0245-01

Reporting Period January 1st 2012 - 31st December 2012

Incoming Waste Material

Material	EWC Code	Quantity
Wastes from the production of alcoholic and non-alcoholic beverages	020704	134.88
Wastes from the preparation and processing of meat, fish and other foods (Non Animal By Products)	020204	725.62
Wastes from the dairy products industry (Non Animal By Products)	020502	445
Wastes from the production of alcoholic and non-alcoholic beverages	020705	1312.02
Waste Leaves	070599	1536.38
Wastes from the MFSU of basic inorganic chemicals	070199	
Wastes from the MFSU of pharmaceutical ingredients	070512	446.1
Wastes from waste water treatment plants	190805	3338.82
Wastes from treatment of industrial waste waters	190814	70.66
Total		8009.48

Waste Licence W0245-01

Reporting Period January 1st 2012 - 31st December 2012

Incoming Amendment

Amendment	Quantity
Mature Compost	416.34
Waste Grain	23.24
Sawdust	1400.54
Woodchip	225.76
Total	2065.88

Waste Licence W0245-01

Reporting Period January 1st 2012 - 31st December 2012

Compost Removed from Site

Use	Quantity
Landfill Cover	390.92
Amendment	179.5
Horticulture	3989.26
Total	4559.68

Attachment 2

Reporting Period: 1st January -31st December 2012

	Molaisín Ref:	GW MCL1	GW MCL2	GW MCL3
	Lab Ref:	63/83545	63/83546	63/83547
	Units			
Conductivity @ 25 deg C	uS/cm	302	295	320
ph Value	pH Unit	6.9	6.5	6.6
Chloride	mg/l	19	14	15
Nitrate (as NO3)	mg/l	19.9	78	15.1
Ammonium (NH4)	mg/l	<0.06	2.2	<0.06
Total Nitrogen (as N)	mg/l	4.6	19.4	3.9
HPC 37DegC 48 hr pour plate	CFU/ml	<1	400	3.6 x10(3)
HPC 22DegC 72 hr pour plate	CFU/ml	<1	110	830
Total Coliform Count	MPN/100mls	<1	199	548
Ecoli Count	MPN/100mls	<1	10	1
Dichlorodifluoromethane	mg/l	<3	<3	<3
Chloromethane	mg/l	<1	<1	<1
Vinyl chloride	mg/l	<1	<1	<1
Bromomethane	mg/l	<1	<1	<1
Chloroethane	mg/l	<1	<1	<1
Trichlorofluoromethane	mg/l	<1.5	<1.5	<1.5
Acetone	mg/l	<10	<10	<10
Diethyl Ether	mg/l	<2	<2	<2
1,1-Dichloroethene	mg/l	<1	<1	<1
Freon 113	mg/l	<1.5	<1.5	<1.5
Carbon disulphide	mg/l	<0.8	<0.8	<0.8
Allyl chloride	mg/l	<2	<2	<2
Methylene chloride	mg/l	<2	<2	<2
Trans-1,2-dichloroethene	mg/l	<1	<1	<1
tert-Butyl methyl ether	mg/l	<1	<1	<1
1,1-Dichloroethane	mg/l	<1	<1	<1
2-Butanone	mg/l	<10	<10	<10
cis-1,2-Dichloroethene	mg/l	<1	<1	<1
2,2-Dichloropropane	mg/l	<1	<1	<1
Chloroform	mg/l	<0.8	<0.8	<0.8
Tetrahydrofuran	mg/l	<10	<10	<10
1,1,1-Trichloroethane	mg/l	<0.8	<0.8	<0.8
1,2-Dichloroethane	mg/l	<1	<1	<1
1-Chlorobutane	mg/l	<1	<1	<1
1,1-Dichloropropene	mg/l	<1	<1	<1
Benzene	mg/l	<0.8	<0.8	<0.8
Carbon tetrachloride	mg/l	<1	<1	<1
2-Nitropropane	mg/l	<2	<2	<2
Methyl methacrylate	mg/l	<2	<2	<2
2-Hexanone	mg/l	<3	<3	<3
4-Methyl-2-pentanone	mg/l	<5	<5	<5
1,2-Dichloropropane	mg/l	<1	<1	<1
Trichloroethene	mg/l	<1	<1	<1
Dibromomethane	mg/l	<1	<1	<1

