Mt Coot-tha Local Residents Second Whistle-Blower Report: Blast Dust is Never Measured

11th September 2019

Introduction:

Complaint Title: **Mt Coot-tha Quarry regularly emits huge amounts of totally unmeasured & unaccounted thick silica blast dust clouds which regularly and persistently enters the KRA-42 Separations Areas, Residential Areas, Mt Coot-tha Parklands and Botanical Gardens.**

Complaint Authors: The Mt Coot-tha Local Residents (MCLR). These are the residents living between Birdwood Tce and the Brisbane City Council (BCC) Mt Coot-tha Quarry (MCQ), and are the originators of the 2018 DES complaint CTS32131/18.

Complaint MCLR Membership: The 30th November 2019 signed letter from the DES Investigating and Compliance Officer Ms Clarke, advised that the DES recognised the MCLR membership base as the 80 homes in the undefined 500m KRA-42 Separation Zone, and advised that Philip Best (the current Chairperson) is recognised and accepted as the appropriate nominated representative and thus the key point of contact. This "Whistle Blower" report was thus provided by Philip Best with assistance by other MCLR members including David Hassall. (Many MCLR members are also members of the Mt Coot-tha Protection Alliance Inc (MCPA).

Complaint Scope: The total and long-term lack of any effective Blast Dust Incident Measurement, Monitoring & Control by the BCC MCQ. Actual Blast Dust Incident Measurement has never been done. Please note: This complaint scope does not include ambient operational dust.

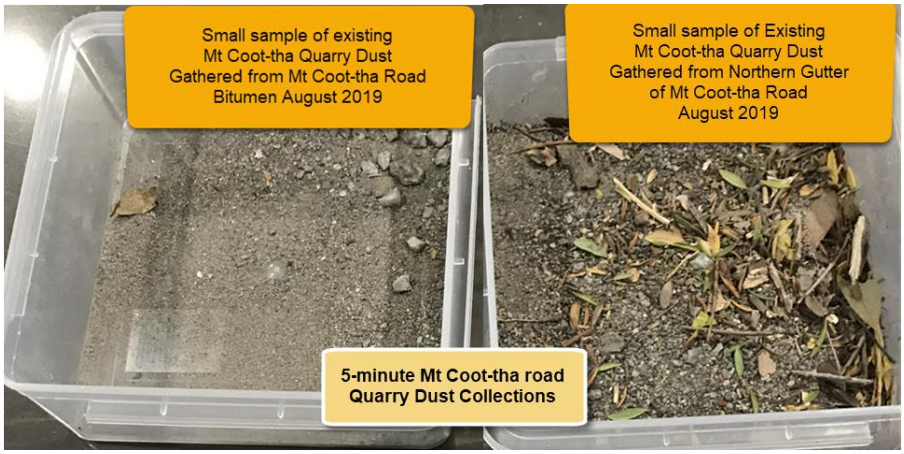
RTI Data Source: This report uses the data from the BCC Brisbane RTI Application 2018/19-461 by the MCLR Chairperson, MCPA active member and Electrical Engineer Philip Best.

DES Confusion: A recent report from DES Compliance Delivery Manager (Mr Karle or MK) regarding the 28th February Dust Storm, states *"initial review shows the quarry has complied with its requirements"*. Both the 2nd September 2019 letters from both the DES Minister and MK, continues to only consider ambient and monthly average operational dust air sampling, which is nowhere near the actual incident location blast sites and which the testing laboratory advises is not independently conducted.

Complaint Body – Blast Dust Incidents are Totally Unmeasured, Unaccounted and Ignored:

1. The current unacceptable situation: Innocent people visit the respected and publicised parkland areas and unknowingly subject themselves to well-known silica blast dust remnant hazards, especially when they regularly visit the area for health and recreation purposes.
    a. No primary or residual blast dust warnings are ever posted.
    b. The entire area is declared "safe", as soon as all the blast charges have been checked.
    c. Blast dust clouds are never measured, monitored or logged (currently they are ignored).
    d. Unless there is rain, the blast dust lingers in the environment and is affected by the wind.
    e. When the dust is seen to go beyond the perimeter fence, there is no action to post residual blast dust warnings afterwards.
    f. Current ambient monthly average monitor is ineffective, misleading and non-independent.
    g. No external professional "all dust hazards" report has ever been done (BCC RTI info).

