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Lobinstown Quarry

Environmental Impact Assessment Report

Appendix 9

Dust Monitoring Results

2024



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environmental consultancy*

TMS Environment Ltd
53 Broomhill Drive
Tallaght
Dublin 24
Phone: +353-1-4626710
Fax: +353-1-4626714
Web: www.tmsenv.ie

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DUST DEPOSITION SURVEY REPORT

DECEMBER 2021

FOR

**LAGAN,
Lobinstown
Co. Meath.**

James Butler

Report Ref 29381
TMS Environment Ltd.
18 January 2022

Approved by:

Tom Ryan
Senior Consultant

18 January 2022

1.0 Scope

This report presents the results of a dust deposition survey, which was carried out at 4 dust monitoring locations (D1 to D4) around the boundary of the Lagan facility, which is situated in Lobinstown, Co. Meath, to assess compliance with the following Licence Condition:

- Condition 17 of Planning Permission 17.QD.0017.

Dust levels at the site boundary shall not exceed 350 milligrammes per square metre per day, averaged over a continuous period of 30 days (Bergerhoff Gauge).

2.0 Methodology

The survey was conducted by TMS Environment Ltd personnel during the period of the 19th of November 2021 to the 20th of December 2021. The procedure employed for this survey was Standard Method *VDI 2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Institute)*.

The dust deposition rate was measured by positioning Bergerhoff Dust Deposition Gauges at strategic locations near the boundaries of the site for a period of 31 days. The selection of sampling point locations was agreed with the Local Authority following consideration of the requirements of *VDI 2119* with respect to the location of the samplers relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. After the exposure period was complete, the Gauges were removed from the site; the dust deposits in each Gauge were determined gravimetrically and expressed as mg/m²-day of insoluble particulate in accordance with the relevant standard. The locations of the Dust Deposit Gauges are marked as D1, D2, D3 and D4 and are presented in Appendix I - Monitoring Locations.

3.0 Measurement Results

The measurement results of the dust deposition monitoring survey are presented below in Table 3.1.

Table 3.1 Dust Deposition Monitoring Results

Monitoring Location	Dust Deposition mg/m ² /day
D1	198
D2	194
D3	69
D4	142

4.0 Evaluation of Results

As seen from the results of the dust deposition monitoring study undertaken in the vicinity of the Lagan site, presented in Table 3.1 above the measured dust deposition rate is within the prescribed limit of 350 mg/m²/day for all monitoring locations reported.

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APPENDIX I
MONITORING LOCATIONS

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DUST DEPOSITION SURVEY REPORT

JANUARY 2022

FOR

**LAGAN,
Lobinstown
Co. Meath.**

James Butler

Report Ref 29468
TMS Environment Ltd.
28 April 2022

Approved by:

Tom Ryan
Senior Consultant

28 April 2022

1.0 Scope

This report presents the results of a dust deposition survey, which was carried out at 4 dust monitoring locations (D1 to D4) around the boundary of the Lagan facility, which is situated in Lobinstown, Co. Meath, to assess compliance with the following Licence Condition:

- Condition 17 of Planning Permission 17.QD.0017.

Dust levels at the site boundary shall not exceed 350 milligrammes per square metre per day, averaged over a continuous period of 30 days (Bergerhoff Gauge).

2.0 Methodology

The survey was conducted by TMS Environment Ltd personnel during the period of the 20th of December 2021 to the 17th of January 2022. The procedure employed for this survey was Standard Method *VDI 2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Institute)*.

The dust deposition rate was measured by positioning Bergerhoff Dust Deposition Gauges at strategic locations near the boundaries of the site for a period of 28 days. The selection of sampling point locations was agreed with the Local Authority following consideration of the requirements of *VDI 2119* with respect to the location of the samplers relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. After the exposure period was complete, the Gauges were removed from the site; the dust deposits in each Gauge were determined gravimetrically and expressed as mg/m²-day of insoluble particulate in accordance with the relevant standard. The locations of the Dust Deposit Gauges are marked as D1, D2, D3 and D4 and are presented in Appendix I - Monitoring Locations.

