### Chapter 10: AIR

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### **10 AIR**

#### **10.1 Introduction**

This section of the remedial Environmental Impact Assessment Report (rEIAR) assesses any potential impact the quarrying and ancillary activities at the site may have had on the surrounding environment, with regards to the receiving air environment. For quarrying related activities, the most likely emission to the air environment is dust, which arises predominantly from the excavation, processing and transporting of aggregate. These sources are generally dispersed sources rather than specific point sources and this dictates the measures required to mitigate dust related impacts. Existing mitigating measures are reviewed, and further measures proposed where required, to remove or reduce any potential impacts identified.

#### 10.2 Methodology

The impact of dust is usually monitored by measuring rates of dust deposition. According to the EPA Guideline Document entitled Environmental Management in the Extractive Industries (April 2006), there are currently no Irish statutory standards or EPA guidelines relating specifically to dust deposition thresholds for inert mineral dust. There are a number of methods to measure dust deposition but only the German TA Luft Air Quality Standards (TA Luft, 1986) specify a method of measuring dust deposition – the Bergerhoff Method (German Standard VDI 2119, 1972) – with dust nuisance. It is the only enforceable method available. On this basis, the EPA recommend a dust deposition limit value of 350 mg/m²/day (Table 10.1) (when averaged over a 30-day period) has been adopted at site boundaries associated with quarrying related activities. The then Department of Environment, Heritage and Local Government (DoEHLG) published 'Quarries & Ancillary Activities: Guideline for Planning Authorities' (2004) also recommends the TA Luft dust deposition limit is adopted at site boundaries near quarry developments. In addition, the DoEHLG have identified that residents within 500m of the dust source can potentially be affected from emissions, with more severe concerns about dust within 100m of the source.

The assessment involved;

- Site walkovers and assessment of site
- Dust Monitoring

#### 10.2.1 References

- Survey of Murray Stone Quarry. Digital Land Surveyors Ltd, 2023
- TA Luft (1986) Technical Instructions on Air Quality Control TA Luft in accordance with Article 48 of the Federal Emission Control Law (BImSchG) dated 15th March 1974 (BGBI, I p. 721). *Federal Ministry for Environment, Bonn 1986 and amendments*.
- Department of the Environment, Heritage and Local Government (2004) Quarries and Ancillary Activities, Guidelines for Planning Authorities.
- Department of Environment, Community and Local Government (2013) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment

#### 10.3 Impact Assessment Methodology

The nature of the potential environmental impacts on the land, soil and geology is based on the matrix presented in Table 10.1 below. This table is derived from the EPA Guidelines on information to be included in Environmental Impact assessment Reports (May 2022).



	le 10.1: Description of Potential Environmental Impacts					
Quality of Effects	Positive Effects					
	A change which improves the quality of the environment (for example, by					
	increasing species diversity; or the improving reproductive capacity of an					
	ecosystem, or by removing nuisances or improving amenities).					
	Neutral Effects					
	No effects or effects that are imperceptible, within normal bounds of					
	variation or within the margin of forecasting error.					
	Negative/adverse Effects					
	A change which reduces the quality of the environment (for example,					
	lessening species diversity or diminishing the reproductive capacity of an					
	ecosystem; or damaging health or property or by causing nuisance).					
Describing the	Imperceptible					
Significance of	An effect capable of measurement but without significant					
Effects	consequences.					
LICCIS						
	Not significant					
	An effect which causes noticeable changes in the character of the					
	environment but without significant consequences.					
	Slight Effects					
	An effect which causes noticeable changes in the character of the					
	environment without affecting its sensitivities.					
	Moderate Effects					
	An effect that alters the character of the environment in a manner that is					
	consistent with existing and emerging baseline trends					
	Significant Effects					
	An effect which, by its character, magnitude, duration or intensity alters					
	a sensitive aspect of the environment.					
	Very Significant					
	An effect which, by its character, magnitude, duration or intensity					
	significantly alters most of a sensitive aspect of the environment.					
	Profound Effects					
	An effect which obliterates sensitive characteristics					
Describing the	Extent					
Extent and	Describe the size of the area, the number of sites, and the proportion of a					
Context of	population affected by an effect.					
Effects	Context					
	Describe whether the extent, duration, or frequency will conform or					
	contrast with established (baseline) conditions (is it the biggest, longest					
	effect ever?)					
Describing the	Likely Effects					
Probability of	The effects that can reasonably be expected to occur because of the					
Effects	planned project if all mitigation measures are properly implemented.					
	Unlikely Effects					
	The effects that can reasonably be expected not to occur because of the					
	planned project if all mitigation measures are properly implemented.					
Describing the Duration and						

