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## ENVIRONMENTAL MONITORING COMPLIANCE REPORT

### **ROCKMILLS LIMESTONE QUARRY**

**CARRIGDOWNANE UPPER,  
ROCKMILLS, KILLDORRERY, CO. CORK**

**QUARTER 1 - 2023**

04 JUN 2024

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<b>Report No:</b>	EMP_21681_R0	<b>Date:</b>	R0	08 <sup>th</sup> May 2023
<b>Author/s:</b>	Martin O'Looney, BSc.			
<b>Reviewed:</b>	Mike Fraher, BSc.			

**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILDORREERY, CO. CORK**

**SUMMARY**

All Q1 monitoring carried out under the conditions of planning applications 15/5484 and 21/5792 were in compliance with limits. Some Q2 monitoring is included in this report as available.

Q1 Groundwater analysis indicates no significant changes. When compared to indicative water quality guidance, the analysis indicates good groundwater quality. Elevated nitrate concentrations are known for the area due to the intensive dairy farming in the River Funshion catchment.

Two depositional dust records were recorded in Q1 2023. A single depositional dust record has been recorded thus far in Q2 2023. All 2023 records show compliance with the 350 mg/m<sup>2</sup>/day limit.

The noise contribution made by the operation did not exceed the daytime limit of 55 dBA at monitoring locations during Q1 noise survey. There was no tonal or impulsive element to the noise from the quarry. Leq exceedance at N2 was due to local traffic.

The Q1 2023 blasting event was found to be in compliance with noise and vibration planning conditions.

**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

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**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

## 1.0 INTRODUCTION

The existing Rockmills Quarries Limited activity is located at Carrigdownane Upper, Rockmills, Killdorrery, Co. Cork, P67 YC99. The approximate Irish National Grid (ING) reference for the site is E: 172106, N: 106599.

The hours of operation of the quarry are 07:30 hrs to 18:00 hrs, Monday to Friday and 07:30 hrs to 16:00 hrs on Saturdays.

Environmental Management at the site is carried out in compliance with legal requirements and under the conditions of previous planning applications 15/5484 and 21/5792.

Environmental Aspect	Monitoring Frequency	Notes
Groundwater	Quarterly*	
Depositional Dust	Quarterly*	
Environmental Noise	Quarterly*	
Blast Noise & Vibration	All blasting events	May not exceed 1 blast per month

*\*Operator may propose amendment to monitoring frequency at 2 years from planning 15/5484 commencement (02<sup>nd</sup> December 2015), subject to appropriate compliance monitoring record.*

Planning permission 15/5484 requires an **Environmental Monitoring Report** be submitted to Cork County Council **quarterly** (to be reported 1 month before the end of next quarter). The report is required to identify all non-compliances and detail corrective measures to ensure future compliance.

**MONITORING COMPLIANCE REPORT**  
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## 2.0 MONITORING RECORD

### 2.1 GROUNDWATER COMPLIANCE

#### 2.1.1 Groundwater Monitoring Location & Limits

Groundwater monitoring wells onsite are as follows:

Location Reference	Grid Reference (ING)
GW1	E 172233,N 106579
GW2	E 172045, N 106678

Groundwater is required to be monitored as per Planning Ref 15/5484 Clarification of Further Information Letter, dated 05<sup>th</sup> November 2015, Attachment 2.

The conditions require no significant change in recorded parameters, resulting from site activity.

The following documents may also be used to compare results against guidance figures:

- S.I. No. 366/2016 - European Union Environmental Objectives (Groundwater) (Amendment) Regulations 2016.
- EPA, 2003. *Towards Setting Guideline Values for the Protection of Groundwater in Ireland* – Interim Report. Environmental Protection Agency

Parameter	Limit	Unit	Guidance Level (receptor)
pH	No significant change		
Conductivity	No significant change	µS/cm	1875 (human)
Turbidity	No significant change		
Total Ammonia (NH <sub>3</sub> )	No significant change		
Ammonium	No significant change	mg/l as N	<0.065 (surface-water) <0.175 (human)
Orthophosphate	No significant change	mg/l as P	<0.035 (surface-water)
Nitrite	No significant change	mg/l as NO <sub>2</sub>	<0.375 (human)
Nitrate (as NO <sub>3</sub> )	No significant change	mg/l as NO <sub>3</sub>	37.5 (human)
Sulphate	No significant change	mg/l as SO <sub>4</sub>	187.5 (human)
Chloride	No significant change	mg/l as Cl	187.5 (human)
Alkalinity	No significant change		
Sodium	No significant change	mg/l as Na	150 (human)
Potassium	No significant change		
Calcium (Ca)	No significant change		
Magnesium (Mg)	No significant change		
Diesel Range Organics (DRO)	No significant change		
Mineral Oils (MO)	No significant change		
Total Petroleum Hydrocarbons (TPH)	No significant change		
Oils, Fats & Greases	No significant change		

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The following are the recommended groundwater monitoring parameters as per the 2023 EIAR (Chapter 9) – biannual monitoring:

