

**Town & Country Planning Act 1990
Section 78 Appeals**

Craig Yr Hesg Quarry

Appendices to the

Evidence of:

**Katrina Early Hawkins
Smith Grant LLP**

DUST

On behalf of: Hanson UK

Planning Inspectorate Reference: APP/L6940/A/20/3265358 (Extension Appeal)

Planning Inspectorate Reference: APP/L6940/A/21/3282880 (S73 Appeal)

Local Authority Reference: 15/0666/10 (Extension Appeal)

Local Authority Reference: 21/0720/15 (S73 Appeal)

May 2022

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Appendix KEH1

Extract of Planning Policy Wales Ed 11

> Planning Policy Wales



Edition 11 | February 2021



Llywodraeth Cymru
Welsh Government



to essential transport and utilities infrastructure. Such infrastructure should be designed and constructed so as to remain operational even at times of flood, to result in no net loss of floodplain storage, to not impede water flows and to not increase flood risk elsewhere. TAN 15: Development and Flood Risk should be referred to for further policy advice on development and flood risk. It will be important to note that developments located within flood risk areas remain at risk from flooding even if mitigation measures are applied.

6.6.27   Planning authorities should be aware of the risk of surface water flooding, usually caused by heavy rainfall, and ensure developments are designed and planned to minimise potential impacts. Development should not cause additional run-off, which can be achieved by controlling surface water as near to the source as possible by the use of SuDS. Care should be taken in places of shallow groundwater or where flooding is caused by combined surface and groundwater processes. In such situations direct infiltration SuDs may not be appropriate. Consultation with drainage bodies and NRW should be undertaken and relevant evidence and information drawn from Area Statements taken into account.

6.6.28 New or improved flood defences in coastal and/or riverside locations should be carefully planned, ensuring all potential environmental effects, both on and off-shore, and relevant Shoreline Management Plan policies are taken into account. Flood defence works can provide opportunities to achieve wider social, economic and environmental benefits, which should be maximised where possible. Nature based solutions should be the first consideration given the opportunity to deliver other multiple

benefits, including habitat creation, biodiversity enhancement and water quality improvements. Overall, green infrastructure opportunities can benefit ecosystem resilience and provide opportunities for leisure facilities or renewable energy generation.

6.6.29 The ability of emergency services to respond to flood events should be taken into account when considering if a development in a flood risk area is appropriate. This may involve consultation with emergency planners, local resilience forums and other professional partners such as fire rescue, police and ambulance services.

6.7 Air Quality and Soundscape

6.7.1 Clean air and an appropriate soundscape¹⁴², contribute to a positive experience of place as well as being necessary for public health, amenity and well-being. They are indicators of local environmental quality and integral qualities of place which should be protected through preventative or proactive action through the planning system. Conversely, air, noise and light pollution can have negative effects on people, biodiversity and the resilience of ecosystems and should be reduced as far as possible.

6.7.2 National air quality objectives are not 'safe' levels of air pollution¹⁴³. Rather they represent a pragmatic threshold above which government considers the health risks associated with air pollution are unacceptable. Air just barely compliant with these objectives is not 'clean' and still carries long-term population health risks. Nitrogen dioxide and particulate matter, which are the pollutants of primary national concern from a public health perspective, currently have no safe threshold defined and therefore the lower the

¹⁴² By which we mean the acoustic environment as perceived or experienced and/or understood by a person or people, in context (ISO definition)

¹⁴³ National air quality objectives contained in the Air Quality (Wales) Regulations 2000, as amended by the Air Quality (Wales) (Amendment) Regulations 2002.

concentration of those pollutants the lower the risks of adverse health effects. It is desirable to keep levels of pollution as low as possible.^{144 145}



6.7.3 Certain sounds, such as those created by trees, birds or water features, can contribute to a sense of tranquillity whilst others can be reassuring as a consequence of their association with the normality of everyday activities. Problematic forms of sound are generally experienced as noise pollution and can affect amenity and be prejudicial to health or a nuisance. Noise action plans¹⁴⁶ drawn up by public bodies aim to prevent and reduce noise levels where necessary and preserve soundscape quality where it is good. Noise levels used to identify priority areas contained in noise action plans are usually set quite high in order to focus resources on the most polluted areas and noise must meet a number of tests before it qualifies as a statutory nuisance. Lower levels of noise, however, can still be annoying or disruptive and impact on amenity and as such should be protected through the planning process wherever necessary. The planning system must protect amenity and it is not acceptable to rely on statutory nuisance under the Environmental Protection Act 1990¹⁴⁷ to do so.

Framework for Addressing Air quality and Soundscape

6.7.4 The planning system should maximise its contribution to achieving the well-being goals, and in particular a healthier Wales, by aiming to reduce average population exposure¹⁴⁸ to air and noise pollution alongside action to tackle high pollution hotspots. In doing so, it should consider the long-term effects of current

and predicted levels of air and noise pollution on individuals, society and the environment and identify and pursue any opportunities to reduce, or at least, minimise population exposure to air and noise pollution, and improve soundscapes, where it is practical and feasible to do so.

6.7.5 In taking forward these broad objectives the key planning policy principle is to consider the effects which proposed developments may have on air or soundscape quality and the effects which existing air or soundscape quality may have on proposed developments. Air Quality and soundscape influence choice of location and distribution of development and it will be important to consider the relationship of proposed development to existing development and its surrounding area and its potential to exacerbate or create poor air quality or inappropriate soundscapes. The agent of change principle says that a business or person responsible for introducing a change is responsible for managing that change. In practice, for example, this means a developer would have to ensure that solutions to address air quality or noise from nearby pre-existing infrastructure, businesses or venues can be found and implemented as part of ensuring development is acceptable.

6.7.6 In proposing new development, planning authorities and developers must, therefore:

- address any implication arising as a result of its association with, or location within, air quality management areas, noise action planning priority areas or areas where there are sensitive receptors¹⁴⁹;

¹⁴⁴ Advice can be found in EPUK/IAQM guidance: Land-Use Planning & Development Control: Planning for Air Quality (<http://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>).

¹⁴⁵ The Welsh Government has published guidance on local air quality management (<https://gov.wales/air-quality-management-guidance-local-authorities>) and a Clean Air Plan for Wales: Healthy Air, Healthy Wales, 2020 (<https://gov.wales/clean-air-plan-wales-healthy-air-healthy-wales>).

¹⁴⁶ The Welsh Government has published the Noise and soundscape action plan 2018 to 2023, December 2018 (<https://gov.wales/noise-and-soundscape-action-plan-2018-2023>).

¹⁴⁷ Part III Environmental Protection Act 1990.

¹⁴⁸ The number of people exposed to the pollutant as well as the levels to which they are exposed.

¹⁴⁹ Air quality management areas and noise maps may both be viewed at <http://lle.gov.wales/catalogue?t=1&lang=en>

- not create areas of poor air quality or inappropriate soundscape; and
- seek to incorporate measures which reduce overall exposure to air and noise pollution and create appropriate soundscapes.


6.7.7 To assist decision making it will be important that the most appropriate level of information is provided and it may be necessary for a technical air quality and noise assessment to be undertaken by a suitably qualified and competent person on behalf of the developer.

6.7.8 Good design, for example setting back buildings from roads to avoid canyon effects and using best practice in terms of acoustic design¹⁵⁰ to ensure the appropriate and intended acoustic environment of completed developments should be incorporated at an early consideration in the design and planning process. Other mitigation measures must be capable of being effectively implemented for their intended purpose, and could include those related to:

- traffic management and road safety;
- ensuring progress towards a shift to low or zero emissions means of road transport, such as electrical charging points;
- supporting low or zero emissions public transport;
- providing active travel infrastructure; and
- incorporating green infrastructure, where it can improve air quality by removing air pollution and aiding its dispersal, reduce real or perceived noise levels by absorbing and scattering noise and introducing natural sounds to soften man-made noise, provide areas of relative tranquillity, and reduce exposure by

putting a buffer between sources of pollution and receptors.

6.7.9 When proposing new strategies for development and when allocating sites in development plans it will be important to avoid instances where incremental development of infrastructure, housing, commercial and industrial development creates or exacerbate health and amenity inequalities by introducing more sensitive receptors into an area or by making existing occupiers more vulnerable to poor air quality or noise. This may particularly be the case when proposing high density developments adjacent to transport hubs or where development pressure to meet short-term needs may have detrimental long-term effects and care must be taken not to exacerbate health inequalities whilst recognising accessibility needs.

6.7.10  Taking a sustainable approach will mean balancing short-term needs against long-term objectives to reduce public exposure to airborne pollution and giving particular consideration to the presence of air quality management areas, noise action planning priority areas and areas with sensitive receptors when proposing new development and particularly when preparing development plans. It will be important to identify wider mitigation solutions to reduce air and noise pollution and to avoid exacerbating problems in existing air quality management areas or noise hotspots through the provision of green infrastructure identified as part of Green Infrastructure Assessments, by the provision of electric vehicle charging infrastructure or through promoting the need to consider effective design solutions. Planning authorities should work closely with bodies such as the

¹⁵⁰ For more information on the principles of good acoustic design, readers are referred to Professional Planning Guidance (ProPG) Supplementary Document 2, produced by the Association of Noise Consultants, the Institute of Acoustics and the Chartered Institute of Environmental Health (<http://www.association-of-noise-consultants.co.uk/propg/>). ProPG has been written principally to assist with the planning process in England, but the design principles put forward in Supplementary Document 2 may also be adopted in Wales.



Public Service Boards in the preparation of their well-being plans and seek input from their own Environmental Health departments.

Understanding and Identifying the Sources of Airborne (Air and Noise) Pollution

- 6.7.11 Air and noise pollution are often, but not exclusively, emitted from the same sources, notably road transport, commercial and industrial activities. Consequently, areas of poor air quality often coincide or overlap with areas subject to high noise levels. Even where they do not, poor air quality at one location and high levels of noise at a neighbouring location may be related to one another, depending on the characteristics of the place in question, including the way in which people use and occupy places and the way in which traffic is managed in the wider area. Where air and noise pollution are generated from the same source they should be considered and addressed together and links should be made with active travel and other strategies for reducing vehicular use so as to reduce or minimise, pollution and to ensure an appropriate soundscape.
- 6.7.12 Planning authorities must consider current and future sources of air and noise pollution as part of developing their strategies for locating new development. The pattern of proposed development should be informed by the sensitivity of, and compatibility of, uses in relation to the sources of airborne pollution and the importance of ensuring appropriate soundscapes. Green infrastructure provision will be an important means of addressing the cumulative impacts of air and noise pollution and soundscapes on individuals and society and provide benefits for social and ecosystems resilience.

6.7.13



When developing strategies, proposing or assessing development proposals it will be essential to understand the implications of the transport demand associated with the proposal and the effect this may have now and in the foreseeable future. When proposing to introduce a development activity into an area the impacts which existing pollution sources (including roads, railways and industrial or commercial operations) have in terms of air and noise pollution should be carefully considered, particularly taking into account any increases in pollution levels which may be reasonably expected in the foreseeable future as a result of increased transport activity.

6.7.14

Proposed development should be designed wherever possible to prevent adverse effects to amenity, health and the environment but as a minimum to limit or constrain any effects that do occur. In circumstances where impacts are unacceptable, for example where adequate mitigation is unlikely to be sufficient to safeguard local amenity in terms of air quality and the acoustic environment it will be appropriate to refuse permission.

Location of Commercial, Industrial and other Potentially Polluting Development

6.7.15




For the purposes of this section, potentially polluting development includes commercial, industrial, energy¹⁵¹ and agricultural or transport infrastructure. Such development should be located in areas where there is low potential for public exposure, or where its impact can be minimised. Novel or new development types may potentially cause pollution and should be carefully considered, and where appropriate, decisions should be based on the precautionary principle.

¹⁵¹ Further guidance on wind turbine noise assessment can be found in ETSU-R-97 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/49869/ETSU_Full_copy__Searchable_.pdf and further good practice guidance published by the Institute of Acoustics: <https://www.ioa.org.uk/publications/wind-turbine-noise>


- 6.7.16 Relevant considerations in making planning decisions for potentially polluting development are likely to include:
- location, including the reasons for selecting the chosen site itself;
 - impact on health and amenity;
 - effect of pollution on the natural and built environment and the enjoyment of areas of landscape and historic and cultural value;
 - impact on groundwater and surface water quality;
 - effect on biodiversity and ecosystem resilience, including where there may be cumulative impacts on air or water quality which may have adverse consequences for biodiversity and ecosystem resilience;
 - the risk and impact of potential pollution from the development, insofar as this might lead to the creation of, or worsen the situation in, an air quality management area, a noise action planning priority area or an area where there are sensitive receptors; and
 - impact on the road and other transport networks, and in particular on traffic generation, particularly where the proposed development is not transport infrastructure itself.

6.7.17 The location of potentially polluting development adjacent to sensitive receptors will be unacceptable where health and amenity impacts cannot be minimised through appropriate design and mitigation measures. It is the overall expectation that levels of pollution should be reduced as far as possible and for this reason the location of potentially polluting development should be taken into account as part of overall strategies in development plans to ensure it can be appropriately located and maximum environmental benefits can be gained through measures such as green infrastructure.

6.7.18  Early consideration is required to ascertain whether the location and design of proposed development is acceptable where air pollution or noise-generating development is likely to affect a protected species, or is proposed in an area likely to affect a statutorily designated site (such as Natura 2000 sites or SSSIs) or a tranquil urban green space (including but not limited to formally designated ‘quiet areas’) valued for the restorative respite and contact with nature that they offer to residents of busy towns and cities.

Sensitive Development

6.7.19 The health imperative of good air quality and appropriate soundscapes in contributing to the overall character and quality of places and the health and well-being of people and wildlife should be fully recognised. It will not be appropriate to locate sensitive uses, such as hospitals, schools, care homes and housing adjacent to busy roads or other transport routes, where there are no connectivity benefits to be gained and where health and amenity impacts associated with increased exposure of people to pollution will be unacceptable. Whilst some uses may be appropriate with the aid of good design air quality and soundscape considerations can be overriding factors, especially for sensitive uses, if they cannot be adequately mitigated and impacts minimised.

6.7.20  Where sensitive developments need to be located close to existing transportation infrastructure for sustainable movement and access they should be designed, as far as practicable, to limit harmful substances and noise levels within and around those developments both now and in the future. This may include employing the principles of good acoustic design and the inclusion of active travel or travel management measures as part of development proposals. Such development, however, should preferably be located away from existing sources




of significant noise, which may include aircraft noise or roads, particularly new roads or those with programmed route improvements.

- 6.7.21 Regard should be paid to current air quality and noise levels and the quality of the existing soundscape and account taken of any relevant local air quality action plan, noise action plan and/or local or regional air quality strategy as part of development strategies and proposals in development plans and before determining planning applications.

Soundscapes and Compatibility of Uses


- 6.7.22 Certain qualities of sound can be associated with particular places and the activities within them. Taking steps to foster the continued longevity of uses and activities which provide wider cultural benefit and experience for people and contribute towards the local economy, both in terms of a vibrancy of place and in creating a space for creativity to flourish, is an important role for the planning system.
- 6.7.23 When considering the formulation of strategies or individual proposals, bearing in mind the agent of change principle, it will be necessary to identify the nature of the soundscape which exists in an area and the characteristics of the place, or specific activities, which have shaped it.

- 6.7.24  The potential impacts of noise pollution arising from existing development, be this commercial, industrial, transport-related or cultural venues (such as music venues, theatres or arts centres), must be fully considered to ensure the effects on new development can be adequately controlled to safeguard amenity and any necessary measures and controls should be incorporated as part of the proposed new development. This will help to prevent the risk of restrictions or possible closure of existing premises or adverse impacts on transport infrastructure due to noise and other complaints from occupiers of new


developments. It will be important that the most appropriate level of information is provided and assessment undertaken.

- 6.7.25 Planning authorities should identify areas of cultural or historic importance to be given special consideration in terms of soundscape where this may be necessary to safeguard the vibrancy of places or provide tranquil, restorative environments within busy built-up areas. As well as this, it will be invaluable to identify synergies between the mapping of green infrastructure and the moderating effect the protection of, or provision of, green infrastructure may have in terms of maintaining good air quality and appropriate soundscapes. This will include, but is not limited to, protecting tranquillity, the role of tranquil green spaces such as the ‘quiet areas’ designated in noise action plans and the benefits of green infrastructure as part of good design.

Managing Potential Environmental Risk Arising through Construction Phases

- 6.7.26  Planning authorities must consider the potential for temporary environmental risks, including airborne pollution and surface and subsurface risks, arising during the construction phases of development. Where appropriate planning authorities should require a construction management plan, covering pollution prevention, noisy plant, hours of operation, dust mitigation and details for keeping residents informed about temporary risks.

6.8 Lighting

- 6.8.1  There is a need to balance the provision of lighting to enhance safety and security to help in the prevention of crime and to allow activities like sport and recreation to take place with the need to:

- protect the natural and historic environment including wildlife and features of the natural environment such as tranquillity;
- retain dark skies where appropriate;

Appendix KEH2

Extract of Mineral Technical Advice Note (Wales) 1: Aggregates (MTAN1)

Minerals Planning Policy (Wales)
Minerals Technical Advice Note
(Wales)



Llywodraeth Cynulliad Cymru
Welsh Assembly Government

1: AGGREGATES



March 2004

C. To reduce the impact of aggregates production

Buffer Zones

70. MPPW (paragraph 40) established the principle of Buffer Zones around permitted and allocated mineral extraction sites. Development plans are required to indicate the boundary of the buffer zone. Within the buffer zone, no new sensitive development or mineral extraction should be approved. Sensitive development is any building occupied by people on a regular basis and includes housing areas, hostels, meeting places, schools and hospitals where an acceptable standard of amenity should be expected. Sensitive development could also include specialised high technology industrial development where operational needs require high standards of amenity.
71. The objective of the buffer zone is to protect land uses that are most sensitive to the impact of mineral operations by establishing a separation distance between potentially conflicting land uses. Research⁴⁴ has indicated that people living close to mineral workings consider dust to be the main impact of mineral extraction and any processing operations, followed by traffic, and noise and vibration from blasting. After careful consideration, including consultation with a number of interested and informed parties, the Welsh Assembly Government takes the view that the following minimum distances should be adopted unless there are clear and justifiable reasons for reducing the distance. An example may be that, because of other means of control, there is very limited impact from the mineral extraction site.

