

The Demise of Rainwater

by
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A Paper to be Developed During
the Summer of 2016
(Last Edit Jun 20 2016)

"The single most important chemical species in clouds and precipitation is the .. pH value."

Paul Crutzen, Nobel Prize Winner in Chemistry, 1995

Atmosphere, Climate and Change, Thomas Graedel & Paul J. Crutzen

Scientific American Library, 1997

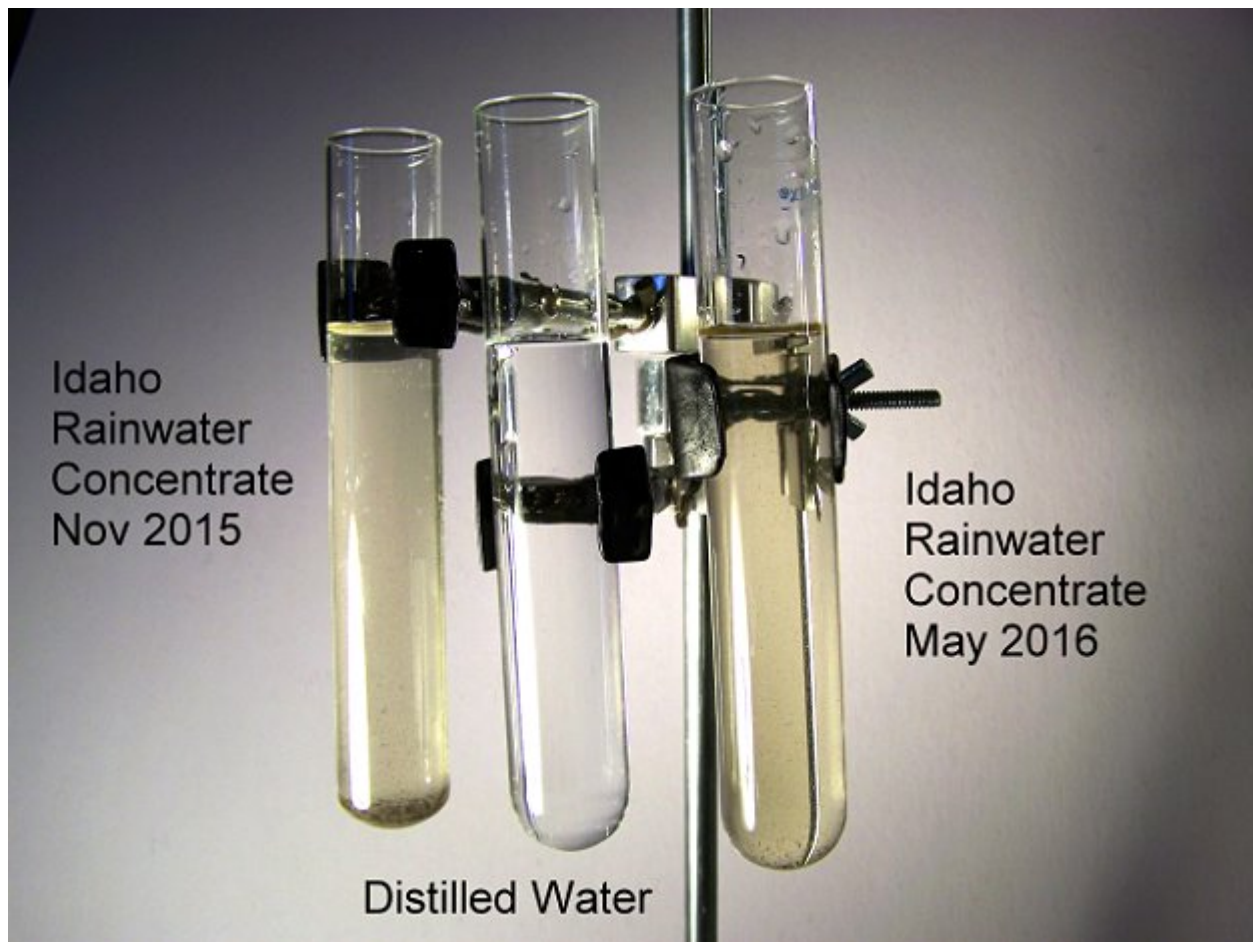


Photo : Carnicom Institute

An analysis of five rainfall samples collected over a period of six months and spanning three states in the western United States has been completed. There are five conclusions that are forthcoming:

- 1. The rainfall samples studied portray a smorgasbord of**

contamination. The contaminants appear to be both complex and numerous in nature.

