

Appendix 1

Leachate Composition

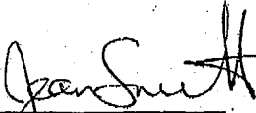
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Type of Sample			Leachate	Leachate	Leachate	Leachate	Leachate
Location code:			00078/1-LM1	00078/1-LM3	00078/1-LM5	00078/1-LM7	00078/1-LM8
Sampling point:			Layering of sample - clear with red solids	Light brown colour	Black colour	Dark brown colour	Dark brown colour
Sampled by:			JMcG/JS	JMcG/JS	JMcG/JS	JMcG/JS	JMcG/JS
Time Sampled:			12:15	12:20	12:30	12:35	12:40
Start/End - Dates of Analysis:							
Status of results:			Final Report	Final Report	Final Report	Final Report	Final Report
Parameter	Units	Limits					
F Depth of Borehole	m		nm	nm	nm	nm	nm
F Leachate Level	m		nm	nm	nm	nm	nm
F Temperature	°C		10.0	12.0	21.0	34.0	37.0
pH	pH		7.1	7.0	7.4	7.5	7.9
Conductivity	µS/cm		3900.0	3910.0	11850.0	25000.0	25800.0
Biochemical Oxygen Demand	mg/l O2		12.6	38.1	88.0	188.0	345.0
Chemical Oxygen Demand	mg/l O2		169	356	980	3505	5005
Ammonia	mg/l N		175.927	221.472	757.897	2056.106	2237.512
Chloride	mg/l Cl		299	296	1131	2648	2661
Total Oxidised Nitrogen	mg/l N		0.3	<0.3	<0.3	<0.3	<0.3
Nitrite	mg/l N		<0.005	<0.005	<0.005	<0.005	<0.005
Ortho-Phosphate	mg/l P		0.129	1.072	1.257	18.197	22.023

Comments:

- 1) Results highlighted and in bold are outside specified limits.
- 2) All Metals Analysed in the EPA Dublin Laboratory,
Cyanide Analysed in the EPA Cork Laboratory,
Phenols Analysed in the EPA Castlebar Laboratory.
- 3) nm "Not measured"
- 4) nd "None detected"
- 5) nt "No time" - Time not recorded
- 6) tntc "Too numerous to count"
- 7) F "Field measured parameters"

Signed:



Michael Neill, Regional
Chemist

Date:

9/6/04

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Appendix 2

Leachate Levels

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April 2004

Site Name : Ballaghveny Landfill Site	Operator : North Tipperary County Council.	Site Address : Ballaghveny, Ballymackey, Nenagh, Co. Tipperary.	National Grid Reference : 197040.85E, 182012.11N
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Instrument used :
Geotechnical Instruments EA 450/010 Borehole Dipper

Sampling Points: Leachate Lagoons, L1 & LC6 (L2, L3, L4, & L5 are blocked)
LM01,LM02,LM03,LM04,LM05,LM06,LM07,LM08,LM09

Monitoring Personnel: Olga Broderick, Environmental Technician

Results							
Date	Time	Site Status	Weather	Leachate levels monitoring point	Leachate monitoring point Depth (meters)	Depth at which leachate reached (meters)	Height of leachate (meters)
3/4/04	10.40	Open	Dry	L1	8.0	7.0	1.0
	10.45			Leachate Lagoon No.1		2.5	
	10.50			LC 6	0.5	0.15	0.35
	10.55			Leachate Lagoon No.2	5.5	2.0	3.5
	11.00			LM1	8.5	7.0	1.5
	11.05			LM2	9.7	7.7	2.0
	11.10			LM3	9.0	7.0	2.0
	11.15			LM4	7.3	7.2	0.1
	11.20			LM5	9.0	8.0	1.0
	11.25			LM6	11.0	Blocked	
	11.30			LM7	11.5	9.5	2.0
	11.35			LM8	10.0	8.4	1.6
	11.40			LM9	10.0	9.2	0.8
	10/04/04			10.40	Open	Showers	L1
10.45		Leachate Lagoon No.1		2.5			
10.50		LC 6	0.5	0.15			0.35
10.55		Leachate Lagoon No.2	5.5	3.0			2.5
11.00		LM1	8.5	6.8			1.7