Reporting Period: 1st January -31st December 2012

	Molaisín Ref:	GW MCL1	GW MCL2	GW MCL3
	Lab Ref:	63/83545	63/83546	63/83547
	Units			
Bromodichloromethane	mg/l	<1	<1	<1
trans-1,3-Dichloropropene	mg/l	<1	<1	<1
cis-1,3-Dichloropropene	mg/l	<1	<1	<1
Toluene	mg/l	<1	<1	<1
1,1,2-Trichloroethane	mg/l	<1	<1	<1
1,3-Dichloropropane	mg/l	<1	<1	<1
Ethyl methacrylate	mg/l	<2	<2	<2
Dibromochloromethane	mg/l	<1	<1	<1
1,2-Dibromoethane	mg/l	<1	<1	<1
Tetrachloroethene	mg/l	<1	<1	<1
Chlorobenzene	mg/l	<0.8	<0.8	<0.8
1,1,1,2-Tetrachloroethane	mg/l	<1	<1	<1
Ethyl benzene	mg/l	<0.8	<0.8	<0.8
m&p-Xylene	mg/l	<1.5	<1.5	<1.5
Stryene	mg/l	<1	<1	<1
Bromoform	mg/l	<1	<1	<1
O-Xylene	mg/l	<0.8	<0.8	<0.8
1,1,2,2-Tetrachloroethane	mg/l	<1	<1	<1
1,2,3-Trichloropropane	mg/l	<1	<1	<1
Isopropylbenzene	mg/l	<0.9	<0.9	<0.9
trans-1,4-Dichloro-2-butene	mg/l	<2	<2	<2
Bromobenzene	mg/l	<1	<1	<1
2-Chlorotoluene	mg/l	<1	<1	<1
n-Propylbenzene	mg/l	<1	<1	<1
4-Chlorotoluene	mg/l	<1	<1	<1
1,3,5-Trimethylbenzene	mg/l	<1	<1	<1
Pentachloroethane	mg/l	<2	<2	<2
1,2,4-Trimethylbenzene	mg/l	<1	<1	<1
tert-butylbenzene	mg/l	<1	<1	<1
1,3-Dichlorobenzene	mg/l	<1	<1	<1
sec-Butylbenzene	mg/l	<1	<1	<1
1,4-Dichlorobenzene	mg/l	<1	<1	<1
4-Isopropyltoluene	mg/l	<1	<1	<1
1,2-Dichlorobenzene	mg/l	<1	<1	<1
n-Butylbenzene	mg/l	<0.9	<0.9	<0.9
Hexachloroethane	mg/l	<2	<2	<2
1,2-Dibromo-3-chloropropane	mg/l	<1	<1	<1
1,2,4-Trichlorobenzene	mg/l	<1	<1	<1
Naphtalene	mg/l	<1	<1	<1
1,2,3-Trichlorobenzene	mg/l	<1	<1	<1
Hexachlorobutadiene	mg/l	<1	<1	<1
2-Picoline	mg/l	<0.5	<0.5	<0.5
Methyl Methane Sulfonate	mg/l	<0.5	<0.5	<0.5
N-Nitrosomethylethylamine	mg/l	<0.5	<0.5	<0.5
N-Nitrosodiethylamine	mg/l	<0.5	<0.5	<0.5

Reporting Period: 1st January -31st December 2012

	Molaisín Ref:	GW MCL1	GW MCL2	GW MCL3
	Lab Ref:	63/83545	63/83546	63/83547
	Units			
Ethyl Methane Sulfonate	mg/l	<0.5	<0.5	<0.5
Aniline	mg/l	<0.5	<0.5	<0.5
Phenol	mg/l	<1.5	<1.5	<1.5
Bis(2-Chloroethyl)ether	mg/l	<0.5	<0.5	<0.5
2-Chlorophenol	mg/l	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	mg/l	<1	<1	<1
1,4-Dichlorobenzene	mg/l	<1	<1	<1
1,2-Dichlorobenzene	mg/l	<1	<1	<1
Benzyl Alcohol	mg/l	<1	<1	<1
O-Cresol	mg/l	<1	<1	<1
Bis (2-Chloroisopropyl) ether	mg/l	<0.5	<0.5	<0.5
m/p Cresol	mg/l	<0.5	<0.5	<0.5
Acetophenone	mg/l	<0.5	<0.5	<0.5
N-Nitrosopyrrolidine	mg/l	<0.5	<0.5	<0.5
Hexachloroethane	mg/l	<1	<1	<1
N-Nitrosomorpholine	mg/l	<0.5	<0.5	<0.5
N-Nitrosodi-n-propylamine	mg/l	<1	<1	<1
O-Toluidine	mg/l	<1	<1	<1
Nitrobenzene	mg/l	<0.5	<0.5	<0.5
N-Nitrosopiperidine	mg/l	<0.5	<0.5	<0.5
Isophorone	mg/l	<0.5	<0.5	<0.5
2-Nitrophenol	mg/l	<0.5	<0.5	<0.5
2,4-Dimethylphenol	mg/l	<1	<1	<1
o.o.o-Triethyl Phosphorothioate	mg/l	<1	<1	<1
Bis(2-Chloroethoxy) methane	mg/l	<1	<1	<1
2,4-Dichlorophenol	mg/l	<1	<1	<1
1,2,4-Trichlorobenzene	mg/l	<1	<1	<1
Naphthalene	mg/l	<1	<1	<1
2,6-Dichlorophenol	mg/l	<1	<1	<1
4-Chloroaniline	mg/l	<1	<1	<1
Hexachloropropene	mg/l	<1.5	<1.5	<1.5
Hexachlorobutadiene	mg/l	<1.5	<1.5	<1.5
N-Nitrosodi-n-butylamine	mg/l	<1	<1	<1
Safrole	mg/l	<1	<1	<1
4-chloro-3-Methylphenol	mg/l	<1	<1	<1
2-Methylnaphthalene	mg/l	<1	<1	<1
Isosafrole cis/trans	mg/l	<1	<1	<1
1,2,4,5-Tetrachlorobenzene	mg/l	<1	<1	<1
Hexachlorocyclopentadiene	mg/l	<1.5	<1.5	<1.5
2,4,6-Trichlorophenol	mg/l	<1	<1	<1
2,4,5-Trichlorophenol	mg/l	<1	<1	<1
Isosafrole cis/trans	mg/l	<1	<1	<1
2-Chloronaphthalene	mg/l	<1	<1	<1
2-nitroaniline	mg/l	<5	<5	<5
m-Dinitrobenzene	mg/l	<1.5	<1.5	<1.5