2. There does not appear to be effective or comprehensive monitoring or regulation of the state of air quality, and consequently, rainfall quality in the United States at this time.

3. The results of the current analysis, utilizing more capable equipment and methods, are highly consistent with those that originated from this researcher close to two decades ago.

4. All reasonable requests or demands by the citizenry for the investigation and addressing of this state of affairs over this same time period have been refused or denied.

5. The level of contamination that exists poses both a risk and a threat to health, agriculture, biology, and the welfare of the planet.

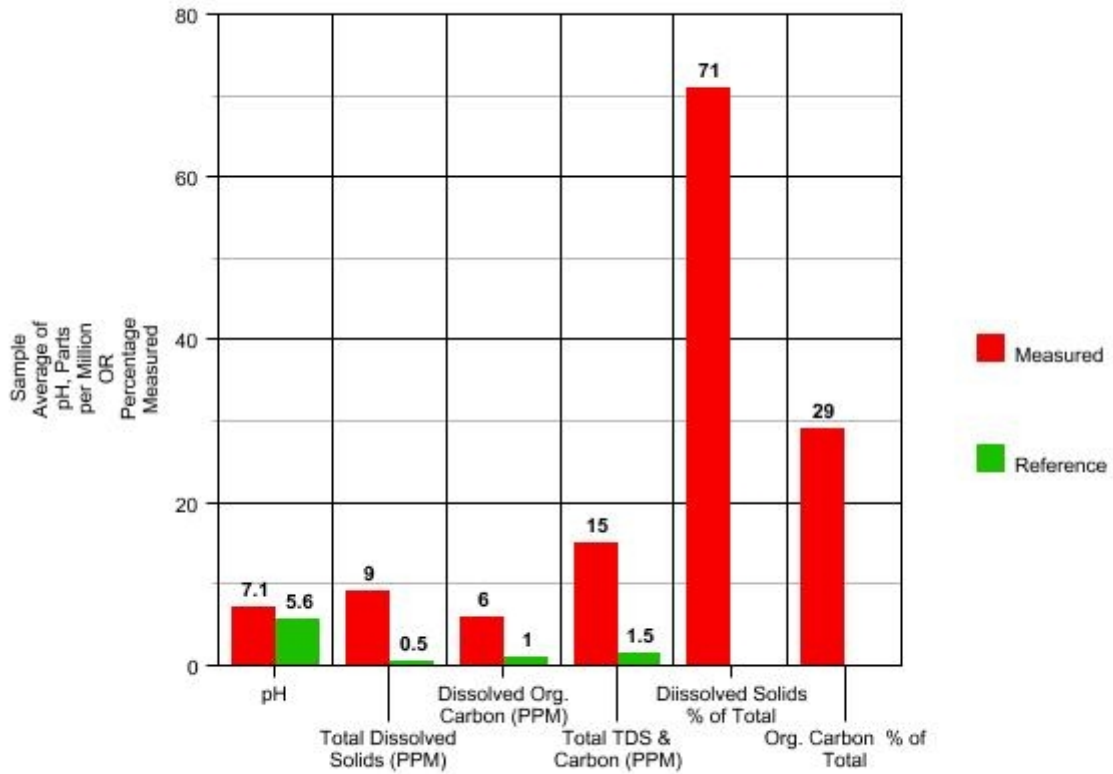
Let us now proceed with some of the details.

We can begin with the pH, i.e., the acid or alkaline nature of rainfall. Biochemical reactions take place (or, for that matter, do not take place..) at a specific temperature and pH. If the system or environment for that reaction is disturbed with respect to the acidity and temperature, then the reaction itself is interfered with. If the conditions depart far enough from what is required, the reaction may simply not even take place at all. Such is the risk of interference to the acid-base nature of rainfall, upon which all life on this planet depends.

To be continued.