#### Table 10.1: Description of Potential Environmental Impacts

Eroquonou of	Priof Effecto					
Frequency of Events	Brief Effects Effects lasting less than a day					
LVGIIIS						
	<b>Temporary Effects</b> Effects lasting less than a year					
	Short-term Effects					
	Effects lasting one to seven years.					
	Medium-term Effects					
	Effects lasting seven to fifteen years.					
	<b>Long-term Effects</b> Effects lasting fifteen to sixty years.					
	Permanent Effects Effects lasting over sixty years					
	<b>Reversible Effects</b> Effects that can be undone, for example through remediation or					
	restoration					
	<b>Frequency of Effects</b> Describe how often the effect will occur. (once, rarely, occasional frequently, constantly – or hourly, daily, weekly, monthly, annually)					
Describing the Types of Effects	Indirect Effects (a.k.a. Secondary or Off-site Effects) Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.					
	Cumulative Effects					
	The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.					
	<b>'Do-Nothing Effects'</b> The environment as it would be in the future should the subject project not be carried out.					
	<b>'Worst case' Effects</b> The effects arising from a project in the case where mitigation measures substantially fail.					
	<b>Indeterminable Effects</b> When the full consequences of a change in the environment cannot be described.					
	<b>Irreversible Effects</b> When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.					
	<b>Residual Effects</b> The degree of environmental change that will occur after the proposed mitigation measures have taken effect.					
	<b>Synergistic Effects</b> the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of SOx and NOx to produce smog).					

#### **10.4 Existing Environment**

#### 10.4.1 Site Description & Location

The development consists of a quarry located on a 3.45-hectare site in the rural townland of Drumbeagh. The site is located immediately north of the N56 between the villages of Mountcharles and Inver. The site is approximately 2.5 km west of Mountcharles, 3 km east of Inver and 1.7 km south of the villages of Frosses. The site is accessed off a local slip road immediately off the N56. The access road also serves the quarry owner and one other local resident. The site is surrounded by a mixture of poor-quality agricultural land, improved agricultural grassland and one-off rural houses and farmsteads. There are also peatlands and isolated forestry blocks in the surrounding area. The subject site location is outlined in Figure 3.1 below.



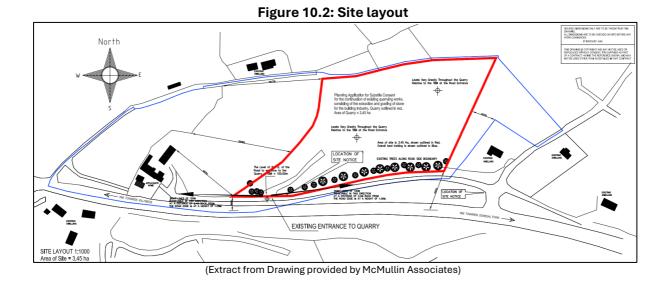


CYAL50381113 © Ordnance Survey Ireland/Government of Ireland

#### 10.4.2 Site Layout

The quarry contains a central access road leading to the main quarry deck where stockpiles of product are stored on pallets and tonne bags awaiting collection. This central area is also used to park vehicles and to access the working quarry faces. There is a small processing area in the east of the site where stone is cut to size. Within this processing area there is a guillotine and a circular saw. Both these fixed pieces of plant are covered by temporary sheds. The circular saw area is serviced by a concrete surround graded towards a central sump which collects the runoff from this area. Effluent within the sump is periodically emptied into the main settlement tank via a portable pump. Sludge at the base of the sump is periodically cleaned out by an authorise wate collector and disposed at a licenced facility. The location of this site infrastructure is shown on the main site layout drawing in Figure 10.2 below.