Reporting Period: 1st January -31st December 2012

	Molaisín Ref:	GW MCL1	GW MCL2	GW MCL3
	Lab Ref:	63/83545	63/83546	63/83547
	Units			
Acenaphthylene	mg/l	<0.5	<0.5	<0.5
Dimethylphthalate	mg/l	<0.5	<0.5	<0.5
2,6-Dinitrotoluene	mg/l	<0.5	<0.5	<0.5
Acenaphthene	mg/l	<1	<1	<1
3-Nitroaniline	mg/l	<5	<5	<5
Pentachlorobenzene	mg/l	<1	<1	<1
2,4-Dinitrophenol	mg/l	<10	<10	<10
Dibenzofuran	mg/l	<0.5	<0.5	<0.5
4-Nitrophenol	mg/l	<10	<10	<10
2,4-dinitrotoluene	mg/l	<1	<1	<1
2,3,4,6-Tetrachlorophenol	mg/l	<1.5	<1.5	<1.5
Fluorene	mg/l	<0.5	<0.5	<0.5
Diethylphthalate	mg/l	<0.5	<0.5	<0.5
4-chlorophenyl-Phenylether	mg/l	<1	<1	<1
Thioazin	mg/l	<1	<1	<1
5-Nitro-o-toluidine	mg/l	<1	<1	<1
Diphenylamine	mg/l	<0.5	<0.5	<0.5
4-Nitroaniline	mg/l	<5	<5	<5
2-Methyl-4,6-Dinitrophenol	mg/l	<5	<5	<5
Diallate cis/trans	mg/l	<1	<1	<1
1,3,5-Trinitrobenzene	mg/l	<1	<1	<1
Sulfotepp	mg/l	<1	<1	<1
Phorate	mg/l	<1	<1	<1
alpha BHC	mg/l	<0.5	<0.5	<0.5
4-Bromophenyl-Phenylether	mg/l	<1	<1	<1
beta BHC	mg/l	<0.5	<0.5	<0.5
gamma BHC	mg/l	<1	<1	<1
Pronamide	mg/l	<0.5	<0.5	<0.5
Phenacetin	mg/l	<5	<5	<5
Hexachlorobenzene	mg/l	<0.5	<0.5	<0.5
Dimethoate	mg/l	<10	<10	<10
4-Aminobiphenyl	mg/l	<1	<1	<1
Pentachlorophenol	mg/l	<10	<10	<10
Pentachloronitrobenzene	mg/l	<1	<1	<1
Phenanthrene	mg/l	<0.5	<0.5	<0.5
Dinoseb (DNBP)	mg/l	<5	<5	<5
Anthracene	mg/l	<0.5	<0.5	<0.5
Disulfoton	mg/l	<1	<1	<1
delta BHC	mg/l	<0.5	<0.5	<0.5
Carbazole	mg/l	<1	<1	<1
Methyl Parathion	mg/l	<1	<1	<1
Heptachlor	mg/l	<1	<1	<1
Di-n-Butylphthalate	mg/l	<0.5	<0.5	<0.5
Aldrin	mg/l	<0.5	<0.5	<0.5
Parathion	mg/l	<1	<1	<1

Reporting Period: 1st January -31st December 2012

	Molaisín Ref:	GW MCL1	GW MCL2	GW MCL3
	Lab Ref:	63/83545	63/83546	63/83547
	Units			
Isodrin	mg/l	<1	<1	<1
Heptachlor Epoxide	mg/l	<1	<0.5	<1
Fluoranthene	mg/l	<0.5	<0.5	<0.5
Pyrene	mg/l	<0.5	<1	<0.5
4,4-DDE	mg/l	<1	<1	<1
Dieldrin	mg/l	<1	<5	<1
p-(Dimethylamino)Azobenzene	mg/l	<5	<5	<5
Chlorobenzilate	mg/l	<5	<5	<5
Endrin	mg/l	<10	<10	<10
4,4-DDD	mg/l	<1	<1	<1
Endosulfan sulfate	mg/l	<1	<1	<1
3,3-Dimethylbenzidine	mg/l	<10	<10	<10
Butylbenzylphthalate	mg/l	<1	<1	<1
4,4-DDT	mg/l	<1	<1	<1
2-Acetylaminofluorene	mg/l	<10	<10	<10
Benzo(a)anthracene	mg/l	<0.5	<0.5	<0.5
3-3-Dichlorobenzidine	mg/l	<10	<10	<10
Methoxychlor	mg/l	<1	<1	<1
Chrysene	mg/l	<1	<1	<1
Bis(2-Ethylhexyl) Phthalate	mg/l	<1	<1	<1
Di-n-octylphthalate	mg/l	<10	<10	<10
Benzo(b)Fluoranthene	mg/l	<1	<1	<1
Benzo(k)Fluoranthene	mg/l	<1	<1	<1
Benzo(a) Pyrene	mg/l	<1	<1	<1
Indeno(1,2,3-cd) Pyrene	mg/l	<1.5	<1.5	<1.5
Dibenz(a,h) Anthracene	mg/l	<1.5	<1.5	<1.5
Benzo(g,h,i) Perylene	mg/l	<1.5	<1.5	<1.5