PART I: SUMMARY VIEW

Rainfall Analysis :Part 1 - Summary View



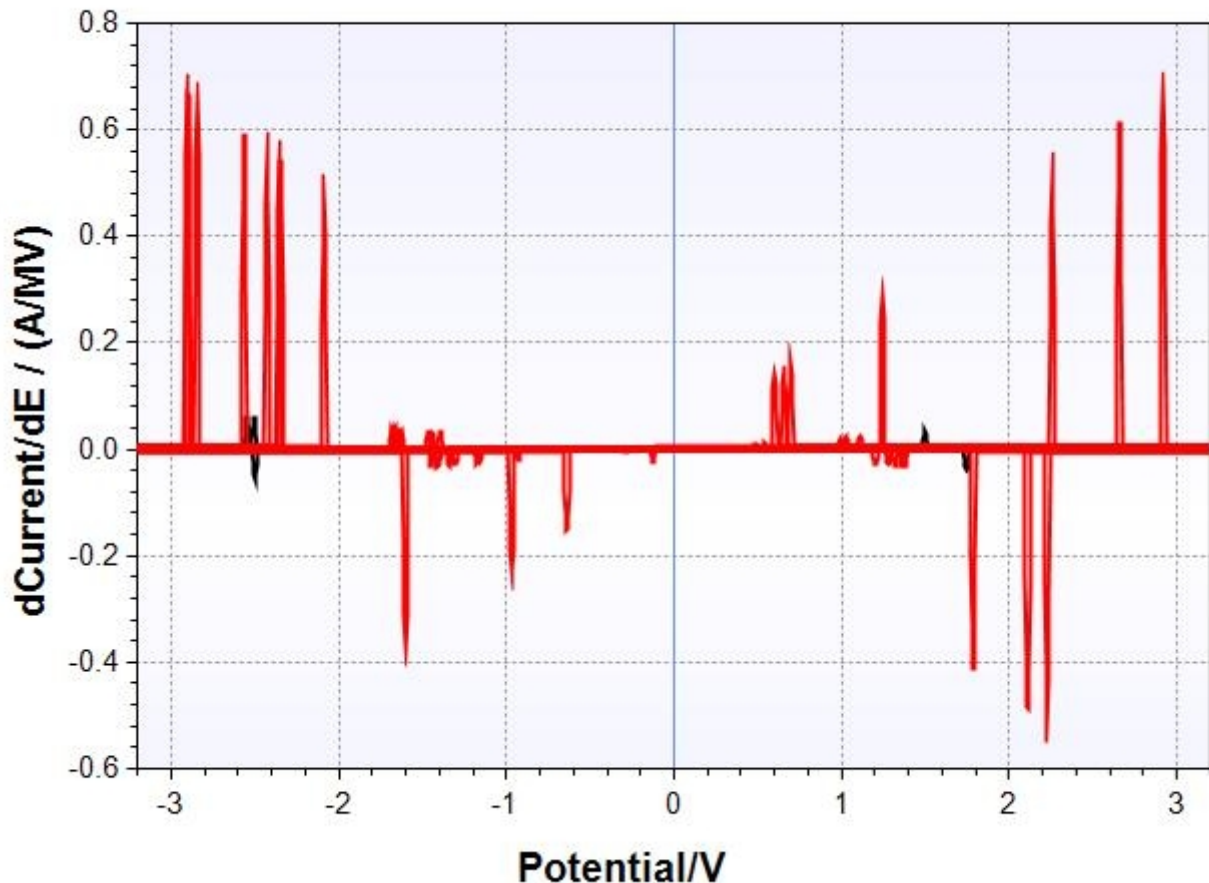
5 Samples (ID, NM, CO) - Measured pH, Total Dissolved Solids & Carbon vs. Reference Values

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UV Detector & Lab Equipment Used for Summary View Data

PART II: TRACE METAL ANALYSIS



Electrochemical Signature of Rainwater Tests for Trace Metals
as Determined by Differential Normal Pulse Voltammetry

The following metallic elements have been determined to exist, or to be strong candidates to exist, within a series of five rainwater samples that have been tested for trace metals. The samples span three states across the country and six months of time. The method applied is that of Differential Normal Pulse Voltammetry. The level of detection for the method is on the order of parts per million (PPM). This list considerably extends the scope of consideration for the future investigation and detection of metallic elements within rainwater. The findings in the upper portion of the table are highly consistent with those under reporting by various laboratories across the country; those in the lower half serve to prompt further investigations into additional elements that are highly related in their properties within the periodic table. An examination of the physical properties of these elements, in detail, will likely provide additional insight into the applications of use for these same elements. It can be noticed that the majority of elements within the list act as reducing agents.

