

## Noise & Dust Monitoring Results 2004

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Data was wrong.  
Has been corrected.

**Frank O'Halloran**  
**Senior Engineer,**  
**Environment Section,**  
**North Tipperary Co. Council**  
**Machinery Yard,**  
**Limerick Road,**  
**Nenagh,**  
**Co. Tipperary.**  
**18/03/05**  
**Our Ref: WM/122/00**

**Mr. Caoimhin Nolan,**  
**Waste Licence Inspector,**  
**EPA Regional Inspectorate,**  
**John Moore Rd.**  
**Castlebar,**  
**Co. Mayo.**

**Ref : Waste Licence 78-1, Ballaghveny Landfill – Dust deposition Levels**

**Dear Mr. Nolan,**

I am writing to you in regard to Schedule E.3 of waste Licence 78-1. Please find attached the results of dust monitoring recently conducted. The results indicate that Ballaghveny Landfill is not causing a significant dust nuisance problem.

---

**Frank O'Halloran**

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## Dust Deposition Levels Monitoring Form

<b>Site Name :</b> Ballaghveny Landfill Site	<b>Operator :</b> North Tipperary County Council	<b>Site Address :</b> Ballaghveny, Ballymackey, Nenagh, Co. Tipperary.	<b>National Grid Reference :</b> 197040.85E, 182012.11N
<b>Site Status :</b> Active	<b>Date Guage Jar Placed :</b> 04/01/05	<b>Date Guage Jar Removed:</b> 05/02/05	
<b>Instrument used :</b> Standard Bergerhoff Dust Deposition Guage			
<b>Monitoring Personnel :</b> Olga Broderick			

### Results

Sample Station Number	Dust deposited (mg/m <sup>2</sup> /day)	Dust Deposition Level Limit (mg/m <sup>2</sup> /day)	Limit broken
DSP1	17.0	350	No
DSP2	34.9	350	No
DSP3	-	350	-
DSP4	18.9	350	No

**Note:**

The dust jar at monitoring point DSP3 was damaged during the 33 day monitoring period/

Sent to EPA w/e 4/9/04

Comhairle Contae Thiobraid Árann Thuaidh  
North Tipperary County Council



Frank O'Halloran  
Senior Engineer,  
Environment Section,  
North Tipperary Co. Council  
Machinery Yard,  
Limerick Road,  
Nenagh,  
Co. Tipperary.  
26/08/04  
Our Ref: WM/122/00

Mr. Caoimhin Nolan,  
Waste Licence Inspector,  
EPA Regional Inspectorate,  
John Moore Rd.  
Castlebar,  
Co. Mayo.

Ref: Waste Licence 78-1, Ballaghveny Landfill – Dust deposition Levels

Dear Mr. Nolan,

I am writing to you in regard to Schedule E.3 of waste Licence 78-1. Please find attached the results of dust monitoring recently conducted. The results indicate that Ballaghveny Landfill is not causing a significant dust nuisance problem but exceedences have occurred in the vicinity of DSP1.

This is due to the onsite civil works involved in Ballaghveny contract 4 i.e. the construction of cells 9,10 and 11. The mixing unit for the BES is situated in this area. This involves extra lorries and construction traffic bringing on site host material and bentonite powder for mixing. It is considered that the extra construction traffic has caused the elevated dust levels at DSP1 and not the daily landfill traffic. Contract 4 will be completed in September 2004 and dust level monitoring stations should thereafter remain within the licence requirements.