Mineral Extraction Type	Minimum Distance
Sand and gravel (and others where no blasting is permitted)	100 metres
Hard rock quarries	200 metres

The buffer zone should be defined from the outer edge of the area where extraction and processing operations will take place, including site haul roads, rather than the site boundary, as there may be land within site boundaries where mineral activities are limited or no operations are proposed so that the impact of the proximity of such land is negligible. Where mobile plant is likely to be used it will usually be necessary to control by planning conditions the location of the operational area where plant may operate in order to maintain the buffer zone and thus protect amenity.

Dust

72. Dust is a generic term used to describe particulate matter which may be found resting on the ground or other surfaces, but is capable of becoming airborne to disperse in the atmosphere before returning to the surface. It is defined in BS 6069 (Part 2)⁴⁵ as particulate matter in the size range 1-75 microns in diameter. It is produced at minerals extraction sites during a range of activities; site preparation, excavation, transportation and processing

⁴⁴The Environmental Effects of Production Blasting from Surface Mineral Workings, DETR, 1998

⁴⁵ British Standards Institution, Glossary of Terms, BS 6069 (Part 2), 1987

operations. When dust becomes airborne, it is referred to as dust emission. A number of factors are important in relation to aggregates extraction and processing; for example, rainfall decreases emissions; wind speed and direction may increase or decrease the impact of dust on a particular area; topography and vegetation may also have an effect. The type of mineral being extracted causes differences in the generation of dust: soft friable materials break apart easily and their extraction produces a greater amount of dust than harder, more cohesive materials. However, more energy and intensive processing are needed to produce saleable products of harder materials, and these operations produce significant quantities of dust. As well as these likelihoods, experience has shown that dust emissions can also result from:

- haulage, particularly on internal un-surfaced routes, on nearby roads which are not adequately wetted and if vehicles are un-sheeted;
- crushing and grading operations;
- blasting, including drilling operations prior to blasting;
- surface stripping, including soil and overburden storage;
- restoration operations.

Further details of the potential for dust emissions from mineral working activities are contained in the Best Practice Guide to Dust and Mineral Operations⁴⁶.

73. The main potential effects of dust and dust emissions are:

- Their impact on air quality and human health (see paragraph 75 below);
- The physical need for cleaning, and the soiling of surfaces;
- The contamination of soils and vegetation, impacting on agriculture and/or ecology;
- The contamination of water courses;
- Visual – in terms of dust plumes and reduced visibility.

74. Particulate air pollution is associated with a range of effects on health including those on the respiratory and cardiovascular systems, asthma and, even, mortality. Particles of less than 10 microns in diameter (known as the PM₁₀ fraction) can enter the respiratory system and are thought to be responsible for these health effects. The Expert Panel on Air Quality Standards (EPAQS) first considered particles in its report published in November 1995⁴⁷. They concluded that particulate air pollution is responsible for causing excess deaths among those with pre-existing lung and heart disease, and that there is a relationship between concentrations of PM₁₀ and health effects such that the higher the concentration of particles, the greater the effect on health. Since then the Panel has considered whether finer particles, perhaps PM_{2.5} or smaller, may be more representative of that

⁴⁶Environmental Effects of Dust from Surface Mineral Workings, DoE, (Arup Environmental/Ove Arup and Partners), 1995

⁴⁷Expert Panel on Air Quality Standards; Particles, November 1995

part of the total particle mix that is responsible for its harmful effects on health. In its report published in April 2001⁴⁸, the Panel concluded that on existing evidence, measurement of PM₁₀ which includes essentially all respirable particles, provides the most appropriate basis for an air quality standard in the United Kingdom.

75. Where dust is demonstrated to have the potential to affect the use of land the Welsh Assembly Government takes the view that it is a material planning consideration. Part IV of the Environment Act 1995 requires all local authorities to undertake regular reviews and assessments of air quality (including PM₁₀) in their areas. The Better Health Better Wales Strategic Framework sets out the Assembly's plans and priorities for action to improve the health of the people of Wales. It makes a clear commitment to develop the use of health impact assessment in Wales⁴⁹. **The potential impact on health must always be considered in relation to proposals for aggregates extraction and a health impact assessment should be carried out for any proposal for a new quarry or sand and gravel pit located within one kilometre of an existing community.**
76. Planning conditions can control certain activities to protect against dust emissions although many of these are controlled under the Environmental Protection Act 1990, and care should be taken to avoid duplication of controls. The Act provides for industrial premises to be regulated by the Environment Agency and local authorities under the Integrated Pollution Control (IPC) and Local Air Pollution Control (LAPC) regimes. The Integrated Pollution Prevention and Control (IPPC) Regulations being phased in gradually on an industry sector by sector basis between 2000 and 2007, will eventually replace the IPC and LAPC regimes and will apply an integrated environmental approach to the regulation of industrial activities. IPPC aims to prevent emissions and waste production and, where that is not practicable, reduce them to acceptable levels.
77. **Planning conditions can impose:**
- measurable performance requirements - the means of achieving these requirements should be left to the operator;
 - an adequate and appropriate monitoring scheme of the environmental consequences of aggregates extraction. In some cases, periodic checks may be sufficient but in others, continuous monitoring and regular audit reports may be necessary. Access to monitoring locations must be available to the operator;
 - ameliorative measures to mitigate impacts, such as the provision of wheel-wash facilities, road cleansing, speed restrictions, sheeting of vehicles;
 - working programmes/site design and layout - location of dust emission sources away from sensitive development, protection of

⁴⁸Expert Panel on Air Quality Standards; Airborne Particles: What is the most appropriate measurement on which to base a standard? April 2001

⁴⁹Better Health Better Wales: Developing health impact assessment in Wales, National Assembly for Wales, 1999

loading/unloading activities and materials storage areas, control of soil handling and overburden stripping including timing to suit weather conditions.

Impact of Blasting Operations – vibration and fly-rock

78. Production blasting can result in impacts that extend well beyond the extraction site. This is likely to cause concern to neighbours and results from:
- ground vibration –these are stress waves generated within the ground by the detonation of explosive charges. Sometimes these are reported by individuals but usually the levels of vibration generated by mineral workings are well below those required to cause structural damage to properties;
 - air overpressure –a pressure wave is formed in the atmosphere by the detonation of explosives, this consists of energy manifested as audible (noise) and inaudible (concussion);
 - noise – audible noise is atmospheric pressure variations at frequencies greater than 20Hz (hertz);
 - dust; and,
 - fly-rock – the projection of material from the blast site to any area beyond the designated danger zone.
79. Ground vibration: It is often difficult to reconcile the needs of efficient and economic mineral extraction with the comfort and amenity of neighbours, particularly where quarries are located close to buildings that are sensitive to vibration such as residential properties. Research⁵⁰ has shown that the vibration levels at which complaints are made varies significantly and that long established sites with a good relationship with neighbouring communities are far less likely to attract complaints from local residents. Mineral planning authorities and site operators have accepted the need for more definitive advice to ensure a more consistent approach to controlling ground vibration and responding to complaints from neighbours. This is therefore set out below.
80. Ground vibration is recorded in terms of particle velocity with the maximum or peak value measured in 3 orthogonal directions at any one location – so-called longitudinal, vertical and transverse. The measurement of peak particle velocity (ppv) is the accepted standard for recording vibration levels together with frequency content. The typical range of ground vibration frequency for surface mineral workings is 5 to 40 Hz with values predominantly from 20 to 30 Hz for hard rock quarries. Although sensitivity to vibration varies between individuals, a person will generally become aware of blast induced vibration at around 1.5 mms⁻¹ ppv (in some circumstances at levels as low as 0.5 mms⁻¹ ppv). Public concern often relates to the potential for vibration to cause damage to property. British Standards⁵¹ specify guide values to preclude damage to various building types from blast induced

⁵⁰The Environmental Effects of Production Blasting from Surface Mineral Workings, DETR, (Vibroco Ltd), 1998

⁵¹BS 7385: Evaluation and Measurement for Vibration in Buildings Part 2: 1993 Guide to damage levels from groundborne vibration. British Standards Institute

Appendix KEH3

Extract of RCT Local Development Plan: Policy AW10 – Environmental Protection and Public Health

***Rhondda Cynon Taf
Local Development Plan
up to 2021
Adopted March 2011***

Jane Cook
Director of Regeneration & Planning

Simon Gale
Service Director Planning

- 5.61 Where significant alteration in the character of the existing building is proposed, or where the buildings are so derelict that substantial or complete rebuilding is required, this will be treated as a new development in the countryside.
- 5.62 The character of new works could be traditional or contemporary provided they are rural in character and compatible with the existing character of the building. When converting rural buildings the presence of bats and owls may be an issue and must be thoroughly investigated. Design revisions may be required as a result of relevant investigations. Appropriate “community uses” include village halls, religious uses and community centres. Retail uses would not be permitted under AW 9.

Policy AW 10 - Environmental Protection and Public Health

Development proposals will not be permitted where they would cause or result in a risk of unacceptable harm to health and / or local amenity because of:-

1. Air pollution;
2. Noise pollution;
3. Light pollution;
4. Contamination;
5. Landfill gas;
6. Land instability;
7. Water pollution;
8. Flooding;
9. Or any other identified risk to the environment, local amenity and public health or safety

unless it can be demonstrated that measures can be taken to overcome any significant adverse risk to public health, the environment and / or impact upon local amenity.

- 5.63. Pollution may cause significant damage to human health, quality of life and residential amenity, as well as impact upon both the natural and built environment. This policy will ensure that developments that would result in unacceptably high levels of noise, light, water and / or air pollution are located away from residential areas and other sensitive uses. The policy will also ensure that new development is not located in close proximity to existing sources of pollution. Amenity is defined as the pleasant or satisfactory aspects of a location, or features which contribute to its overall character and the enjoyment of residents or visitors.
- 5.64 In November 2007, the Council declared eight Air Quality Management Areas (AQMA), two in the Northern and six in the Southern Strategy Area. The 8 AQMAs are shown on the constraints map and are subject to regular review. Where the Council considers a development may impact upon an existing AQMA or may exacerbate an existing problem, the submission of an assessment setting out the impacts of the development on air quality and outlining appropriate mitigation measures may be required.
- 5.65 The environment includes the water environment. Climate change, increases in population and changes in lifestyle have all had an impact upon the water environment and the pressures upon it. Climate change will affect the amount of rain that falls, it will impact upon river flows, replenishing of groundwater, the quality of water available and incidents of flooding, particularly localised flash flooding. The demands and pressures on water resources will also change. The approach to the protection of the water environment will need to take into account the quality and quantity of the local water resource and how both will impact upon the wider environment. Such impacts are to prevent further deterioration of aquatic ecosystems, associated habitats, fisheries, promoting the sustainable use of water and controlling water abstractions.

Appendix KEH4

Submitted Western Extension Supplementary Environmental Statement Dust Monitoring and Management Plan

Hanson UK: Craig yr Hesg Quarry

Dust and Particulate Management Plan and Dust Monitoring Plan

1.0 Introduction

Current Dust Controls

- 1.1 The management of air quality and dust at Craig Yr Hesg Quarry is currently regulated by:
- (i) An Environmental Permitting (England & Wales) Regulations, 2010, Part B permit (the 'Environmental Permit') which regulates the operation of processing plant, roadstone coating plant, stockpiles and related activities within the processing plant site;
 - (ii) Planning conditions imposed on the planning permission for quarrying, which were updated in April 2013 as part of an Environment Act 1995 'Review of Old Mining Permissions' (ROMP) application, where Condition 30 lists a series of measures designed to minimise dust emissions from the quarrying operation and related transportation on internal quarry site roads.
- 1.2 The planning application for an extension to Craig yr Hesg Quarry and the consolidation of the existing planning permissions (ref 15/0666/10, submitted in May 2015) anticipated that these established controls would continue in place via (i) the ongoing regulation imposed by the Permit, and (ii) a similar dust control planning condition to the current 'condition 30' which would be imposed on a planning permission for the extension/consolidation development. These controls work in tandem, with the Permit regulating operations within the processing plant site, and the planning condition regulating operations elsewhere within the quarry area.

Response to well-being and environmental health issues

- 1.3 During the processing of the extension /consolidation application (ref 15/0666/10), the Applicants provided a response to well-being and environmental health issues which had been raised by interested parties, and which had been collated by Rhondda Cynon Taff (RCT) as a 'memorandum of environmental health themes and issues'. These were comprehensively addressed in a June 2016 submission which included a 'schedule of environmental controls and commitments' which listed the management and mitigation measures proposed to regulate dust. The submission also provided information on existing site management controls which are designed to reinforce the mitigation measures through a routine programme of inspection, internal reporting and corrective action where appropriate.

RCT PM10 Particulate Monitoring

- 1.4 The consideration of air quality/particulate matter has been the subject of ongoing routine monitoring undertaken by RCT at a monitoring location in Garth Avenue in Glyncoch. The results are collated by RCT and are available for review.

Hanson PM10 Particulate Monitoring

- 1.5 From January 2010, the local air quality management monitoring undertaken by RCT has been supplemented by a parallel air quality/particulate monitoring study undertaken by Hanson at a location on the northern side of the quarry processing plant, between the primary crusher and main haul road and the residential properties in Glyncoch to the north. The Hanson monitoring was initially conceived as an exercise to assess the effectiveness of additional dust suppression measures which were installed at the plant site pursuant to a 'PM10 Emissions Action Plan' submitted to RCT in 2008. This Action Plan proposed a series of dust mitigation measures which were implemented during 2008 and 2009 (ref Appendix 12.1 to the Craig yr Hesg extension/consolidation application Environmental Statement (ES): May 2015, Volume 2 Appendices).
- 1.5 The voluntary monitoring undertaken by Hanson was subsequently formalised via a requirement imposed by Condition 32 of the Environment Act ROMP schedule of conditions which required Hanson to undertake a 12 month monitoring exercise, with the need for continuing monitoring to be the subject of review following the submission an initial annual report.
- 1.6 The required report for the period November 2013 – November 2014 was duly submitted, and in the absence of a response from RCT regarding the need or otherwise for continued monitoring, the monitoring has continued. Reports have been submitted to RCT for the subsequent periods of November 2014 - November 2015, November 2015 - November 2016 and November 2016 - November 2017. The later reports for the periods of 2017-2018 and 2018-2019 have been submitted separately to RCT parallel to this Appeal and that for 2019-2020 is included as Appendix 4-1 to the Supplementary Environmental Statement
- 1.7 The reports indicate a consistently slightly improving trend in air quality since 2013. The on-site and Upper Garth Avenue monitoring data indicates there have not been any actual or likely breaches of either the long-term annual mean or short-term 24-hour Air Quality Objectives (AQOs) for PM₁₀. The available data demonstrates reasonable correlation between the site data and the nearby RCT monitoring station at Upper Garth Avenue. The cessation of the on-site monitoring by Hanson is considered appropriate to avoid duplication with the separate monitoring undertaken by RCT.

Fugitive Nuisance Dust Monitoring

- 1.8 Fugitive dust monitoring (i.e. more general 'nuisance' dust) was undertaken as part of an Environmental Impact Assessment (EIA) air quality/dust study carried out as part of the 2015 quarry extension/consolidation application. The results were reported in Section 12.5 of the ES (reference tables 12-13 and 12-14 and figure 12.10). With the exception of the dust monitoring station located close the primary crusher haul road, the other stations recorded either low, typically rural background levels, or no evidence of significant dust deposition from the quarry or other sources.
- 1.9 These issues were further reviewed in Section 8.5 of the Hanson's response to well-being and environmental health issues: June 2016. However, RCT have suggested as part of a response the current application that notwithstanding these results and conclusions, it would be appropriate to undertake fugitive dust monitoring associated with operations within the extension area and any wider operations at the quarry which are not covered by the Environmental Permit,

particularly during defined events such as the construction of the perimeter screening bunds.

Dust Management and Monitoring Plan

- 1.10 In order to draw these issues together, this document comprises a ‘Dust and Particulate Management Plan’ and a ‘Nuisance Dust Monitoring Plan’. It confirms the measures to be adopted to minimise dust emissions, and a nuisance dust monitoring plan which confirms the proposals for the monitoring of fugitive nuisance dust. It should be considered in conjunction with the Environmental Permit, which will continue to regulate prescribed activities within the processing plant site, and the separate arrangements for the ongoing monitoring of particulate matter (PM10).
- 1.11 This Dust And Particulate Management Plan and Dust Monitoring Plan, thus focuses on activities which have the potential to give rise to fugitive nuisance dust associated with activities within the proposed extension area (and existing quarry area), and related transportation. It also sets out proposals for the monitoring of fugitive nuisance dust at defined stages which are deemed to represent the highest risk of generating fugitive nuisance dust, primarily associated with the phased stripping of soil and overburden and the construction of the perimeter screen bunds.