greentrack



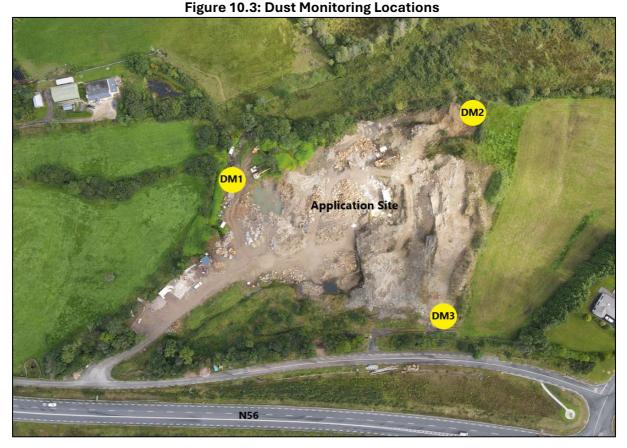
#### 10.4.3 Land Use

The site is located in a rural area with sporadic on-off houses and farmsteads. The surrounding countryside is undulating, and land use is predominantly agriculture with some isolated blocks of commercial forestry. Current land use for the application site is as a working quarry.

#### **10.5 Dust Monitoring**

To assess the likely dust generation and deposition at the site boundaries, four dust monitors were installed in August 2022. The monitors were placed at the existing extraction area boundaries and were changed monthly over a one-month study period. The dust monitoring report is attached as Appendix 10.1. The location of the dust monitors is shown below in Figure 10.3 below.





A summary of the dust deposition results is given in Table 10.2 below.

Table 10.2. Dust Mollicolling Results (January 2022-Julie 2022)						
	Dust Monitor 1 (NW)	Dust Monitor 2 (NE)	Dust Monitor 3 (SE)			
Analytical Period	mg/m²/day	mg/m²/day	mg/m²/day			
August 2023	107	110	27.6			

#### Table 10.2: Dust Monitoring Results (January 2022-June 2022)

It can be seen from Table 10.2 that the dust deposition results are well below the guideline threshold of  $350 \text{ mg/m}^2/\text{day}$ .

#### **10.6 Characteristics of the Development**

The site area is 3.45 hectares and is irregular in shape runs generally uphill from southwest to northeast with the lowest point at c. 54 mOD in the central western part of the site and the highest point in the east on top of the screening berms at c. 73 mOD. The quarry contains a central access road leading to the main quarry deck where stockpiles of product are stored on pallets and tonne bags awaiting collection. This central area is also used to park vehicles and to access the working quarry faces.

#### 10.6.1 Overburden and berm construction

Overburden removed from areas of extraction have been used to create screening berms along the eastern and northwestern boundaries of the site. These berms have largely re-vegetated and provide screening for quarrying activities.



#### 10.6.2 Extraction of Material

Extraction of the product is by mechanical means using a ripping claw on an excavator. Occasionally boulders have to be broken down further using an impact breaker mounted on an excavator down into smaller more manageable pieces. In the distant past, the applicant states that occasionally blasting occurred on site to win rock. The practice was discontinued after it was seen to induce unwanted fracture patterns into the rock lessening its value as cut-stone product. No blasting is planned for the site.

#### 10.6.3 Sequence of extraction

There are a number of lithologies present in the quarry. The dominant rocks are brown sandstone and blue sandstone. Historically these have been extracted from west to east within the site. Current extraction areas are in the central eastern part of the site.

