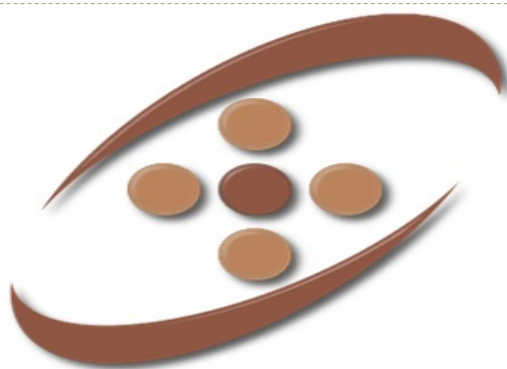
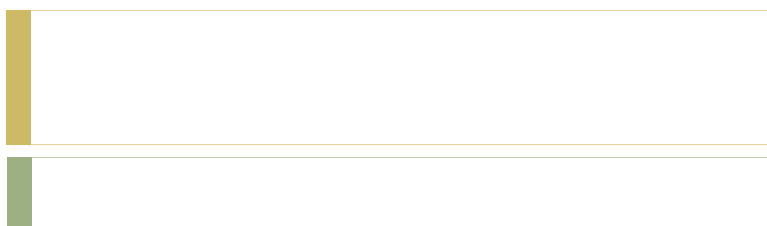

LEGAL REQUIREMENTS FOR DUST FALLOUT MONITORING

NATIONAL ENVIRONMENTAL MANAGEMENT –AIR QUALITY ACT



DUSTWATCH
Dust Monitoring Specialists



NATIONAL DUST REGULATIONS

- ▶ These have been promulgated in response to the requirements of the act and lay out measures that need to be followed by any monitoring programme.
 - ▶ The regulations outline a standard which should be used, but any accepted International standard is also permitted.
 - ▶ The regulations also lay out conditions under which monitoring is required and a reporting requirement
-



STANDARD TO BE USED

- ▶ The regulations also call for the ASTM 1739d-1970 test method to be used although there is total confusion why later versions are not called for as these differ totally in concept.
 - ▶ The regulations apply arbitrary changes to the ASTM method which have not been researched or applicable to accepted practise elsewhere.
 - ▶ The ASTM also indicates that the system is...".Non specific and not accurate enough for purposes other than indicating trends."
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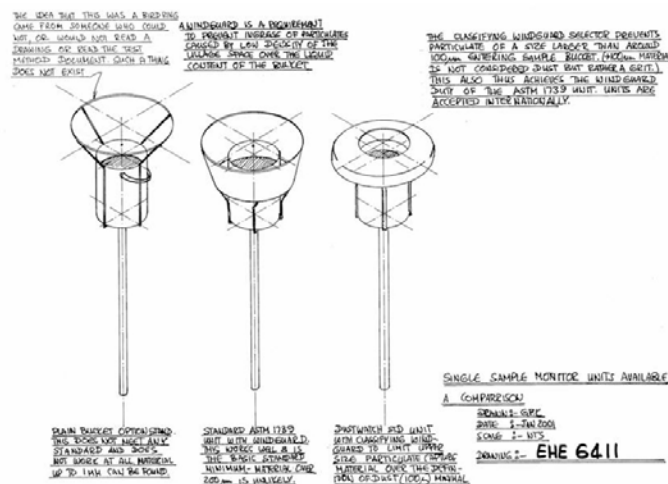


TYPES OF MONITORS


- ▶ We already note that there is an accuracy warning about the ASTM unit and an inferior result cannot be used for regulation compliance in terms of the constitution and guilt can only be determined by accuracy in the proof.
- ▶ For the time being any monitor unit use will be acceptable .
- ▶ Only later versions of the ASTM call for wind guard units and not the 1970 version.