3.0 Measurement Results

The measurement results of the dust deposition monitoring survey are presented below in Table 3.1.

Table 3.1 Dust Deposition Monitoring Results

Monitoring Location	Dust Deposition mg/m ² /day
D1	218
D2	242
D3	318
D4	169

4.0 Evaluation of Results

As seen from the results of the dust deposition monitoring study undertaken in the vicinity of the Lagan site, presented in Table 3.1 above the measured dust deposition rate is within the prescribed limit of 350 mg/m²/day for all monitoring locations reported.

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DUST DEPOSITION SURVEY REPORT

APRIL 2022

FOR

**LAGAN,
Lobinstown
Co. Meath.**

James Butler

Report Ref 30017
TMS Environment Ltd.
17 May 2022

Approved by:

Marian Brady

Marian Brady
Consultancy Manager

17 May 2022

1.0 Scope

This report presents the results of a dust deposition survey, which was carried out at 4 dust monitoring locations (D1 to D4) around the boundary of the Lagan facility, which is situated in Lobinstown, Co. Meath, to assess compliance with Condition 9(b) of Planning Reference Number LB200106 which is presented below.

(b) Dust emissions at the site boundaries shall not exceed 350mg/m²/day. Dust monitoring shall be undertaken at dust monitoring locations and programme to be agreed by the Planning Authority. The background dust level shall not exceed 350mg/m²/day averaged over a 30 day composite sample using the Standard method VDI2119 (Measurement of Dust fall, Determination of Dust fall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2-methoxyethanol may be employed to eliminate interference due to algae growth in the gauge. The monitoring shall take place between the months of May and September. Results shall be submitted to the Planning Authority annually.

2.0 Methodology

The survey was conducted by TMS Environment Ltd personnel during the period of the 23rd of March 2022 to the 25th of April 2022. The procedure employed for this survey was Standard Method VDI 2119 (*Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Institute*).

The dust deposition rate was measured by positioning Bergerhoff Dust Deposition Gauges at strategic locations near the boundaries of the site for a period of 33 days. The selection of sampling point locations was agreed with the Local Authority following consideration of the requirements of VDI 2119 with respect to the location of the samplers relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. After the exposure period was complete, the Gauges were removed from the site; the dust deposits in each Gauge were determined gravimetrically and expressed as mg/m²-day of insoluble particulate in accordance with the relevant standard. The locations of the Dust Deposit Gauges are marked as D1, D2, D3 and D4 and are presented in Appendix I - Monitoring Locations.

3.0 Measurement Results

The measurement results of the dust deposition monitoring survey are presented below in Table 3.1.

Table 3.1 Dust Deposition Monitoring Results

Monitoring Location	Dust Deposition mg/m ² /day
D1	95
D2	144
D3	23
D4	81

4.0 Evaluation of Results

As seen from the results of the dust deposition monitoring study undertaken in the vicinity of the Lagan site, presented in Table 3.1 above the measured dust deposition rate is within the prescribed limit of 350 mg/m²/day for all monitoring locations reported.

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DUST DEPOSITION SURVEY REPORT

JULY 2022

FOR

**LAGAN,
Lobinstown
Co. Meath.**

James Butler

Report Ref 30399
TMS Environment Ltd.
12 August 2022

Approved by:

Marian Brady

Marian Brady
Consultancy Manager

12 August 2022

1.0 Scope

This report presents the results of a dust deposition survey, which was carried out at 4 dust monitoring locations (D1 to D4) around the boundary of the Lagan facility, which is situated in Lobinstown, Co. Meath, to assess compliance with Condition 9(b) of Planning Reference Number LB200106 which is presented below.

(b) Dust emissions at the site boundaries shall not exceed 350mg/m²/day. Dust monitoring shall be undertaken at dust monitoring locations and programme to be agreed by the Planning Authority. The background dust level shall not exceed 350mg/m²/day averaged over a 30 day composite sample using the Standard method VDI2119 (Measurement of Dust fall, Determination of Dust fall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2-methoxyethanol may be employed to eliminate interference due to algae growth in the gauge. The monitoring shall take place between the months of May and September. Results shall be submitted to the Planning Authority annually.