All analysis was conducted by Exova, Cork

Surface Water Results

Analytical Technique	Units	Lab Reference	C12-Jul152	973372
Colorimetry	mg/L as N	McGill Reference	MCL SW(1)-2012	MCL SW(2) 2012
Electrometry	mg/L	Ammonia	0.16	1.6
Filtration/Drying @104C	mg/L	BOD	2.7	<4
		Solids (Total Suspended)	4	<3

All testing was completed by Southern Scientific Services, Killarney

Compost Metal Results

		Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
Class I Standard		0.7	100	100	100	0.5	50	200
Class II Standard		1.5	150	150	150	1	75	400
McGill Reference	Lab Reference							
MCL Jan 2012	0360/275/03	<0.01	0.716	57.150	42.844	0.213	1.526	169.730
MCL Feb 2012	0360/275/04	<0.01	0.331	47.781	37.002	0.143	0.959	148.920
MCL Mar 2012	0360/276/01	<0.01	0.397	47.402	37.021	0.166	0.824	149.590
MCL April 2012	0360/280/01	0.391	2.321	33.969	23.136	0.216	2.565	90.869
MCL May 2012	0360/284/01	0.135	2.158	42.299	11.997	0.189	4.423	75.128
MCL June 2012	0360/284/02	0.148	2.127	43.551	13.669	0.205	2.891	83.210
MCL July 12	0360/285/11	0.042	3.261	61.612	20.561	0.093	4.911	160.153
MCL Aug 12	0360/285/12	0.061	3.422	68.180	21.403	0.092	5.115	173.113
MCL Sept 12	0360/286/01	0.084	2.126	33.862	7.790	0.166	2.309	71.859
MCL Oct 12	0360/286/02	0.074	1.781	31.056	7.808	0.123	2.099	63.143
MCL Nov 12	0360/289/01	0.075	2.051	34.156	7.203	0.186	2.317	74.704
MCL Dec 12	0360/292/01	0.0071	2.156	30.149	7.058	0.131	2.047	76.258

All compost was tested by Euro Environmental Services, Drogheda

All compost produced on site in the reporting period was a Class 1 Compost

Compost Pathogen Results

Lab Ref:	Result Faecal Coliforms no/100ml	Result Salmonella per 25g
0360/282/21		Not Detected
0360/282/22		Not Detected
0360/282/23		Not Detected
0360/282/24		Not Detected
0360/282/25		Not Detected
0360/282/26		Not Detected
0360/282/27		Not Detected
0360/282/28		Not Detected
0360/282/29		Not Detected
0360/282/30		Not Detected
0360/282/31		Not Detected
0360/282/32		Not Detected
0360/282/33		Not Detected
0360/282/34		Not Detected
0360/282/35		Not Detected
0360/282/36		Not Detected
0360/282/37		Not Detected
0360/282/38		Not Detected
0360/282/39		Not Detected
0360/282/40		Not Detected
57/93287	<0.3	
57/93288	0.74	
57/93289	<0.3	
57/93290	<0.3	
57/93291	<0.3	
57/5397	23	
57/5398	9	
57/72546		Not Detected
57/72547		Not Detected
57/72548		Not Detected
57/72549		Not Detected
57/72550		Not Detected
58/35656	<0.3	
58/35657	2.3	
58/35658	<0.3	
58/35659	<0.3	
58/35660	<0.3	
58/35661	110	
58/35662	<0.3	
58/35663	<0.3	
58/35664	<0.3	
58/35665	<0.3	
58/35666	<0.3	
58/35667	<0.3	
58/35668	2.3	
58/35669	<0.3	
58/35670	<0.3	
58/35671	<0.3	
58/35672	<0.3	
58/35673	<0.3	
58/35674	0.36	
58/35675	<0.3	

Lab Ref:	Result Faecal Coliforms no/100ml	Result Salmonella per 25g
59/74605		Not Detected
59/74606		Not Detected
59/74607		Not Detected
59/74608		Not Detected
59/74609		Not Detected
0360/285/06	0	
0360/285/07	0	
0360/285/08	0	
0360/285/09	0	
0360/285/10	0	
0360/285/01	0	
0360/285/02	0	
0360/285/03	0	
0360/285/04	0	
0360/285/05	0	
61/64153		Not Detected
61/64154		Not Detected
61/64155		Not Detected
61/64156		Not Detected
61/64157		Not Detected
0360/287/01	0	
0360/287/02	0	
0360/287/03	0	
0360/287/04	0	
0360/287/05	0	
0360/288/01	0	
0360/288/02	0	
0360/288/03	0	
0360/288/04	0	
0360/288/05	0	
62/59747		Not Detected
62/59748		Not Detected
62/59749		Not Detected
62/59750		Not Detected
62/59751		Not Detected
0360/288/06	0	
0360/288/07	0	
0360/288/08	0	
0360/288/09	0	
0360/288/10	0	
62/59747		Not Detected
62/59748		Not Detected
62/59749		Not Detected
62/59750		Not Detected
62/59751		Not Detected
63/55542		Not Detected
63/55543		Not Detected
63/55544		Not Detected
63/55545		Not Detected
63/55546		Not Detected
0360/291/01	<10	
0360/291/02	<10	
0360/291/03	<10	
0360/291/04	<10	
0360/291/05	<10	

