Subject: Fw: rebuttal evidence re Air Quality

Please see above attachments which show that with regards to Dust Management 8 and 8.1. The summary of Dust Effects are EXACTLY THE SAME in both the initial submission 27/03/2023 and the revised submission 01/ 08/24 .

Thus the claims of Katrina Early Hawkins (in her proof of evidence, 3.7.4)are irrelevant re the validity of the Dust Scan report which states that " the author has deviated significantly from the guidance in section 8 in reassessing the Magnitude of Dust Effect for each receptor group... with mitigation measures in place."

The Dustscan report continues to state that "Reducing the magnitude at all receptors down to NEGLIGIBLE is therefore inappropriate. This reassessment is not justified or adequately explained in the text"

Further to Katrina Early Hawkins (KEH), comments in 3.7.5 states that " The Review provided commentary on issues identified by DustScan AQ with the Original Vibock Assessment, but does not provide an alternative assessment or conclusions"

It should be made clear that DustScan AQ were not commissioned to find a solution, but to review the quality and validity of Vibrock's assessment.

Under the title ":Rule 6 party Monitoring data", 6.1.14.,KEH states that only results for PM 2.5 NOT PM 10 have been provided.

This is not correct and if you look at attachment 2 of the report you will see that both values for PM2.5 and PM10,are indeed provided.

Specifically, 10/10/2023 PM 2.5 , of 25.73 ug/m3 and PM 10 , 38.87ug/m3.

The data collected are REAL figures not predicted ones which clearly demonstrate a cause and effect situation on the nearby air quality and questions how a fully operational quarry can remain within government targets.

In section 7.26 KEH refers to LONG TERM inhalation of RCS which " may give rise to silicosis and or COPD.

However, The American Lung Association states that ":SHORT TERM exposure such as from peaks or spikes in particle pollution that last from hours to days can kill.

Premature deaths from breathing in these particles can occur on the very day that particle levels are high or within one or two months afterward.

These premature deaths would not occur if the air were cleaner.

Extensive research has linked short term increases in particulate matter to...
1 increased mortality in infants.
2 increased hospital admissions for cardiovascular disease, including heart attacks and ischemic heart disease.
3increased hospital admissions and emergency department visits for COPD
4 increased hospitalisation for asthma among children.
5 increased severity of asthma attacks in children.

People most at risk are people who live NEAR the emission sources are at higher risk.

Other vulnerable sub populations at higher risk from particle pollution exposure include...
1 individuals who are pregnant.
2infants children and teens.
3 older adults 65yrs+
4 people with lung disease such as asthma and COPD.
5 People with cardiovascular disease.
6 People who are obese or have diabetes..
7 current or former smokers.

Residents are very near to all the working phases and there has been no health impact assessment on these residents.

Dr Andrew Buroni .... Human Health Technical Note

2.4.5
VI) states ":a dedicated human health assessment (CD 1.22.,S6) explains...

1. how the worst case projected concentration at any receptor remains well within air quality objectives which have been set to be protective of health for PM10 and PM 2.5

It should be noted that Dr. Buroni acknowledges that " Legal limits are in place to protect human health" however he has failed to acknowledge that it is recognised that there is absolutely NO SAFE LEVEL of PM... one of the main pollutants of concern.

Evidence suggests that health effects can still occur well below these limits [Air Quality, A Briefing for Directors of Public Health, March 2017- published by DEFRA & Public Health England (full document previously submitted)].

This is also recognised by the UK Health security Agency in their letter to LCC dated 01/11/2023...

dr Buroni states that"Background levels of particulate matter are well below the relevant average quality standards (AQS) and although the applicant does note that an increase in PM is considered likely, levels will remain below the relevant AQS. "

The position of UKHSA is that air pollutants are none threshold and population health impacts may occur from changes in pollution concentrations even below the AQS".

b) Dr Buroni comments that there is an absence of any significant RCS pathway.

This, however, is not evidenced in any way. There is a statement of " any exposure to RCS outside the site boundary is considered unlikely as a result of the dilution and dispersal of particulates over increased separation distances"

Distance is the key... some of the residential properties are extremely close to the proposed development.

