



EMSL ANALYTICAL, INC.

11 May, 2021

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Project: Response to Declaration of Monte Deignan dated 05.10.2021

Mr. Prince-

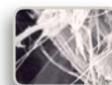
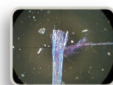
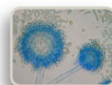
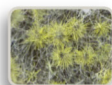
Please find below my response to the declaration filed by Monte Deignan dated 05.10.2021.

On Page 4, lines 3-6, Mr. Deignan states that the demolition of the fiberglass sailboat was sufficient for the environmental analysis and demonstrate that crushing of fiberglass vessels at the USACE Facility does not pose a toxic risk to Marinship Park. I do not think the data that was produced supports this statement, for the reasons outlined below:

1. Humidity and Dust suppression. Sampling conditions for fibers outside are different then sampling indoors, as wind, humidity and precipitation all vary and can influence the sampling and therefore the results. Fibers travel downstream with prevailing wind until they settle out. By wetting the particles (whether actively or through wet/humid conditions) the weight of each dust particle is increased so they are less likely to become or stay airborne. Each individual water droplet can absorb dust particles and fibers from the air, gradually both encasing the dust and allowing it to fall to the ground – effectively removing the dust from the air. In fact, dust suppression is common industry practice in mitigating and controlling hazardous dusts as seen at the Calaveras Dam site in California, where wet spraying was used to control the dust.

When gathering data for risk assessment the US EPA operating at Libby, MT (a asbestos superfund site) they looked to maximize the exposure potential and would not sample during significant precipitation events. As discussed in section 10.1.5 Uncertainty Due to Field Collection Methods of the Site-Wide Human Health Risk Assessment Libby Asbestos Superfund Site Libby, Montana, “Because airborne releases of LA are expected to depend upon environmental conditions, in order to maximize potential releases during disturbance activities, sampling was usually conducted in the dry, summer months. Additionally, activities were not performed if significant precipitation events occurred in the preceding day or if there was standing water present”

This is consistent practice in the EPA, as cited from the document, PUBLIC HEALTH ASSESSMENT BoRit Asbestos National Priorities List Site Ambler, Montgomery County, Pennsylvania the US EPA BoRit site in Ambler, PA - “Ambient air samples were not collected during a rain event. If rainfall exceeded 0.25 inches, EPA waited at least 24 hours to collect ambient air samples. If rainfall exceeded 0.5 inches, EPA waited at least 48 hours to collect





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ambient samples. This was done to capture a 'worst case scenario' based on dry conditions that could cause release or disturb asbestos in soil (EPA, 2012a)."

In the paper, Influence of Air Humidity on Dust Control Using Ultrasound Atomization, it shows a model of how humidity can restrict dust dispersion. The higher the humidity, the higher its capacity to suppress the dust dispersion. Figure 6. This figure shows the range in dust dispersion at different humidity levels from 60% to 80%.

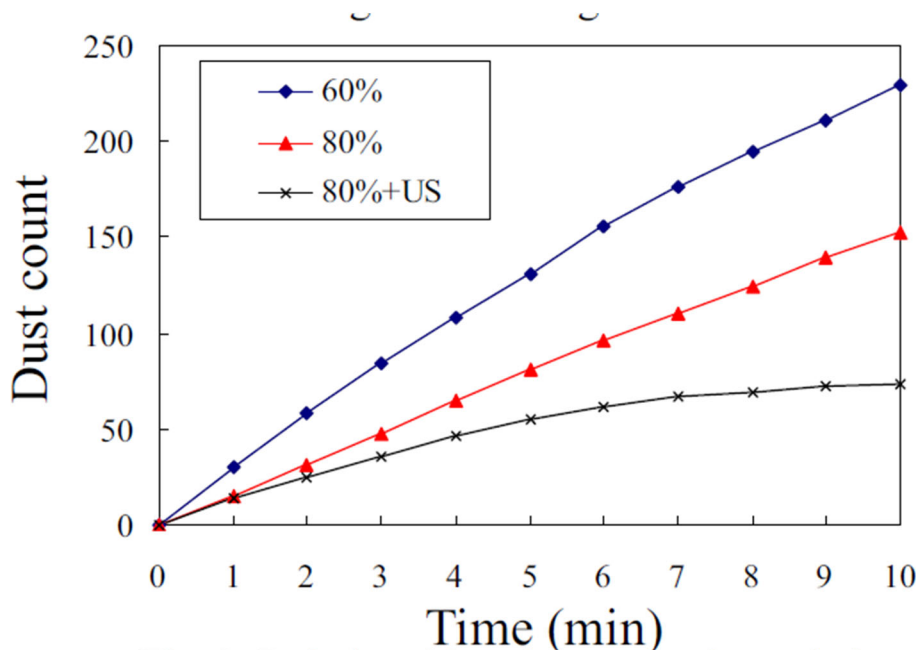
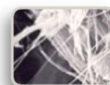
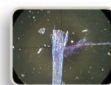
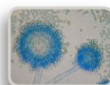
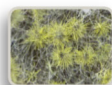


Fig.6 Relationships between the relative humidity and the dust dispersion.

On page 3, Line 19 of the declaration dated 05.10.21, the fiber glass boat was demolished between 9:30 AM and 11:00 AM on March 11, 2021. There is also mention in the environmental report that rain event had happened that morning. According to time and date.com , a website that records historic meteorologic conditions, (screen shot below) on March 11th, 2021, the humidity started out at 77% near 9 am, was 60% around noon and was about 60%, during the time the fiberglass boat was being crushed. These high humid conditions would have suppressed and limited dust dispersion into the park. Therefore, one would expect samples collected would have reduced fiber counts.