---

Frank O'Halloran



## Dust Deposition Levels Monitoring Form

<b>Site Name :</b> Ballaghveny Landfill Site	<b>Operator :</b> North Tipperary County Council	<b>Site Address :</b> Ballaghveny, Ballymackey, Nenagh, Co. Tipperary.	<b>National Grid Reference :</b> 197040.85E, 182012.11N
<b>Site Status :</b> Active	<b>Date Guage Jar Placed :</b> 21/07/04	<b>Date Guage Jar Removed:</b> 20/08/04	
<b>Instrument used :</b> Standard Bergerhoff Dust Deposition Guage			
<b>Monitoring Personnel :</b> Olga Broderick			

### Results

Sample Station Number	Dust deposited (mg/m <sup>2</sup> /day)	Dust Deposition Level Limit (mg/m <sup>2</sup> /day)	Limit broken
DSP1	870.65	350	Yes
DSP2	35.55	350	No
DSP3	229.20	350	No
DSP4	88.07	350	No

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**North Tipperary Co. Council**  
**Machinery Yard,**  
**Limerick Road,**  
**Nenagh,**  
**Co. Tipperary.**  
**30/10/04**  
**Our Ref: WM/122/00**

**Mr. Caoimhin Nolan,**  
**Waste Licence Inspector,**  
**EPA Regional Inspectorate,**  
**John Moore Rd.**  
**Castlebar,**  
**Co. Mayo.**

**Ref: Waste Licence 78-1, Ballaghveny Landfill – Dust deposition Levels**

**Dear Mr. Nolan,**

I am writing to you in regard to Schedule E.3 of waste Licence 78-1. Please find attached the results of dust monitoring recently conducted. The results indicate that Ballaghveny Landfill is not causing a significant dust nuisance problem but exceedences have occurred in the vicinity of DSP3.

This is due to the onsite civil works involved in Ballaghveny contract 4 i.e. the construction of cells 9,10 and 11. This involves extra lorries and construction traffic bringing on site host material, bentonite powder for mixing and drainage stone. It is considered that the extra construction traffic has caused the elevated dust levels at DSP3 and not the daily landfill traffic. Contract 4 will be completed in October 2004 and dust level monitoring stations should thereafter remain within the licence requirements.

---

**Frank O'Halloran**





<b>Site Name :</b> Ballaghveny Landfill Site	<b>Operator :</b> North Tipperary County Council	<b>Site Address :</b> Ballaghveny, Ballymackey, Nenagh, Co. Tipperary.	<b>National Grid Reference :</b> 197040.85E, 182012.11N
<b>Site Status :</b> Active	<b>Date Guage Jar Placed :</b> 10/09/04	<b>Date Guage Jar Removed:</b> 8/10/04	
<b>Instrument used :</b> Standard Bergerhoff Dust Deposition Guage			
<b>Monitoring Personnel :</b> Olga Broderick			

### Results

Sample Station Number	Dust deposited (mg/m <sup>2</sup> /day)	Dust Deposition Level Limit (mg/m <sup>2</sup> /day)	Limit broken
DSP1	36.3	350	No
DSP2	150.9	350	No
DSP3	1,550	350	Yes
DSP4	61.8	350	No

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Courthouse, Nenagh, Co. Tipperary

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'ag obair leis an bpobal'

'working with the community'



REPORT 24169-Rev1

**ENVIRONMENTAL NOISE SURVEY**

**BALLAGHVENY LANDFILL**

**August 2004**

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**ENVIRONMENTAL NOISE SURVEY 2004  
BALLAGHVENY LANDFILL**

**SUMMARY**

A daytime environmental noise survey was carried out at Ballaghveny Landfill, on the 11<sup>th</sup> August, 2004. The aim of the survey was to determine ambient noise levels at the Landfill Boundary and at Noise Sensitive Locations (NSL) 1 and 2, and to assess compliance with the limits of the Landfills' EPA Licence (Licence No.78-1).

Extensive construction was in progress at the time of the noise survey. The landfill was operating normally otherwise.

Location	Measured Noise Level dB(A)	Specific Noise Level dB(A)	Comment
B1	56	Not Detectable	Construction noise. Normal landfill operations inaudible.
B2	58	Not Detectable	Construction noise. Normal landfill operations inaudible.
B3	59	Not Detectable	Construction noise. Normal landfill operations inaudible.
B4	49	Not Detectable	Construction noise. Normal landfill operations inaudible.
NSL1	41	Not Detectable	Construction noise. Normal landfill operations inaudible.
NSL2	46	Not Detectable	Construction noise. Normal landfill operations inaudible.