2. The approach by the MCQ (and the regulators) to silica blast incident dust "leakage" into the overall environment from uncontrolled blast dust events, is inadequate and non-compliant with current standards or best-practice in the quarry and health industries.
3. The MCLR believe that it is unlikely that this situation would be tolerated by the DES, if the quarry were run by a private company instead of the BCC.
4. The reports provided in the above RTI response are labelled by the BCC as *"DEHP Compliance Monitoring"*, which indicates that the DEHP investigates and approves the BCC report scope and contents. Actual blast dust incidents are completely ignored in all the BCC RTI documentation.
5. The current dust monitoring only provides monthly averages recorded at points spatially removed from blasting operations and does not address the significant dust clouds raised by uncontrolled blasting.
6. The 'requirements' for dust monitoring in the MCQ's Environmental Authority, fail to adequately consider the uncontrolled dust incident impact of MCQ blasting and are insufficient to detect clear breaches of the EPP for Air Quality.
7. The vague MCQ descriptions in the unreadable dust monitoring map demonstrates that the DES Compliance manager was generally unaware of the poorly placed dust collection devices.



When the wind blows through the dusty hills in the dry season, an unmeasured secondary blast dust threat has been observed.

The MCLR consider that silica dust has become endemic to the general area.

This can be seen in the easily gathered MCQ dust samples from Mt Coot-tha Road that get ground to a fine powder by traffic tyres during the dry season.

RTI Data Contents:

1. February 28th Dust Cloud Complaint Email - 15 March 2019 to & from the DES.
    - Response ignored blast dust and only considers ambient air monthly average.
2. Quarry Manager Response to the DES 18 March 2019,
    - Response to the Dust Cloud Complaint Email.
    - Verifies a lack of peak and/or daily monitoring data.
    - Verifies a lack of importance to forest and gardens areas.
3. Unreadable 15/4/2016 IMSWI-10022 Stormwater Management Plan "1994".
    - This was provided to us by Brisbane RTI, as the only Dust Monitor Analysis map.
4. Symbio Laboratories (Symbio) Dust Monitor Report for DM1, DM2 & DM3 from February - March 2019.
    - Contains no DM4 data and no location labelling.

- Verifies that Dust Monitoring is done internally by the MCQ and is thus not independent (as claimed).

5. DEHP Compliance Dust Monitoring Report Data for DM4 from August 2015 till 7th February 2019.
    - There is no data for the recently video recorded dust storms 28th February 2019 , 18th July 2019 & 8th August 2019.
6. DEHP Compliance Dust Monitoring Data for DM1, DM2 & DM3 from April 2002 till February 2019.
    - The bottom of Scenic Drive is clearly shown as DM2 (not DM4).
    - Confirmation that the Sussex St and Richer St monitoring points only ever used Soil Spike Transducer Monitoring and that #3SSGD also used soil spikes when the concrete block actually existed. Almost all Blast Vibration measurements used Soil Spikes at some time, except for the Quarry Office.

RTI Data Items Not Provided:

7. A request for deferred Brisbane RTI Completion pending consideration for withheld information has been sent to Information Commissioner.
8. There was no concept of monitoring, sampling or measuring of any blast dust clouds or the dust dispersal or the health risks.
9. We asked for all existing plans to increase the dust monitoring locations (such as on Scenic Drive). No data was available to provide.

Engineering Analysis:

1. We regard this report as the second MLCR "Whistle Blower" Action, following on from previous complaints about unrepresentative and spatially removed blast vibration monitoring. It appears to us that there has never been any valid attempt to conduct effective and/or proactive incident monitoring of any MCQ Blast Dust Clouds.
    a. When considering the weather reports as a possible analogy, similar to background dust reporting, there are monthly averages provided for all parameters.
        i. However, maximum and minimum peak values and specific event values are always provided by BOM.
        ii. Weather Dust Storms are similarly reported with BOM priority dust warnings.
        iii. Analysis of MCQ dust by John Higgins (the late) et al (JH), confirmed MCQ dust as containing silica.
        iv. We are advised by HazCon, that the mass of Earth's crust is 59% silica.
        v. Also, that Silica (silicon dioxide) is a basic component of soil, sand, granite and the main constituent of more than 95% of all known rocks.
        vi. If the silica blast dust is both airborne and downwind, then it is likely to be both sharp, inhaled and respirable.
        vii. 2019 MCQ Blast Dust Video recordings indicate extreme airborne qualities.
        viii. The MCLR has been seriously concerned about this for some decades and the only remedial measurement (provided to JH) was the monthly-average method. The recent RTI has defined the gross inadequacy.