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Sausalito Town Square Weather History for March 11, 2021

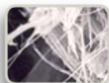
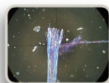
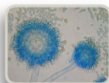
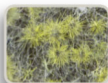
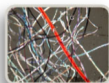
Show weather for: March 11, 2021

Time	Conditions		Comfort			Barometer	Visibility
	Temp	Weather	Wind	Humidity			
12:56 am Thu, Mar 11	46 °F	Passing clouds.	5 mph	↙	79%	30.02 "Hg	10 mi
1:56 am	45 °F	Passing clouds.	6 mph	↑	82%	30.02 "Hg	10 mi
2:56 am	44 °F	Passing clouds.	3 mph	↙	82%	30.01 "Hg	10 mi
3:56 am	44 °F	Partly cloudy.	3 mph	↘	82%	30.01 "Hg	10 mi
4:56 am	46 °F	Partly cloudy.	3 mph	↘	83%	30.03 "Hg	10 mi
5:56 am	45 °F	Light rain. Mostly cloudy.	3 mph	↗	86%	30.04 "Hg	8 mi
6:56 am	47 °F	More clouds than sun.	9 mph	↙	80%	30.06 "Hg	7 mi
7:06 am	47 °F	Light rain. Cloudy.	6 mph	↙	80%	30.07 "Hg	5 mi
7:56 am	48 °F	Cloudy.	12 mph	↙	77%	30.08 "Hg	7 mi
8:11 am	48 °F	Overcast.	15 mph	↙	77%	30.09 "Hg	7 mi
8:20 am	48 °F	Overcast.	16 mph	↙	77%	30.10 "Hg	8 mi
8:56 am	48 °F	Overcast.	15 mph	↙	77%	30.10 "Hg	9 mi
9:56 am	50 °F	Overcast.	14 mph	↙	71%	30.11 "Hg	10 mi
10:56 am	51 °F	More clouds than sun.	8 mph	↙	66%	30.12 "Hg	10 mi
11:56 am	54 °F	Overcast.	9 mph	↙	59%	30.13 "Hg	10 mi
12:56 pm	53 °F	Partly sunny.	6 mph	↘	59%	30.11 "Hg	10 mi

(<https://www.timeanddate.com/weather/@5393605/historic?month=3&year=2021>)

- Collection of samples orientation and sample height. As discussed above, particulates suspended in the air travel with the direction of the prevailing wind. When looking at wind, we need to consider, wind breaks, wind direction, and wind speed. In looking at the wind flow, wind breaks such as fences, trees, etc. need to be considered. Wind travels up and over the fence and if the fence isn't completely solid, some will through the fence. If a sample was placed low and blocked by the fence it would underestimate the fiber concentration.

In another scenario, if the sample monitor was placed upwind of the fiber generating source, fibers would not have been collected on sample, as they would have been blown away from it. Thus when the sample was submitted to the lab and analyzed it would show a low fiber count.





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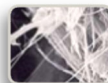
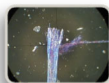
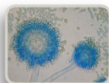
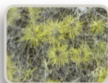
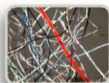
Typically, in outdoor perimeter air monitoring, as seen at the Calaveras Dam site or the Ambler site already discussed, multiple monitors are set up around the perimeter of the source, usually upwind and downwind. At Calaveras Dam replacement project their perimeter monitoring was done around the perimeter of the main excavating area of the dam replacement. The stations were determined by prevailing wind direction, as well as proximity to residences. Per the DTSC, in section 8.84 Community Fenceline Monitoring of the Interim Guidance NOA at school sites, specifies when monitoring for dust going off the property, that the contractor should use a smoke tube or windsock to verify the wind direction at the site to determine where the monitors should be placed. It also stipulates that monitors should be moved if the wind direction changed. The previous declaration states, in line 25 page 3 that wind shifts were occurring yet, does not state if the monitor was moved during the wind shift.

Furthermore, both EPA and DTSC state that adult monitoring is height is 5 ft. The DTSC further states that fence line monitoring samples should be taken at 5 feet above the ground. Mr. Deignan stated his sample height was at 42 inches. While at times when sampling to determine mean exposures, EPA has taken samples at different heights. (5 ft for an adult and 3 feet for a child). to determine the difference in exposure of an adult vs. a child, they still collected a sample from the adult breathing zone.

3. The insufficient number of samples collected. Two samples were collected on one day. In reviewing the meteorologic data from that day, you that day represented the “best case” exposure scenario. The wet/humid conditions were not conducive to dust dispersion into the park. As described in Site Wide Human health documents, section 10.1 “Concentrations of LA in air (especially ABS air) are inherently variable, so estimates of mean exposure concentrations are subject to uncertainty arising from random variation between individual samples (“sampling uncertainty”). The magnitude of the uncertainty due to sampling variability depends on the number of samples collected and the variability between individual samples, with uncertainty tending to decrease as sample number increases, and increasing as between-sample variability increases.” Two samples collected on one day, in one set of particular conditions, is not enough to overcome the uncertainty of sampling and is inadequate to produce a statistically valid estimate of fiber loading and mean exposure. Therefore, the data produced is inadequate to determine the potential risk to people living in a park under varying conditions.

Sincerely,

Robyn Ray
National Special Projects Manager



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