2.0 Dust and Particulate Management

2.1 The Environmental Permit

- 2.1.1 As noted above, the Environmental Permit (reference PPC/009-3.5-HQPEL/0104D, as varied by Notice dated 10th June 2020) sets out detailed measures to regulate and monitor emissions to air from the crushing and screening plant and the roadstone coating plant at the site. In more general terms, the regulated facility is required to operate in such a way that *“all the appropriate preventative measures are taken against air pollution, in particular through the application of the best available techniques. The Permit also requires that “no significant air pollution is caused”*
- 2.1.2 The permit includes 86 conditions which prescribe detailed emission limits and controls, together with requirements to monitor the facility and keep records, as follows:
- Specific emission limits and standards (Conditions 1 – 20);
 - The monitoring and investigation of emissions and the maintenance of records (conditions 13 – 33);
 - The notification to the Regulator of any defined occurrence, (conditions 28-33);
 - The operation of defined emission controls, including controls on the processing plant in terms of enclosure of plant items and the use of water sprays; air pollution abatement plant; controls on the roadstone coating plant; stockpiles; the use of additional water sprays at defined locations; the enclosure of load-out points; and controls on the importation of material for use in the roadstone plant (conditions 34 – 59);
 - Controls on the use of any mobile crushing and screening plant (condition 72);

- Controls on transport and loading / unloading, including the sheeting of vehicles; conditioning of internal roads to prevent dust emissions; the hard surfacing of defined roads; the dampening down of other internal roads; and the use of a wheel wash (conditions 60 – 71);
- Control of emissions from chimneys, vents and process exhausts (conditions 77 – 79);
- General management techniques and controls, including supervision by trained personnel; maintaining plant in good operating condition with a maintenance programme; and the implementation of written procedures to address any non-compliance or complaints (conditions 107 – 113).

2.2 Relationship between Planning and Permit Controls

2.2.1 As itemised above, the Permit is detailed and comprehensive in terms of the controls which it imposes. In the context of these controls, the advice in Minerals Technical Advice Note 1 (MTAN1) paragraph 76 is that whilst planning conditions can control certain activities to protect against dust, care should be taken to avoid duplication of controls within the Permit. In the context of that advice, this Dust and Particulate Management Plan focuses on:

- (i) Particulate and dust management controls associated with the quarrying operations and related haulage of stone from the quarry area to the processing plant, where the measures are primarily focussed on nuisance dust but which, through effective control, will also serve to minimise fine particulate emissions;
- (ii) The internal management controls which are in place to identify any issues, and, if necessary, implement corrective action.

2.2.2 Condition 30 of the existing schedule of conditions imposed following the Environment Act ROMP Review (ref 08/1380/10, dated 24th April 2013) sets out a list of measures which are designed to minimise dust emissions. This list of dust mitigation measures was reviewed and updated as part of the response to well-being and environmental health issues (June 2016), and the schedule of environmental controls and commitments set out in that document. This in turn is supplemented by the daily and weekly inspection checklists which are in place at the quarry. These elements thus provide the framework for the dust management controls which are proposed in this Plan.

2.3 Proposed Particulate and Dust Management Controls

2.3.1 The following measures are proposed to regulate and minimise fugitive nuisance dust and particulate emissions from the quarry and related haulage operations:

(1) General Management Measures

- **Quality Management System and Environmental Management System** in place at the quarry, the latter accredited to the international standard ISO14001, which includes pro-active management systems to minimise environmental and amenity impacts and which require strict adherence to the terms of the planning permission and Permits.

- **Planning Conditions Monitoring:** there is provision in Regulations for a programme of regular monitoring visits to be undertaken by RCT Officers, at Hanson's cost, to check adherence to requirements of planning conditions.
- **Quarry Plant Environmental Permit Monitoring:** programme of regular monitoring in place by RCT Officers to check adherence to the requirements of the permit and assess the 'risk rating' of the installation.

(2) Site Management Measures

- **Daily visual assessment of emissions,** on an internal Hanson pro-forma (Appendix 1) which includes the dust extractor stack; water sprays; process buildings; conveyors; dust shed; stockpiles; loading; haul roads, wheel wash, and entrance road / exit (including sprays), with a record of any action required, action taken, and date completed, all recorded daily.
- **Daily general site inspection checklist,** again on a Hanson pro-forma (Appendix 2) which includes inspections of haul roads, edge protection, emissions, site security, compliance with internal traffic management, and adherence to vehicle sheeting requirements, with a record of any action required, action taken, and date completed, all recorded daily.
- **Weekly general site inspection checklist,** again on a Hanson pro-forma (Appendix 2) which includes inspections of signs, condition of structures, and cleanliness of site entrance notice board with a record of any action required, action taken, and date completed.
- **Complaints Register:** all complaints are logged, investigated, actioned as appropriate, and the complainant notified of the outcome, with a full written record retained.

(3) Soil Handling

- Soil handling to be undertaken during appropriate weather conditions
- Soil handling particularly in the extension area closest to Conway Close will be suspended when wind conditions are likely to result in dust being carried off site.
- Screening landform to be seeded / planted at the earliest opportunity to bind the surface
- Material to be used to construct screening landform to be conditioned with water to avoid drying out and disturbance by wind

(4) Quarry Operations

- Dry surfaces at highest point of quarry to be treated as necessary with rain gun attached to water bowser.
- Drop heights from excavator to dump truck to be minimised.
- Dump trucks to be evenly loaded to prevent spillage

- All site vehicles to be fitted with upswept exhausts and radiator fan shields.
- Water bowser to be used on stripped surfaces or other areas of bare ground to minimise effects of wind blow
- Drilling of shot holes to be undertaken by drilling rigs fitted with a dust collection system

(5) Haulage

- Main internal haul road from quarry to plant site to be conditioned as necessary by water bowser and / or emplaced fixed water sprays under dry conditions.
- Quarry haul roads to be provided which avoid abrupt changes in horizontal and vertical alignment.
- Regular compaction, grading and maintenance of haul routes
- All haul roads to be conditioned as necessary by water bowser under dry conditions
- Speed limit of 10mph to be enforced.
- An effective wheel wash will be maintained at the site, as required by Condition 15 of Planning Permission Ref. 13/1039/10, dated 14th March 2015 for improvements to the quarry entrance/ exit road. Details of a 'bath' type wheel wash were approved by the LPA in June 2014, but that wheel wash is to be replaced by a superior hydraulic wheel wash in August 2017. All HGV traffic exiting the site will be required to first pass through the wheel wash to ensure that no much or detritus is tracked out onto the public highway.

3.0 Fugitive/Nuisance Dust Monitoring

3.1 The main potential for fugitive nuisance dust during quarrying operations would be during soil stripping within the three defined phases of the extension development, and during the construction of the perimeter screen bunds during the first of those three phases. The aim is that the construction of the screen bunds would be undertaken over a period of no more than 8 weeks in a single calendar year.

3.2 Given that this is the identified key source of potential nuisance dust, it is proposed to monitor fugitive dust at three locations in the vicinity of the extension development / screen bund, as shown on Location Plan DMP1. Location 1 is at the rear of Conway Close and is representative of the closest properties to the extension area and the proposed site for the construction of the screen bunds. Location 2 is to the north of the extension area, close to the property at Cefn Heulog. Location 3 is to the south west of the quarry extension area and will be used to establish background dust deposition levels. Locations 1 and 3 correspond with locations 4 and 3 respectively on ES figure 12.10 where monitoring was carried out as part of the EIA undertaken in support of the extension/consolidation

application and benefit from baseline monitoring data captured in advance of the commencement of the extension development.

- 3.3 The monitoring would be undertaken using combined Frisbee deposit and adhesive strip dust gauges to measure total daily dust deposition and directional dust, consistent with the approach undertaken as part of the EIA dust/air quality study. Monitoring would be undertaken as follows, with dust samples collected at monthly intervals and sent for laboratory analysis:
- (i) For a three month period immediately preceding the commencement of soil and overburden stripping in phases 1, 2 and 3;
 - (ii) For a twelve month period following the commencement of soil stripping within Phase 1 to cover the duration of the period of construction of the northern and western screening bunds, and the initial operational phase of development within the extension area;
 - (iii) For the duration of soil stripping operations within phases 2 and 3; and
 - (iv) At such other times and at such other locations as may be requested by the LPA (acting reasonably), for example in response to the receipt of complaints about nuisance dust from the site.
- 3.4 The results of the monitoring referred to in paragraph 3.3 above will be submitted to RCT as 'dust sample test reports' which will include the test result data and explanatory comments as appropriate. The test reports will cover sequential periods not exceeding 3 months in duration.
- 3.5 The dust results would be assessed in the context of a dust deposition rate of 200mg/m²/d and a soiling rate of 0.5% EAC (Effective Area Coverage) as indicative thresholds for possible nuisance. In the event that a dust sample test report indicates a dust deposition rate (averaged over the one month sampling period) at or in excess of that threshold, then this will trigger an investigation of the cause, using site records and data from the quarry weather station, with RCT being notified within a one month period of the outcome of the investigation and any new or additional mitigation measures to be taken. However, it is anticipated that any significant dust event would be identified via the routine daily visual assessments set out in section 2.3.1 (2) above, with the corrective action referred to. The dust monitoring results will be used to identify any increase or trend in dust deposition rates, verify (or otherwise) any complaints from neighbours, and provide a further basis for future remedial action / mitigation measures.
- 3.6 An automatic weather monitoring station will be maintained at the primary crusher, in a manner to ensure the accurate measurement of atmospheric temperature, wind direction, wind speed and precipitation, as is required by ROMP condition 33.

4.0 Particulate Matter Monitoring

- 4.1 It is the intention of RCT to continue their existing programme of air quality (PM10) monitoring via the station at Garth Avenue. In order to avoid duplication of monitoring, Hanson has agreed to make a contribution towards the cost of the ongoing monitoring, subject to them being absolved from the requirement to undertake any separate PM10 monitoring within the quarry and also to a number of qualifications relating to the review of the necessity for ongoing monitoring depending on the reported annual results.

- 4.2 These issues are to be incorporated into a formal legal agreement, where the air quality monitoring by RCT would then be undertaken in parallel with the particulate and dust management and fugitive nuisance dust monitoring proposals set out in this Plan.

5.0 Review of Particulate and Dust Management Plan and Fugitive Dust Monitoring

- 5.1 It is intended that this Plan should be a 'living document' which can respond to any issues which arise during the development, and which is capable of being updated and/or amended by agreement between the operator and the LPA in response to any changes in circumstances or opportunities for additional air quality / dust mitigation measures.
- 5.2 It is thus proposed that the Plan should be the subject of a formal review every two years from the date of the planning permission. This review would take the form of:
- (i) An initial exchange of correspondence followed, if necessary (at RCT's discretion) by a meeting between the operator and representatives of RCT's Environmental Health Department in advance of the review date to assess the performance of the Plan over the preceding two year period;
 - (ii) The identification of anticipated quarry development works over the forthcoming two year period, with particular reference to any soil stripping or handling during the period;
 - (iii) The identification of any changes which should appropriately be made to the Plan;
 - (iv) The submission of an updated Plan for approval by RCT, or confirmation that no changes need to be made, as appropriate; and
 - (v) The implementation of the updated Plan in the event that updates are deemed to be required and are submitted and approved.

Appendix KEH5

Dust Monitoring Data March 2021-April 2022

Craig yr Hesg Quarry: Note on Dust Deposition Monitoring

Results: March 2021 – April 2022

Chapter 4: Air Quality of the Supplementary Environmental Statement (WE SES) (CD2.9) provided with respect to the proposed Western Extension described the results of a short-term three-month dust monitoring exercise that was being undertaken to provide an update to the original monitoring carried out in 2014 and detailed in the original Western Extension Environmental Statement (WE ES) (CD1.2). The results that were available at the time were presented in Appendix 4.3 of the SES (CD2.10).

The dust deposition monitoring has since continued at the Site. This note provides a summary of the data now available and covers the period 4th March 2021 - 7th April 2022. It provides data to inform the Appeals in relation to both the planning application for the proposed continuation of existing activities (the S73 application; Appeal ref: APP/L6940/A/21/3282880) and the planning application for the Western Extension (Appeal ref: APP/L6940/A/20/326358).

Where possible the monitoring has replicated that undertaken in 2014; full details on the methodology and monitoring locations along with any deviations from the previous monitoring scope are provided below.

Dust Monitoring Equipment

The monitoring is being undertaken using combined deposition / directional dust gauges supplied by Socotec UK Ltd ('Socotec'; formerly ESG who undertook the monitoring and analysis in 2014). These comprise 'Frisbee-type' dust deposition samplers with an adhesive 'sticky pad' directional dust sampler around the collection bottle.

Dust Monitoring Deployment

Deployment of the equipment was undertaken by Socotec, under supervision of Smith Grant LLP (SGP), on 4th March 2021. Three dust deposition monitors (D2-D4) were installed around the quarry boundaries and one (D1) at an off-site location as shown in Figure 1a.

The locations were selected to determine baseline conditions at sensitive site boundaries replicating those used in 2014 where possible. The locations were also determined by on-site and off-site accessibility and equipment security taking into account existing and near-future activities that may result in equipment damage.

Two additional monitoring locations (D5 and D6) were established within the site on 6th January 2022. It should be noted that given the lack of available suitable space on the site boundary to the north of the Primary Crusher feed hopper monitor D5 is located adjacent to the haul road and D6b is located within, or close to, overhanging vegetation on the boundary. Any results at D6b may therefore be influenced by material falling from the trees.

A further two additional monitoring locations (D7 and D8) were established outside the site boundary within the Glyncoch estate on 11th March 2022. At the time of preparing this report 1 round of data was available for locations D7 and D8. The additional locations are shown in Figures 1b and 1c.

The monitoring locations are described below in Table 1; the previous 2014 locations are provided in Figure 2. Photographs are provided in Appendix A.

Table 1: Dust Monitoring Locations

Monitor	Location	Grid reference	Comments
D1	26 Conway Close, rear garden backing onto field	307278, 192162	similar location to Station 4 in 2014
D2	north of Haul Road to Primary Crusher	307874, 191969	similar location to Station 1 in 2014
D3	quarry northern perimeter track	307728, 191871	east of Station 2 in 2014
D4	quarry northern perimeter track	307482, 191868	west of Station 2 in 2014
D5 ¹	north of Haul Road to Primary Crusher	307916, 192005	established in January 2022
D6 / D6b ¹	north of Primary Crusher	307974, 192050 307930, 192020	established in January 2022; re-located to new location in February 2022
D7	Spar shop, Garth Avenue; rear area near site boundary	307924, 192034	established in March 2022
D8	near Garth Avenue; accessible open area of ground	307870, 192050	established in March 2022

1: Given the lack of available suitable space on the site boundary to the north of the Primary Crusher feed hopper monitor D5 is located adjacent to the haul road and D6b within, or close to, overhanging vegetation. Any results at D6b may therefore be influenced by material falling from the trees.

It has not been possible to install any monitoring equipment on the southern quarry perimeter to replicate the 2014 location Station 3 as access to a suitable secure location is not presently available.

Analysis

All sample collection and transport has been undertaken by Socotec. Analysis has been undertaken by Socotec at their laboratory using UKAS accredited methodologies. The analysis of dust samples is reported in terms of deposited dust (mg/m²/day) and daily percentage effective area coverage (%EAC), essentially a measure of soiling, in eight sectors. All available laboratory certificates are attached in Appendix B.

2021-2022 Results

The results for the period 4th March 2021 to 7th April 2022 are summarised in Tables 2 and 3 below.

Table 2: Summary of Dust Deposition Results – March 2021 to April 2022

Round	Dates	Dust Deposition Rate (mg/m ² /day)							
		D1	D2	D3	D4	D5 ¹	D6 / D6b ^{1,2}	D7	D8
1	09.03.21-08.04.21	15	253	62	54				
2	08.04.21-06.05.21	59	266	170	58				
3	06.05.21-03.06.21	61	224	77	166				
4	03.06.21-01.07.21	287	399	97	103				
5	01.07.21-29.07.21	98	375	102	384				
6	29.07.21-26.08.21	37	278	57	236				
7	26.08.21-23.09.21	40	225	82	231				
8	23.09.21-20.10.21	55	207	53	127				
9	20.10.21-02.12.21	35	181	71	43				
10	02.12.21-06.01.21	50	119	45	46				
11	06.01.22-08.02.22	34	149	27	38	136	62		
12	08.02.22-08.03.22	18	129	23	43	181	193		
13 ³	08-11.03.22- 07.04.22	37	276	64	111	327	301	101	66

1: Deployed on 6th January 2022

2: D6 relocated on 8th February 2022

3: D7 and D8 deployed on 11.03.22; all others changed over on 08.03.22

Table 3: Summary of Maximum %EAC Results – March 2021 to April 2022

Round	Dates	Maximum %EAC/day							
		D1	D2	D3	D4	D5 ¹	D6 / D6b ^{1,2}	D7	D8
1	09.03.21-08.04.21	0.1	0.4	0.1	0.3				
2	08.04.21-06.05.21	0.1	0.7 (SW)	0.2	0.3				
3	06.05.21-03.06.21	0.1	0.4	0.2	0.4				
4	03.06.21-01.07.21	0.4	0.6 (SW)	0.1	0.4				
5	01.07.21-29.07.21	0.1	0.6 (SW)	0.1	0.6 (SW)				
6	29.07.21-26.08.21	0.1	0.6 (SW)	0.1	0.5 (SW)				
7	26.08.21-23.09.21	0.0	0.3	0.1	0.3				
8	23.09.21-20.10.21	0.1	0.4	0.1	0.3				
9	20.10.21-02.12.21	0.1	0.3	0.1	0.1				
10	02.12.21-06.01.21	0.1	0.2	0.1	0.1				
11	06.01.22-08.02.22	0.1	0.2	0.1	0.2	0.2	0.1		

Round	Dates	Maximum %EAC/day							
		D1	D2	D3	D4	D5 ¹	D6 / D6b ^{1,2}	D7	D8
12	08.02.22-08.03.22	0.2	0.4	0.1	0.3	0.5 (SW)	0.2		
13 ³	08-11.03.22- 07.04.22	0.1	0.4	0.1	0.2	0.4	0.2	0.1	0.1

1: Deployed on 6th January 2022

2: D6 relocated on 8th February 2022

3: D7 and D8 deployed on 11.03.22; all others changed over on 08.03.22

Text in brackets refers to sector maximum %EAC reported in

2014 Results

For reference the results obtained in 2014 are summarised below in Tables 4 and 5.