#### 10.6.4 Processing of material

Won rock is then transported using excavator bucket or telehandler to the guillotine area. Rock is then guillotined by hand and stacked on pallets ready for collection. Some rock pieces are cut with a circular saw to size and then stacked on pallets ready for collection.

#### 10.6.5 Products

The main products produced are cut stone and dimension stone. Most of the product is used for facing houses with some product used for garden features, and ornamental features. Stone not ustilised for cut stone is used to level out previous extraction areas. Historically, the lower value stone was used as aggregate. In the 1960's aggregate was used as fill for the construction of the nearby N56 national route.

#### 10.6.6 Stockpiling of Materials

Cut stone and dimension stone are stored on site either on pallets or in tonne bags awaiting collection from the customer.

#### 10.6.7 Transport to Market

There are no delivery lorries associated with the quarry activity as customers usually collect the product directly from the site. On average, there is one lorry pick-up (rigid or articulated) from site. Product is loaded onto the lorry using the on-site telehandler. There are also occasional smaller loads collected from the site by customers. These are usually done in smaller pick-up 3.5 T lorries or using vans and trailers. On average there is one of these smaller collections per week.

#### 10.6.8 Fuel and Chemical Storage

Fuels and lubricants are stored in a bunded area within the applicant's workshop offsite. All re-fueling operations are carried out with strict adherence to pollution prevention protocols.

#### 10.6.9 Surface and Groundwater Management

Protection of the wider surface water environment is achieved on site is settlement ponds. The main settlement pond is in the central southern portion of the site which captures runoff from the main extraction area. Another smaller linear settlement pond is located on the northeastern boundary and captures runoff in the immediate area. The settlement ponds discharge to separate tributaries of the Eany Water River which discharges to the sea at Inver Bay approximately 3 km southwest of the subject site. The guillotining and cutting area is serviced by a sump which collects all runoff. Water is recycled from this sump and sludge periodically emptied and used to supplement the screening berms.



#### 10.6.10 Working hours and employment

Normal quarrying operations are confined to the hours of 8.00 am to 5.00 pm, Monday to Friday. The quarry is shut on Saturdays, Sundays and Public Holidays. The applicant provides employment for approximately 2-3 people directly.

#### 10.6.11 Utilities and services

There is no electricity supply or mains water supply to the site. There is no telecommunications connection to the site.

#### 10.6.12 Facilities

There is no weighbridge on site. Canteen, toilet and welfare facilities are provided at the applicant home approximately 130 m west of the quarry entrance.

Further details on the characteristics of development are provided in Chapter 3, *Project Description*, of this rEIAR.

#### **10.7 Impact Assessment**

The following activities associated with the development are the most likely to have generated dust:

- Movement of vehicles internally
- Stripping of subsoil and overburden
- Loading and movement of overburden
- Extraction of rock
- Cutting rock

#### 10.7.1 Wind

Wind is of key importance for both the generation and dispersal of air borne pollutants including dust. According to Met Eireann, the average hourly wind speed in Donegal experiences significant seasonal variation over the course of the year. The windier part of the year lasts for 5.6 months, from October 11<sup>th</sup> to March 29<sup>th</sup>, with average wind speeds of more than 14.0 miles per hour. The calmer time of year lasts for 6.4 months, from March 29<sup>th</sup> to October 11<sup>th</sup>. Table 10.3 shows the number of days with mean wind speeds exceeding 15 m/s for 10 minutes or more for the past three complete years.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2024	12	11	15	10	2	4	n/a	n/a	n/a	n/a		
2023	18	13	6	4	2	0	6	2	7	10	9	19
2022	13	23	8	4	5	3	2	0	7	13	15	9
2021	12	21	10	4	6	2	0	2	2	6	14	15

Table 10.3: No of days with 10 min wind speeds> 15 m/s.

(Met Eireann)



The predominant wind direction is from the southwest. Figure 10.4 shows the wind rose for Malin Head (50 km north of the application site).