Noise levels at all locations are deemed to comply with the EPA daytime limit of 55dB(A).

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**Environmental Noise Survey  
Ballaghveny Landfill, Ballymackey.**

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## Environmental Noise Survey 2004 Ballaghveny Landfill, Ballymackey

### 1 INTRODUCTION

This environmental noise survey was commissioned by North Tipperary County Council. The scope of the work was to measure daytime noise levels due to Ballaghveny Landfill operations at boundary locations and noise sensitive locations (NSL's), and to comment on compliance with the EPA licence daytime noise limit of 55dB(A). The general survey methodology follows ISO 1996 "Description and measurement of environmental noise", and the EPA Environmental Noise Survey Guidance Document (2003).

Extensive construction was in progress on site at the time of the noise survey.

### 2 METHODOLOGY

The measurement parameters  $L_{Aeq}$ ,  $L_{A90}$ , and  $L_{A10}$  are reported for all locations. In addition, the *specific noise levels* were determined for each measurement position. The specific noise level is the component of the ambient noise that can be attributed to a specific source, i.e. Ballaghveny Landfill. The method of assessing the specific noise level is summarised in Table 1. Further details on the noise survey are included in Appendix 1.

**Table 1** Noise parameters used for estimating landfill specific noise level

Description of Noise	Parameter best representing specific noise
Specific noise source dominant, no other significant noise sources	$L_{Aeq}$
Intermittent interfering noise (e.g. construction, traffic/wind noise, animals) with underlying steady specific noise audible	$L_{A90}$ if landfill clearly audible or $< L_{A90}$ if not clearly audible
Almost continuous interfering noise (e.g. construction, traffic/wind noise, animals), with specific noise occasionally barely audible	$L_{AF}$ observed in traffic lulls
Specific noise inaudible	Not Detectable (nd)

### 3 MEASUREMENT LOCATIONS

Four boundary measurement locations and two noise sensitive locations (NSL's) were surveyed as required in the EPA licence. These locations are the same as in the 2003 survey.

The location map in Figure 1 shows the boundary positions and noise sensitive locations.

- Boundary Location 1 (B1): Located on the old landfill access road towards the south-eastern corner of the site near the lagoon;
- Boundary Location 2 (B2): Located on the old landfill access road towards the north-eastern side of the landfill. The position is situated approximately 5m below road level;
- Boundary Location 3 (B3): Located at the highest point of the landfill approximately 50 meters from the new access road;
- Boundary Location 4: (B4): Located at the southern corner of the landfill approximately 5m from the main road outside the landfill;
- Noise Sensitive Location (NSL1): Located at a house approximately 500m from the site entrance in the direction away from Nenagh;
- Noise Sensitive Location (NSL2): Located at the entrance to a house approximately 100m from the site entrance in the direction away from Nenagh.