to 8.5m	11.05			LM2	9.7	7.2	2.5
	11.10			LM3	9.0	7.0	2.0
	11.15			LM4	7.3	7.2	0.1
	11.20			LM5	9.0	8.0	1.0
	11.25			LM6	11.0	Blocked	
	11.30			LM7	11.5	8.4	3.1
	11.35			LM8	10.0	8.4	1.6
	11.40			LM9	10.0	9.4	0.6
	17/04/04	10.40	Open	Windy and showers	L1	8.0	7.0
BH has filled in to 8.5m	10.45			Leachate Lagoon No.1		2.5	
	10.50			LC 6	0.5	0.15	0.35
	10.55			Leachate Lagoon No.2	5.5	3.0	2.5
	11.00			LM1	8.5	6.0	2.5
	11.05			LM2	9.7	7.5	2.2
	11.10			LM3	9.0	7.0	2.0
	11.15			LM4	7.3	7.2	0.1
	11.20			LM5	9.0	8.0	1.0
	11.25			LM6	11.0	Blocked	
	11.30			LM7	11.5	9.0	2.5
	11.35			LM8	10.0	8.9	1.1
	11.40			LM9	10.0	9.7	0.3
	24/04/04	10.40	Open	Windy	L1	8.0	6.5
	10.45			Leachate Lagoon No.1		2.5	
	10.50			LC 6	0.5	0.15	0.35
	10.55			Leachate Lagoon No.2	5.5	2.5	3.0
BH has filled in to 8.5m	11.00			LM1	8.5	6.6	1.9
	11.05			LM2	9.7	7.7	2.0
	11.10			LM3	9.0	7.1	1.9
	11.15			LM4	7.3	7.2	0.1
	11.20			LM5	9.0	8.1	0.9
	11.25			LM6	11.0	Blocked	
	11.30			LM7	11.5	9.0	2.5
	11.35			LM8	10.0	8.7	1.3
	11.40			LM9	10.0	9.6	0.4

May 2004

Site Name : Ballaghveny Landfill Site	Operator : North Tipperary County Council.	Site Address : Ballaghveny, Ballymackey, Nenagh, Co. Tipperary.	National Grid Reference : 197040.85E, 182012.11N				
Instrument used : Geotechnical Instruments EA 450/010 Borehole Dipper							
Sampling Points: Leachate Lagoons, L1 & LC6 (L2, L3, L4, & L5 are blocked). LM01,LM02,LM03,LM04,LM05,LM06,LM07,LM08,LM09							
Monitoring Personnel: Olga Broderick, Environmental Technician							
Results							
Date	Time	Site Status	Weather	Leachate levels monitoring point	Leachate monitoring point Depth (meters)	Depth at which leachate reached (meters)	Height of leachate (meters)
7/05/04	10.40	Open	Dry	L1	8.0	6.5	1.5
	10.45			Leachate Lagoon No.1		2.5	
	10.50			LC 6	0.5	0.15	0.35
	10.55			Leachate Lagoon No.2	5.5	2.0	3.5
	11.00			LM1	8.5	6.0	2.5
	11.05			LM2	9.7	7.7	2.0
	11.10			LM3	9.0	7.0	2.0
	11.15			LM4	7.3	7.2	0.1
	11.20			LM5	9.0	8.0	1.0
	11.25			LM6	11.0	Blocked	
	11.30			LM7	11.5	8.5	3.0
	11.35			LM8	10.0	8.4	1.6
	11.40			LM9	10.0	9.4	0.6
	14/05/04			10.40	Open	Dry	L1
10.45		Leachate Lagoon No.1		2.5			
10.50		LC 6	0.5	0.15			0.35
10.55		Leachate	5.5	2.5			2.0

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Note: this BH has filled in and its base is 8.5 m now

BH has filled in to 8.5m	11.00			LM1	8.5	6.8	1.7			
	11.05			LM2	9.7	7.4	2.2			
	11.10			LM3	9.0	7.0	2.0			
	11.15			LM4	7.3	7.2	0.1			
	11.20			LM5	9.0	8.0	1.0			
	11.25			LM6	11.0	Blocked				
	11.30			LM7	11.5	8.5	3.0			
	11.35			LM8	10.0	8.5	1.5			
	11.40			LM9	10.0	9.4	0.6			
21/05/04	10.40	Open	Dry and Sunny	L1	8.0	7.0	1.0			
	10.45			Leachate Lagoon No.1		2.5				
	10.50			LC 6	0.5	0.15	0.35			
	10.55			Leachate Lagoon No.2	5.5	3.0	2.5			
	BH has filled in to 8.5m			11.00			LM1	9.0	6.0	3.0
				11.05			LM2	9.7	7.5	2.2
				11.10			LM3	9.0	7.0	2.0
				11.15			LM4	7.3	7.2	0.1
				11.20			LM5	9.0	8.0	1.0
11.25				LM6	11.0	Blocked				
11.30				LM7	11.5	9.0	2.5			
11.35				LM8	10.0	8.9	1.1			
11.40				LM9	10.0	9.7	0.3			
28/05/04	10.40	Open	Sunny	L1	8.0	6.5	1.5			
	10.45			Leachate Lagoon No.1		2.5				
	10.50			LC 6	0.5	0.15	0.35			
	10.55			Leachate Lagoon No.2	5.5	2.0	3.5			
BH has filled in to 8.5m	11.00			LM1	9.0	6.5	2.5			
	11.05			LM2	9.7	7.7	2.0			
	11.10			LM3	9.0	7.7	1.3			
	11.15			LM4	7.3	7.2	0.1			
	11.20			LM5	9.0	8.1	0.9			
	11.25			LM6	11.0	Blocked				
	11.30			LM7	11.5	9.0	2.5			
	11.35			LM8	10.0	8.7	1.3			
	11.40			LM9	10.0	9.6	0.4			