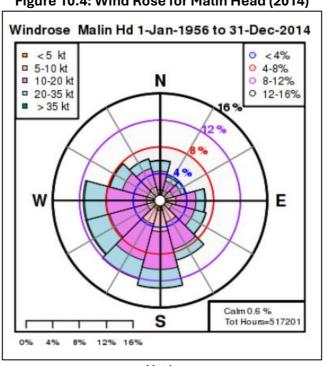


Figure 10.4: Wind Rose for Malin Head (2014)

#### Met.ie

#### 10.7.2 Dust Deposition

Dust generation rates depend on the site activity, particle size, the moisture content of the material and weather conditions. Dust emissions are dramatically reduced where rainfall has occurred due to the cohesion created between dust particles and water and the removal of suspended dust from the air. It is typical to assume no dust is generated under "wet day" conditions where rainfall greater than 0.2 mm has fallen. Large particle sizes (greater than 75 microns) fall rapidly out of atmospheric suspension and are subsequently deposited in close proximity to the source. Particle sizes of less than 75 microns are of interest as they can remain airborne for greater distances and give rise to the potential dust nuisance at the sensitive receptors. This size range would broadly be described as silt. Emission rates are normally predicted on a site-specific particle size distribution for each dust emission source.

As noted in Section 10.5, Dust Monitoring, dust deposition levels on the site boundary are in compliance with guideline values of 350 mg/m<sup>2</sup>/day. In fact, all of the monitoring results were considerably below the guideline value. Output and activity in the quarry have been reasonable consistent over the recent past (2004- present). Current activity levels are likely to represent average output over the period. According to the applicant there were times production may have been less than current levels and also times when production may have been more that current levels.

During times of increased production, it is unlikely that dust deposition would have breached the 350 mg/m<sup>2</sup>/day limit due to the mitigation measures that have been in place. The overall impact from the site over the monitoring period has been imperceptible to the local air environment.

#### 10.7.3 Cumulative Impacts

The application site must also be considered in association with other developments located within or close to the application site.

#### 10.7.3.1 Other Developments

A search of the planning portal of the Donegal County Council website revealed no planned development which may result in significant cumulative impact in the vicinity of the application site. The application site is situated in a rural environment where the two main land uses are low intensity livestock farming and private commercial forestry. There are other quarries is the general area but none within dust deposition range to be considered for cumulative impact.

#### 10.7.4 Do Nothing Option

If the development to extract rock is not granted substitute consent, then local construction end users will be forced to source quarry product from further afield. This will result in a higher carbon footprint for these products. The provision of 2-3 local jobs and the secondary benefits that this brings to the local community will cease if the project does not achieve planning permission.

#### **10.8 Mitigation Measures**

The following mitigation measures have been in place to minimise the impacts of quarrying activity on the air quality of the application site and surroundings:

- Dust monitoring will continue to be carried out quarterly at the designated monitoring locations if required.
- The timing of operations optimised in relation to meteorological conditions.
- Screening berms grass-seeded and planted to eliminate wind-blown dust.
- Internal haul roads compacted and maintained.
- A water bowser/sprayer will be available at all times to minimise dust during dry and windy conditions.

#### **10.9 Monitoring**

A re-instatement of the dust monitoring points to be implemented if required for ongoing monitoring purposes.

#### 10.10 Residual Impacts

Residual impacts are those that remain after the implementation of the mitigation measures. After implementation of the mitigation measures the residual effects are assessed as imperceptible to the local air environment.

#### **10.11 Technical Difficulties**

There were no technical difficulties encountered.