All compost was tested by Euro Environmental Services, Drogheda and Exova, Cork

Reporting Period: January 1st 2012 - December 31st 2012

Sludge Analysis

Sewage Sludge	Cadmium 20	Chromium	Copper 1000	Lead 750	Mercury 16	Nickel 300	Zinc 2500	Molybde	Selenium
Lab Reference									
C12-Mar438	1.03	21.5	205	35.8	0.57	6.62	30.1	4.06	637
C12-Mar439	<0.25	7.55	13	4.24	0.11	1.28	6.23	0.375	169
C12-Mar440	0.67	11.3	216	11.6	0.184	3.1	14.7	3.26	584
C12-Mar441	1.18	48.1	566	248	0.835	2.47	23.3	2.24	893
C12-Mar442	<0.25	7.69	30	3.46	0.028	6.53	8.62	1.35	179
C12-Mar443	<0.25	12.8	38.5	8.78	0.091	3.02	7.65	1.47	239
C12-Mar445	0.377	43.2	109	10.1	2.58	3.72	24.4	1.51	229
C12-Mar446	<0.25	11.3	52.6	3.69	0.24	1.51	7.63	0.299	102
C12-Mar447	0.518	19.7	328	32.2	0.52	3.55	16.8	2.8	415
C12-Mar448	<0.25	13.3	18.1	17.1	33.7	6.02	31.2	6.6	182
C12-Mar449	1.37	28.7	318	38.4	1.29	3.12	23	3.71	816
C12-Mar450	<0.25	7.09	14.6	1122	0.77	4.87	5.47	0.47	388
C12-Jul154	<0.25	24.2	83.3	11.6	0.37	40	164	4.22	0.5
C12-Jul156	0.39	26.9	34.6	57.5	24.3	38.8	387	6.72	21.7
C12-Jul157	0.51	28.9	375	28.6	0.74	22.3	470	4.82	3.43
C12-Jul158	<0.25	8.57	37.6	9.78	0.15	4.11	205	3.86	<0.25
C12-Jul159	<0.25	5.67	33.8	5.79	0.04	7.82	125	5.38	2.57
C12-Jul160	<0.25	2.8	33.8	8.22	0.16	3.99	103	0.92	1.15
C12-Jul161	<0.25	10.1	42.8	7.29	0.12	6.61	175	1.27	0.66
C12-Jul162	0.68	19.6	189	35	1.48	15.3	471	1.91	1.68
C12-Jul163	<0.25	6.17	14.8	714	0.94	4.89	361	5.76	0.31
C12-Jul164	0.72	17	293	33.5	0.52	13.4	840	2.83	2.99
C12-Jul165	1.02	23.1	282	43.9	0.28	16.3	822	3.2	3.7
C12-Nov 330	<0.25	0.64	14.4	0.59	<0.025	0.63	137	0.3	0.44
C12-Nov 331	0.85	21.9	141	29.7	0.79	22.9	422	4.37	7.57
C12-Nov 332	0.94	46.8	211	56.6	1.58	30.1	622	2.9	2.92
C12-Nov 333	<0.25	4.25	41.3	6.8	0.06	2.83	108	1.62	0.29
C12-Nov 334	0.54	9.25	185	28.1	1.47	11.3	385	3.2	3.49
C12-Nov 335	<0.25	2.58	48.5	9.68	0.44	3.22	129	0.7	0.48
C12-Nov 336	0.67	21.2	298	67.5	2.13	15.9	501	2.82	5.13
C12-Nov 337	<0.25	1.8	3.97	0.66	<0.025	1.34	23.4	0.84	<0.25
C12-Nov 338	0.95	16.2	829	31.9	0.48	16.9	79	4.29	5.7
C12-Nov 339	<0.25	5.7	54.2	2.2	0.16	4.43	85.2	0.94	<0.25
C12-Nov 340	<0.25	7.03	15.1	618	0.78	6.37	269	4.47	0.42
C12-Nov 341	<0.25	9.59	11.1	3.43	<0.025	6.64	191	1.04	1.11
C12-Nov 342	<0.25	3.79	1.41	2.43	<0.025	2.02	32.9	0.42	0.3
C12-Nov 343	0.57	22.6	48.8	62.8	158	84.6	421	9.41	15.7
C12-Nov 344	0.86	17.3	425	39.8	2.8	18	332	3.2	3.5
C12-Nov 345	<0.25	3.98	21.2	1.09	0.46	5.3	94.8	4.76	1.03
C12-Nov 346	<0.25	16.1	16.5	4.13	0.29	9.11	37	1.73	2.75
0360/295/01	<0.01	<0.1	18.867	0.504	0.057	0.645	22.461	0.449	<0.01
0360/295/02	0.024	0.77	59.362	8.156	0.137	3.493	178.463	0.675	<0.01
0360/295/03	<0.01	<0.01	1.148	56.906	0.025	0.276	23.046	0.636	<0.01
0360/295/04	0.067	2.234	29.45	26.825	0.38	38.413	150.411	2.728	6.162
0360/295/05	<0.01	0.377	93.623	6.386	0.142	3.086	71.194	0.746	<0.01
0360/295/06	<0.01	0.464	24.389	2.93	0.049	2.091	62.817	0.597	<0.01
0360/295/07	0.00005	0.01326	0.04017	0.00721	0.0004	0.01251	0.0125	<0.005	0.00212
0360/295/08	<0.01	<0.01	2.775	0.435	0.005	0.768	21.774	0.275	<0.01
0360/295/09	0.079	0.321	66.782	9.73	0.117	3.386	91.116	1.432	0.608
0360/295/10	0.00298	0.2406	0.6004	0.0259	0.0005	0.02217	2.528	0.0275	0.00212