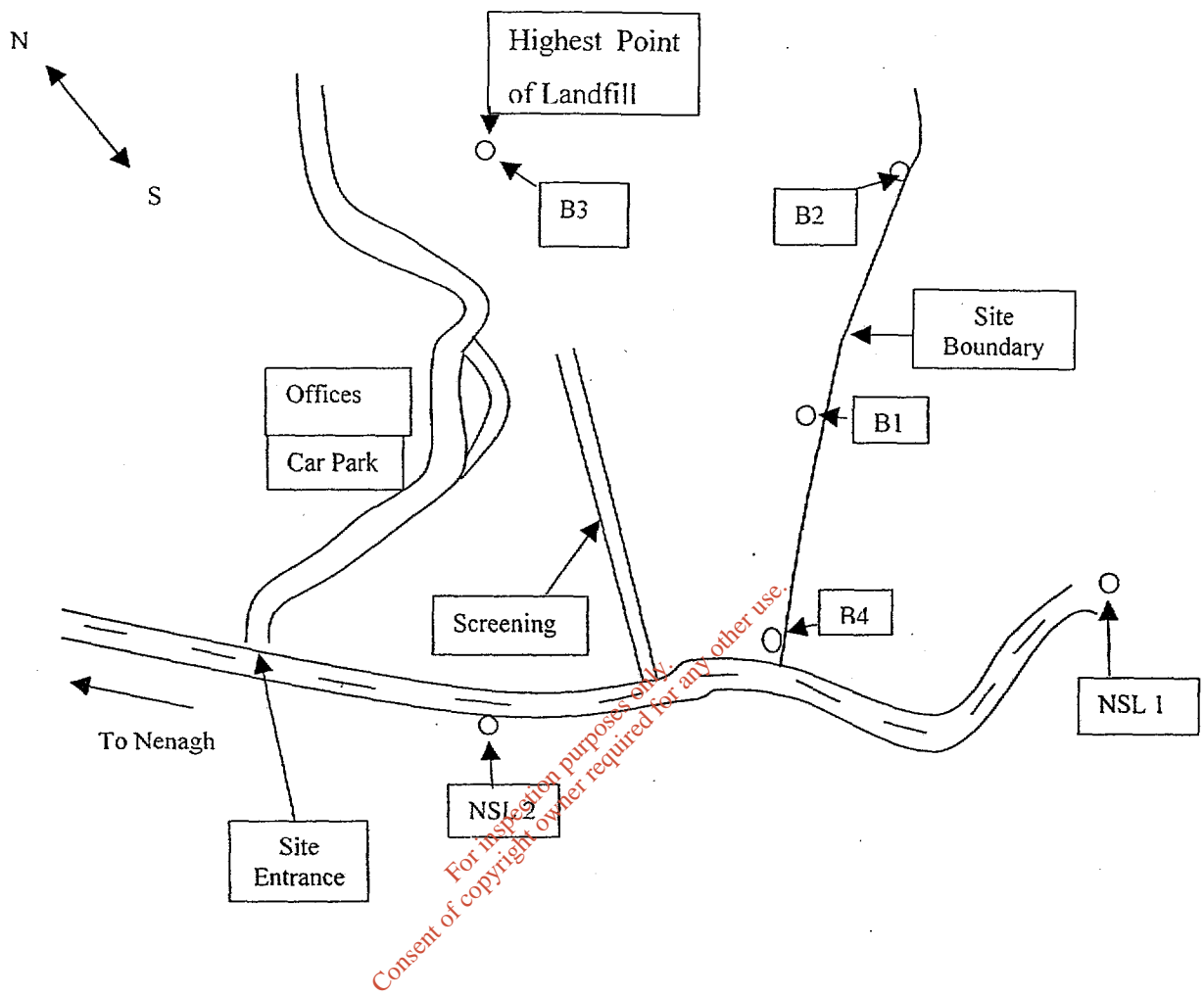


Figure 1. Sketch location map, showing boundary measurement positions B1 to B4, and noise sensitive locations NSL 1 & NSL 2

## 4 RESULTS

The measured noise levels are presented in Table 2. A table containing noise spectra is given in Appendix 3.

Loc.	Time	Measured Noise Level dB(A)			Specific Noise Level dB(A)	Comments
		L <sub>Aeq</sub>	L <sub>A90</sub>	L <sub>A10</sub>		
B1	10.00	56	43	52	nd	Construction noise, loader and screener operating approx.60m away, trucks passing, warning sirens,
B2	10.35	58	43	58	nd	Trucks passing approx. 10m from position B2, other construction machinery audible at lulls
B3	11.15	59	52	59	nd	Construction noise
B4	09.20	49	41	52	nd	Construction noise, warning sirens, occasional local traffic
NSL1	12.05	41	35	43	nd	Local traffic paused out, low level noise audible from construction machinery at landfill
NSL2	12.40	46	40	49	nd	Local traffic paused out, construction machinery audible from landfill

**Table 2:** Measured daytime noise levels at Landfill Boundaries and Noise Sensitive Locations near Ballaghveny Landfill on 11<sup>th</sup> August, 2004.