UNIT COMPARISONS



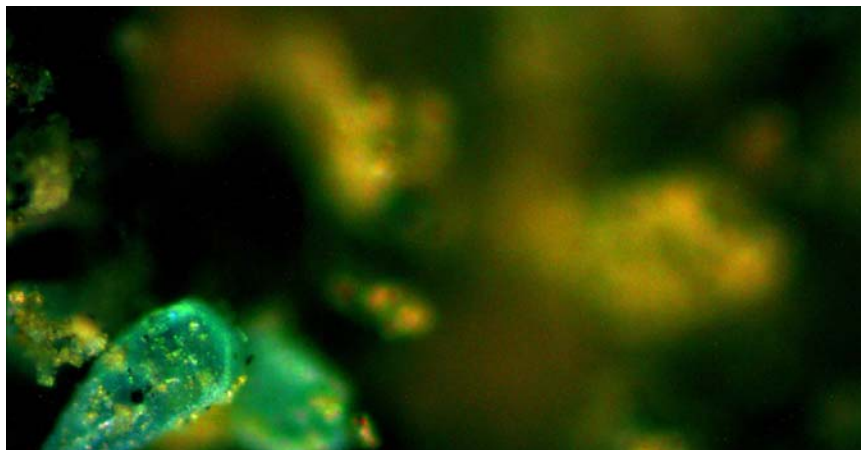
ACCEPTANCE OF YOUR DUST LEVELS

- ▶ As the regulation makes no distinction between your dust and that from elsewhere you are blamed for all the dust at you monitor, by assumption, which is also incorrect. Ambient dusts from all over forms part of the dust at your property and not only yours.
 - ▶ By analysing the dust , you have a case against high levels which are likely to be loaded in many situations and can defend yourself.
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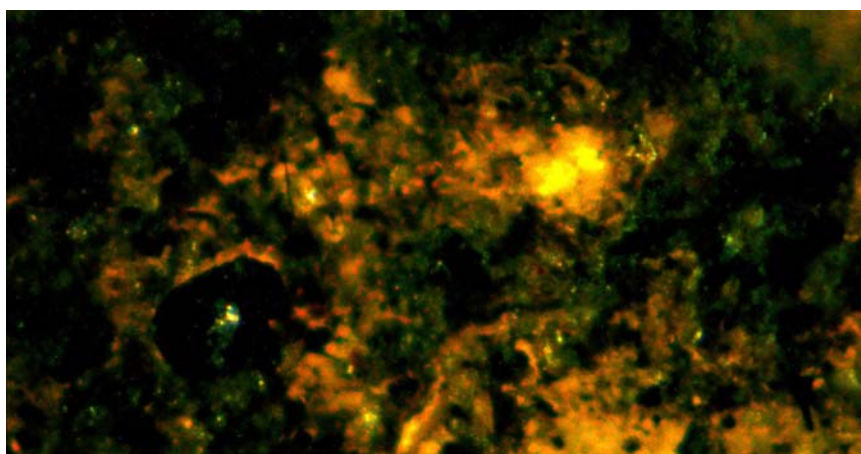
DETERMINING DUST CONTENTS

- ▶ With any single sample monitor you will need to do a content analysis if you are to defend yourself.
 - ▶ With a multidirectional monitor the results speak for themselves and analysis is not absolutely necessary.
 - ▶ The requirement that no two consecutive monthly results may exceed the limit is not observed Internationally as results of high ambient dusts will and do exceed this value.
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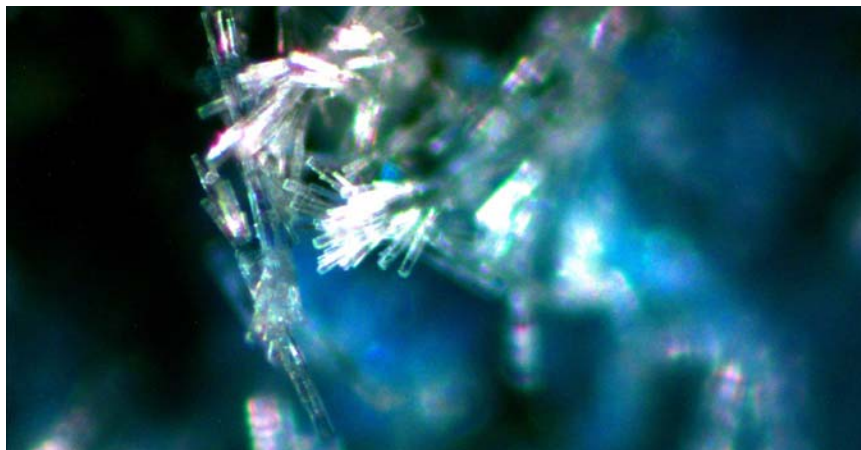
Mineralised copper material dust particles