There is no safe level for RCS!

Damage caused by RCS is cumulative and irreversible.

2.6 Health Concerns... Hazard and Risk.

2.62 It is stated that " the existence of a hazard by itself does not constitute a risk. It is only when there is a hazard source, a receptor ie a person or population, and a credible pathway of exposure connecting the two that there is potential for a potential for a risk to health arising".

In this case it is recognised that the quarrying activities will produce dust. The dust generated will contain PM and RCS namely THE HAZARD . The development is very close to residential properties and gardens. A recently published study " The Impact of Quarrying Activities on Air Quality and Public Health , a Case Study in Warwickshire [Science Journal of Public Health 2024 vol 12 No 6 page 212-218].

It is clearly evidenced that PM concentrations near to an operating quarry (with full mitigation in operation) are demonstrably raised.

Clearly the residential receptors located near to this proposed quarry will be exposed to an increased PM, thus exposed to a risk to health.

2.6.3 This section highlights that where a source - pathway- receptor linkage exists, which it clearly does, " it is relevant to consider the nature of the hazard, the magnitude and concentration of potential exposure and the likely sensitivity of the receptor that will define the degree, extent and nature of the risk and its likely significance ".

This statement highlights the importance of recognising sensitivity of residents living in close proximity.

It is recognised that PM pollution does not affect everyone equally,young children, older adults and people with pre existing lung and heart conditions are particularly vulnerable.

The appellant has failed to consider the individual sensitivities of the residents living close to the proposed development so their conclusions that there will be no adverse effects on health cannot be considered valid.

There has been no health assessment carried out!

2.6.6 - 2.6.16

Consider Health Risk from changes in Air Quality.(AQ)

2.6.7 states that the assessment has already concluded that the changes in AQ are negligible, remain within the AQ objectives which are informed by proven dose-response research to be protective of health.

No evidence of the dose- response research is cited.

This statement again suggests that the AQ objectives imply safety.

This is NOT TRUE!

The UKHSA state that air pollutants are non-threshold, and health impacts may occur from changes in pollution below AQ standards.

With regards specifically to RCS the UKHSA note that the HSE classify RCS as carcinogenic, a non threshold substance with NO SAFE EXPOSURE LEVEL.

RCS will be produced by the operations in this proposed quarry.

The conclusion of changes in AQ are negligible are also open to challenge. The conclusions rely on projected figures and assumptions.

The Preesall & Knott End Again the Quarry Application Group commissioned a professional " pollution monitoring pod" to measure PM levels over a period of 3 weeks. This pod was sited at the back of the garden of Bourbles Farm (overlooking phase 2 and adjacent to phase 4).

The results showed baseline levels of PM (in October) were higher than those predicted figures quoted by the the appellant.

On a specific day, PM levels spiked dramatically to PM 2.5 25.73 ug/m3 and PM10 38.87ug/m3 as previously stated.

This peak was associated with activity of 3 or 4 quad type vehicles being driven across bare land on phase 4.

These figures clearly cast doubt on the claims that changes in AQ will be negligible.

Considering now, 2.6.11 - 2.6.16

In this section, reference is made to a quantitative response assessment applying recognised Concentration Response Functions (CRF), leading to a conclusion that there would be no change in local health outcomes.

It is of note that no details of this assessment are provided making scrutiny and verification of the conclusions impossible.

In October 2025 UKHSA published a document " COMEAP : shape of the concentration response curve linking PM2.5 with all cause mortality ".

The paper discusses different studies and differences in CRF used in analysis with particular reference to low levels of PM2.5.

After lengthy technical discussion in which difficulties of quantifying effects of low level PM 2.5 exposure a recommendation was made... as follows :-

" We continue to recommend efforts to reduce concentration of PM 2.5, even when exposures are already low and concentration based air quality standards are met.

This is because there remains a lack of evidence of a lower exposure threshold for the adverse effects of PM 2.5."

Clearly any increase in PM 2.5 which will occur at those receptor sites close to the development will pose a risk of adverse health effects.