

# HOW A CONSTRUCTION COMPANY USED THE TSI ENVIRONMENTAL DUSTTRAK™ TO MONITOR AND CONTROL DUST LEVELS AT A DEMOLITION SITE

## Exposure Monitoring Case Study

Clugston Construction, part of the privately owned £150 million turnover Clugston Group, provides building, civil engineering, fit out, surveying and facilities management services to a wide range of customers from the public and private sectors. Employing over 400 people, the Company is a top 100 UK Contractor and respected by its peers for outstanding commitment to the highest levels of health safety and environmental standards. These have resulted in a string of awards including being four time winner of The Silver Helmet, the construction Industries Oscar for safety. It is this commitment, which brought the DustTrak™ system to Clugstons attention, as they sought the most environmentally considerate way to complete the demolition phase on a new Care Home they were constructing

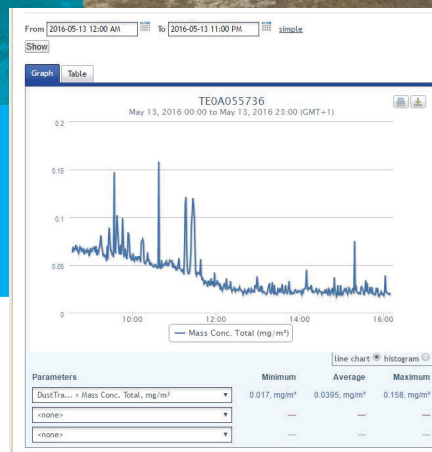
The TSI Environmental DustTrak was loaned to Clugston Construction for a short period to monitor a demolition site at the former site of Bretherens Meeting Hall in West Street, Farnham, Surrey. The job was a moderately sized site (roughly 100m x 100m), adjacent to residential housing. It was therefore important for the team to monitor dust levels before and during operation, to ensure that environmental requirements were met.



**“We could actually visualize in real time when suppression was being used and it resulted in a significant drop in dust concentration levels and so we could see the impact this has on reducing dust levels.”**

Testing was carried out from mid-afternoon Wednesday, 11<sup>th</sup> May 2016 until Tuesday, 24<sup>th</sup> May 2016. Throughout this period, weather parameters were also measured using the Lufft WS500 sensor which measures temperature, humidity, pressure, wind speed and wind direction. The TSI Environmental DustTrak was placed outside of the demolition zone, near the neighbouring residential houses, so that the impact of the work could be assessed.

The end user found it interesting as they could actually see when suppression was used, which resulted in a significant drop in dust concentration levels, as seen in the graph found to the right.



UNDERSTANDING, ACCELERATED

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Throughout the two week testing period, Clugston employees could clearly see when activities were highest on site. The end user commented that almost instantaneously, it was apparent when a truck was entering or leaving the site, causing a raise in the dust levels.

A busy day on site, coupled with very dry weather resulted in the rise of dust levels to over  $0.35 \text{ mg/m}^3$  on day 7 of the trial.

The highest total mass concentration of the study occurred on day 9 of the trial, when the Environmental DustTrak was moved to the opposite side of the site, as the main work location had been re-located there. The Environmental DustTrak was placed alongside a shared access road and therefore, traffic levels were high. This resulted in the biggest peak of the trial at  $1.9 \text{ mg/m}^3$ .

During the 2 week trial period, the Environmental DustTrak helped to monitor events on site. The end user could clearly see when the traffic levels increased, when suppression was used, when activity was at its highest and what affects this had on dust concentration levels. As all information could be seen in real time, the user could track the activities that generated the most dust and relevant procedures were put in place to minimise levels.

The user found the Environmental DustTrak to be extremely useful, especially being able to monitor dust levels remotely, using the Environet software. They also found the website very user friendly, and were able to navigate around easily with minimal guidance.

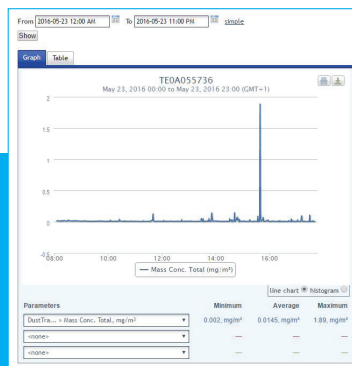
The Environet software allows the user to have instant access to real time data, anytime, anywhere through the web. It enables control of multiple sites from a single location, hence eliminating costly field trips.

Users can set maximum concentration limits so that when these levels are reached, a warning email or SMS is sent to dedicated users so that procedures to lower levels can be put in place - this is imperative in environments where exposure or environmental limits have to be met.

The Environmental DustTrak has been a successful solution to the issue Clugston faced with dust monitoring. For more information about the Environmental DustTrak, please visit

[www.tsi.com/environmental-dusttrak-aerosol-monitor/](http://www.tsi.com/environmental-dusttrak-aerosol-monitor/)

**"The Environmental DustTrak has been extremely useful to monitor dust concentration levels whilst being away from site."**



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**TSI Incorporated** - Visit our website [www.tsi.com](http://www.tsi.com) for more information.

**USA**  
**UK**  
**France**  
**Germany**

**Tel: +1 800 874 2811**  
**Tel: +44 149 4 459200**  
**Tel: +33 1 41 19 21 99**  
**Tel: +49 241 523030**

**India**  
**China**  
**Singapore**

**Tel: +91 80 67877200**  
**Tel: +86 10 8219 7688**  
**Tel: +65 6595 6388**