Table 4: Summary of Dust Deposition Results – October to December 2014

Round	Dates	Dust Deposition Rate (mg/m ² /day)			
		Stn 1	Stn 2	Stn 3	Stn 4
1	03.10.14-31.10.14	298	26	14	11
2	31.10.14-26.11.14	311	15	*	21
3	26.11.14-22.12.14	144	21	*	8

* no samples as Frisbee gauge stand stolen

Table 5: Summary of Maximum %EAC Results – October to December 2014

Round	Dates	Maximum %EAC/day			
		Stn 1	Stn 2	Stn 3	Stn 4
1	03.10.14-31.10.14	0.4	0.2	0.1	0.1
2	31.10.14-26.11.14	0.5 (S, SW, W)	0.4	*	0.2
3	26.11.14-22.12.14	0.2	0.2	*	0.1

* no samples as Frisbee gauge stand stolen

Additional Comments

The roadstone coating plant (RCP) temporarily ceased operation in December 2021-January 2022 whilst undergoing maintenance. The RCP again ceased operation in March 2022 (03.03.22) whilst further maintenance works were undertaken. In late April 2022 the plant was being gradually brought back on-line through a phased re-commissioning. The latter part of the dust monitoring, including that for D7 and D8, therefore coincides with this period when the RCP has not been operating. All other activities have continued on site as normal.

A review of the other dust deposition results, on and off-site PM₁₀ data and wind direction data over this period does not indicate that the absence of the operational RCP would have potentially resulted in lower than normal off-site deposition rates. It is therefore considered the data available for the off-site locations D7 and D8 from this round are appropriate to inform the assessment.

FIGURES

Figure 1a: 2021-2022 Dust Deposition Monitoring Locations

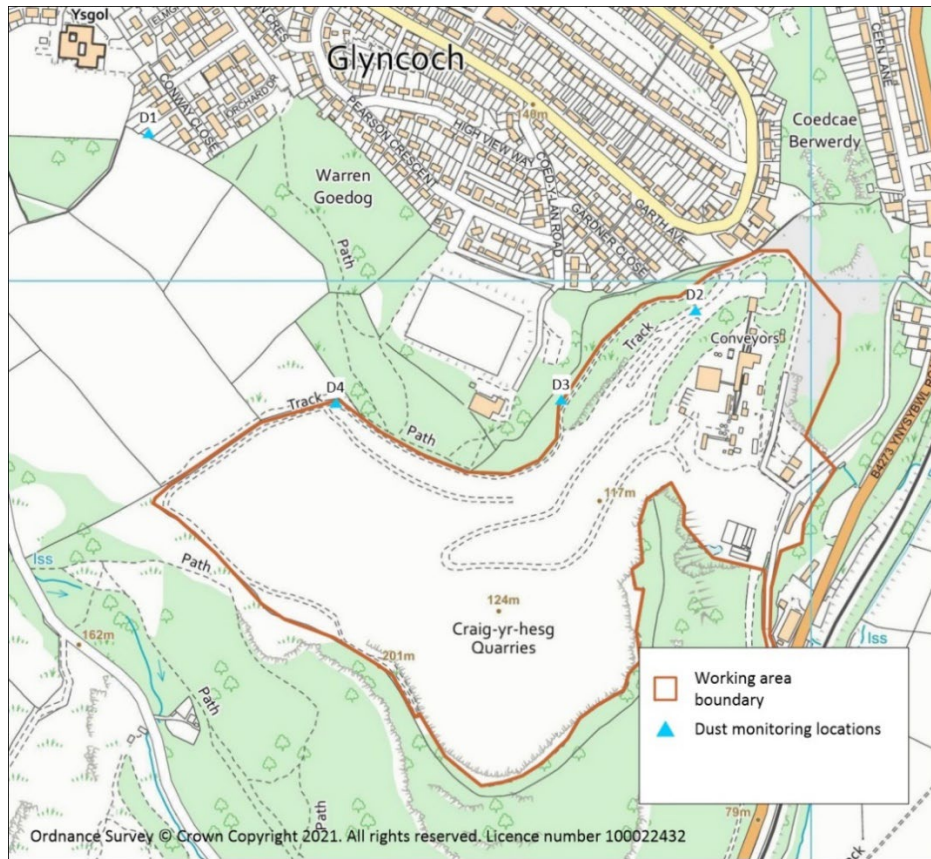


Figure 1b: 2021-2022 Dust Deposition Monitoring Locations

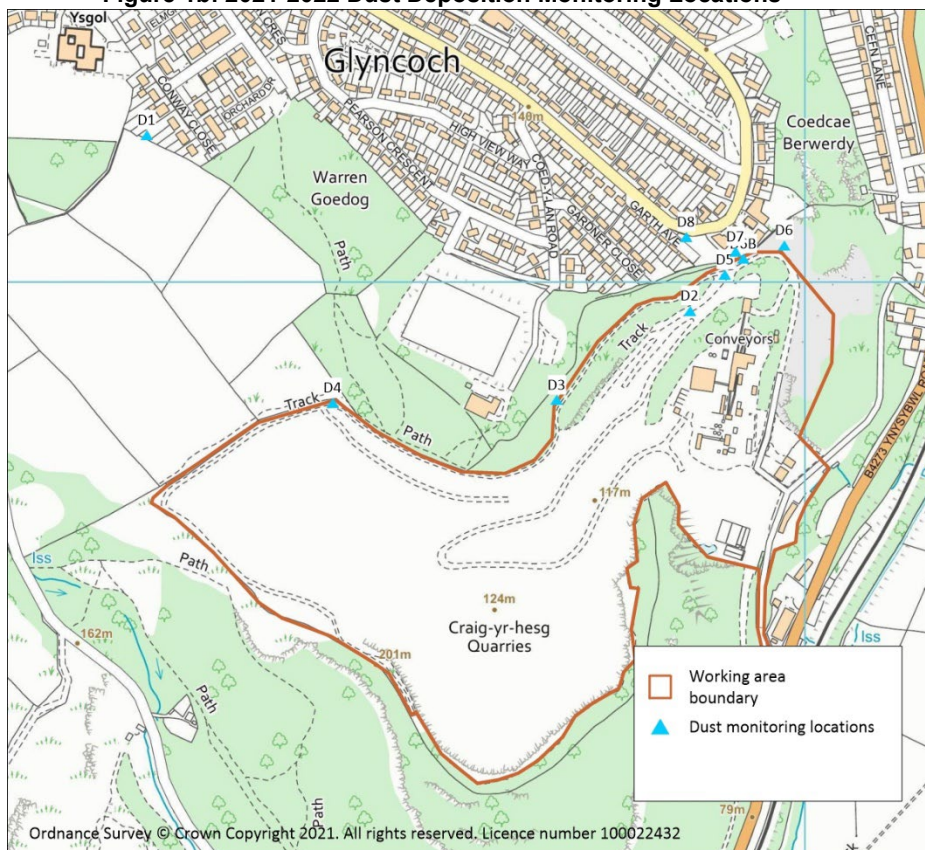


Figure 1c: 2021-2022 Dust Deposition Monitoring Locations

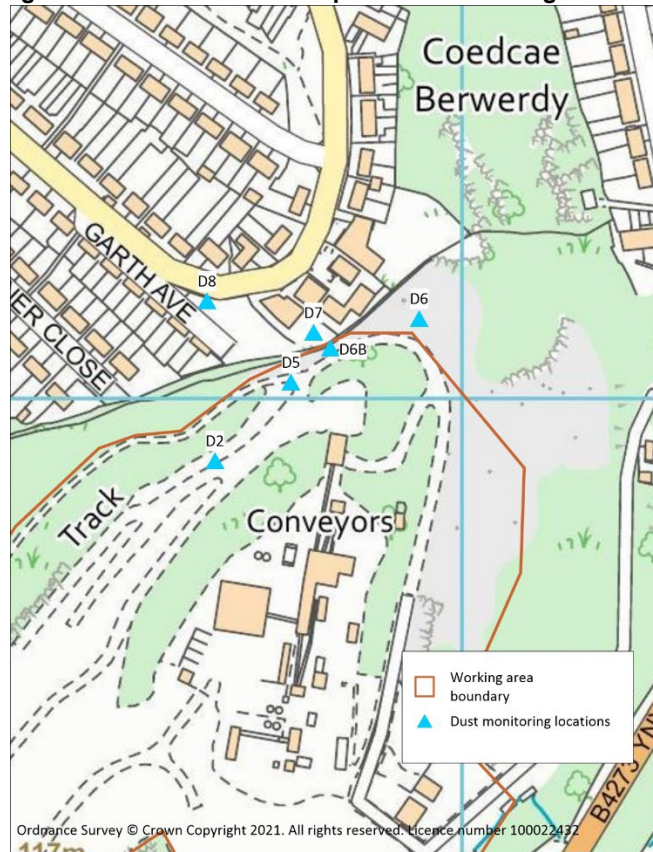
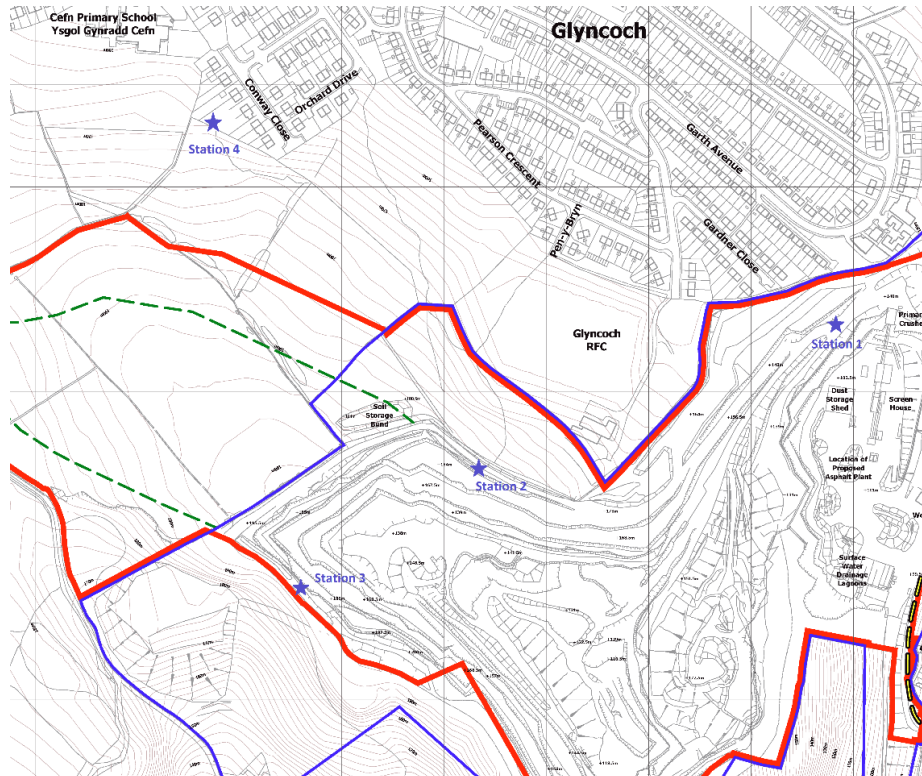


Figure 2: 2014 Dust Deposition Monitoring Locations



APPENDIX A:

**Photographic record:
2021-2022 Dust Monitoring Locations**

Photographic Record: 2021 Dust Monitoring Locations



Location D1: Rear garden of 26 Conway Close



Location D2: north of haul road to Primary Crusher feed hopper (located in a side area not currently subject to any haulage movements)



Location D3: quarry northern perimeter track



Location D4: quarry northern perimeter track

Photographic Record: Additional 2022 Dust Monitoring Locations



Location D5 North of Haul Road to Primary Crusher



Location D6b: North of Primary Crusher



Location D7: rear to Spar shop



Location D8: open land on Garth Avenue

APPENDIX B:
Laboratory Certificates



1015



SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 37379

Report Number: FD/ 19683

Report Date: 23/04/2021

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

.....
John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 19683 Job Number 37379 ID Number 191160
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 09/04/2021 Sampling Period 04/03/2021 to 08/04/2021 35 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 21

Deposition (mg.m⁻².d⁻¹) 15

Detection Limit (mg) 0.5 Date Tested 22/04/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 12/04/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	4.9	litres	4.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 16/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.5	units	4.5	units

Result TDS **LOD** 0.5 **Date Tested** 16/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	79	µS.cm ⁻¹	259.0	mg
Conductivity	79	µS.cm ⁻¹	186.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 22/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	100	% reflectance	0.0	%EAC.d ⁻¹
NE	100	% reflectance	0.0	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	97	% reflectance	0.1	%EAC.d ⁻¹
SW	96	% reflectance	0.1	%EAC.d ⁻¹
W	98	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19683 Job Number 37379 ID Number 191161
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 09/04/2021 Sampling Period 04/03/2021 to 08/04/2021 35 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 352
 Deposition (mg.m⁻².d⁻¹) 253
 Detection Limit (mg) 0.5 Date Tested 22/04/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 12/04/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.3	litres	5.3	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 16/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.3	units	4.3	units

Result TDS **LOD** 0.5 **Date Tested** 16/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	96	µS.cm ⁻¹	341.0	mg
Conductivity	96	µS.cm ⁻¹	245.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 22/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	97	% reflectance	0.1	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	90	% reflectance	0.3	%EAC.d ⁻¹
SW	86	% reflectance	0.4	%EAC.d ⁻¹
W	89	% reflectance	0.3	%EAC.d ⁻¹
NW	95	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19683 Job Number 37379 ID Number 191162
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 09/04/2021 Sampling Period 04/03/2021 to 08/04/2021 35 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 86
 Deposition (mg.m⁻².d⁻¹) 62
 Detection Limit (mg) 0.5 Date Tested 22/04/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 12/04/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.7	litres	5.7	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 16/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.7	units	4.7	units

Result TDS **LOD** 0.5 **Date Tested** 16/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	75	µS.cm ⁻¹	286.0	mg
Conductivity	75	µS.cm ⁻¹	206.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 22/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	96	% reflectance	0.1	%EAC.d ⁻¹
SW	96	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	98	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19683 Job Number 37379 ID Number 191163
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap - found on ground - not included in analysis
 Date Received 09/04/2021 Sampling Period 04/03/2021 to 08/04/2021 35 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 75
 Deposition (mg.m⁻².d⁻¹) 54
 Detection Limit (mg) 0.5 Date Tested 22/04/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 12/04/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	3.8	litres	3.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 16/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.3	units	4.3	units

Result TDS **LOD** 0.5 **Date Tested** 16/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	85	µS.cm ⁻¹	216.0	mg
Conductivity	85	µS.cm ⁻¹	156.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 22/04/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	95	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	97	% reflectance	0.1	%EAC.d ⁻¹
SE	96	% reflectance	0.1	%EAC.d ⁻¹
S	92	% reflectance	0.2	%EAC.d ⁻¹
SW	91	% reflectance	0.3	%EAC.d ⁻¹
W	93	% reflectance	0.2	%EAC.d ⁻¹
NW	94	% reflectance	0.2	%EAC.d ⁻¹



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SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 37580

Report Number: FD/ 19753

Report Date: 20/05/2021

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling. Results only apply to samples under test.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

.....
John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 19753 Job Number 37580 ID Number 192502
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 07/05/2021 Sampling Period 08/04/2021 to 06/05/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 66
 Deposition (mg.m⁻².d⁻¹) 59
 Detection Limit (mg) 0.5 Date Tested 18/05/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 07/05/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	1.3	litres	1.3	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.7	units	5.7	units

Result TDS **LOD** 0.5 **Date Tested** 14/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	66	µS.cm ⁻¹	57.0	mg
Conductivity	66	µS.cm ⁻¹	52.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 19/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	96	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19753 Job Number 37580 ID Number 192503
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap-Found on ground - not analysed
 Date Received 07/05/2021 Sampling Period 08/04/2021 to 06/05/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 296

Deposition (mg.m⁻².d⁻¹) 266

Detection Limit (mg) 0.5 Date Tested 18/05/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 07/05/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	1.6	litres	1.6	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	6.5	units	6.5	units

Result TDS **LOD** 0.5 **Date Tested** 14/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	41	µS.cm ⁻¹	44.0	mg
Conductivity	41	µS.cm ⁻¹	39.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 19/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	94	% reflectance	0.2	%EAC.d ⁻¹
E	97	% reflectance	0.1	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	96	% reflectance	0.1	%EAC.d ⁻¹
SW	80	% reflectance	0.7	%EAC.d ⁻¹
W	85	% reflectance	0.5	%EAC.d ⁻¹
NW	94	% reflectance	0.2	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19753 Job Number 37580 ID Number 192504
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 07/05/2021 Sampling Period 08/04/2021 to 06/05/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 189

Deposition (mg.m⁻².d⁻¹) 170

Detection Limit (mg) 0.5 Date Tested 18/05/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 07/05/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	1.6	litres	1.6	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.9	units	4.9	units