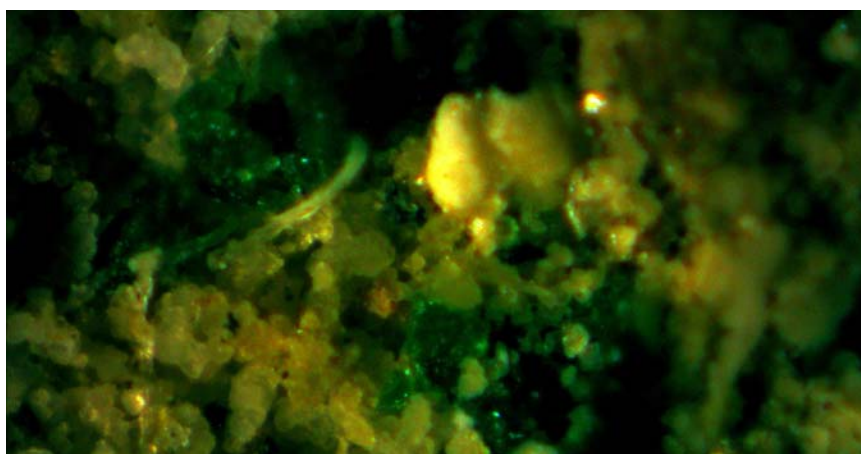
**Ilmenite particles with high diesel smoke
particulate in a sample from Gabon**



Aragonite calcite crystalline fibres 4 micron diameter and a length of over 30 micron



Fine rounded milled clays with calcite, smoke carbon and quartz rounded sandy dusts