All results are expressed in mg/kg

All testing was completed by Euro Environmental Services, Drogheda and Southern Scientific, Cork

Sludge Results

Reporting Period: January 1st 2012 - December 31st 2012

Dust Monitoring

<i>McGill Reference</i>	<i>Lab Reference</i>	<i>Units</i>	<i>Result</i>
MCL Q1-12 DM1	0360/278/01	mg/m ² /day	55.04
MCL Q1-12 DM2	0360/278/02	mg/m ² /day	212.84
MCL Q1-12 DM3	0360/278/03	mg/m ² /day	428.82
MCL Q1-12 DM4	0360/278/04	mg/m ² /day	250.58
MCL Q2-12 DM1	0360/283/01	mg/m ² /day	123.72
MCL Q2-12 DM2	0360/283/02	mg/m ² /day	119.53
MCL Q2-12 DM3	0360/283/03	mg/m ² /day	148.36
MCL Q2-12 DM4	0360/283/04	mg/m ² /day	72.34
MCL Q3-12 DM1	0360/285/14	mg/m ² /day	84.93
MCL Q3-12 DM2	0360/285/15	mg/m ² /day	73.92
MCL Q3-12 DM3	0360/285/16	mg/m ² /day	49.28
MCL Q3-12 DM4	0360/285/17	mg/m ² /day	62.38
MCL Q4-12 DM1	0360/293/01	mg/m ² /day	30.41
MCL Q4-12 DM2	0360/293/02	mg/m ² /day	24.64
MCL Q4-12 DM3	0360/293/03	mg/m ² /day	29.88
MCL Q4-12 DM4	0360/293/04	mg/m ² /day	24.64

All analysis was conducted by Euro Environmental Services, Drogheda

Biofilter Monitoring

Colorimetric Indicator Tube Testing

Results of Monitoring June 2012

Sample	Ammonia NH3 (ppm)	Hydrogen Sulfide H ₂ S (ppm)	Total Mercaptans
S1	<5	Not detected	Not detected
S2	<5	Not detected	Not detected

Full Monitoring Report is available

Results of Monitoring November 2012

Sample	Ammonia NH3 (ppm)	Hydrogen Sulfide H ₂ S (ppm)	Total Mercaptans
S1	<5	Not detected	Not detected
S2	<5	Not detected	Not detected

Full Monitoring Report is available

Lab Analysis

		Molaisin Reference		
		Lab Reference	C12-Jul170	C-12 Nov 328
		Units	MCL Biofilter 1 2012	MCL Biofilter 2 2012
%	Drying at 104c	% Moisture Content	23.8	72.1
mg/Kg as N	Colorimetry	Ammonia (Solid)	78	9.58
ph Units	Electrometry	pH	4.5	4.9
no/g	Incubation @ 22c/72H	TVC's	6363636	5636364
no/g	Incubation @ 37c/48H			

All lab analysis was conducted by Southern Scientific, Killarney

Annual Environmental Report

Reporting Period: January 1st 2012 - December 31st 2012

Particulate Monitoring

	Reference Concentration Range	22nd June 2012	19th Nov 2012
PM10	50 ug/m3 PM10	12	19.5

Bioaerosol Monitoring 19th November 2012

	Reference Concentration Range	Cappo 1	Cappo 2	Cappo 3
Total Fungi (includes Aspergillus fumigatus)	1000- 5000 CFU m3	<15	<23	<91
Mesophilic Bacteria	5000 - 10000 CFU m3	5	31	83

All monitoring was carried out by Odour Monitoring Ireland.

Full reports are available.

Annual Environmental Report

Reporting Period: January 1st 2012 - December 31st 2012

Odour Monitoring Biofilter

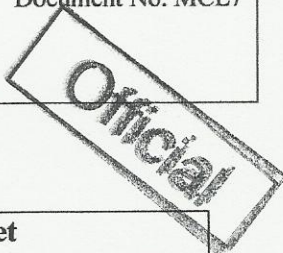
	March 22nd 2012	June 22nd 2012	Aug 9th 2012	Nov 19th 2012
Average Inlet Odour Conc (OuE/m3)	27026	31526	27026	29189
Exhaust Odour Conc (OuE/m3)	2134	1946	1829	1824
Average Removal Efficiency %	92	93	93	94

All monitoring was carried out by Odour Monitoring Ireland.

Full reports are available.