Parameter	Limit	Unit	Guidance Level (receptor)
Total Ammonia (NH <sub>3</sub> )	No significant change	mg/l as N	<0.065 (surface-water) <0.175 (human)
Orthophosphate	No significant change	mg/l as P	<0.035 (surface-water)
Nitrite	No significant change	mg/l as NO <sub>2</sub>	<0.375 (human)
Nitrate (as NO <sub>3</sub> )	No significant change	mg/l as NO <sub>3</sub>	37.5 (human)
Chloride	No significant change	mg/l as Cl	187.5 (human)
Sodium	No significant change	mg/l as Na	150 (human)
Potassium	No significant change		
Mineral Oils (MO)	No significant change		
Total Petroleum Hydrocarbons (TPH)	No significant change		
Total Coliforms			
Faecal Coliforms			

### 2.1.2 Groundwater Monitoring Results

The analysis indicates good groundwater quality.

The nitrate concentration is reported above the 25 mg/l EPA IGV, but below the 50 mg/l MAC as set out in the drinking water standards (SI122/2014). The elevated nitrate is attributed to the intensive agriculture (dairy, market gardening) of the wider area. Elevated nitrate is unlikely to be associated with blasting as it takes place infrequently on the site. However the groundwater quality of the wider area is known to have elevated nitrate concentrations due to the intensive dairy farming in the River Funshion catchment.

The potassium – sodium ratio was calculated for GW1, using data from September 2019. The September 2019 data is considered more accurate, due to the lower laboratory limit of detection employed in the analysis.

A potassium - sodium ratio of <0.40 is considered to represent good groundwater quality. A ratio of >0.40 indicates contamination from organic wastes such as septic tanks, soiled farm yard runoff or slurry spreading.

A ratio of 0.08 was calculated for GW1, which suggests good water quality.

**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

**Table 2.1: Groundwater Monitoring Results**

Parameter	Indicative Guidance		Units	GW1 07/09/2021	GW1 02/03/2022	GW1 01/02/2023	GW1 05/04/2023		
	EPA 2003	SI366/2016							
Ammonia as NH <sub>3</sub> -N	0.065	0.12	mg/l	<0.02	<0.129	<0.129	<0.129		
Nitrate as NO <sub>3</sub>	25	37.5	mg/l	36.7	47	40	37		
Chloride	30	24.5	mg/l	13.4	15	32	31		
Potassium	5	-	mg/l	0.522	<5	<5	<5		
Sodium	150	-	mg/l	6.92	<10	18	17		
Orthophosphate as P	0.03	0.035	mg/l	<0.02	<0.065	<0.2	<0.065		
Total Coliforms	0	-	CFU/100 ml	0	0	0	0		
Faecal Coliforms	0	-	CFU/100 ml	0	0	0	0		
Enterococci	0	-	MPN/100 ml	0	0	0	0		



**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

## **2.2 DEPOSITIONAL DUST COMPLIANCE**

### **2.2.1 Depositional Dust Monitoring Location & Limits**

The currently agreed depositional dust monitoring locations are as follows:

<b>Location Reference</b>	<b>Grid Reference (ING)</b>
D1	E 171820, N 106662
D2	E 172314, N 106726

The depositional dust limits for the Rockmills Quarries are as follows:

<b>Depositional Dust Limit</b>	<b>Sample Collection Period</b>
350 mg/m <sup>2</sup> /day	30 days

Additional mitigation / dust suppression measures shall be implemented should the dust deposition exceed the limit.

### **2.2.2 Depositional Dust Monitoring Results**

Two depositional dust records were recorded in Q1 2023. A single depositional dust record has been recorded thus far in Q2 2023.

All 2023 records show compliance with the 350 mg/m<sup>2</sup>/day limit.

Several exceedances have occurred over the assay period. A previous assessment submitted to Cork County Council (Environmental Audit for an existing quarry at Carrigdownane Upper, Rockmills, Kildorrey, Co Cork, DixonBrosnan,2021) noted that dust arising from the adjacent farm track may be contributing to occasional elevated dust levels, particularly during heavy agricultural traffic periods (spring fertilizing, summer/autumn silage cutting etc.) and recommended a revision of the agreed monitoring locations. The monitoring locations were revised in 2022.

PES would note that several exceedances occur during the winter period, when weather conditions would tend to reduce depositional dust levels, in particular the winter of 2021-2022. It is considered that these exceedances are likely due to inappropriate new sampling locations and equipment. It is recommended that sampling points are located away from treelines and hedgerows to avoid vegetation detritus and enhanced dust deposition in these regions. It is also recommended that the Bergeroff Stands are designed to prevent the perching of birds on the sampling equipment.

It is noted that several additional dust mitigation measures have been implemented at the site since 2021. See Environmental Management Plan.