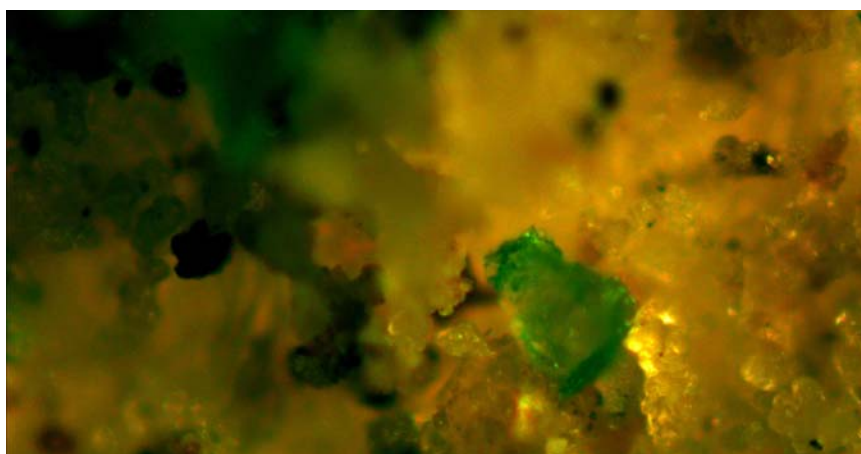


DUST CONTENTS

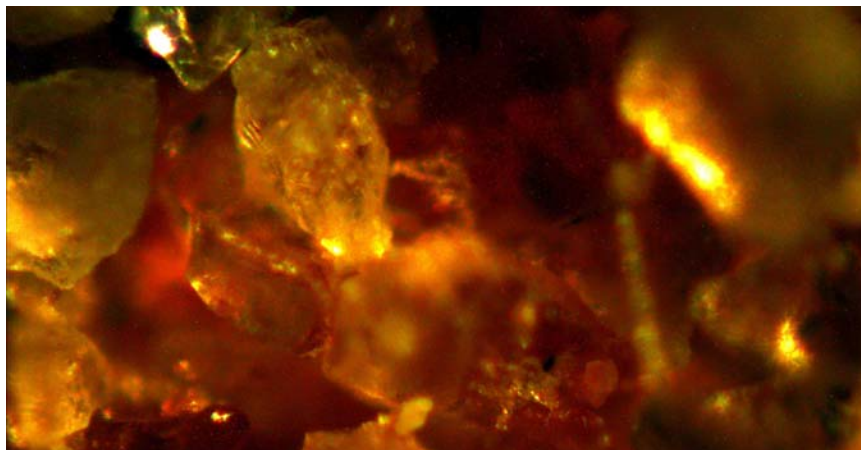
- ▶ As a cost effective assessment of contents, the Microscan can determine the gross;
 - ▶ Contents of the geology and makeup of the sample including organic materials.
 - ▶ The average d0.5 particle size of either the whole sample or constituents of the sample.
 - ▶ The sample image can be taken which then indicates the content.
 - ▶ Unusual contents and organic insects logged for biodiversity purposes.
-



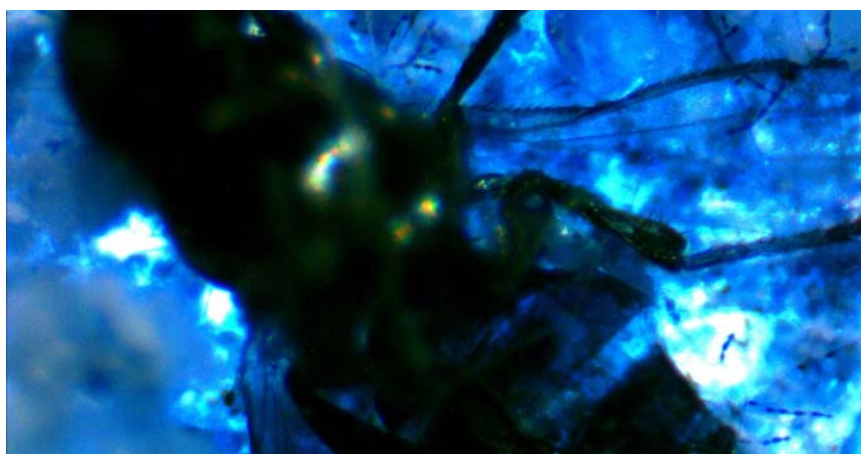
Mineralised copper present in a particulate sample from a lead concentration plant



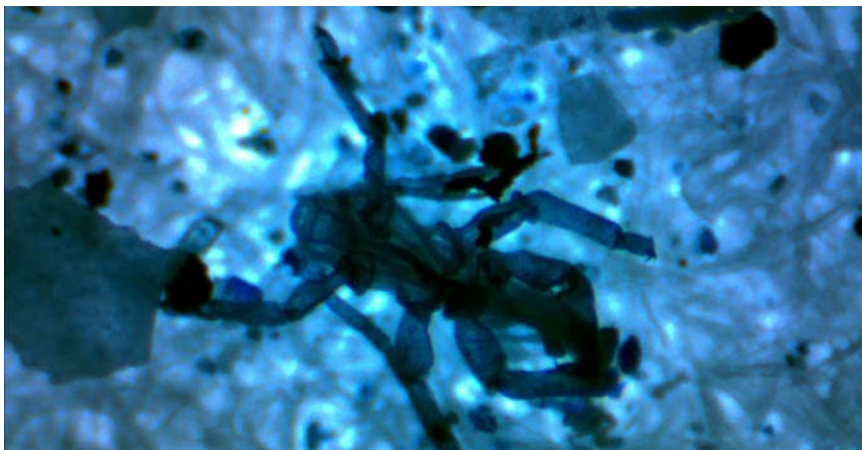
**Rounded sandy dust particulates which are not all
mine dusts**