Result TDS **LOD** 0.5 **Date Tested** 14/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	57	µS.cm ⁻¹	61.0	mg
Conductivity	57	µS.cm ⁻¹	55.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 19/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	94	% reflectance	0.2	%EAC.d ⁻¹
W	95	% reflectance	0.2	%EAC.d ⁻¹
NW	96	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19753 Job Number 37580 ID Number 192505
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap-Found on ground - not analysed
 Date Received 07/05/2021 Sampling Period 08/04/2021 to 06/05/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 65
 Deposition (mg.m⁻².d⁻¹) 58
 Detection Limit (mg) 0.5 Date Tested 18/05/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 07/05/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	0.3	litres	0.3	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	8.9	units	8.9	units

Result TDS **LOD** 0.5 **Date Tested** 14/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	51	µS.cm ⁻¹	10.0	mg
Conductivity	51	µS.cm ⁻¹	9.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 19/05/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	96	% reflectance	0.1	%EAC.d ⁻¹
NE	96	% reflectance	0.1	%EAC.d ⁻¹
E	92	% reflectance	0.3	%EAC.d ⁻¹
SE	93	% reflectance	0.3	%EAC.d ⁻¹
S	92	% reflectance	0.3	%EAC.d ⁻¹
SW	93	% reflectance	0.3	%EAC.d ⁻¹
W	94	% reflectance	0.2	%EAC.d ⁻¹
NW	94	% reflectance	0.2	%EAC.d ⁻¹



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SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 37766

Report Number: FD/ 19827

Report Date: 18/06/2021

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling. Results only apply to samples under test.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

.....
John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 19827 Job Number 37766 ID Number 193722
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 04/06/2021 Sampling Period 06/05/2021 to 03/06/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 68
 Deposition (mg.m⁻².d⁻¹) 61
 Detection Limit (mg) 0.5 Date Tested 17/06/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 04/06/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.9	units	3.9	units

Result TDS **LOD** 0.5 **Date Tested** 11/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	73	µS.cm ⁻¹	289.0	mg
Conductivity	73	µS.cm ⁻¹	259.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	96	% reflectance	0.1	%EAC.d ⁻¹
SW	96	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19827 Job Number 37766 ID Number 193723
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 04/06/2021 Sampling Period 06/05/2021 to 03/06/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 249

Deposition (mg.m⁻².d⁻¹) 224

Detection Limit (mg) 0.5 Date Tested 17/06/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 04/06/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4	units	4.0	units

Result TDS **LOD** 0.5 **Date Tested** 11/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	69	µS.cm ⁻¹	273.0	mg
Conductivity	69	µS.cm ⁻¹	245.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	97	% reflectance	0.1	%EAC.d ⁻¹
SW	88	% reflectance	0.4	%EAC.d ⁻¹
W	92	% reflectance	0.3	%EAC.d ⁻¹
NW	96	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19827 Job Number 37766 ID Number 193724
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 04/06/2021 Sampling Period 06/05/2021 to 03/06/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 86
 Deposition (mg.m⁻².d⁻¹) 77
 Detection Limit (mg) 0.5 Date Tested 17/06/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 04/06/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4	units	4.0	units

Result TDS **LOD** 0.5 **Date Tested** 11/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	68	µS.cm ⁻¹	269.0	mg
Conductivity	68	µS.cm ⁻¹	241.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	95	% reflectance	0.2	%EAC.d ⁻¹
W	96	% reflectance	0.1	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19827 Job Number 37766 ID Number 193725
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 Date Received 04/06/2021 Sampling Period 06/05/2021 to 03/06/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 185
 Deposition (mg.m⁻².d⁻¹) 166
 Detection Limit (mg) 0.5 Date Tested 17/06/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 04/06/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.9	units	3.9	units

Result TDS **LOD** 0.5 **Date Tested** 11/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	62	µS.cm ⁻¹	245.0	mg
Conductivity	62	µS.cm ⁻¹	220.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/06/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	96	% reflectance	0.1	%EAC.d ⁻¹
NE	97	% reflectance	0.1	%EAC.d ⁻¹
E	95	% reflectance	0.2	%EAC.d ⁻¹
SE	94	% reflectance	0.2	%EAC.d ⁻¹
S	90	% reflectance	0.4	%EAC.d ⁻¹
SW	92	% reflectance	0.3	%EAC.d ⁻¹
W	94	% reflectance	0.2	%EAC.d ⁻¹
NW	94	% reflectance	0.2	%EAC.d ⁻¹



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SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 37967

Report Number: FD/ 19911

Report Date: 15/07/2021

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling. Results only apply to samples under test.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

.....
John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 19911 Job Number 37967 ID Number 195182
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 02/07/2021 Sampling Period 03/06/2021 to 01/07/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 319

Deposition (mg.m⁻².d⁻¹) 287

Detection Limit (mg) 0.5 Date Tested 15/07/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 05/07/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	0.3	litres	0.3	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 09/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	6.2	units	6.2	units

Result TDS **LOD** 0.5 **Date Tested** 09/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	69	µS.cm ⁻¹	14.0	mg
Conductivity	69	µS.cm ⁻¹	12.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 13/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	90	% reflectance	0.4	%EAC.d ⁻¹
SW	91	% reflectance	0.3	%EAC.d ⁻¹
W	98	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19911 Job Number 37967 ID Number 195183
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 02/07/2021 Sampling Period 03/06/2021 to 01/07/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 444
 Deposition (mg.m⁻²d⁻¹) 399
 Detection Limit (mg) 0.5 Date Tested 15/07/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 05/07/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	0.7	litres	0.7	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 09/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.7	units	5.7	units

Result TDS **LOD** 0.5 **Date Tested** 09/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	64	µS.cm ⁻¹	30.0	mg
Conductivity	64	µS.cm ⁻¹	27.0	mg.m ⁻² d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 13/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	97	% reflectance	0.1	%EAC.d ⁻¹
E	94	% reflectance	0.2	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	83	% reflectance	0.6	%EAC.d ⁻¹
W	88	% reflectance	0.4	%EAC.d ⁻¹
NW	94	% reflectance	0.2	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19911 Job Number 37967 ID Number 195184
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 02/07/2021 Sampling Period 03/06/2021 to 01/07/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 108
 Deposition (mg.m⁻².d⁻¹) 97
 Detection Limit (mg) 0.5 Date Tested 15/07/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 05/07/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	0.3	litres	0.3	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 09/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.5	units	4.5	units

Result TDS **LOD** 0.5 **Date Tested** 09/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	66	µS.cm ⁻¹	13.0	mg
Conductivity	66	µS.cm ⁻¹	12.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 13/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	100	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	98	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	98	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19911 Job Number 37967 ID Number 195185
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 Date Received 02/07/2021 Sampling Period 03/06/2021 to 01/07/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 115

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 103

Detection Limit (mg) 0.5 Date Tested 15/07/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 05/07/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	0.2	litres	0.2	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 09/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.6	units	5.6	units

Result TDS **LOD** 0.5 **Date Tested** 09/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	55	$\mu\text{S.cm}^{-1}$	7.0	mg
Conductivity	55	$\mu\text{S.cm}^{-1}$	7.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 13/07/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	97	% reflectance	0.1	%EAC.d ⁻¹
SE	96	% reflectance	0.1	%EAC.d ⁻¹
S	94	% reflectance	0.2	%EAC.d ⁻¹
SW	90	% reflectance	0.4	%EAC.d ⁻¹
W	95	% reflectance	0.2	%EAC.d ⁻¹
NW	96	% reflectance	0.1	%EAC.d ⁻¹



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OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 38177

Report Number: FD/ 19997

Report Date: 16/08/2021

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling. Results only apply to samples under test.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

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Helen Latham, Team Leader
Environmental Laboratory
Direct Dial: 01283 554486



TEST REPORT



Report Number FD/ 19997 Job Number 38177 ID Number 196571
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 30/07/2021 Sampling Period 01/07/2021 to 29/07/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 109

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 98

Detection Limit (mg) 0.5 Date Tested 12/08/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 30/07/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	1.7	litres	1.7	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 06/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	7	units	7.0	units

Result TDS **LOD** 0.5 **Date Tested** 06/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	58	$\mu\text{S.cm}^{-1}$	66.0	mg
Conductivity	58	$\mu\text{S.cm}^{-1}$	59.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 12/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	98	% reflectance	0.1	%EAC.d ⁻¹
W	99	% reflectance	0.0	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19997 Job Number 38177 ID Number 196572
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 30/07/2021 Sampling Period 01/07/2021 to 29/07/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 418
 Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 375
 Detection Limit (mg) 0.5 Date Tested 12/08/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 30/07/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	2	litres	2.0	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 06/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.4	units	4.4	units

Result TDS **LOD** 0.5 **Date Tested** 06/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	49	$\mu\text{S.cm}^{-1}$	66.0	mg
Conductivity	49	$\mu\text{S.cm}^{-1}$	59.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 12/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	97	% reflectance	0.1	%EAC.d ⁻¹
E	96	% reflectance	0.1	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	83	% reflectance	0.6	%EAC.d ⁻¹
W	89	% reflectance	0.4	%EAC.d ⁻¹
NW	93	% reflectance	0.3	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19997 Job Number 38177 ID Number 196573
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 30/07/2021 Sampling Period 01/07/2021 to 29/07/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 114
 Deposition (mg.m⁻².d⁻¹) 102
 Detection Limit (mg) 0.5 Date Tested 12/08/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 30/07/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	1.8	litres	1.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 06/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.2	units	4.2	units

Result TDS **LOD** 0.5 **Date Tested** 06/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	51	µS.cm ⁻¹	62.0	mg
Conductivity	51	µS.cm ⁻¹	55.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 12/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	98	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	98	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 19997 Job Number 38177 ID Number 196574
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 Date Received 30/07/2021 Sampling Period 01/07/2021 to 29/07/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 428

Deposition (mg.m⁻².d⁻¹) 384

Detection Limit (mg) 0.5 Date Tested 12/08/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 30/07/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	1.9	litres	1.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 06/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.3	units	4.3	units

Result TDS **LOD** 0.5 **Date Tested** 06/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	54	µS.cm ⁻¹	69.0	mg
Conductivity	54	µS.cm ⁻¹	62.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 12/08/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	93	% reflectance	0.3	%EAC.d ⁻¹
NE	92	% reflectance	0.3	%EAC.d ⁻¹
E	90	% reflectance	0.4	%EAC.d ⁻¹
SE	88	% reflectance	0.4	%EAC.d ⁻¹
S	88	% reflectance	0.4	%EAC.d ⁻¹
SW	84	% reflectance	0.6	%EAC.d ⁻¹
W	87	% reflectance	0.5	%EAC.d ⁻¹
NW	90	% reflectance	0.4	%EAC.d ⁻¹



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OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 38331

Report Number: FD/ 20080

Report Date: 14/09/2021

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

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The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

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John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 20080 Job Number 38331 ID Number 197636
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 27/08/2021 Sampling Period 29/07/2021 to 26/08/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 41
 Deposition (mg.m⁻².d⁻¹) 37
 Detection Limit (mg) 0.5 Date Tested 10/09/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 27/08/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	4.4	litres	4.4	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 03/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.9	units	3.9	units

Result TDS **LOD** 0.5 **Date Tested** 03/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	70	µS.cm ⁻¹	206.0	mg
Conductivity	70	µS.cm ⁻¹	185.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 07/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	100	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	100	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	97	% reflectance	0.1	%EAC.d ⁻¹
W	98	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20080 Job Number 38331 ID Number 197637
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 27/08/2021 Sampling Period 29/07/2021 to 26/08/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 310
 Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 278
 Detection Limit (mg) 0.5 Date Tested 10/09/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 27/08/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	4.8	litres	4.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 03/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4	units	4.0	units

Result TDS **LOD** 0.5 **Date Tested** 03/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	65	$\mu\text{S.cm}^{-1}$	209.0	mg
Conductivity	65	$\mu\text{S.cm}^{-1}$	188.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 07/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	84	% reflectance	0.6	%EAC.d ⁻¹
W	87	% reflectance	0.5	%EAC.d ⁻¹
NW	96	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20080 Job Number 38331 ID Number 197638
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 27/08/2021 Sampling Period 29/07/2021 to 26/08/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 64
 Deposition (mg.m⁻².d⁻¹) 57
 Detection Limit (mg) 0.5 Date Tested 10/09/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 27/08/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	4.6	litres	4.6	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 03/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.8	units	3.8	units

Result TDS **LOD** 0.5 **Date Tested** 03/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	76	µS.cm ⁻¹	234.0	mg
Conductivity	76	µS.cm ⁻¹	210.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 07/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	96	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	98	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20080 Job Number 38331 ID Number 197639
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 Date Received 27/08/2021 Sampling Period 29/07/2021 to 26/08/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 263

Deposition (mg.m⁻².d⁻¹) 236

Detection Limit (mg) 0.5 Date Tested 10/09/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 27/08/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	4.3	litres	4.3	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 03/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.9	units	3.9	units

Result TDS **LOD** 0.5 **Date Tested** 03/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	72	µS.cm ⁻¹	207.0	mg
Conductivity	72	µS.cm ⁻¹	186.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 07/09/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	96	% reflectance	0.1	%EAC.d ⁻¹
NE	96	% reflectance	0.1	%EAC.d ⁻¹
E	95	% reflectance	0.2	%EAC.d ⁻¹
SE	93	% reflectance	0.3	%EAC.d ⁻¹
S	89	% reflectance	0.4	%EAC.d ⁻¹
SW	86	% reflectance	0.5	%EAC.d ⁻¹
W	88	% reflectance	0.4	%EAC.d ⁻¹
NW	91	% reflectance	0.3	%EAC.d ⁻¹



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SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 38500

Report Number: FD/ 20168

Report Date: 07/10/2021

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling. Results only apply to samples under test.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

.....
John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 20168 Job Number 38500 ID Number 198816
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 24/09/2021 Sampling Period 26/08/2021 to 23/09/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 45

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 40

Detection Limit (mg) 0.5 Date Tested 05/10/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 24/09/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	0.5	litres	0.5	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 01/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.7	units	4.7	units

Result TDS **LOD** 0.5 **Date Tested** 01/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	52	$\mu\text{S.cm}^{-1}$	17.0	mg
Conductivity	52	$\mu\text{S.cm}^{-1}$	16.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 05/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	100	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	100	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	99	% reflectance	0.0	%EAC.d ⁻¹
W	99	% reflectance	0.0	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20168 Job Number 38500 ID Number 198817
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 24/09/2021 Sampling Period 26/08/2021 to 23/09/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 251

Deposition (mg.m⁻².d⁻¹) 225

Detection Limit (mg) 0.5 Date Tested 05/10/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 24/09/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	0.6	litres	0.6	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 01/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.4	units	4.4	units

Result TDS **LOD** 0.5 **Date Tested** 01/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	52	µS.cm ⁻¹	21.0	mg
Conductivity	52	µS.cm ⁻¹	19.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 05/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	97	% reflectance	0.1	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	91	% reflectance	0.3	%EAC.d ⁻¹
W	93	% reflectance	0.3	%EAC.d ⁻¹
NW	96	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20168 Job Number 38500 ID Number 198818
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 24/09/2021 Sampling Period 26/08/2021 to 23/09/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 91
 Deposition (mg.m⁻².d⁻¹) 82
 Detection Limit (mg) 0.5 Date Tested 05/10/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 24/09/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	0.7	litres	0.7	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 01/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.4	units	4.4	units

Result TDS **LOD** 0.5 **Date Tested** 01/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	50	µS.cm ⁻¹	23.0	mg
Conductivity	50	µS.cm ⁻¹	21.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 05/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	100	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	98	% reflectance	0.1	%EAC.d ⁻¹
W	98	% reflectance	0.1	%EAC.d ⁻¹
NW	98	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20168 Job Number 38500 ID Number 198819
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 Date Received 24/09/2021 Sampling Period 26/08/2021 to 23/09/2021 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 257

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 231

Detection Limit (mg) 0.5 Date Tested 05/10/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 24/09/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	0.3	litres	0.3	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 01/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.2	units	4.2	units

Result TDS **LOD** 0.5 **Date Tested** 01/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	63	$\mu\text{S.cm}^{-1}$	13.0	mg
Conductivity	63	$\mu\text{S.cm}^{-1}$	11.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 05/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	97	% reflectance	0.1	%EAC.d ⁻¹
NE	95	% reflectance	0.2	%EAC.d ⁻¹
E	93	% reflectance	0.3	%EAC.d ⁻¹
SE	92	% reflectance	0.3	%EAC.d ⁻¹
S	91	% reflectance	0.3	%EAC.d ⁻¹
SW	91	% reflectance	0.3	%EAC.d ⁻¹
W	93	% reflectance	0.3	%EAC.d ⁻¹
NW	95	% reflectance	0.2	%EAC.d ⁻¹



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SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 38683

Report Number: FD/ 20259

Report Date: 05/11/2021

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

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The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

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John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 20259 Job Number 38683 ID Number 199982
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 22/10/2021 Sampling Period 23/09/2021 to 20/10/2021 27 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 59
 Deposition (mg.m⁻².d⁻¹) 55
 Detection Limit (mg) 0.5 Date Tested 03/11/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 22/10/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 29/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	6.1	units	6.1	units

Result TDS **LOD** 0.5 **Date Tested** 29/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	28	µS.cm ⁻¹	111.0	mg
Conductivity	28	µS.cm ⁻¹	103.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 03/11/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	100	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	100	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	97	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20259 Job Number 38683 ID Number 199983
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 22/10/2021 Sampling Period 23/09/2021 to 20/10/2021 27 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 222

Deposition (mg.m⁻².d⁻¹) 207

Detection Limit (mg) 0.5 Date Tested 03/11/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 22/10/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 29/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.9	units	3.9	units