Attachment 3

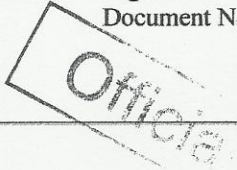
Molaisin Compost Ltd., Waste Licence W0245-01 Environmental Management System Signed By: <i>[Signature]</i>	Title: Environmental Objectives and Targets Document No. MCL7
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MCL7 Objectives and Targets

Objective	Target
Biofilter Maintenance	1. Biofilter to be monitored on a weekly basis, and dug and reseeded as required
Develop written procedures	1. Standard operating procedures are in place, these need to be upgraded to include every aspect of the process
Training	1. On-going training required for all staff in updated health and safety and operational issues
Monitoring	1. Follow schedule based on licence requirements 2. List of consultants in place to conduct monitoring
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
Energy Audit	1. Reduce Energy consumption on site 2. Review Energy Suppliers

Attachment 4

Molaisín Compost Ltd., Waste Licence W0245-01 Environmental Management System Signed By: <i>Fiona O'Sullivan</i>	Title: Environmental Management Programme Document No. MCL8 
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MCL8 Environmental Management 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	Facilities Manager
Yevgeniy Chizhikov	Factory Manager

The Environmental Management Programme (EMP) for Molaisín Compost Ltd. will be updated periodically.

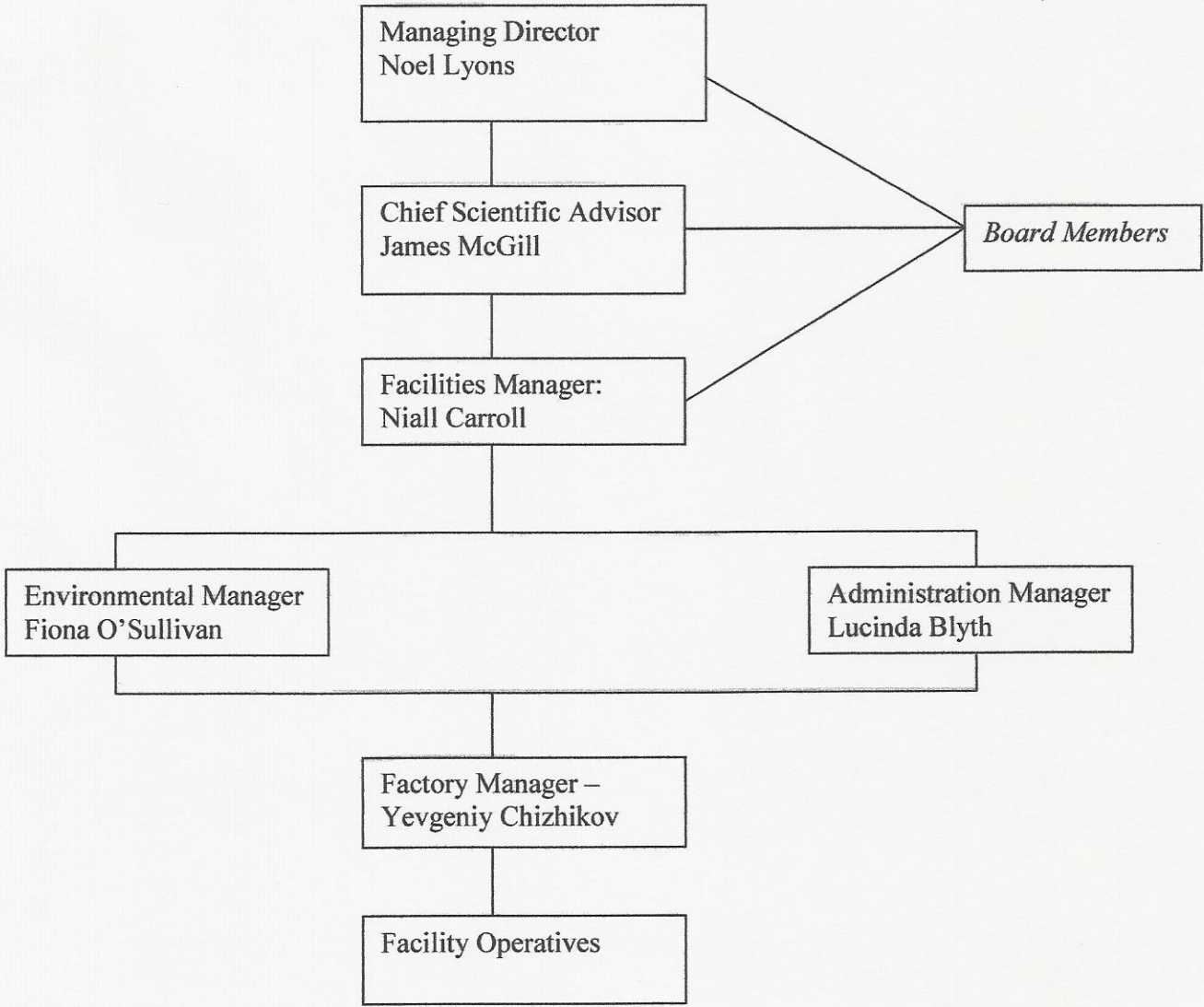
The EMP for Molaisín Compost Ltd. is as follows:

Environmental Management Plan	Responsibility	Target Date
Continuous Onsite Training of Operators	Fiona O'Sullivan Niall Carroll	Ongoing
Improve compost marketing tools	Fiona O'Sullivan	Dec 13
Implement Requirements of Energy Audit	Fiona O'Sullivan	Dec 13
Improve Energy Efficiency	Fiona O'Sullivan	Dec 13
Raw Material Usage	Fiona O'Sullivan	Dec 13

Attachment 5

Official

MCL5 Structure and Responsibility



Molaisín Compost Ltd. – Facility Organisational Chart

Molaisín Compost Ltd., Waste Licence W0245-01 Environmental Management System Signed By:	Title: Structure & Responsibility Document No. MCL5
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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.