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**Table 2.2: Depositional Dust Monitoring Results**

Sample Date	D1	D2	D3
<b>15/5484 Limit</b>	<b>350</b>	<b>350</b>	<b>350</b>
16/09/2020	103	102	
14/10/2020	103	139	
11/11/2020	154	293	
09/12/2020	30	103	
13/01/2021	933	133	
10/02/2021	108	126	
10/03/2021	159	396	
07/04/2021	6	34	
05/05/2021	44	41	
11/06/2021	413	596	
09/07/2021	9	14	
11/08/2021	6	31	
02/09/2021	471	94	
06/10/2021	81	112	
10/11/2021	13	16	
08/12/2021	713	82	
05/01/2022	407	408	
02/02/2022	276	365	
02/03/2022	84	181	
04/04/2022	117	109	
04/05/2022	119	137	
15/06/2022	82	91	59
07/09/2022	116	134	
02/11/2022	247	117	
04/01/2023	270	350	
01/03/2023	76	111	
05/04/2023	80	82	80
<b>Average</b>	<b>193</b>	<b>163</b>	<b>70</b>
<b>% Compliance</b>	<b>81.48%</b>	<b>85.19%</b>	<b>100%</b>

**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILDBORRERY, CO. CORK**

## **2.3 NOISE & VIBRATION COMPLIANCE**

### **2.3.1 Noise Monitoring Location & Limits**

The currently agreed noise monitoring locations are as follows:

<b>Location Reference</b>	<b>Grid Reference (ING)</b>
N1	E 171911, N 107306
N2	E 172327, N 107632
N3	E 172601, N 106753

The environmental noise limits for the Rockmills Quarries are as follows:

<b>Noise Limit (monitoring duration)</b>	<b>Applicable period</b>
$L_{Aeq}$ 55dBA (30 minutes)	Quarry operating hours (07:30hrs – 18:00hrs Mon-Fri) (07:30hrs-16:00hrs Saturday)
$L_{Aeq}$ 45 dBA (15 minutes)	Any other time

### **2.3.2 Blast Noise & Vibration Monitoring Location & Limits**

Each blasting event is required to be monitored at the boundary of the quarry.

<b>Location Reference</b>	<b>Grid Reference (ING)</b>
B1	E 172211, N 106571

Blasting operations are limited to within the hours of 09:00 hrs to 18:00 hrs Monday to Friday, excluding public holidays, bank holidays and weekends.

<b>Vibration Limit Peak Particle Velocity (PPV)</b>	<b>Noise Limit Air Over-pressure Limit</b>
12 mm/s	125dB

**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

**2.3.3 Noise Monitoring Results**

The noise monitoring assessment was carried out by BHP Laboratories, Limerick.

In Q2 2023, LAeq levels at the monitoring locations are less than the day time limit of 55 dBA, except N2.

At N2, the quarry was not audible. The main source of noise was local traffic. This is not considered an exceedance of the quarry's day time noise limit of 55 dBA.

The noise contribution made by the operation did not exceed the daytime limit of 55 dBA at monitoring locations.

There was no tonal or impulsive element to the noise from the quarry.

**MONITORING COMPLIANCE REPORT**  
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**Table 2.3: Noise Monitoring Results**

Ref	Date	Time	LAeq,T	L <sub>10</sub>	L <sub>90</sub>
N1	22/01/2021	14:33	48	50	41
N2	22/01/2021	14:38	46	48	33
N3	22/01/2021	15:16	39	40	31
N1	20/04/2021	13:14	46	48	38
N2	20/04/2021	13:19	41	43	32
N3	20/04/2021	13:51	34	36	27
N1	17/08/2021	13:14	47	49	38
N2	17/08/2021	13:19	49	49	37
N3	17/08/2021	13:51	40	43	34
N1	30/11/2021	11:10	52	54	46
N2	30/11/2021	11:14	49	52	38
N3	30/11/2021	11:53	40	42	32
N1	31/01/2022	11:47	53	53	46
N2	31/01/2022	11:50	45	47	37
N3	31/01/2022	11:53	42	43	36
N1	13/05/2022	11:19	55	59	44
N2	13/05/2022	11:24	54	51	41
N3	13/05/2022	12:01	43	46	37
N1	20/07/2022	11:58	51	53	43
N2	20/07/2022	12:32	53	54	38
N3	20/07/2022	13:09	41	44	36
N1	10/11/2022	13:16	55	59	46
N2	10/11/2022	13:50	59	64	54
N3	10/11/2022	14:32	50	51	41
N1	19/04/2023	13:28	48	46	32
N2	19/04/2023	13:25	61	54	36
N3	19/04/2023	14:06	42	41	32

**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

**2.3.4 Blast Noise & Vibration Results**

Blasting noise and vibration monitoring is carried out by the blasting contractor during each blasting event.

During Q1 2023, one blasting event occurred @ 14:31 on 14<sup>th</sup> February 2023.

The measured vibration of 1.36 mm/s was in compliance with the 12 mm/s limit. When calculated by distance to the closest residential location, the estimated vibration would be 0.64 mm/s.