Result TDS **LOD** 0.5 **Date Tested** 29/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	70	µS.cm ⁻¹	277.0	mg
Conductivity	70	µS.cm ⁻¹	258.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 03/11/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	97	% reflectance	0.1	%EAC.d ⁻¹
SW	88	% reflectance	0.4	%EAC.d ⁻¹
W	92	% reflectance	0.3	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20259 Job Number 38683 ID Number 199984
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 22/10/2021 Sampling Period 23/09/2021 to 20/10/2021 27 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 57
 Deposition (mg.m⁻².d⁻¹) 53
 Detection Limit (mg) 0.5 Date Tested 03/11/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 22/10/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.7	litres	5.7	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 29/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4	units	4.0	units

Result TDS **LOD** 0.5 **Date Tested** 29/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	44	µS.cm ⁻¹	168.0	mg
Conductivity	44	µS.cm ⁻¹	157.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 03/11/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	97	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	98	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20259 Job Number 38683 ID Number 199985
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 Date Received 22/10/2021 Sampling Period 23/09/2021 to 20/10/2021 27 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 136

Deposition (mg.m⁻².d⁻¹) 127

Detection Limit (mg) 0.5 Date Tested 03/11/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 22/10/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.8	litres	5.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 29/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.8	units	3.8	units

Result TDS **LOD** 0.5 **Date Tested** 29/10/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	65	µS.cm ⁻¹	253.0	mg
Conductivity	65	µS.cm ⁻¹	235.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 03/11/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	95	% reflectance	0.2	%EAC.d ⁻¹
S	93	% reflectance	0.3	%EAC.d ⁻¹
SW	92	% reflectance	0.3	%EAC.d ⁻¹
W	93	% reflectance	0.3	%EAC.d ⁻¹
NW	95	% reflectance	0.2	%EAC.d ⁻¹



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SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 38962

Report Number: FD/ 20392

Report Date: 17/12/2021

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling. Results only apply to samples under test.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment: Gauge 4 - Bottle appears to have been on the ground

Approved by:

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John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 20392 Job Number 38962 ID Number 201888
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 08/12/2021 Sampling Period 20/10/2021 to 02/12/2021 43 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 59
 Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 35
 Detection Limit (mg) 0.5 Date Tested 16/12/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/12/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.8	litres	5.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 10/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.1	units	4.1	units

Result TDS **LOD** 0.5 **Date Tested** 10/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	64	$\mu\text{S.cm}^{-1}$	249.0	mg
Conductivity	64	$\mu\text{S.cm}^{-1}$	145.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 13/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	96	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20392 Job Number 38962 ID Number 201889
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 08/12/2021 Sampling Period 20/10/2021 to 02/12/2021 43 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 309
 Deposition (mg.m⁻².d⁻¹) 181
 Detection Limit (mg) 0.5 Date Tested 16/12/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/12/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.8	litres	5.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 10/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.5	units	5.5	units

Result TDS **LOD** 0.5 **Date Tested** 10/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	31	µS.cm ⁻¹	120.0	mg
Conductivity	31	µS.cm ⁻¹	70.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 13/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	97	% reflectance	0.1	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	88	% reflectance	0.3	%EAC.d ⁻¹
SW	85	% reflectance	0.3	%EAC.d ⁻¹
W	89	% reflectance	0.3	%EAC.d ⁻¹
NW	96	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20392 Job Number 38962 ID Number 201890
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 08/12/2021 Sampling Period 20/10/2021 to 02/12/2021 43 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 121
 Deposition (mg.m⁻².d⁻¹) 71
 Detection Limit (mg) 0.5 Date Tested 16/12/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/12/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.8	litres	5.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 10/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.2	units	4.2	units

Result TDS **LOD** 0.5 **Date Tested** 10/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	64	µS.cm ⁻¹	249.0	mg
Conductivity	64	µS.cm ⁻¹	145.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 13/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	96	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



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TEST REPORT



Report Number FD/ 20392 Job Number 38962 ID Number 201891
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 Volume of sample reduced, analysis carried out on remaining sample
 Date Received 08/12/2021 Sampling Period 20/10/2021 to 02/12/2021 43 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 74
 Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 43
 Detection Limit (mg) 0.5 Date Tested 16/12/2021

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/12/2021

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	0.1	litres	0.1	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 10/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	6.6	units	6.6	units

Result TDS **LOD** 0.5 **Date Tested** 10/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	153	$\mu\text{S.cm}^{-1}$	10.0	mg
Conductivity	153	$\mu\text{S.cm}^{-1}$	6.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 13/12/2021

Test / Direction	Measured Value *	Units	Reported Result	Units
N	97	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.0	%EAC.d ⁻¹
E	97	% reflectance	0.1	%EAC.d ⁻¹
SE	97	% reflectance	0.1	%EAC.d ⁻¹
S	96	% reflectance	0.1	%EAC.d ⁻¹
SW	94	% reflectance	0.1	%EAC.d ⁻¹
W	95	% reflectance	0.1	%EAC.d ⁻¹
NW	96	% reflectance	0.1	%EAC.d ⁻¹



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SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 39079

Report Number: FD/ 20449

Report Date: 20/01/2022

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling. Results only apply to samples under test.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

.....
John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 20449 Job Number 39079 ID Number 202617
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 07/01/2022 Sampling Period 02/12/2021 to 06/01/2022 35 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 69
 Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 50
 Detection Limit (mg) 0.5 Date Tested 19/01/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 07/01/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.5	units	4.5	units

Result TDS **LOD** 0.5 **Date Tested** 14/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	37	$\mu\text{S.cm}^{-1}$	146.0	mg
Conductivity	37	$\mu\text{S.cm}^{-1}$	105.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 11/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	100	% reflectance	0.0	%EAC.d ⁻¹
NE	100	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	96	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20449 Job Number 39079 ID Number 202618
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 07/01/2022 Sampling Period 02/12/2021 to 06/01/2022 35 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 166

Deposition (mg.m⁻².d⁻¹) 119

Detection Limit (mg) 0.5 Date Tested 19/01/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 07/01/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.7	units	3.7	units

Result TDS **LOD** 0.5 **Date Tested** 14/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	84	µS.cm ⁻¹	332.0	mg
Conductivity	84	µS.cm ⁻¹	239.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 11/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	100	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	94	% reflectance	0.2	%EAC.d ⁻¹
W	95	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20449 Job Number 39079 ID Number 202619
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 07/01/2022 Sampling Period 02/12/2021 to 06/01/2022 35 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 63

Deposition (mg.m⁻².d⁻¹) 45

Detection Limit (mg) 0.5 Date Tested 19/01/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 07/01/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.8	litres	5.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.6	units	3.6	units

Result TDS **LOD** 0.5 **Date Tested** 14/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	93	µS.cm ⁻¹	361.0	mg
Conductivity	93	µS.cm ⁻¹	260.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 11/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	98	% reflectance	0.1	%EAC.d ⁻¹
W	98	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20449 Job Number 39079 ID Number 202620
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 New Frisbee top now fitted
 Date Received 07/01/2022 Sampling Period 02/12/2021 to 06/01/2022 35 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 64

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 46

Detection Limit (mg) 0.5 Date Tested 19/01/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 07/01/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5	litres	5.0	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4	units	4.0	units

Result TDS **LOD** 0.5 **Date Tested** 14/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	51	$\mu\text{S.cm}^{-1}$	171.0	mg
Conductivity	51	$\mu\text{S.cm}^{-1}$	123.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 11/01/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	97	% reflectance	0.1	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	95	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



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SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 39284

Report Number: FD/ 20539

Report Date: 22/02/2022

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling. Results only apply to samples under test.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

.....
John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 20539 Job Number 39284 ID Number 204061
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 09/02/2022 Sampling Period 06/01/2022 to 08/02/2022 33 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 45

Deposition (mg.m⁻².d⁻¹) 34

Detection Limit (mg) 0.5 Date Tested 22/02/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 09/02/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	4.6	litres	4.6	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.5	units	4.5	units

Result TDS **LOD** 0.5 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	36	µS.cm ⁻¹	111.0	mg
Conductivity	36	µS.cm ⁻¹	85.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 14/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	100	% reflectance	0.0	%EAC.d ⁻¹
NE	100	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	97	% reflectance	0.1	%EAC.d ⁻¹
W	98	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20539 Job Number 39284 ID Number 204062
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 09/02/2022 Sampling Period 06/01/2022 to 08/02/2022 33 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 196

Deposition (mg.m⁻².d⁻¹) 149

Detection Limit (mg) 0.5 Date Tested 22/02/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 09/02/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	4.3	litres	4.3	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.5	units	4.5	units

Result TDS **LOD** 0.5 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	36	µS.cm ⁻¹	104.0	mg
Conductivity	36	µS.cm ⁻¹	79.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 14/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	100	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	92	% reflectance	0.2	%EAC.d ⁻¹
W	93	% reflectance	0.2	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20539 Job Number 39284 ID Number 204063
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 09/02/2022 Sampling Period 06/01/2022 to 08/02/2022 33 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 36

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 27

Detection Limit (mg) 0.5 Date Tested 22/02/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 09/02/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	4.5	litres	4.5	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.3	units	4.3	units

Result TDS **LOD** 0.5 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	37	$\mu\text{S.cm}^{-1}$	112.0	mg
Conductivity	37	$\mu\text{S.cm}^{-1}$	85.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 14/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	100	% reflectance	0.0	%EAC.d ⁻¹
S	100	% reflectance	0.0	%EAC.d ⁻¹
SW	98	% reflectance	0.1	%EAC.d ⁻¹
W	98	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20539 Job Number 39284 ID Number 204064
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 Date Received 09/02/2022 Sampling Period 06/01/2022 to 08/02/2022 33 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 50
 Deposition (mg.m⁻².d⁻¹) 38
 Detection Limit (mg) 0.5 Date Tested 22/02/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 09/02/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	3.4	litres	3.4	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.4	units	4.4	units

Result TDS **LOD** 0.5 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	41	µS.cm ⁻¹	93.0	mg
Conductivity	41	µS.cm ⁻¹	71.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 14/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	97	% reflectance	0.1	%EAC.d ⁻¹
SW	94	% reflectance	0.2	%EAC.d ⁻¹
W	96	% reflectance	0.1	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20539 Job Number 39284 ID Number 204065
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 5
 Comment Foam Particle Trap
 Date Received 09/02/2022 Sampling Period 06/01/2022 to 08/02/2022 33 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 178

Deposition (mg.m⁻².d⁻¹) 136

Detection Limit (mg) 0.5 Date Tested 22/02/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 09/02/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	4.5	litres	4.5	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.5	units	4.5	units

Result TDS **LOD** 0.5 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	33	µS.cm ⁻¹	99.0	mg
Conductivity	33	µS.cm ⁻¹	76.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 14/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	97	% reflectance	0.1	%EAC.d ⁻¹
SW	91	% reflectance	0.3	%EAC.d ⁻¹
W	93	% reflectance	0.2	%EAC.d ⁻¹
NW	98	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20539 Job Number 39284 ID Number 204066
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 6
 Comment Foam Particle Trap
 Date Received 09/02/2022 Sampling Period 06/01/2022 to 08/02/2022 33 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 81

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 62

Detection Limit (mg) 0.5 Date Tested 22/02/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 09/02/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	4.4	litres	4.4	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.8	units	5.8	units

Result TDS **LOD** 0.5 **Date Tested** 11/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	28	$\mu\text{S.cm}^{-1}$	83.0	mg
Conductivity	28	$\mu\text{S.cm}^{-1}$	63.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 14/02/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	97	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	97	% reflectance	0.1	%EAC.d ⁻¹
S	95	% reflectance	0.2	%EAC.d ⁻¹
SW	97	% reflectance	0.1	%EAC.d ⁻¹
W	98	% reflectance	0.1	%EAC.d ⁻¹
NW	98	% reflectance	0.1	%EAC.d ⁻¹



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SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 39441

Report Number: FD/ 20599

Report Date: 22/03/2022

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling. Results only apply to samples under test.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

.....
John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205077
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 20

Deposition (mg.m⁻².d⁻¹) 18

Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.8	litres	5.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.3	units	4.3	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	45	µS.cm ⁻¹	175.0	mg
Conductivity	45	µS.cm ⁻¹	157.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	97	% reflectance	0.1	%EAC.d ⁻¹
SW	95	% reflectance	0.2	%EAC.d ⁻¹
W	96	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205078
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 144

Deposition (mg.m⁻².d⁻¹) 129

Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.4	units	4.4	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	48	µS.cm ⁻¹	190.0	mg
Conductivity	48	µS.cm ⁻¹	170.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	96	% reflectance	0.1	%EAC.d ⁻¹
SW	89	% reflectance	0.4	%EAC.d ⁻¹
W	91	% reflectance	0.3	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205079
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 26

Deposition (mg.m⁻².d⁻¹) 23

Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.3	units	4.3	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	47	µS.cm ⁻¹	186.0	mg
Conductivity	47	µS.cm ⁻¹	167.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	96	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	98	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205080
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 48

Deposition (mg.m⁻².d⁻¹) 43

Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.8	litres	5.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.9	units	3.9	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	73	µS.cm ⁻¹	284.0	mg
Conductivity	73	µS.cm ⁻¹	255.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	95	% reflectance	0.2	%EAC.d ⁻¹
SE	94	% reflectance	0.2	%EAC.d ⁻¹
S	92	% reflectance	0.3	%EAC.d ⁻¹
SW	93	% reflectance	0.3	%EAC.d ⁻¹
W	95	% reflectance	0.2	%EAC.d ⁻¹
NW	96	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205081
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 5
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 202

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 181

Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.3	units	5.3	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	36	$\mu\text{S.cm}^{-1}$	142.0	mg
Conductivity	36	$\mu\text{S.cm}^{-1}$	128.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	96	% reflectance	0.1	%EAC.d ⁻¹
NE	97	% reflectance	0.1	%EAC.d ⁻¹
E	96	% reflectance	0.1	%EAC.d ⁻¹
SE	95	% reflectance	0.2	%EAC.d ⁻¹
S	92	% reflectance	0.3	%EAC.d ⁻¹
SW	85	% reflectance	0.5	%EAC.d ⁻¹
W	88	% reflectance	0.4	%EAC.d ⁻¹
NW	94	% reflectance	0.2	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205082
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 6
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 215

Deposition (mg.m⁻².d⁻¹) 193

Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.1	units	5.1	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	38	µS.cm ⁻¹	150.0	mg
Conductivity	38	µS.cm ⁻¹	135.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	97	% reflectance	0.1	%EAC.d ⁻¹
SW	94	% reflectance	0.2	%EAC.d ⁻¹
W	95	% reflectance	0.2	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



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SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 39441

Report Number: FD/ 20599

Report Date: 22/03/2022

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling. Results only apply to samples under test.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment:

Approved by:

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John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205077
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 20

Deposition (mg.m⁻².d⁻¹) 18

Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.8	litres	5.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.3	units	4.3	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	45	µS.cm ⁻¹	175.0	mg
Conductivity	45	µS.cm ⁻¹	157.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	97	% reflectance	0.1	%EAC.d ⁻¹
SW	95	% reflectance	0.2	%EAC.d ⁻¹
W	96	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205078
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 144

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 129

Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.4	units	4.4	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	48	$\mu\text{S.cm}^{-1}$	190.0	mg
Conductivity	48	$\mu\text{S.cm}^{-1}$	170.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	96	% reflectance	0.1	%EAC.d ⁻¹
SW	89	% reflectance	0.4	%EAC.d ⁻¹
W	91	% reflectance	0.3	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205079
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 26

Deposition (mg.m⁻².d⁻¹) 23

Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.3	units	4.3	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	47	µS.cm ⁻¹	186.0	mg
Conductivity	47	µS.cm ⁻¹	167.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	99	% reflectance	0.0	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	96	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	98	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205080
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 48
 Deposition (mg.m⁻².d⁻¹) 43
 Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.8	litres	5.8	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.9	units	3.9	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	73	µS.cm ⁻¹	284.0	mg
Conductivity	73	µS.cm ⁻¹	255.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	95	% reflectance	0.2	%EAC.d ⁻¹
SE	94	% reflectance	0.2	%EAC.d ⁻¹
S	92	% reflectance	0.3	%EAC.d ⁻¹
SW	93	% reflectance	0.3	%EAC.d ⁻¹
W	95	% reflectance	0.2	%EAC.d ⁻¹
NW	96	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205081
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 5
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 202

Deposition (mg.m⁻².d⁻¹) 181

Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.3	units	5.3	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	36	µS.cm ⁻¹	142.0	mg
Conductivity	36	µS.cm ⁻¹	128.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	96	% reflectance	0.1	%EAC.d ⁻¹
NE	97	% reflectance	0.1	%EAC.d ⁻¹
E	96	% reflectance	0.1	%EAC.d ⁻¹
SE	95	% reflectance	0.2	%EAC.d ⁻¹
S	92	% reflectance	0.3	%EAC.d ⁻¹
SW	85	% reflectance	0.5	%EAC.d ⁻¹
W	88	% reflectance	0.4	%EAC.d ⁻¹
NW	94	% reflectance	0.2	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20599 Job Number 39441 ID Number 205082
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 6
 Comment Foam Particle Trap
 Date Received 08/03/2022 Sampling Period 08/02/2022 to 08/03/2022 28 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 215

Deposition (mg.m⁻².d⁻¹) 193

Detection Limit (mg) 0.5 Date Tested 18/03/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/03/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	5.9	litres	5.9	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.1	units	5.1	units

Result TDS **LOD** 0.5 **Date Tested** 11/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	38	µS.cm ⁻¹	150.0	mg
Conductivity	38	µS.cm ⁻¹	135.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 16/03/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	97	% reflectance	0.1	%EAC.d ⁻¹
SW	94	% reflectance	0.2	%EAC.d ⁻¹
W	95	% reflectance	0.2	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



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SOCOTEC

OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING LABORATORY

TEST REPORT

Site:

Craig-yr-Hesg, Pontypridd

Client:

Ms K Hawkins
Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Job Number: 39638

Report Number: FD/ 20675

Report Date: 26/04/2022

Method N°. ENV/FD01: The determination of Fugitive Dust Based on BS 872: 2005

Method N°. ENV/FD03: The determination of pH and conductivity in fugitive dust samples.