Molaisin Compost Ltd., Waste Licence W0245-01 Environmental Management System Signed By:	Title: Structure & Responsibility Document No. MCL5
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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.

Duties:

- All environmental monitoring as per Planning Permissions and Waste Permit or Waste Licence
- Ensuring pre acceptance criteria are met for incoming waste
- Soil sampling
- Process control monitoring
- Product quality assurance
- Implementation of environmental management system
- Research and development
- Waste management
- Industrial and environmental compliance
- Planning Permission Applications
- Waste Permit Applications
- Health and Safety

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

Molaisín Compost Ltd., Waste Licence W0245-01 Environmental Management System Signed By:	Title: Structure & Responsibility Document No. MCL5
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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 a director of Molaisín Compost Ltd.

Yevgeniy Chizhikov, Factory Manager

Yevgeniy has been trained in all aspects of factory management by Niall Carroll. Yevgeniy has successfully completed the Fás Waste Management Course.

The factory manager is responsible for the daily operation of the composting facility. The manager can delegate responsibility to his assistant manager and jobs to the general operators; however it is his duty to oversee any delegated work, and ensure that it is completed to a satisfactory standard. The responsibilities and duties of the factory manager are detailed as follows:

- Daily operation of the composting facility and supervision of all factory staff.
- Factory operator training
- Ensuring that all vehicles entering and leaving the facility meet McGill Environmental Systems (Irl.) Ltd. requirements.
- Supervising the landspreading of compost
- Ensure that incoming biosolids have been approved by the Environmental Manager.
- Responsible for all factory staff and the delegation of work
- Responsible for health and safety in the factory
- Responsible for ensuring that incoming materials are consistent, of good quality and are suitable for composting.
- Ensuring that raw material expenditure is not overly excessive.

Molaisin Compost Ltd., Waste Licence W0245-01 Environmental Management System	Title: Structure & Responsibility Document No. MCL5
Signed By: _____	

- Ensure that a continuous throughput of material is maintained while keeping below 1000 cubic metres of waste material on site at any one time.
- Ensuring that the factory grounds are maintained to as high a standard as possible.
- Responsible for the implementation of the Environmental Management System on site

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:

- Day to day running of the office
- Records of Biosolids / Raw Materials entering the facility
- Payroll
- Dealing with Incoming Loads from Clients - weigh in/out
- Administration and update of Company Database
- Dealing with Reporting information from the reporting database system
- Preparation of Weekly reports for Management
- Preparation of Purchase Orders to vendors
- Monthly Invoicing

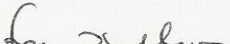

Factory Operators

The duties of the factory operator include:

Signed By: _____

- knowledge of composting process, temperature range etc.
- mixing of incoming biosolids with dry amendments at the correct ratio
- ensuring that all pipes are clean prior to placing mix in bay
- correct method of filling the composting bays
- placing temperature probe in bay
- removal of finished compost from bays
- landspreading of compost / filling haulage trucks with compost
- visual inspection of quality of incoming biosolids
- response to the delivery of unacceptable materials
- visual inspection of vehicles delivering biosolids and raw materials
- cleaning of wheels and body of vehicles prior to leaving the facility
- ensuring all vehicles are covered entering and leaving the facility
- awareness of irregularities in the system, e.g. temperatures not rising correctly
- emergency response
- operation of control panel and aeration fans
- procedure for opening / closing facility at beginning and end of working day
- operation of the loader and mixing equipment
- safety procedures to be followed when operating heavy machinery, within, and outside the building
- keeping internal passageways and tipping area clear of biosolids
- maintenance of plant and machinery

Attachment 6

Molaisín Compost Ltd., Waste Licence W0245-01 Environmental Management System Signed By: 	Title: Communications Procedure Document No. MCL10 
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MCL10 Communications Procedure

1. The purpose of this procedure is to describe the methods of communication at Molaisín Compost Ltd.

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

3. The procedure refers to:
 - Waste Licence W0245-01
 - Planning Permission PD.02.681

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 EPA by phone or fax and shall confirm the communication in writing within 24 hours.
 - Records of external communication are kept by the Office 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 Public programme for information
 - As per Waste Licence Molaisín have put in place a programme to ensure that members of the public can obtain information concerning the environmental performance of the Permit Holder at all reasonable times.

Molaisin Compost Ltd.,
Waste Licence W0245-01
Environmental Management System

Title: Communications Procedure
Document No. MCL10

Signed By: _____

- The facility notice board provides contact details for members of the public to arrange to meet Fiona O'Sullivan regarding all environmental reports and records.
- All documentation relating to incoming waste and loads of material being moved off site are available during the facility opening hours.
- The site is manned for enquiries during opening hours.

8 Emergency Response

- 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.