The measured air overpressure level of 114.4 dBL was in compliance with the 125 dBL limit. When calculated by distance to the closest residential location, the estimated air overpressure would be 111.1 mm/s.

The Q1 2023 blasting event was found to be in compliance with noise and vibration planning conditions.

**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

**Table 2.4: Blast Noise & Vibration Results**

Date	Blast Event	Monitoring Distance (m) from blast event	Seismic Velocity Vector Sum (mm/s)	Air Overpressure (dB <sub>L</sub> )
06/07/2020	1	340	1.2	130.2
06/07/2020	2	52	135.8	134.1
06/07/2020	3	247	4.8	134.9
02/09/2020		157	23.82	136.6
22/01/2021	1	379	0.82	128.2
22/01/2021	2	379	3.82	132.9
08/03/2021	1	316	1.43	126.7
08/03/2021	2	161	9.67	135.9
12/08/2021		241	7.61	131.6
24/11/2021		187	12.05	135.9
15/02/2022		212	5.8	126.9
06/05/2022		330	4.52	126.8
14/02/2023		412	1.36	114.4



**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

**Table 2.5: Blast Noise & Vibration Results – Corrected for Distance**

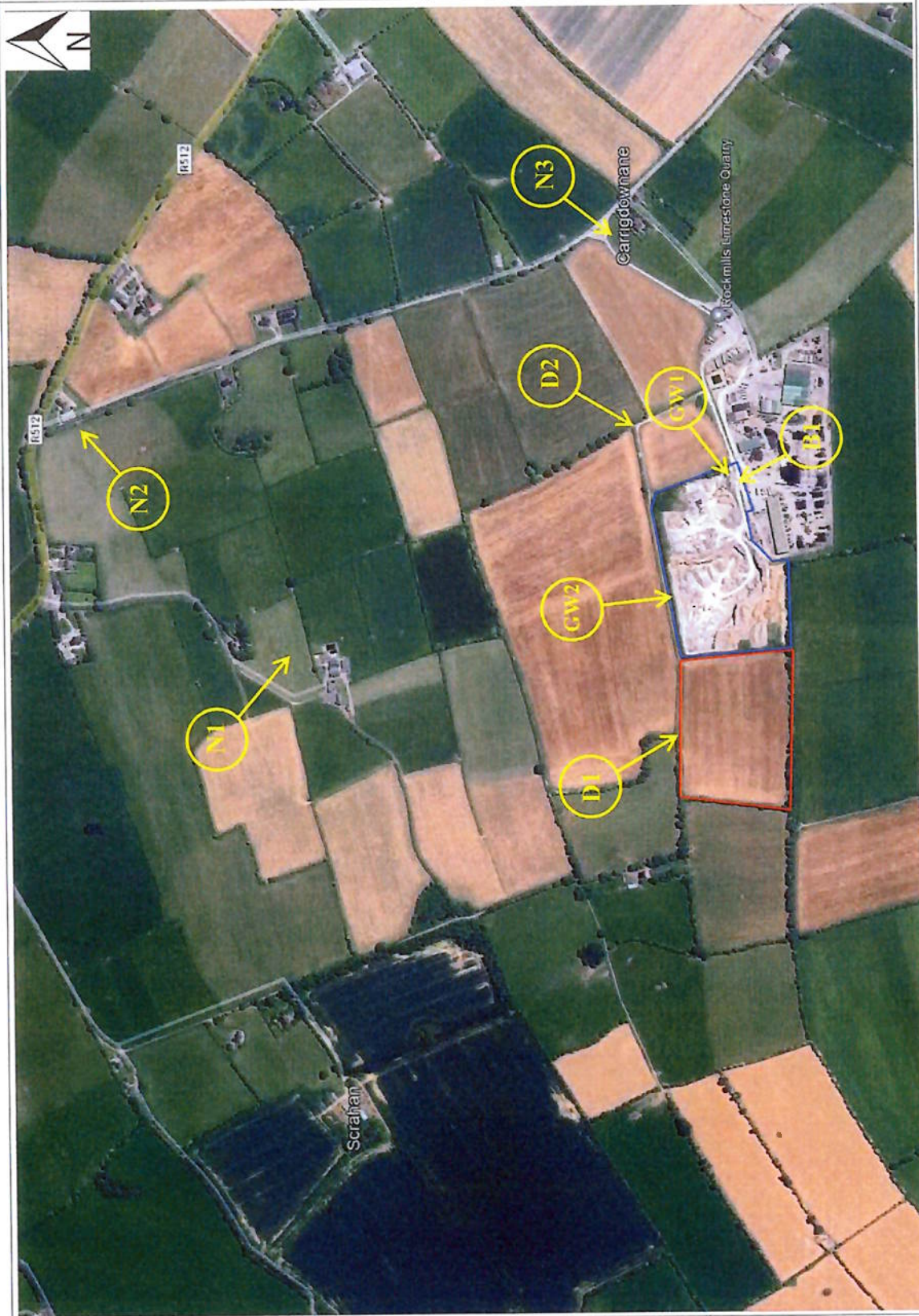
Date	Event	Distance (m) from blast event	Monitored Seismic Velocity (mm/s)	Monitored Air Overpressure (dBL)	Estimated Distance (m) from receptor	Estimated Receptor Seismic Velocity (mm/s)	Estimated Receptor Air Overpressure (dBL)
<b>Limits @ NSL</b>							
06/07/2020	1	340	1.2	130.2	600	0.39	125
06/07/2020	2	52	135.8	134.1	600	1.02	125.3
06/07/2020	3	247	4.8	134.9	600	0.81	112.9
02/09/2020		157	23.82	136.6	600	1.63	127.2
22/01/2021	1	379	0.82	128.2	600	0.33	124.9
22/01/2021	2	379	3.82	132.9	600	1.52	124.2
08/03/2021	1	316	1.43	126.7	600	0.40	128.9
08/03/2021	2	161	9.67	135.9	600	0.70	121.1
12/08/2021		241	7.61	131.6	600	1.23	124.5
24/11/2021		187	12.05	135.9	600	1.17	123.7
15/02/2022		212	5.8	126.9	600	0.72	125.8
06/05/2022		330	4.52	126.8	600	1.37	117.9
14/02/2023		412	1.36	114.4	600	0.64	121.6
							111.1