5. ASSESSMENT OF COMPLIANCE WITH LICENCE LIMITS

At boundary locations B1, B2 and B3, where 55dB(A) was exceeded, the noise was due to construction activities on site during the survey. The landfill operations were inaudible in the ambient construction noise, and were likely to be less than 55dB(A).

There was no exceedance of the Environmental Protection Agency daytime noise limit of 55dB(A) at locations, B4, NSL1 and NSL2. Construction noise from the landfill was audible at low levels at these locations. Landfill operations were inaudible in the ambient noise, and were likely to be less than the measured levels.

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## APPENDIX 1. MEASUREMENT DETAILS

### Instrumentation

B&K Sound Level Meter Type 2260.

Last laboratory calibrations: Bruel and Kjaer 2260 16<sup>th</sup> September 2003.  
B&K/Danak certificate no. CA031954.

The instrument was calibrated immediately before and after the measurements with a Bruel & Kjaer Type 4231 Calibrator.

### Measurement and Reference Intervals

Measurement times were typically 30 minutes at each location.

### Survey Time and Meteorological Conditions

09:00-13:30 hrs 11<sup>th</sup> August, 2004.

Light breeze, dry, warm, sunny. Heavy showers after 11.30 hrs.

### Landfill Operating Conditions

The landfill was in full operation during the survey. There was also significant construction in progress, which contributed most significantly to the noise environment.

### Survey Personnel

Measurements and reporting were carried out by Kieran Corcoran MSc, of ANV Technology Ltd.



## APPENDIX 2. TERMINOLOGY

- dB(A)** a logarithmic noise scale, called the decibel scale. The "A" indicates that a frequency weighting has been applied to take account of the variation in the sensitivity of the human ear as a function of frequency.
- L<sub>Aeq</sub>** the average noise level during the measurement period, which includes all noise events. The L<sub>Aeq</sub> value has been found to correlate well with human tolerance of noise, and is the value normally used in setting and monitoring industrial noise limits.
- L<sub>A90</sub>** the noise level exceeded for 90% of the time. It is generally taken as being representative of the steady underlying background noise at a location. It tends to exclude short events such as cars passing, dogs barking, aircraft flyovers etc.
- L<sub>A10</sub>** the noise level exceeded for 10% of the time, and is a measure of the higher noise levels present in the ambient noise.
- L<sub>AS</sub>, L<sub>AF</sub>** the noise level measured with the instruments response time set to standardised "Slow" or "Fast" response.

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APPENDIX 3. NOISE SPECTRA (L<sub>AEQ</sub>)

Location	Date	Time	Frequency (Hz)									
			31.5	63	125	250	500	1k	2k	4k	8k	A
B1	2004 Aug 11	10:04:47	69.8	68.1	59.5	54.9	52.5	50.3	47.8	45	35.5	55.9
B2	2004 Aug 11	10:35:04	68.6	71.3	62.6	58.1	54.5	52.5	50.6	46.1	39.7	58.4
B3	2004 Aug 11	11:31:38	73.2	69.7	62.2	47.8	44	46.5	47.6	43.2	36.2	53.5
B4	2004 Aug 11	09:35:52	65.3	66.4	50.7	42.6	41	45.8	38.9	33.4	27.1	48.7
NSL1	2004 Aug 11	12:03:34	64.9	61.1	48.1	38	32.7	34.2	31.7	30	30	40.6
NSL2	2004 Aug 11	12:26:12	64.9	61.3	49.7	41.8	39.9	41.3	38.2	34.2	33.9	46

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