2.0 Methodology

The survey was conducted by TMS Environment Ltd personnel during the period of the 23rd of June 2022 to the 20th of July 2022. The procedure employed for this survey was Standard Method VDI 2119 (*Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Institute*).

The dust deposition rate was measured by positioning Bergerhoff Dust Deposition Gauges at strategic locations near the boundaries of the site for a period of 27 days. The selection of sampling point locations was agreed with the Local Authority following consideration of the requirements of VDI 2119 with respect to the location of the samplers relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. After the exposure period was complete, the Gauges were removed from the site; the dust deposits in each Gauge were determined gravimetrically and expressed as mg/m²-day of insoluble particulate in accordance with the relevant standard. The locations of the Dust Deposit Gauges are marked as D1, D2, D3 and D4 and are presented in Appendix I - Monitoring Locations.

3.0 Measurement Results

The measurement results of the dust deposition monitoring survey are presented below in Table 3.1.

Table 3.1 Dust Deposition Monitoring Results

Monitoring Location	Dust Deposition mg/m ² /day
D1	Note 1
D2	36
D3	138
D4	43

Note 1: Result not reported due to the presence of organic contamination in the collection vessel.

4.0 Evaluation of Results

As seen from the results of the dust deposition monitoring study undertaken in the vicinity of the Lagan site, presented in Table 3.1 above the measured dust deposition rate is within the prescribed limit of 350 mg/m²/day for all monitoring locations reported.

There were no results reported for the monitoring location D1 due to the presence of organic contamination in the collection vessels. Organic contamination results when organic matter, such as leaves, insects, bird droppings etc, fall into the collection vessels and decompose during the measurement interval and consequently cannot be removed from the sample during analysis. This results in erroneously high measurement results which are not an accurate or reliable indicator of the dust environment.

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APPENDIX I
MONITORING LOCATIONS

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DUST DEPOSITION SURVEY REPORT

DECEMBER 2022

FOR

**LAGAN,
Lobinstown
Co. Meath.**

James Butler

Report Ref 31216
TMS Environment Ltd.
19 January 2023

Approved by:

Marian Brady

Marian Brady
Consultancy Manager

19 January 2023

1.0 Scope

This report presents the results of a dust deposition survey, which was carried out at 4 dust monitoring locations (D1 to D4) around the boundary of the Lagan facility, which is situated in Lobinstown, Co. Meath, to assess compliance with Condition 9(b) of Planning Reference Number LB200106 which is presented below.

(b) Dust emissions at the site boundaries shall not exceed 350mg/m²/day. Dust monitoring shall be undertaken at dust monitoring locations and programme to be agreed by the Planning Authority. The background dust level shall not exceed 350mg/m²/day averaged over a 30 day composite sample using the Standard method VDI2119 (Measurement of Dust fall, Determination of Dust fall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2-methoxyethanol may be employed to eliminate interference due to algae growth in the gauge. The monitoring shall take place between the months of May and September. Results shall be submitted to the Planning Authority annually.

2.0 Methodology

The survey was conducted by TMS Environment Ltd personnel during the period of the 8th of December 2022 to the 11th of January 2023. The procedure employed for this survey was Standard Method VDI 2119 (*Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Institute*).

The dust deposition rate was measured by positioning Bergerhoff Dust Deposition Gauges at strategic locations near the boundaries of the site for a period of 34 days. The selection of sampling point locations was agreed with the Local Authority following consideration of the requirements of VDI 2119 with respect to the location of the samplers relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. After the exposure period was complete, the Gauges were removed from the site; the dust deposits in each Gauge were determined gravimetrically and expressed as mg/m²-day of insoluble particulate in accordance with the relevant standard. The locations of the Dust Deposit Gauges are marked as D1, D2, D3 and D4 and are presented in Appendix I - Monitoring Locations.

3.0 Measurement Results

The measurement results of the dust deposition monitoring survey are presented below in Table 3.1.