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**APPENDIX A**  
**ENVIRONMENTAL MONITORING MAP**

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# MONITORING COMPLIANCE REPORT ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK



## Notes:

- Current Quarry
- Proposed Development

## Noise Monitoring Locations

- N1 – NSR c.553m North
- N2 – NSR c.975m North-East
- N3 – NSR c.400m East

## Dust Locations

- D1 – c.115m East
- D2 – c.125m West

## Blast Locations

- B1 – Beside Office

## Groundwater Wells

- GW1 – Monitoring Well
- GW2 – Monitoring Well

DENNIS O'KEEFE,  
ROCKMILLS QUARRY

## CURRENT PLANNING CONDITION MONITORING LOCATIONS



ENVIRONMENTS  
SOLUTIONS LTD

UNIT 4  
INNOVATION CENTRE  
GREEN ROAD  
CARLOW  
PER 10000  
TELEPHONE: 051 851 34222  
MOBILE: 087 851 5284  
EMAIL: info@pantherenv.com  
WEB: www.pantherenv.com

File location:	scale:	NTS	A
drawing status:	REPORT	datum:	GOOGLE
drawing no.	rev	checked:	PES
EIAR_21547	A	approved:	MF
		date:	29-07-22

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**APPENDIX B**  
**GROUNDWATER RESULTS - Q1&Q2 2023**

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# MONITORING COMPLIANCE REPORT

## ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK

BHP/AC/F115v2

**TEST REPORT NO: 247417**

**Client:** Rockmills Quarries T/A Tom I

Cecilstown  
Mallow  
Co. Cork

**BHP Ref. No:** 23/02/0201  
**Quote Ref:** QC006149  
**Order No:** N/A  
**Sales Order:** 167435  
**Date Received:** 01/02/2023  
**Date Sampled:** 01/02/2023  
**Date Completed:** 10/02/2023  
**Sample Type:** Potable & Domestic Purposes



Testing  
Analysing  
Consulting



BHP Laboratories  
New Road  
Thomondgate  
Limerick  
Tel: +353 61 455399  
Email: dervlapurcell@bhp.ie

**FTAO:** Tom Lynes

**Site:** Rockmills Quarry

**BHP Ref:** On Demand Potable & Domestic Purposes

**Client Ref:** Outer Roadway

Test		Units	Results	EU Drinking Water Directive(Max	Date Analysed	Method
Nitrate (as NO <sub>3</sub> )	Acc.	mg/L	40	50	02/02/2023	BHP AC 019
Ammonium (as NH <sub>4</sub> )	Acc.	mg/L	<0.129	0.3	07/02/2023	BHP AC 095
OrthoPhosphate (as P)		mg/L	<0.2		02/02/2023	BHP AC 019
Chloride (as Cl <sup>-</sup> )		mg/L	32	250	03/02/2023	BHP AC 095
Potassium (Total as K)		mg/L	<5		10/02/2023	BHP AC 129
Sodium (Total as Na)	Acc.	mg/L	18	200	10/02/2023	BHP AC 129
Total Coliforms	Acc.	MPN/100mL	ND	0	01/02/2023	BHP AC 020
E. coli	Acc.	MPN/100mL	ND	0	01/02/2023	BHP AC 020
Enterococci	Acc.	MPN/100mL	ND	0	01/02/2023	BHP AC 078