June 2004

Site Name : Ballaghveny Landfill Site	Operator : North Tipperary County Council.	Site Address : Ballaghveny, Ballymackey, Nenagh, Co. Tipperary.	National Grid Reference : 197040.85E, 182012.11N				
Instrument used : Geotechnical Instruments EA 450/010 Borehole Dipper							
Sampling Points: Leachate Lagoons, L1 & LC6 (L2, L3, L4, & L5 are blocked) LM01,LM02,LM03,LM04,LM05,LM06,LM07,LM08,LM09							
Monitoring Personnel: Olga Broderick, Environmental Technician							
Results							
Date	Time	Site Status	Weather	Leachate levels monitoring point	Leachate monitoring point Depth (meters)	Depth at which leachate reached (meters)	Height of leachate (meters)
5/06/04	10.40	Open	Dry	L1	8.0	7.0	1
Note: this BH has filled in and its base is 8.5 m now	10.45			Leachate Lagoon No.1		2.5	
	10.50			LC 6	0.5	0.15	0.35
	10.55			Leachate Lagoon No.2	5.5	2.0	3.5
	11.00			LM1	8.5	6.0	2.5
	11.05			LM2	9.7	7.5	2.2
	11.10			LM3	9.0	7.5	1.5
	11.15			LM4	7.3	7.2	0.1
	11.20			LM5	9.0	8.0	1.0
	11.25			LM6	11.0	Blocked	
	11.30			LM7	11.5	8.5	3.0
	11.35			LM8	10.0	8.5	1.5
	11.40			LM9	10.0	9.5	0.5
14/06/04	10.40	Open	Sunny	L1	8.0	7.2	0.8
	10.45			Leachate Lagoon No.1		2.5	
	10.50			LC 6	0.5	0.15	0.35
	10.55			Leachate	5.5	2.5	2.0

BH has filled in to 8.5m	11.00			LM1	8.5	6.5	2.0
	11.05			LM2	9.7	7.5	2.2
	11.10			LM3	9.0	7.5	1.5
	11.15			LM4	7.3	7.2	0.1
	11.20			LM5	9.0	8.0	1.0
	11.25			LM6	11.0	Blocked	
	11.30			LM7	11.5	9.0	2.5
	11.35			LM8	10.0	8.5	1.5
	11.40			LM9	10.0	9.4	0.6
	19/06/04	10.40	Open	Dry and Sunny	L1	8.0	7.0
BH has filled in to 8.5m	10.45			Leachate Lagoon No.1		2.5	
	10.50			LC 6	0.5	0.15	0.35
	10.55			Leachate Lagoon No.2	5.5	3.0	2.5
	11.00			LM1	9.0	6.0	3.0
	11.05			LM2	9.7	7.4	2.3
	11.10			LM3	9.0	7.4	1.6
	11.15			LM4	7.3	7.2	0.1
	11.20			LM5	9.0	8.0	1.0
	11.25			LM6	11.0	Blocked	
	11.30			LM7	11.5	9.0	2.5
11.35			LM8	10.0	9.0	1.0	
11.40			LM9	10.0	9.7	0.3	
26/06/04	10.40	Open	Dry	L1	8.0	7.0	1.0
	10.45			Leachate Lagoon No.1		2.5	
	10.50			LC 6	0.5	0.15	0.35
	10.55			Leachate Lagoon No.2	5.5	2.0	3.5
BH has filled in to 8.5m	11.00			LM1	9.0	6.5	2.5
	11.05			LM2	9.7	7.7	2.0
	11.10			LM3	9.0	7.4	1.6
	11.15			LM4	7.3	7.2	0.1
	11.20			LM5	9.0	8.1	0.9
	11.25			LM6	11.0	Blocked	
	11.30			LM7	11.5	9.0	2.5
	11.35			LM8	10.0	8.5	1.5
	11.40			LM9	10.0	9.5	0.5