Method N°. ENV/FD05: The determination of reflectance values using a smoke stain reflectometer

UKAS accredited tests are denoted by an asterisk(*)

SOCOTEC is not UKAS accredited for environmental dust gauge sampling. Results only apply to samples under test.

The dust samples will be retained at the laboratory for a period of 6 months in case extended analysis is required in future. Liquids associated with dust samples are not normally retained at the laboratory.

Report Comment: Strips on 7 and 8 were fitted with North point facing South, adjusted when reading

Approved by:

.....
John Perry, Senior Analyst
Environmental Laboratory
Direct Dial: 01283 554488



TEST REPORT



Report Number FD/ 20675 Job Number 39638 ID Number 206413
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 1
 Comment Foam Particle Trap
 Date Received 08/04/2022 Sampling Period 08/03/2022 to 07/04/2022 30 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 44

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 37

Detection Limit (mg) 0.5 Date Tested 26/04/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/04/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	2.6	litres	2.6	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.8	units	3.8	units

Result TDS **LOD** 0.5 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	65	$\mu\text{S.cm}^{-1}$	113.0	mg
Conductivity	65	$\mu\text{S.cm}^{-1}$	95.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 26/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	100	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	97	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20675 Job Number 39638 ID Number 206414
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 2
 Comment Foam Particle Trap
 Date Received 08/04/2022 Sampling Period 08/03/2022 to 07/04/2022 30 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 329
 Deposition (mg.m⁻².d⁻¹) 276
 Detection Limit (mg) 0.5 Date Tested 26/04/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/04/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	2.7	litres	2.7	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.8	units	3.8	units

Result TDS **LOD** 0.5 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	76	µS.cm ⁻¹	137.0	mg
Conductivity	76	µS.cm ⁻¹	115.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 26/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	97	% reflectance	0.1	%EAC.d ⁻¹
E	97	% reflectance	0.1	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	88	% reflectance	0.4	%EAC.d ⁻¹
W	91	% reflectance	0.3	%EAC.d ⁻¹
NW	95	% reflectance	0.2	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20675 Job Number 39638 ID Number 206415
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 3
 Comment Foam Particle Trap
 Date Received 08/04/2022 Sampling Period 08/03/2022 to 07/04/2022 30 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 76

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 64

Detection Limit (mg) 0.5 Date Tested 26/04/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/04/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	2.7	litres	2.7	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	3.9	units	3.9	units

Result TDS **LOD** 0.5 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	60	$\mu\text{S.cm}^{-1}$	109.0	mg
Conductivity	60	$\mu\text{S.cm}^{-1}$	91.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 26/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	100	% reflectance	0.0	%EAC.d ⁻¹
E	100	% reflectance	0.0	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	97	% reflectance	0.1	%EAC.d ⁻¹
W	97	% reflectance	0.1	%EAC.d ⁻¹
NW	98	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20675 Job Number 39638 ID Number 206416
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 4
 Comment Foam Particle Trap
 Date Received 08/04/2022 Sampling Period 08/03/2022 to 07/04/2022 30 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 132

Deposition (mg.m⁻².d⁻¹) 111

Detection Limit (mg) 0.5 Date Tested 26/04/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/04/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	2.1	litres	2.1	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.2	units	4.2	units

Result TDS **LOD** 0.5 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	56	µS.cm ⁻¹	79.0	mg
Conductivity	56	µS.cm ⁻¹	66.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 26/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	100	% reflectance	0.0	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	96	% reflectance	0.1	%EAC.d ⁻¹
SE	94	% reflectance	0.2	%EAC.d ⁻¹
S	93	% reflectance	0.2	%EAC.d ⁻¹
SW	95	% reflectance	0.2	%EAC.d ⁻¹
W	96	% reflectance	0.1	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20675 Job Number 39638 ID Number 206417
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 5
 Comment Foam Particle Trap
 Date Received 08/04/2022 Sampling Period 08/03/2022 to 07/04/2022 30 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 390

Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 327

Detection Limit (mg) 0.5 Date Tested 26/04/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/04/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	3.1	litres	3.1	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	4.2	units	4.2	units

Result TDS **LOD** 0.5 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	58	$\mu\text{S.cm}^{-1}$	120.0	mg
Conductivity	58	$\mu\text{S.cm}^{-1}$	101.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 26/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	97	% reflectance	0.1	%EAC.d ⁻¹
NE	96	% reflectance	0.1	%EAC.d ⁻¹
E	94	% reflectance	0.2	%EAC.d ⁻¹
SE	95	% reflectance	0.2	%EAC.d ⁻¹
S	94	% reflectance	0.2	%EAC.d ⁻¹
SW	88	% reflectance	0.4	%EAC.d ⁻¹
W	91	% reflectance	0.3	%EAC.d ⁻¹
NW	95	% reflectance	0.2	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20675 Job Number 39638 ID Number 206418
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 6
 Comment Foam Particle Trap
 Date Received 08/04/2022 Sampling Period 08/03/2022 to 07/04/2022 30 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 359
 Deposition ($\text{mg.m}^{-2}\text{d}^{-1}$) 301
 Detection Limit (mg) 0.5 Date Tested 26/04/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/04/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	2.6	litres	2.6	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.5	units	5.5	units

Result TDS **LOD** 0.5 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	52	$\mu\text{S.cm}^{-1}$	91.0	mg
Conductivity	52	$\mu\text{S.cm}^{-1}$	76.0	$\text{mg.m}^{-2}\text{d}^{-1}$

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 26/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	97	% reflectance	0.1	%EAC.d ⁻¹
SE	97	% reflectance	0.1	%EAC.d ⁻¹
S	96	% reflectance	0.1	%EAC.d ⁻¹
SW	93	% reflectance	0.2	%EAC.d ⁻¹
W	94	% reflectance	0.2	%EAC.d ⁻¹
NW	97	% reflectance	0.1	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20675 Job Number 39638 ID Number 206419
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 7
 Comment Foam Particle Trap
 Date Received 08/04/2022 Sampling Period 11/03/2022 to 07/04/2022 27 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 108

Deposition (mg.m⁻².d⁻¹) 101

Detection Limit (mg) 0.5 Date Tested 26/04/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/04/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	2.6	litres	2.6	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.9	units	5.9	units

Result TDS **LOD** 0.5 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	43	µS.cm ⁻¹	75.0	mg
Conductivity	43	µS.cm ⁻¹	70.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 26/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	98	% reflectance	0.1	%EAC.d ⁻¹
NE	98	% reflectance	0.1	%EAC.d ⁻¹
E	97	% reflectance	0.1	%EAC.d ⁻¹
SE	99	% reflectance	0.0	%EAC.d ⁻¹
S	99	% reflectance	0.0	%EAC.d ⁻¹
SW	100	% reflectance	0.0	%EAC.d ⁻¹
W	100	% reflectance	0.0	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹



TEST REPORT



Report Number FD/ 20675 Job Number 39638 ID Number 206420
 Site Description Craig-yr-Hesg, Pontypridd
 Sample 8
 Comment Foam Particle Trap
 Date Received 08/04/2022 Sampling Period 11/03/2022 to 07/04/2022 27 Days

UKAS accredited tests are denoted by an asterisk(*)

Method ENV/FD01 **Gauge Type** Combined Frisbee deposit and Adh

* Dust mass (mg) 71
 Deposition (mg.m⁻².d⁻¹) 66
 Detection Limit (mg) 0.5 Date Tested 26/04/2022

Method ENV/FD01

Result Volume **LOD** 0.1 **Date Tested** 08/04/2022

Test / Direction	Measured Value	Units	Reported Result	Units
Volume	2.6	litres	2.6	litres

Method ENV/FD03

Result pH **LOD** 0.1 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
pH	5.2	units	5.2	units

Result TDS **LOD** 0.5 **Date Tested** 14/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
DS	42	µS.cm ⁻¹	73.0	mg
Conductivity	42	µS.cm ⁻¹	68.0	mg.m ⁻² .d ⁻¹

Method ENV/FD05

Result Soiling **LOD** 1 **Date Tested** 26/04/2022

Test / Direction	Measured Value *	Units	Reported Result	Units
N	99	% reflectance	0.0	%EAC.d ⁻¹
NE	99	% reflectance	0.0	%EAC.d ⁻¹
E	98	% reflectance	0.1	%EAC.d ⁻¹
SE	98	% reflectance	0.1	%EAC.d ⁻¹
S	98	% reflectance	0.1	%EAC.d ⁻¹
SW	97	% reflectance	0.1	%EAC.d ⁻¹
W	98	% reflectance	0.1	%EAC.d ⁻¹
NW	99	% reflectance	0.0	%EAC.d ⁻¹

Appendix KEH6

Submitted S73 Environmental Statement Dust Monitoring and Management Plan

Hanson UK: Craig yr Hesg Quarry

Time Extension for Existing Operations Planning Application

Dust and Particulate Management Plan

1.0 Introduction

Current Dust Controls

- 1.1 The management of air quality and dust at Craig Yr Hesg Quarry is currently regulated by:
- (i) An Environmental Permitting (England & Wales) Regulations, 2010, Part B permit (the 'Environmental Permit') which regulates the operation of processing plant, roadstone coating plant, stockpiles and related activities within the processing plant site;
 - (ii) Planning conditions imposed on the planning permissions for quarrying were updated in April 2013 as part of an Environment Act 1995 'Review of Old Mining Permissions' (ROMP) application, where Condition 30 lists a series of measures designed to minimise dust emissions from the quarrying operation and related transportation on internal quarry site roads.
- 1.2 The planning application and environmental statement (ES) for an extension to Craig yr Hesg Quarry and the consolidation of the existing planning permissions (ref 15/0666/10, submitted in May 2015) anticipated that these established controls would continue in place via (i) the ongoing regulation imposed by the Environmental Permit, and (ii) a similar dust control planning condition to the current 'condition 30' which would be imposed on a planning permission for the extension/consolidation development. These controls work in tandem, with the Environmental Permit regulating operations within the processing plant site, and the planning condition regulating operations elsewhere within the quarry area.

Response to well-being and environmental health issues

- 1.3 During the processing of the extension /consolidation application (ref 15/06666/10), the Applicants provided a response to well-being and environmental health issues which had been raised by interested parties, and which had been collated by Rhondda Cynon Taff (RCT) as a 'memorandum of environmental health themes and issues'. These were comprehensively addressed in a June 2016 submission which included a 'schedule of environmental controls and commitments' which listed the management and mitigation measures proposed to regulate dust. The submission also provided information on existing site management controls which are designed to reinforce the mitigation measures through a routine programme of inspection, internal reporting and corrective action where appropriate.

RCT PM10 Particulate Monitoring

- 1.4 The consideration of air quality/particulate matter has been the subject of ongoing routine monitoring undertaken by RCT at a monitoring location in Garth Avenue in Glyncoch. The results are collated by RCT and are available for review.

Hanson PM10 Particulate Monitoring

- 1.5 From January 2010, the local air quality monitoring undertaken by RCT has been supplemented by a parallel air quality/particulate monitoring study undertaken by Hanson at a location on the northern side of the quarry processing plant, between the primary crusher and main haul road and the residential properties in Glyncoch to the north. The Hanson monitoring was initially conceived as an exercise to assess the effectiveness of additional dust suppression measures which were installed at the plant site pursuant to a 'PM10 Emissions Action Plan' submitted to RCT in 2008. This Action Plan proposed a series of dust mitigation measures which were implemented during 2008 and 2009 (ref Appendix 12.1 to the Craig yr Hesg extension/consolidation application Environmental Statement (ES): May 2015, Volume 2 Appendices, referred to below as the '2015 ES').
- 1.5 The voluntary monitoring undertaken by Hanson was subsequently formalised via a requirement imposed by Condition 32 of the Environment Act ROMP schedule of conditions which required Hanson to undertake a 12 month monitoring exercise, with the need to continue the monitoring beyond the 12 months period to be the subject of review following the submission an initial annual report.
- 1.6 The required report for the period November 2013 – November 2014 was duly submitted, and in the absence of a response from RCT regarding the need or otherwise to continue monitoring, the monitoring has continued. Reports have been submitted to RCT for the subsequent periods of November 2014 - November 2015, November 2015 - November 2016 and November 2016 – November 2017. The later reports for the periods of 2017-2018 and 2018-2019 have been submitted separately to RCT in parallel to this planning application and that for 2019-2020 is included as Appendix 11-3 to the Environmental Statement.
- 1.7 The reports indicate a consistently slightly improving trend in air quality since 2013. The on-site and Upper Garth Avenue monitoring data indicates there have not been any actual or likely breaches of either the long-term annual mean or short-term 24-hour Air Quality Objectives (AQOs) for PM₁₀. The available data demonstrates reasonable correlation between the site data and the nearby RCT monitoring station at Upper Garth Avenue. The cessation of the on-site monitoring by Hanson is considered appropriate to avoid duplication with the separate monitoring undertaken by RCT (see Section 4.0 below).

Fugitive Nuisance Dust Monitoring

- 1.8 Fugitive dust monitoring (i.e.more general 'nuisance' dust) was undertaken as part of an Environmental Impact Assessment (EIA) air quality/dust study carried out as part of the 2015 quarry extension/consolidation application. The results were reported in Section 12.5 of the 2015 ES (reference tables 12-13 and 12-14 and figure 12.10). With the exception of the dust monitoring station located close the primary crusher haul road, the stations recorded either low, typically rural background levels, or no evidence of significant dust deposition from the quarry or other sources.
- 1.9 These issues were further reviewed in Section 8.5 of Hanson's response to well-being and environmental health issues: June 2016. However, RCT suggested as part of a response to the Western Extension application that notwithstanding these results and conclusions, it would be appropriate to undertake fugitive dust monitoring associated with operations within the extension area and any wider operations at the quarry which are not covered by the Environmental Permit, particularly during defined events such as the construction of the perimeter screening bunds.
- 1.10 A similar approach is therefore proposed by Hanson with regards to the separate time extension planning application for the continuation of the existing quarrying activities,

with fugitive dust monitoring proposed for a limited period in relation to the existing quarry operations.

Dust Management and Monitoring

- 1.11 In order to draw these issues together, a ‘Dust and Particulate Management Plan’ and a ‘Nuisance Dust Monitoring Plan’ was prepared in relation to the Western Extension. This is a similar document that has been drafted in relation to the time extension application, albeit with a much-reduced focus on fugitive dust monitoring given the absence of any new development activities and the relatively short time extension involved.
- 1.12 The following content of this document confirms the measures to be adopted to minimise dust emissions, and for carrying out a short-term fugitive dust monitoring exercise. It should be considered in conjunction with the Environmental Permit, which will continue to regulate prescribed activities within the processing plant site, and the separate arrangements for the ongoing monitoring of particulate matter (PM10).
- 1.13 This Dust and Particulate Management Plan, thus focuses on activities which have the potential to give rise to fugitive nuisance dust associated with activities within the existing quarry area, and related transportation. There are no additional quarry activities such as soil stripping and screening bund creation that need to be considered.

2.0 Dust and Particulate Management

2.1 The Environmental Permit

- 2.1.1 As noted above, the Environmental Permit (reference PPC/009-3.5-HQPEL/0104D, as varied by Notice dated 10th June 2020) sets out detailed measures to regulate and monitor emissions to air from the crushing and screening plant and the roadstone coating plant at the site. In more general terms, the regulated facility is required to operate in such a way that *“all the appropriate preventative measures are taken against air pollution, in particular through the application of the best available techniques.”* The Permit also requires that *“no significant air pollution is caused”*
- 2.1.2 The permit includes 86 conditions which prescribe detailed emission limits and controls, together with requirements to monitor the facility and keep records, as follows:
- Specific emission limits and standards (Conditions 1 – 12);
 - The monitoring and investigation of emissions and the maintenance of records (conditions 13 – 27);
 - The notification to the Regulator of any defined occurrence, (conditions 28- 33);
 - The operation of defined emission controls, including controls on the processing plant in terms of enclosure of plant items and the use of water sprays; air pollution abatement plant, controls on the roadstone coating plant; stockpiles; the use of additional water sprays at defined locations; the enclosure of load-out points; and controls on the importation of material for use in the roadstone plant (conditions 34 – 59);
 - Controls on the use of any mobile crushing and screening plant (condition-72);

- Controls on transport and loading / unloading, including the sheeting of vehicles dust on internal roads; the hard surfacing of defined roads; the dampening down of other internal roads; and the use of a wheel wash (conditions 60 – 71)
- Control of emissions from chimneys, vents and process exhausts (conditions 77 – 79);
- General management techniques and controls, including supervision by trained personnel; maintaining plant in good operating condition with a maintenance programme; and the implementation of written procedures to address any non-compliance or complaints (conditions 80 – 86).

2.2 Relationship between Planning and Permit Controls

2.2.1 As itemised above, the Permit is detailed and comprehensive in terms of the controls which it imposes. In the context of these controls, the advice in Minerals Technical Advice Note 1 (MTAN1) paragraph 76 is that whilst planning conditions can control certain activities to protect against dust, care should be taken to avoid duplication of controls within the Permit. In the context of that advice, this Dust and Particulate Management Plan focuses on:

- (i) Dust and Particulate management controls associated with the quarrying operations and related haulage of stone from the quarry area to the processing plant, where the measures are primarily focussed on nuisance dust but which, through effective control, will also serve to minimise fine particulate emissions;
- (ii) The internal management controls which are in place to identify any issues, and, if necessary, implement corrective action.