<b>Authorised by:</b>	<b>Dervla Purcell</b> Laboratory Manager	<b>Date Authorised:</b> 14/02/2023
Additional Information (Opinions, where stated, are not covered by accreditation) Acc.: INAB Accredited ND: None detected in volume analysed Subcontracted to an approved accredited laboratory This sample has been analysed outside recommended stability times. It is therefore possible that the results provided may be compromised. Sample Condition: ACCEPTABLE		
This test report shall not be duplicated except in full and then only with the permission of the test laboratory. Results apply only to the sample tested and where the laboratory is not responsible for sampling, result apply to the sample as received. Information identifying the 'Client', 'FTAO', 'Site', 'Client Ref', 'Order No' and 'Date Sampled' where BHP have not taken the sample has been supplied by the customer. Sampling is outside the scope of accreditation BHP Laboratory's decision rule: When we report a statement of compliance, we base it on the actual result of the test compared to the standard being used, regardless of the uncertainty		

# MONITORING COMPLIANCE REPORT

## ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK

BHP/AC/F115v2

**TEST REPORT NO: 252711**

**Client:** Rockmills Quarries T/A Tom i

Cecilstown  
Mallow  
Co. Cork

**BHP Ref. No:** 23/04/0901  
**Quote Ref:** QC007507  
**Order No:** N/A  
**Sales Order:** 174109  
**Date Received:** 05/04/2023  
**Date Sampled:** 05/04/2023  
**Date Completed:** 20/04/2023  
**Sample Type:** Potable & Domestic Purposes



Testing  
Analysing  
Consulting



BHP Laboratories  
New Road  
Thomondgate  
Limerick  
Tel: +353 61 455399  
Email: dervlapurcell@bhp.ie

**FTAO:** Tom Lynes  
**Site:** Rockmills Quarry  
**BHP Ref:** On Demand Potable & Domestic Purposes  
**Client Ref:** Outer Roadway

Test		Units	Results	EU Drinking Water Directive(Max)	Date Analysed	Method
Nitrate (as NO <sub>3</sub> )	Acc.	mg/L	37	50	06/04/2023	BHP AC 019
Ammonium (as NH <sub>4</sub> )	Acc.	mg/L	<0.129	0.3	12/04/2023	BHP AC 095
OrthoPhosphate (as P)		mg/L	<0.065		20/04/2023	BHP AC 019
Chloride (as Cl <sup>-</sup> )		mg/L	31	250	11/04/2023	BHP AC 095
Potassium (Total as K)		mg/L	<5		20/04/2023	BHP AC 129
Sodium (Total as Na)	Acc.	mg/L	17	200	20/04/2023	BHP AC 129
Total Coliforms	Acc.	MPN/100mL	ND	0	06/04/2023	BHP AC 020
E. coli	Acc.	MPN/100mL	ND	0	06/04/2023	BHP AC 020
Enterococci	Acc.	MPN/100mL	ND	0	06/04/2023	BHP AC 078

<b>Authorised by:</b>	<b>Dervla Purcell</b>	<b>Date Authorised:</b> 25/04/2023
<b>Laboratory Manager</b>		
<p><b>Additional Information:</b> (Options, where stated, are not covered by accreditation)</p> <p>Acc.: INAB Accredited</p> <p>ND: None detected in volume analysed</p> <p>Subcontracted to an approved accredited laboratory</p> <p>This sample has been analysed outside recommended stability times. It is therefore possible that the results provided may be compromised.</p> <p>Sample Condition: ACCEPTABLE</p>		
<p><small>This test report shall not be duplicated except in full and then only with the permission of the test laboratory. Results apply only to the sample tested and where the laboratory is not responsible for sampling, result apply to the sample as received. Information identifying the 'Client', 'FTAO', 'Site', 'Client Ref', 'Order No' and 'Date Sampled' where BHP have not taken the sample has been supplied by the customer. Sampling is outside the scope of accreditation. BHP Laboratory's decision rule: When we report a statement of compliance, we base it on the actual result of the test compared to the standard being used, regardless of the uncertainty.</small></p>		



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**APPENDIX C**  
**DEPOSITIONAL DUST RESULTS – Q1&Q2 2023**

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**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

BHP/AC/F115

**TEST REPORT NO: 245750**

**Client: Rockmills Quarries T/A Tom Lynes Plant Hire**

Cecilstown  
Mallow  
Co. Cork

BHP Ref. No: 23/01/0167-0168  
Quote Ref: QC006149  
Order No:  
Sales Order: 165338  
Date Received: 04/01/2023  
Date Sampled: 04/01/2023  
Date Completed: 05/01/2023  
Sample Type: Environmental Dust  
Sampling Period: 07/12/2022 - 04/01/2023



Testing  
Analysing  
Consulting



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FTAO: Tom Lynes  
Site: Rockmills Quarry  
BHP Ref: Monthly\_Environmental Dust

TestName	ClientRef	Units	Results	DateAnalysed	Method
Dust Deposition Acc	D1	mg/m <sup>2</sup> /day	270	05/01/2023	BHP AC 017
Dust Deposition Acc	D2	mg/m <sup>2</sup> /day	350	05/01/2023	BHP AC 017

Authorised by:

Dervla Purcell

Date Authorised: 09/01/2023

Laboratory Manager

Additional Information: (Opinions, where stated, are not covered by accreditation)

Acc.: INAB Accredited

Notes: All sample locations were inside the EPA limit of 350 mg/m<sup>2</sup>/day.