b. The current dust monitoring results are restricted to longer-term monthly-averages of the operational crushing and gravel handling background dust levels, inside the quarry general processing, storage and truck loading area.
   i. The RTI data provided contains no specific blast-dust measurements.
   ii. Strong silica dust level health impacts are now considered by health authorities to be similar to or worse than those caused by asbestos.
   iii. The concept of receiving a lung full of silica blast-dust airborne particles, is thus considered a major health risk, with long-term survival complications.
   iv. We consider that this applies to all air-breathing and/or vegetation-eating threatened wildlife, with longer-term population survival complications.
c. The current dust monitoring locations and data bears no physical, geometric or durational relationship to the actual blasting incidents, because:
   i. Blast Explosions occur in a large 30ha mining area, resulting in a major single point-source event with downwind implications and complications.
   ii. It is therefore likely that for some decades, the MCQ blast dust has been polluting the adjacent parklands with large, unmeasured quantities of thick silica dust - impacting on the surrounding forest, tourist and residential areas.

2. Email 18 March 2019 to the DES – Quarry Manager Response.
   a. The MCQ manager 18 March 2019 response to the DES, attempts to wrongly justify the massive thick dust cloud incursion into the MCQ separation & parkland areas, based on the fresh air average at other places & times when no blasting occurs.
      I. This is patently ridiculous.
   b. It appears that any severe dust cloud is acceptable to BCC, because it is not present all the time, plus it only exists in the forest and tourist areas. It should be noted that this cloud often extends well beyond the MCQ boundary, a symptom of environmental harm.
   c. It appears that the much-reduced overall averages are used as an excuse for ignoring the blast dust and the area is declared safe if all charges exploded.
      I. "A quick calculation of 3 minutes in the total number of quarry operating minutes in a standard 4-week month indicates this blast dust period was 0.03% of the total operating time in the month. "
      II. "This would support an expectation that the blast would contribute a minute amount to our dust deposition result."
      III. "The road was closed at the time until the shot firer checked the shot over before opening the road again." *(MCQ manager responses).*
   d. The truth is that the MCQ manager would have absolutely no idea at all regarding the dust levels on the 28th February, and on all other dates, because they are never measured.
      I. The MCQ staff tried to stop us from video recording the blast.
      II. (This outlook is similar to a Tsunami warning which placates the threat based upon the average monthly wave height before and after the event.)
   e. All longer-term downwind and downstream harmful health effects are ignored (such as death or sickness to tourists, residents, wildlife, insects and vegetation).

f. There is always a residual dust effect which becomes a threat after the blast incident when the wind blows. It is invalid to claim that a road closure just for the blast duration cures the dust exposure in the areas which are never monitored.

3. The Supposed MCQ Env Dust Monitor Location Map 15/4/2016 is actually the IMSWI-10022 Stormwater Management Plan "1994" and which is very unreadable.
    a. We did not receive any specific Dust Monitoring Map & Analysis.
        I. So, it likely does not exist.
        II. There does not appear to be any professional concept of measured blast dust movement or other professional analysis.
    b. There is clearly inadequate MCQ blast dust monitoring and a gross lack of any apparent professional attitude towards silica dust harm reduction or elimination.

4. Symbio Dust Monitor Report for DM1, DM2 & DM3 from February - March 2019.
    a. There is no reading for DM4 and no location labelling.
    b. Results are collected and despatched by the Quarry, and hence are not independently monitored as recently claimed by MCQ on ABC radio.
    c. The massive 28th February 2019 dust storm had zero effect on these monthly monitoring values (assuming that they were recorded correctly and truthfully).

5. Dust Monitoring Data for DM4 from August 2015 till 7th February 2019.
    a. It shows Scenic Drive "Gate" as DM4 (not DM2).
    b. There is no dust data for the video recorded blast dust storms, as shown on

6. Dust Monitoring Data for DM1, DM2 & DM3 from April 2002 till February 2019.

The bottom of Scenic Drive appears to be shown as DM2 (not DM4).

Summary:

7. On the 4 dates when video recordings were conducted: 28th February 2019, 18th July 2019 and 22nd August 2019 plus the 8th August 2019 images, there is clear evidence of Silica Dust cloud incursion into the KRA-42 Separation Zones, the Botanical Gardens and the adjacent local residents.
    a. The videos clearly show that both the dust rises to heights and travels for distances, which indicate that the particulate size is very small and hence respirable.
        i. Other than that, there is zero information available because no blast dust incident monitoring has ever been done.
    b. The Blast Dust and Tree Removals page also shows some of the Silicosis causes and risks.
        i. The American Lung Association notes that it is possible to get Silicosis from just one dust incident exposure.
        ii. It should be noted that since c1995, that many of the local residents have battled with the Mt Coot-tha Quarry over dust concerns for 20 years and this length of exposure could be a silicosis precursor, and made worse if one large MCQ Blast Dust Incident dose was to follow.
        iii. Similarly, for tourists, their previous silica dust exposure or asthma prevalence is unknown. However we note than many aged tourists visit the area.

   c. Certainly, the Botanical Gardens staff and volunteers may be exposed to critical silica dust levels and it is unacceptable that this important health aspect is regularly ignored.