To: 12 Determination of Significance of impact Tre-Initigation							
		Description of Impact	Existing				
		(Character/Magnitude/	Environment				
		Duration/Probability/	(Significance /	Significance			
		Consequences)	Sensitivity)	Imperceptible -			
Impact	Receptor	Negligible - High	Negligible -High	Profound			
Dust deposition	Local dwellings	Low	Low	Slight			
Dust within the	Human health	Low	Medium	Moderate			
air							
Dust Deposition	Local	Low	Low	Slight			
	vegetation						

#### 10.12 Determination of Significance of Impact Pre-mitigation



#### **10.13 Summary of Mitigation Measures**

#### Summary of Mitigation Measures Implemented/Proposed

Dust monitoring will continue to be carried out monthly at the designated monitoring locations if required

The timing of operations optimised in relation to meteorological conditions

Screening berms grass-seeded and planted to eliminate wind-blown dust

Internal haul roads compacted and maintained

A water bowser/sprayer will be available at all times to minimise dust during dry and windy conditions

#### 10.14 Determination of Significance of Impact Following Mitigation

Impact	Receptor	Description of Impact (Character/Magnitude/ Duration/Probability/ Consequences) Negligible - High	Existing Environment (Significance / Sensitivity) Negligible -High	<b>Significance</b> Imperceptible - Profound
Dust deposition	Local dwellings	Low-Negligible	Low	Imperceptible
Dust within the air	Human health	Low-Negligible	Low	Imperceptible
Dust Deposition	Local vegetation	Low-Negligible	Low	Imperceptible

#### **10.15 Impact Assessment Conclusion**

The impact on air quality and in particular dust generation and dust deposition from the site is assessed as having no significant negative effects.







# **Dust Monitoring Report**

# Dust Monitoring Survey for Murray Stone, Drumbeagh, Mountcharles, Co. Donegal.

Greentrack Environmental Consultants

September 2023



### **DOCUMENT DETAILS**

Client:	Murray Stone
Project Title:	Dust Monitoring Report
Project Number:	23.0708
Document Title:	Dust Monitoring Report, Murray Stone.
Completion Date:	12 <sup>th</sup> September 2023
Prepared By:	A



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### **1** INTRODUCTION

Murray Stone is small well established sandstone supplier in south Donegal. The quarry is currently unauthorised and is attempting to regularise activities with a substitute consent application to An Bord Pleanála. The current enterprise is small scale with mechanical extraction of material from a relatively small quarry face followed by hand cutting of material by guillotine for market. There is the occasional requirement to break larger pieces of stone with a hydraulic impact hammer. A remedial Environmental Impact Assessment Screening Report will accompany the substitute consent application. This dust monitoring report is produced to inform the screening report.

### 2 SITE DESCRIPTION

#### 2.1 Location

The proposed development is located in the rural townland of Drumbeagh, Mountcharles, Co. Donegal, (Figure 2.1). Access to the site is provided by the local slip road off the N56 which also serves the applicant's home and one other house. The quarry site is part of a larger landholding. Figure 4.1 shows the extent of the site (in red) in relation to the overall landholding (shown in blue).

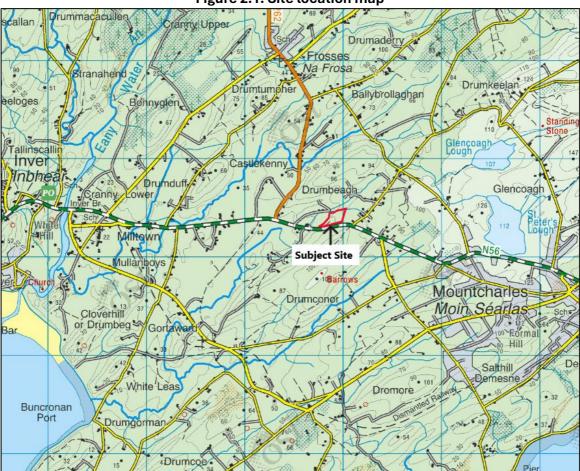
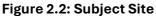
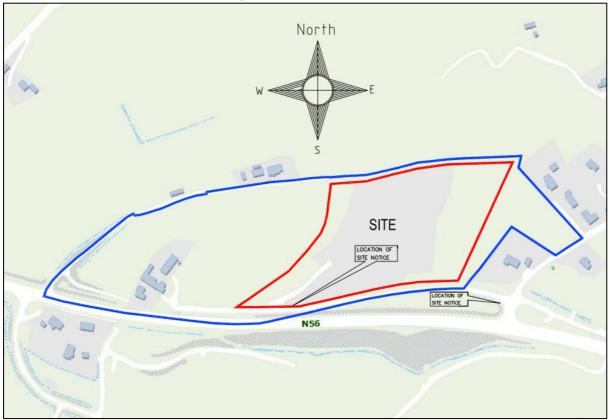