Table 3.1 Dust Deposition Monitoring Results

Monitoring Location	Dust Deposition mg/m ² /day
D1	153
D2	45
D3	122
D4	85

4.0 Evaluation of Results

As seen from the results of the dust deposition monitoring study undertaken in the vicinity of the Lagan site, presented in Table 3.1 above the measured dust deposition rate is within the prescribed limit of 350 mg/m²/day for all monitoring locations reported.

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DUST DEPOSITION SURVEY REPORT

JANUARY 2023

FOR

**LAGAN,
Lobinstown
Co. Meath.**

James Butler

Report Ref 31347
TMS Environment Ltd.
28 February 2023

Approved by:

Marian Brady

Marian Brady
Consultancy Manager

28 February 2023

1.0 Scope

This report presents the results of a dust deposition survey, which was carried out at 4 dust monitoring locations (D1 to D4) around the boundary of the Lagan facility, which is situated in Lobinstown, Co. Meath, to assess compliance with Condition 9(b) of Planning Reference Number LB200106 which is presented below.

(b) Dust emissions at the site boundaries shall not exceed 350mg/m²/day. Dust monitoring shall be undertaken at dust monitoring locations and programme to be agreed by the Planning Authority. The background dust level shall not exceed 350mg/m²/day averaged over a 30 day composite sample using the Standard method VDI2119 (Measurement of Dust fall, Determination of Dust fall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2-methoxyethanol may be employed to eliminate interference due to algae growth in the gauge. The monitoring shall take place between the months of May and September. Results shall be submitted to the Planning Authority annually.

2.0 Methodology

The survey was conducted by TMS Environment Ltd personnel during the period of the 11th of January 2023 to the 10th of February 2023. The procedure employed for this survey was Standard Method VDI 2119 (*Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Institute*).

The dust deposition rate was measured by positioning Bergerhoff Dust Deposition Gauges at strategic locations near the boundaries of the site for a period of 30 days. The selection of sampling point locations was agreed with the Local Authority following consideration of the requirements of VDI 2119 with respect to the location of the samplers relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. After the exposure period was complete, the Gauges were removed from the site; the dust deposits in each Gauge were determined gravimetrically and expressed as mg/m²-day of insoluble particulate in accordance with the relevant standard. The locations of the Dust Deposit Gauges are marked as D1, D2, D3 and D4 and are presented in Appendix I - Monitoring Locations.

3.0 Measurement Results

The measurement results of the dust deposition monitoring survey are presented below in Table 3.1.

Table 3.1 Dust Deposition Monitoring Results

Monitoring Location	Dust Deposition mg/m ² /day
D1	28
D2	42
D3	66
D4	53

4.0 Evaluation of Results

As seen from the results of the dust deposition monitoring study undertaken in the vicinity of the Lagan site, presented in Table 3.1 above the measured dust deposition rate is within the prescribed limit of 350 mg/m²/day for all monitoring locations reported.

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Tallaght
Dublin 24
Phone: +353-1-4626710
Fax: +353-1-4626714
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DUST DEPOSITION SURVEY REPORT

MAY 2023

FOR

**LAGAN,
Lobinstown
Co. Meath.**

James Butler

Report Ref 31753
TMS Environment Ltd.
23 June 2023

Approved by:

Marian Brady

Marian Brady
Consultancy Manager

23 June 2023

1.0 Scope

This report presents the results of a dust deposition survey, which was carried out at 4 dust monitoring locations (D1 to D4) around the boundary of the Lagan facility, which is situated in Lobinstown, Co. Meath, to assess compliance with Condition 9(b) of Planning Reference Number LB200106 which is presented below.

(b) Dust emissions at the site boundaries shall not exceed 350mg/m²/day. Dust monitoring shall be undertaken at dust monitoring locations and programme to be agreed by the Planning Authority. The background dust level shall not exceed 350mg/m²/day averaged over a 30 day composite sample using the Standard method VDI2119 (Measurement of Dust fall, Determination of Dust fall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2-methoxyethanol may be employed to eliminate interference due to algae growth in the gauge. The monitoring shall take place between the months of May and September. Results shall be submitted to the Planning Authority annually.