8. Silica dust has been observed entering a significant distance beyond the DILGP defined KRA-42 Resource Processing Area boundary and well into the separation zones or residential areas, on most of the viewed blasts.
   a. The exception is when this does not happen, which is usually the result of either zero wind or a very small blast. Yet there is no mention of this or any other incursions on any of the reported dust records.
   b. Dust levels and all Separation Area Incursions should be recorded every blasting day.
      i. By only remotely recording the monthly average data, any major dust incursion incidents that happen on a specific day become ignored.
      ii. This is critical in a high-profile tourist location, with local residents, trails, indigenous forest and cycling activity on all 4 sides.
   c. In reading the low-priority quarry manager response to the 28th February 2019 dust cloud, it seems that all dust transmission incursions into Separation Zones are never logged, and we suggest that they are never even noted.
      i. We never experienced any MCQ Manager apologetic response, nor any desire by the MCQ Manager or the DES to create less dust at the next blast.
      ii. Hence this important DILGP requirement for all KRA separation zone locations is being ignored.
      iii. The dust cloud saturated the forest and then headed towards the popular Slaughter Falls family and schools picnic area. It did much more than simply "drift towards the forest" as the MCQ manager states.
      iv. We believe that the dust cloud existence was considerably greater than the much reduced "3-minute period" as specified by the MCQ quarry manager.
      v. At the time of the blast dust incursion, the MCQ staff prevented the video recording of the latter part of the blast dust incursion, by physically and deliberately walking towards the camera and placing their body in the camera view line and the hat on the camera (evidence of these actions was recorded by the author).
   d. All the MCQ dust monitoring is averaged out over the month which is unsuitable at Mt Coot-tha.
      i. This method may be applicable for freeways or general construction sites with small-event low levels of wind-affected reasonably constant dust sources.
      ii. However, for a quarry that does intermittent incidents at more removed location fortnightly or weekly blasts, (which often exceed the DES normal blasting maximums), one very bad event gets averaged out over the entire month (including weekends, nights and holidays) and is therefore lost.
      iii. Actual single blast dust cloud incursion events are not recorded due to a general lack of any result priority.
      iv. The MCLR were thus forced to begin the process of video recording to visibly show what was really happening.

9. It also appears that the current monthly ambient dust monitoring records are in disarray.

a. The quarry manager's response email gives no information or importance to the other three KRA-42 processing area boundaries: Which the MCQ labels as "Bushland, Centenary Highway and the Botanical Gardens".
    i. It seems that the "Centenary Highway" is actually the Western Freeway and Scenic Drive does not exist.
b. DM4 may or may not be Scenic Drive.
    i. On the map it is handwritten, and appears to be on Mt Coot-tha Road.
    ii. DM4 is not always shown.
    iii. The map is unreadable and has little value.
    iv. There is no concept of an accurate dust monitoring plan (that we were provided with).

Finally:

It may be considered that whilst the DES provides management advice to the BCC MCQ regarding their quarry operations, the MCLR believes that the BCC and MCQ has a general legal responsibility to adhere to the clear interpretation of their SR41 as defined in EPPR-00447313 Environmental authority, as well as all other relevant legislated regulations (including Health).

The current situation which is a Total Lack of Consideration and Measurement by the DES of the blast incident dust storms, as well as the residual dust effects plus the longerterm health effects to residents, staff, volunteers and tourists is unacceptable and must be urgently rectified.

10. Recccomendations:
    a. Remnant dust warning signage must be errected both before, and after each blast.
    b. All incursions into the separation and residential areas must be measured and logged.
    c. All current ambient and blast dust incident measurement must be fully independent.
    d. All blasting should be immediately halted, pending the completion of a fully independent silica-dust-health threat analysis and creation of a subsequent blast dust incident hazard monitoring program.
        i. This should have been completed decades ago by the Health Department and actioned.
        ii. This must be carried out as a matter of high priority.

Report compiled by Philip Best

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