**Specimen of length 55 micron robber fly from
Mozambique**




Specimen louse 28 micron long




Providing services for you

THE ASSOCIATION BETWEEN ENVIRONMENTAL AGENCIES AND DustWatch IN MOST GEOGRAPHICAL AREAS OF SOUTHERN AFRICA WILL BE AVAILABELE TO YOUR SITE

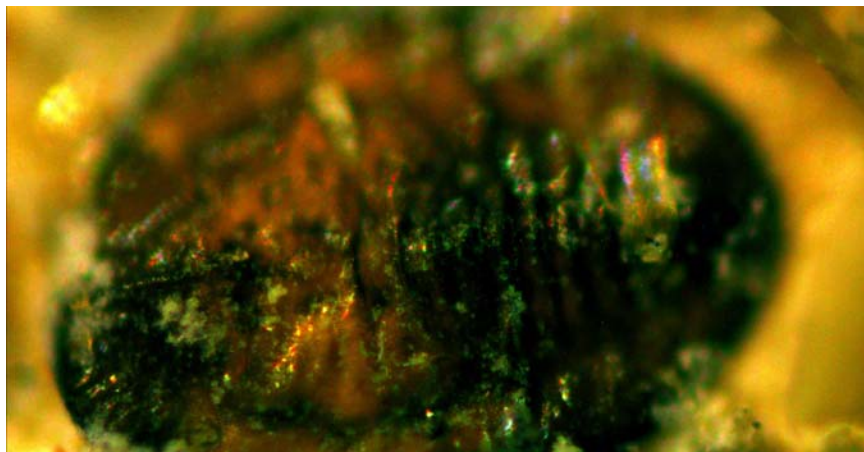
REPORTING

- ▶ As the various associated companies prepare their own reports in most cases, these are fixed format documents and will incorporate Microscan reports where these are required.
 - ▶ As with the assessments these are done mainly at a central facility in the Cape. Accreditation of agencies is being worked on at the moment.
 - ▶ Microscans are being carried out on samples from around the world at the rate of nearly 2000 per month.
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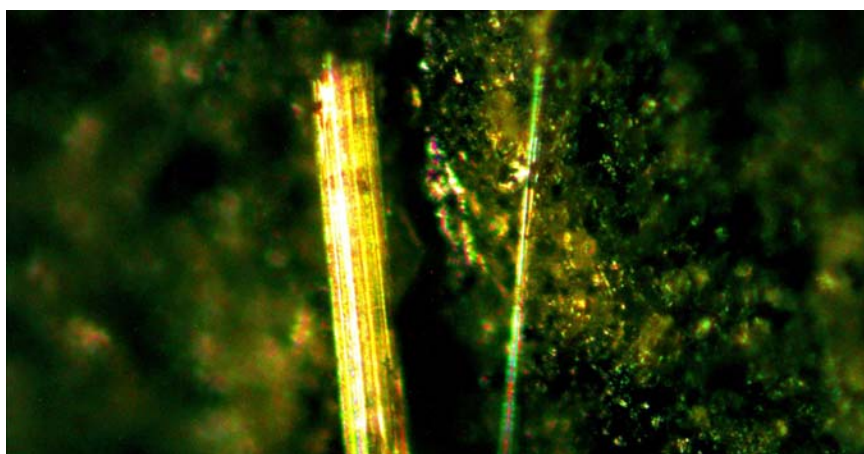
THE AVAILABLE NETWORK