2.2.2 Condition 30 of the existing schedule of conditions imposed following the Environment Act ROMP Review (ref 08/1380/10, dated 24th April 2013) sets out a list of measures which are designed to minimise dust emissions. This list of dust mitigation measures was reviewed and updated as part of the response to well-being and environmental health issues (June 2016), and the schedule of environmental controls and commitments set out in that document. This in turn is supplemented by the daily and weekly inspection checklists which are in place at the quarry. These elements thus provide the framework for the dust management controls which are proposed in this Plan.

2.3 Proposed Particulate and Dust Management Controls

2.3.1 The following measures are proposed to regulate and minimise fugitive nuisance dust and particulate emissions from the quarry and related haulage operations:

(1) General Management Measures

- **Quality Management System and Environmental Management System** in place at the quarry, the latter accredited to the international standard ISO14001, which includes pro-active management systems to minimise environmental and amenity impacts and which require strict adherence to the terms of the planning permission and Permits.
- **Planning Conditions Monitoring:** there is provision in Regulations for a programme of regular monitoring visits to be undertaken by RCT Officers, at Hanson's cost, to check adherence to requirements of planning conditions.

- **Quarry Plant Environmental Permit Monitoring:** programme of regular monitoring in place by RCT Officers to check adherence to the requirements of the permit and assess the 'risk rating' of the installation.

(2) Site Management Measures

- Daily visual assessment of emissions, on an internal Hanson pro-forma (Appendix 1) which includes the dust extractor stack; water sprays; process buildings; conveyors; dust shed; stockpiles; loading; haul roads, wheel wash, and entrance road / exit (including sprays), with a record of any action required, action taken, and date completed, all recorded daily.
- Daily general site inspection checklist, again on a Hanson pro-forma (Appendix 2) which includes inspections of haul roads, edge protection, emissions, site security, compliance with internal traffic management, and adherence to vehicle sheeting requirements, with a record of any action required, action taken, and date completed, all recorded daily.
- Weekly general site inspection checklist, again on a Hanson pro-forma (Appendix 2) which includes inspections of signs, condition of structures, and cleanliness of site entrance notice board with a record of any action required, action taken, and date completed.
- Complaints Register: all complaints are logged, investigated, actioned as appropriate, and the complainant notified of the outcome, with a full written record retained.

(3) Soil Handling

- Soil handling during restoration to be undertaken during appropriate weather conditions

(4) Quarry Operations

- Dry surfaces at highest point of quarry to be treated as necessary with rain gun attached to water bowser.
- Drop heights from excavator to dump truck to be minimised.
- Dump trucks to be evenly loaded to prevent spillage
- All site vehicles to be fitted with upswept exhausts and radiator fan shields.
- Water bowser to be used on stripped surfaces or other areas of bare ground to minimise effects of wind blow
- Drilling of shot holes to be undertaken by drilling rigs fitted with a dust collection system.

(5) Haulage

- Main internal haul road from quarry to plant site to be conditioned as necessary by water bowser and / or emplaced fixed water sprays under dry conditions.
- Quarry haul roads to be provided which avoid abrupt changes in horizontal and vertical alignment.
- Regular compaction, grading and maintenance of haul routes
- All haul roads to be conditioned as necessary by water bowser under dry conditions
- Speed limit of 10mph to be enforced.
- An effective wheel wash will be maintained at the site, as required by Condition 15 of Planning Permission Ref. 13/1039/10, dated 14th March 2015 for improvements to the quarry entrance/ exit road. An automatically activated high pressure wheel wash is in place at the Quarry, and all HGV traffic exiting the site is required to first pass through the wheel wash to ensure that no much or detritus is tracked out onto the public highway.

(6) Landscaping

Condition 31 of the ROMP schedule of conditions requires that prior to the commencement of any alternative means of access from the plant area to the primary crusher, a scheme shall be submitted to the LPA for additional dust minimisation measures along the site boundary in the vicinity of the primary crusher.

In practice, whilst there is now an alternative means of access from the plant area to the main quarry operational area, the access from the quarry to the primary crusher is largely unchanged. Nevertheless, Hanson are happy to adhere to the spirit of this condition and have proposed a scheme of additional planting along the site boundary north of the primary crusher designed to further control fugitive dust. The scheme is produced as **Appendix 11.6** to the ES accompanying the time extension application.

3.0 Fugitive/Nuisance Dust Monitoring

- 3.1 The proposal is for a continuation of existing activities at the site. Accordingly, there are no potential additional sources of fugitive nuisance dust to those currently in existence.
- 3.2 A period of dust deposition monitoring was undertaken over the period October to December 2014 to inform the 2015 ES. Routine deposition dust monitoring is not a requirement of the existing planning permission at the Site. However, given the absence of any particular changes of note in the locality there is no reason to suspect that background dust deposition rates would have changed substantially.
- 3.3 Nevertheless, for completeness, a short-term three-month dust monitoring exercise is being undertaken which commenced on 4th March 2021, comprising deposition and directional dust monitoring at three downwind locations, which, where feasible, replicate the original 2014 monitoring locations.

- 3.4 Locations D2, D3 and D4 are on the northern quarry boundary. Had it been feasible a 4th location would have been installed (D5) on the southern boundary to determine upwind dust deposition levels, but all locations need to be determined by accessibility and security.
- 3.5 Monitoring is being undertaken using combined Frisbee deposit and adhesive strip dust gauges to measure total daily dust deposition and directional dust, consistent with the approach taken as part of the EIA dust/air quality study in 2014, with dust samples collected at monthly intervals and sent for laboratory analysis.
- 3.6 The results of the monitoring referred to in paragraph 3.3 above will be submitted to RCT as a 'dust sample test report' which will include the test result data and explanatory comments as appropriate.
- 3.7 The dust results will be assessed in the context of a dust deposition rate of 200mg/m²/d and a soiling rate of 0.5% EAC (Effective Area Coverage) as indicative thresholds for possible nuisance, although noting that the monitoring locations are not necessarily representative of receptor locations being on the quarry boundary. In the event that a dust sample test report indicates a dust deposition rate (averaged over the one month sampling period) at or in excess of that threshold, then this will trigger an investigation of the cause, using site records and data from the quarry weather station. However, it is anticipated that any significant dust event would be identified via the routine daily visual assessments set out in section 2.3.1 (2) above, with the corrective action referred to. The dust monitoring results will be used to identify any increase or trend in dust deposition rates and provide a further basis for future remedial action / mitigation measures.
- 3.8 The results to date are provided in Appendix 11.4 to the time extension ES. Measured dust deposition rates across the March to April 2021 period are all within the ranges previously measured and reported in 2014. This is consistent with expectations that there are no particular changes of note in the locality that would lead to an expectation that background dust deposition rates would have changed substantially since the previous monitoring. Subject to this preliminary conclusion being verified by results over the 3 month monitoring period, further dust deposition monitoring will not be considered to be necessary for the requested extended period of operations.
- 3.9 An automatic weather monitoring station will be maintained at the primary crusher, in a manner to ensure the accurate measurement of atmospheric temperature, wind direction, wind speed and precipitation, as is required by ROMP condition 33.

4.0 Particulate Matter Monitoring

- 4.1 It is understood that it is the intention of RCT to continue their existing programme of air quality (PM10) monitoring via the station at Garth Avenue. Consistent with the position with regard to the proposed western extension development which seeks to avoid duplication of monitoring, as part of the time extension application Hanson will make a similar offer to make a contribution towards the cost of the ongoing monitoring, subject to there being no requirement for Hanson to undertake parallel monitoring and for a review of the necessity for ongoing monitoring by RCT depending on the reported annual results.
- 4.2 These issues would be incorporated into a formal legal agreement, where the air quality monitoring by RCT would then be undertaken in conjunction with the dust and particulate management proposals set out in this Plan.

5.0 Review of Dust and Particulate Management Plan

- 5.1 It is intended that this Plan should be a 'living document' which can respond to any issues which arise during the development, and which is capable of being updated and/or amended by agreement between the operator and the LPA in response to any changes in circumstances or opportunities for additional air quality / dust mitigation measures.
- 5.2 It is thus proposed that the Plan should be the subject of a formal review every two years from the date of the planning permission. This review would take the form of:
- (i) An initial exchange of correspondence followed, if necessary (at RCT's discretion) by a meeting between the operator and representatives of RCT's Environmental Health Department in advance of the review date to assess the performance of the Plan over the preceding two year period;
 - (ii) The identification of anticipated quarry development works over the forthcoming two-year period;
 - (iii) The identification of any changes which should appropriately be made to the Plan;
 - (iv) The submission of an updated Plan for approval by RCT, or confirmation that no changes need to be made, as appropriate; and
 - (v) The implementation of the updated Plan in the event that updates are deemed to be required and are submitted and approved.

Appendix KEH7

Extract of Environmental Permit (PPC/009-3.5-HQPEL/0104D; dated 22nd February 2022)

Environmental Permit Reference PPC/009-3.5-HQPEL/0104D
Variation Reference 10:0222/083209

Schedule 2

RHONDDA CYNON TAFF COUNTY BOROUGH COUNCIL

Environmental Permit Reference PPC/009-3.5-HQPEL/0104D
Variation Reference 10:0222/083209

Environmental Permit with Introductory Note

The Pollution Prevention and Control Act 1999

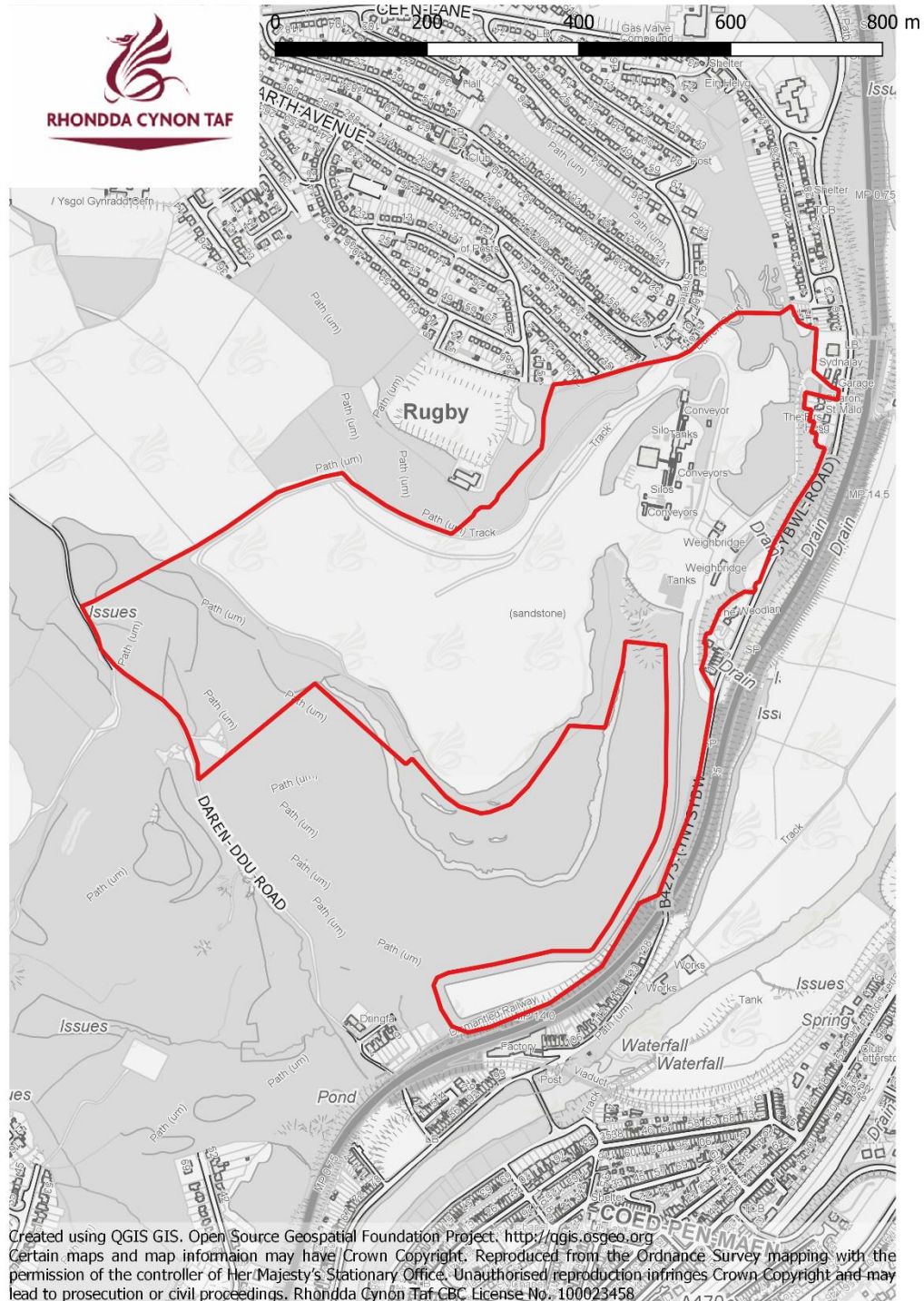
The Environmental Permitting (England & Wales) Regulations 2016

Part B Environmental Permit for: Hanson Quarry Products Europe Ltd
t/a Hanson Aggregates
Craig Yr Hesg Quarry
Berw Rd
Pontypridd
CF37 3 BG

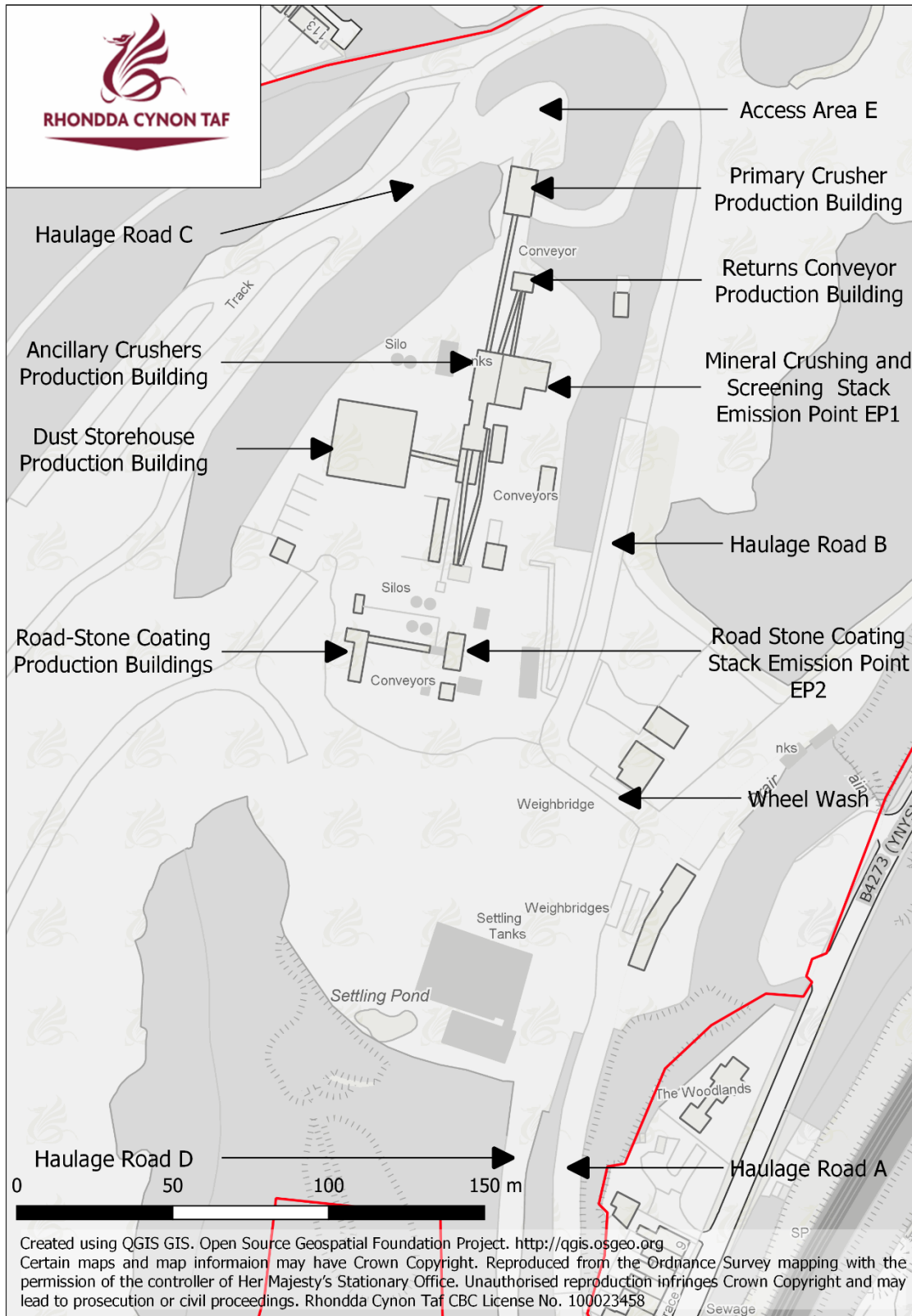
Rhondda Cynon Taff County Borough Council
Ty Elai, Dinas Isaf East, Williamstown, Tonypany, CF40 1NY

Appendix 1: Regulated Facility Location Plan

The boundary of the Regulated Facility is delineated in red



Appendix 2: Regulated Facility Layout Plan



Permit No. PPC/009-3.5-HQPEL/0104D
 Variation Reference 10:0222/083209