Total dust residues were ashed at 600°C for 1 hour to determine Inorganic dust deposition.

Organic deposition was determined by subtracting the Inorganic dust deposition from the total dust deposition.

Sample Conditions: All samples in acceptable condition.

This test report shall not be duplicated except in full and then only with the permission of the test laboratory.

Results apply only to the sample tested and where the laboratory is not responsible for sampling, result apply to the sample as received.

Information identifying the 'Client', 'FTAO', 'Site', 'Client Ref', 'Order No' and 'Date Sampled' where BHP have not taken the sample has been supplied by the customer.

Sampling is outside the scope of accreditation

BHP Laboratory's declaration rule: When we report a statement of compliance, we base it on the actual result of the test compared to the standard being used, regardless of the uncertainty

**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

BHP/AC/F115

**TEST REPORT NO: 250357**

**Client:** Rockmills Quarries T/A Tom Lynes Plant Hire

**Cecilstown**  
**Mallow**  
**Co. Cork**

**BHP Ref. No:** 23/03/0388-0389  
**Quote Ref:** QC006149  
**Order No:**  
**Sales Order:** 171008  
**Date Received:** 01/03/2023  
**Date Sampled:** 01/03/2023  
**Date Completed:** 02/03/2023  
**Sample Type:** Environmental Dust  
**Sampling Period:** 01/02/2023 - 01/03/2023



Testing  
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**BHP Laboratories**  
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**Email: dervlapurcell@bhp.ie**

**FTAO:** Tom Lynes  
**Site:** Rockmills Quarry  
**BHP Ref:** Monthly\_Environmental Dust

TestName		ClientRef	Units	Results	DateAnalysed	Method
Dust Deposition	Acc	D1	mg/m <sup>2</sup> /day	76	01/03/2023	BHP AC 017
Dust Deposition	Acc	D2	mg/m <sup>2</sup> /day	111	02/03/2023	BHP AC 017

**Authorised by:**

**Dervla Purcell**  
**Laboratory Manager**

**Date Authorised:** 06/03/2023

**Additional Information:** (Opinions, where stated, are not covered by accreditation)

**Acc:** INAB Accredited

**Notes:** All sample locations were inside the EPA limit of 350 mg/m<sup>2</sup>/day.

Total dust residues were ashed at 600°C for 1 hour to determine inorganic dust deposition.  
Organic deposition was determined by subtracting the inorganic dust deposition from the total dust deposition.

**Sample Conditions:** All samples in acceptable condition.

This test report shall not be duplicated except in full and then only with the permission of the test laboratory.  
Results apply only to the sample tested and where the laboratory is not responsible for sampling, results apply to the sample as received.  
Information identifying the 'Client', 'FTAO', 'Site', 'Client Ref', 'Order No' and 'Date Sampled' where BHP have not taken the sample has been supplied by the customer.  
Sampling is outside the scope of accreditation.  
BHP Laboratory's decision rule: When we report a statement of compliance, we base it on the actual result of the test compared to the standard being used, regardless of the uncertainty.

**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

BHP/AC/F115v2

**TEST REPORT NO: 252711**

Client: Rockmills Quarries T/A Tom Lynes Plant Hire

Cecilstown  
Mallow  
Co. Cork

BHP Ref. No: 23/04/0909-0911  
Quote Ref: QC007460  
Order No:  
Sales Order: 174113  
Date Received: 05/04/2023  
Date Sampled: 05/04/2023  
Date Completed: 07/04/2023  
Sample Type: Environmental Dust  
Sampling Period: 01/03/2023 - 05/04/2023



Testing  
Analysing  
Consulting



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Email: dervlapurcell@bhp.ie

FTAO: Tom Lynes

Site: Rockmills Quarry

BHP Ref: Monthly Environmental Dust

TestName	ClientRef	Units	Results	DateAnalysed	Method
Dust Deposition Acc	D1	mg/m <sup>2</sup> /day	80	07/04/2023	BHP AC 017
Dust Deposition Acc	D2	mg/m <sup>2</sup> /day	82	07/04/2023	BHP AC 017
Dust Deposition Acc	D3	mg/m <sup>2</sup> /day	80	07/04/2023	BHP AC 017

Authorised by:

Dervla Purcell

Date Authorised: 16/04/2023

Laboratory Manager

Additional Information: (Opinions, where stated, are not covered by accreditation)

Acc: INAB Accredited

Notes: All sample locations were inside the EPA limit of 350 mg/m<sup>2</sup>/day.

Total dust residues were ashed at 600°C for 1 hour to determine Inorganic dust deposition.

Organic deposition was determined by subtracting the Inorganic dust deposition from the total dust deposition.

Sample Conditions: All samples in acceptable condition.

This test report shall not be duplicated except in full and then only with the permission of the test laboratory.

Results apply only to the sample tested and where the laboratory is not responsible for sampling, result apply to the sample as received.