Figure 2.1: Site location map

CYAL50244901 © Ordnance Survey Ireland/Government of Ireland.





(Extract from Drawing provided by McMullin Associates)

The quarry is sited in a rural area with one-off sporadic housing throughout the area. There are 24 dwellings within 500 m of the quarry boundary, one of which is the applicants home. 10 of the dwellings are within 100 m of the N56 national route. The dominant land use in the surrounding area is agriculture and forestry. The quality of the agricultural land would be described as poor and further east of the site there are extensive belts of coniferous forest both in private and state ownership.

#### 2.2 Site Description

The development consists of a quarry located on a 3.45-hectare site in the rural townland of Drumbeagh. The site is located immediately north of the N56 between the villages of Mountcharles and Inver.

The quarry features an access track that leads to a levelled are in the central portion of the quarry. Worked and working faces are to the east and a guillotine processing area lies in the west of the quarry.

There is an excavator, telehandler and small tractor in use at the site. Most of the product is transported in tonne bags by customers collecting directly from the site. There are some stockpiles of cut and uncut material on site and a small area of loaded tonne bags ready for shipment. Murray Stone do not deliver product and there are no delivery lorries.

Structures at the quarry include small shelter structures around the guillotine and generator which powers the guillotine and a mobile home which serves as an office located to the east of the central levelled area. There are also several abandoned vehicles and redundant pieces of quarry equipment/plant which are mainly located in the northern part of the quarry.

#### 2.3 Quarrying Operations

There has been a quarry recorded on the site since the mid 1800's. The primary product from the quarry is cut sandstone for decorative cladding or garden stone.



Rock is extracted by mechanical means using an excavator with a ripping claw. Larger boulders are then further broken down into manageable sizes using a hydraulic breaker attachment on the excavator. Manageable pieces are then guillotines cleaving the rock along natural bedding planes into decorative stone. The quarry produces a beige/light brown cut stone and a blue cut stone from the available lithology.

A water management system including settlement ponds ensures runoff from the quarry is treated to a high standard before discharge off site.

### **3 DUST MONITORING METHODOLOGY**

Three dust monitoring station have been installed on site.

- One Dust Monitor (DM 1) was placed near the north-western boundary of the site.
- A second Dust Monitor (DM 2) was placed in the north-eastern corner of the site.
- A third Dust Monitor (DM 3) was placed in the southeast corner of the site.

The positions of these dust monitors are indicated on Figure 3.1, and photographs of the dust monitors in position are shown in Photographs 3.1, 3.2 & 3.3 below.



#### Figure 3.1: Dust Monitoring Locations



#### Photograph 3.1: Location of Dust Monitor 1 on the NW boundary of the site.



Photograph 3.2: Dust Monitor 2, placed in the NE corner of the site.