2.0 Methodology

The survey was conducted by TMS Environment Ltd personnel during the period of the 12 May 2023 to the 09 June 2023. The procedure employed for this survey was Standard Method VDI 2119 (*Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Institute*).

The dust deposition rate was measured by positioning Bergerhoff Dust Deposition Gauges at strategic locations near the boundaries of the site for a period of 28 days. The selection of sampling point locations was agreed with the Local Authority following consideration of the requirements of VDI 2119 with respect to the location of the samplers relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. After the exposure period was complete, the Gauges were removed from the site; the dust deposits in each Gauge were determined gravimetrically and expressed as mg/m²-day of insoluble particulate in accordance with the relevant standard. The locations of the Dust Deposit Gauges are marked as D1, D2, D3 and D4 and are presented in Appendix I - Monitoring Locations.

3.0 Measurement Results

The measurement results of the dust deposition monitoring survey are presented below in Table 3.1.

Table 3.1 Dust Deposition Monitoring Results

Monitoring Location	Dust Deposition mg/m ² /day
D1	177
D2	73
D3	81
D4	262

4.0 Evaluation of Results

As seen from the results of the dust deposition monitoring study undertaken in the vicinity of the Lagan site, presented in Table 3.1 above the measured dust deposition rate is within the prescribed limit of 350 mg/m²/day for all monitoring locations reported.

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TMS Environment Ltd
53 Broomhill Drive
Tallaght
Dublin 24
Phone: +353-1-4626710
Fax: +353-1-4626714
Web: www.tmsenv.ie

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DUST DEPOSITION SURVEY REPORT

JULY 2023

FOR

**BREEDON IRELAND,
Lobinstown
Co. Meath.**

James Butler

Report Ref 32066
TMS Environment Ltd.
06 September 2023

Approved by:

Marian Brady

Marian Brady
Consultancy Manager

06 September 2023

1.0 Scope

This report presents the results of a dust deposition survey, which was carried out at 4 dust monitoring locations (D1 to D4) around the boundary of the Breedon Ireland facility, which is situated in Lobinstown, Co. Meath, to assess compliance with Condition 9(b) of Planning Reference Number LB200106 which is presented below.

(b) Dust emissions at the site boundaries shall not exceed 350mg/m²/day. Dust monitoring shall be undertaken at dust monitoring locations and programme to be agreed by the Planning Authority. The background dust level shall not exceed 350mg/m²/day averaged over a 30 day composite sample using the Standard method VDI2119 (Measurement of Dust fall, Determination of Dust fall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2-methoxyethanol may be employed to eliminate interference due to algae growth in the gauge. The monitoring shall take place between the months of May and September. Results shall be submitted to the Planning Authority annually.

2.0 Methodology

The survey was conducted by TMS Environment Ltd personnel during the period of the 13 July 2023 to the 18 August 2023. The procedure employed for this survey was Standard Method VDI 2119 (*Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Institute*).

The dust deposition rate was measured by positioning Bergerhoff Dust Deposition Gauges at strategic locations near the boundaries of the site for a period of 36 days. The selection of sampling point locations was agreed with the Local Authority following consideration of the requirements of VDI 2119 with respect to the location of the samplers relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. After the exposure period was complete, the Gauges were removed from the site; the dust deposits in each Gauge were determined gravimetrically and expressed as mg/m²-day of insoluble particulate in accordance with the relevant standard. The locations of the Dust Deposit Gauges are marked as D1, D2, D3 and D4 and are presented in Appendix I - Monitoring Locations.

3.0 Measurement Results

The measurement results of the dust deposition monitoring survey are presented below in Table 3.1.

Table 3.1 Dust Deposition Monitoring Results

Monitoring Location	Dust Deposition mg/m ² /day
D1	50
D2	49
D3	43
D4	99

4.0 Evaluation of Results

As seen from the results of the dust deposition monitoring study undertaken in the vicinity of the Breedon Ireland site, presented in Table 3.1 above the measured dust deposition rate is within the prescribed limit of 350 mg/m²/day for all monitoring locations reported.

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