Information identifying the 'Client', 'FTAO', 'Site', 'Client Ref', 'Order No' and 'Date Sampled' where BHP have not taken the sample has been supplied by the customer.

Sampling is outside the scope of accreditation

BHP Laboratory's decision rule: When we report a statement of compliance, we base it on the actual result of the test compared to the standard being used, regardless of the uncertainty

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**APPENDIX D**  
**NOISE RESULTS – Q2 2023**

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**MONITORING COMPLIANCE REPORT**  
**ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK**

**Daytime Measurements- Noise Locations- Rockmills Quarry**  
**Rockmills, Co. Cork.**

**19 April 2023**

**Weather Conditions; Partly Cloudy, Dry, Wind 3-4 m/s E, 12° C.**

Location	Sampling Period	Duration	L <sub>Aeqt</sub> dB	L <sub>A10</sub> dB	L <sub>A90</sub> dB	Impulsive/Tonal	Notes
N 1	13:28-13:58	30 mins	48	46	32	No	Traffic passing on local road audible occasionally at 45-55dBA. Occasional truck entering/exiting the site. No noise audible from inside the site. Wind noise heard consistently through testing at 35-45dBA. This was the main source of the noise.
N 2	13:25-13:55	30 mins	61	54	36	No	Quarry activity not audible from this location. Wind related noise was heard occasionally through testing at 40-50dBA. Traffic passing occasionally on local road reached 55-75dBA and occasional tractors passing the monitoring location reached 65-80dBA.
N 3	14:06-14:36	30 mins	42	41	32	No	Quarry activity was audible from this location. Faint reverbering sirens and mobile plant audible consistently through testing at 30-35dBA. Passing car in driveway during testing. Distant traffic heard occasionally at 35-45dBA.



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**APPENDIX E**  
**BLAST RESULTS – Q1 2023**

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# MONITORING COMPLIANCE REPORT

## ROCKMILLS LIMESTONE QUARRY, KILLDORRERY, CO. CORK

Version 4.1.1  
Executable Date: 17Dec2015

File: e:\65(1).NSZ  
Telephone: (205)592-2488 x 23

### SuperGraphics - Report

Nonis Seismographs, Inc.

Company: ROCKMILLS LIMESTONE

Unit #: 4166 14/02/2023 at 14:31:39 Event # 65

Location: WEIGHTBRIDGE

Operator: JC

Notes: Distance 412M. Bearing 261 Degrees

Record Duration: 5.0 sec  
Sample Rate: 1024/sec  
Last Calibration: 16Jun22

Distance: N Wgt. Per Delay: N Scaled Distance: 0.0

### Seismic

Gain: 2 Trigger: 572 mm/s Vector Sum: 1.36 mm/s @ 34.13 Hz

Channel	Radial	Transverse	Vertical
Velocity (mm/s)	1.143	0.889	0.826
Frequency (Hz)	23.20	36.50	36.50
Displacement (mm)	0.0078	0.0039	0.0036
Acceleration (g's)	0.017	0.021	0.019
Trigger >>> Peak	164.1	183.6	187.5

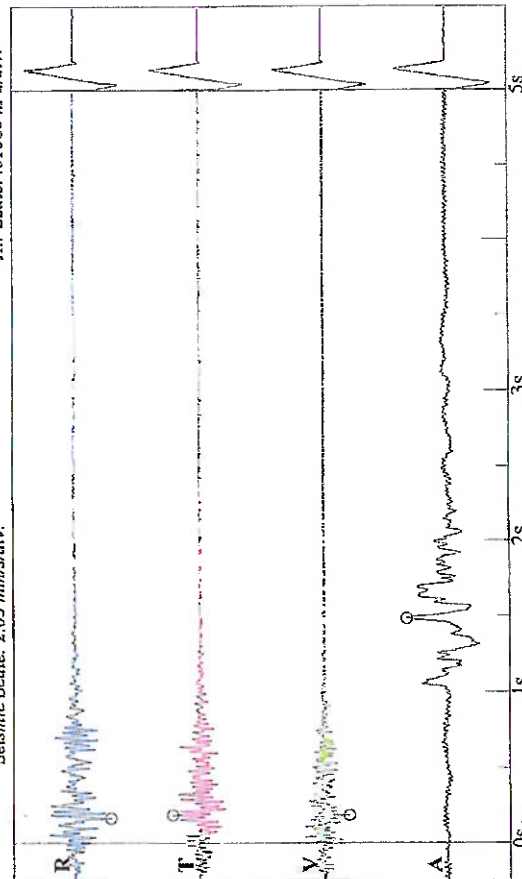
### Air

Measurement	Value	Air Trigger: N
Gain: 1		Trigger >>> Peak
kPa	.0105	1486.3
dB	114.4	
Hz	8.8	

### Waveform Analysis / Frequency Plot

Air Scale: 01585 kPa/div.

Seismic Scale: 2.03 mm/s/div.



USBM Limits (RI 8507, 1980)