#### Photograph 3.3: Dust Monitor 3 in the SE corner of the site.

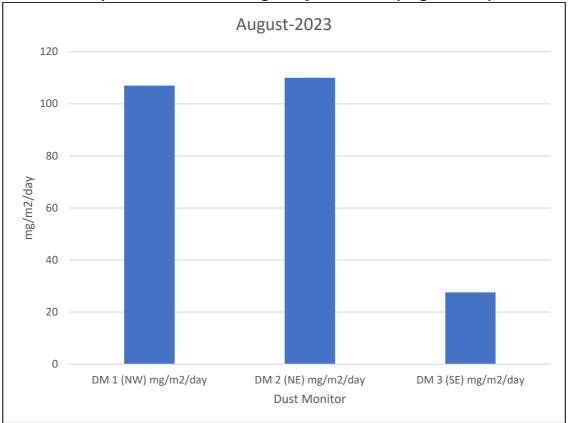
### 4 DUST MONITORING ASSESSMENT

The dust monitors were installed on 1<sup>st</sup> August 2023 were left in place for 30 days and removed on 31<sup>st</sup> August 2023. The dust collected was sent to Aqualab in Killybegs for Bergerhoff dust analysis. The results for August 2023 are presented in Table 4.1 and Graph 4.1, below. The analyses certificates from Aqualab are presented in Appendix 1.

	Dust Monitor 1 (NW)	Dust Monitor 2 (NE)	Dust Monitor 3 (SE)					
Analytical Period	mg/m²/day	mg/m²/day	mg/m²/day					
August 2023	107	110	27.6					

#### Table 4.1: Dust Monitoring Results (August 2023)





Graph 4.1: Dust Monitoring Analysis Results (August 2023)

#### 4.1 Interpretation of Results

Dust generation rates depend on the site activity, particle size, the moisture content of the material and weather conditions. Dust emissions are dramatically reduced where rainfall has occurred due to the cohesion created between dust particles and water and the removal of suspended dust from the air. It is typical to assume very little dust is generated under "wet day" conditions where rainfall greater than 0.2 mm has fallen.

Large particle sizes (greater than 75 microns) fall rapidly out of atmospheric suspension and are subsequently deposited in close proximity to the source. Particle sizes of less than 75 microns are of interest as they can remain airborne for greater distances and give rise to the potential dust nuisance at the sensitive receptors.

The guidelines applied to the extractive industry are widely used as best practice (DoEHLG (2004)). Threshold limits are usually indicated at 350 mg/m<sup>2</sup>/day at the boundary of a site for acceptable dust deposition levels.

# It is noted that the dust deposition monitoring has been in compliance with the 350 mg/m<sup>2</sup>/day DoEHLG (2004) threshold limits.

The overall impact of activities on site, in terms of dust emissions, has been imperceptible to the local air environment beyond the site boundaries.

### References

Department of the Environment, Heritage and Local Government (2004) Quarries and Ancillary Activities, Guidelines for Planning Authorities.

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Department of Communications, Climate Action and Environment (2017) Draft National Mitigation Plan.

*Environmental Protection Agency (2006) Environmental Management in the Extractive Industry: Guidelines for Regulators.* 

TA Luft (1986) Technical Instructions on Air Quality Control – TA Luft in accordance with Article 48 of the Federal Emission Control Law (BImSchG) dated 15th March 1974 (BGBI, I p. 721). Federal Ministry for Environment, Bonn 1986 and amendments.



### **APPENDIX 1: Aqualab Berghoff Dust Analysis**

AC	)U/	LAB			Donegal Road Killybegs Co. Donegal, F94 V&CT IRELAND
	-			(E) <u>ac</u>	(T) 074 9741809 walab.killybegs@pelagia.com
CERTIF	CATE	OF ANALYSI	S		Page 1 of
Customer:	Greentra 4 Roe Hou	use,		Report no.: No. of samples: Acceptance date:	23-0525 04/09/202
	Dry Arch Business Park , Dromore , Letterkenny ,			Analysis date: Date of issue:	04/09/202 06/09/202 Denis Faulkne
Comments 3 x samples wa	ater ex Murray S	Stone		Contact:	
Sample ID	Sample type	Client reference	Test method	Test description	Result / Units
23-05255-(01)	Water	DM1 (NW)	E-128	Bergerhoff Dust	107 mg/m²/day
3-05255-(02)	Water	DM2 (NE)	E-128	Bergerhoff Dust	110 mg/m²/day
3-05255-(03)	Water	DM3 (SE)	E-128	Bergerhoff Dust	27.6 mg/m²/day
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