- ▶ Nature Bound is a specialist company which has a long association with DustWatch and together with other companies covers areas of South Africa that DustWatch cannot service directly.
 - ▶ Sample recovery and mass determinations are done at their laboratories after extensive training and technology updating on a regular basis.
 - ▶ Microscan assessments are done in the Cape.
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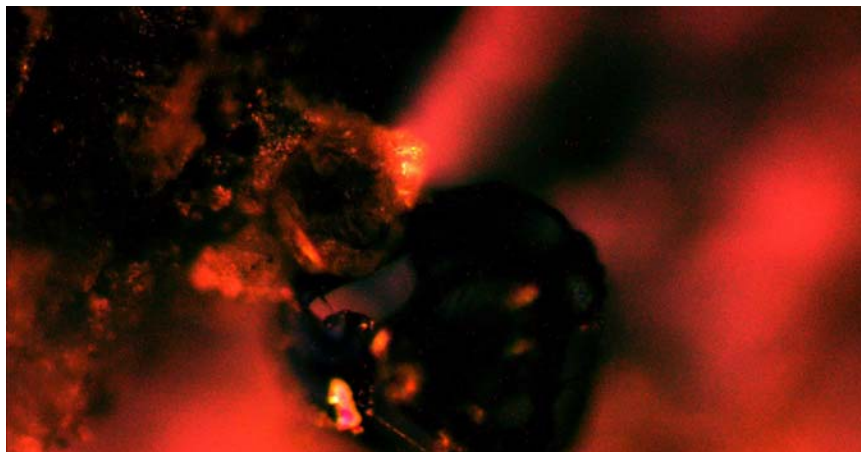
An example of living trilobite sub- micron organisms. A unique find, this is 11micron in length



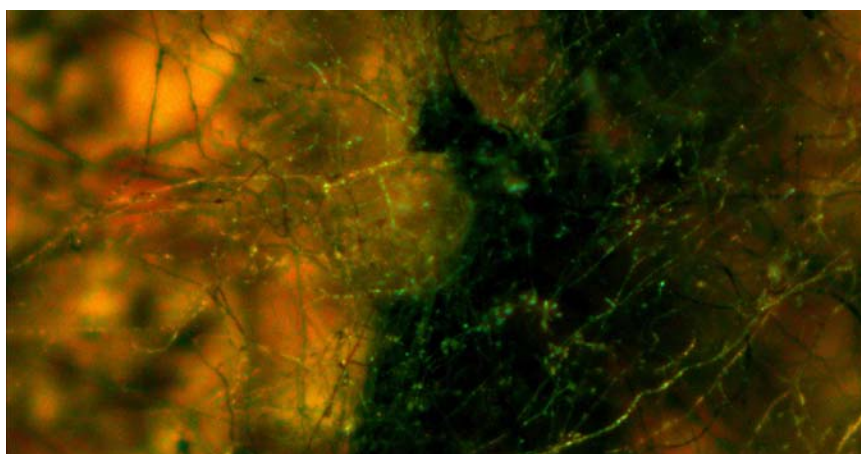
An organic cactus fibre cluster with a single loose fibre



A partly combusted jet fuel droplet in a dust sample .Dry sample



Bacterial-mould attacking insect debris



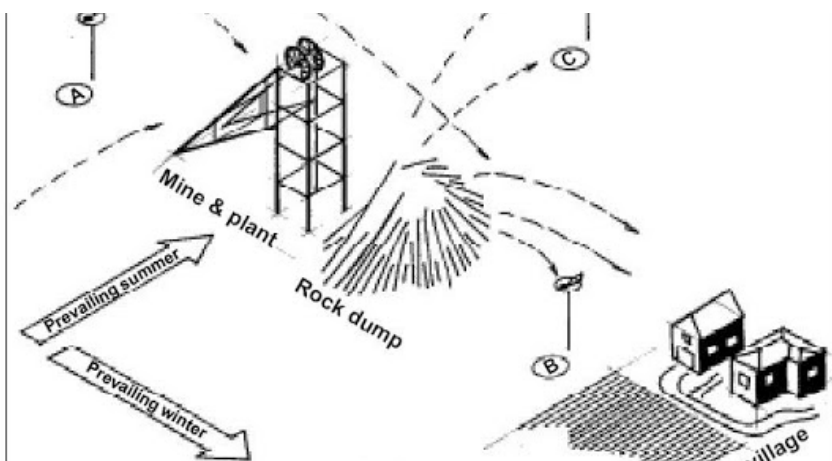
A crated DustWatch for export



First generation DustWatch unit now 15 years old



Monitors used in different applications



DustWatch unit in the Sua Pan reserve



Monitoring near Cape Town



The end

We thank you for your attention and hope that you enjoyed this presentation