Element	Measured Mean Redox Voltage (Absolute Value)	Actual Redox Voltage (Absolute Value)
Titanium (Ti)	1.63, 1.32, 1.24	1.63, 1.31, 1.23
Aluminum (Al)	1.67	1.66

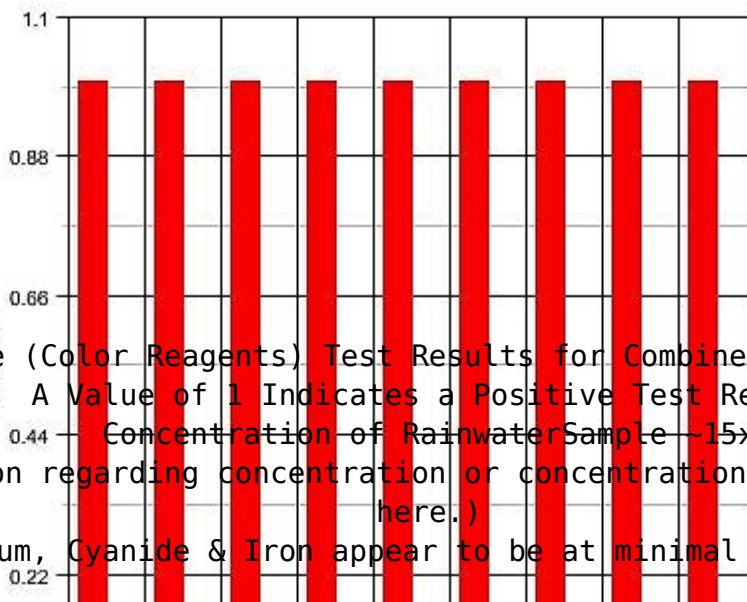
Barium (Ba)	2.90	2.90
Strontium (Sr)	2.90	2.89
Magnesium (Mg)	2.66, 2.35	2.68, 2.37
Gallium (Ga)	.52, .65	.56, .65
Scandium (Sc)	2.56, 2.09	2.60, 2.08
Zirconium (Zr)	1.45	1.43

Standard Error of Measurement 0.013 V; n = 15

(No information regarding concentration or concentration ranking is provided here)

Additional Inorganic Analyses:

Rainfall : Additional Inorganic Analyses



Qualitative (Color Reagents) Test Results for Combined Rainfall Sample
 A Value of 1 Indicates a Positive Test Result

Concentration of Rainwater Sample ~15x
 (No information regarding concentration or concentration ranking is provided here.)

(Chromium, Cyanide & Iron appear to be at minimal trace levels)



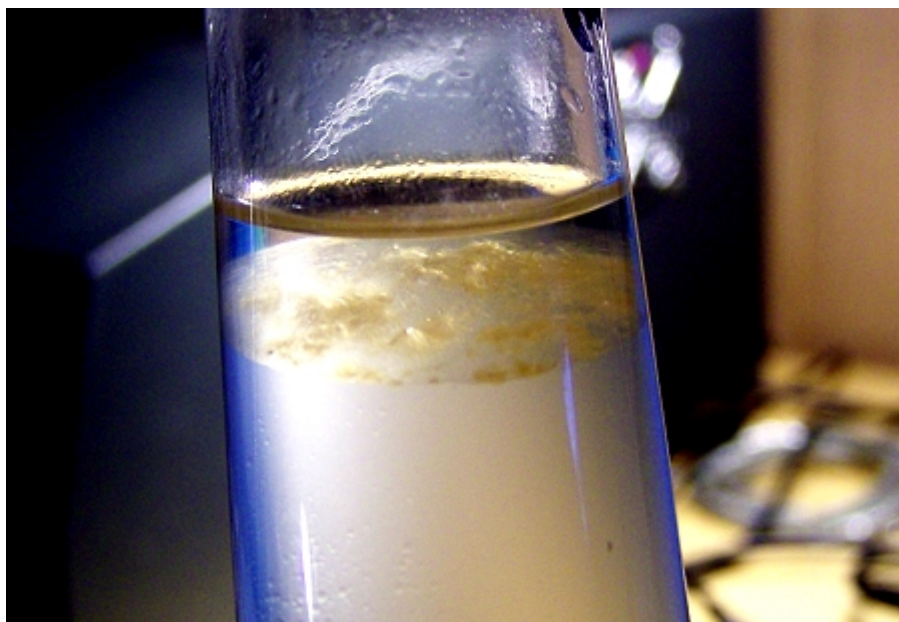
Qualitative Positive Test Examples:
 Phosphates, Nitrates, Ammonia, Silica

PART III: BOILING POINT TEMPERATURE ANALYSIS:



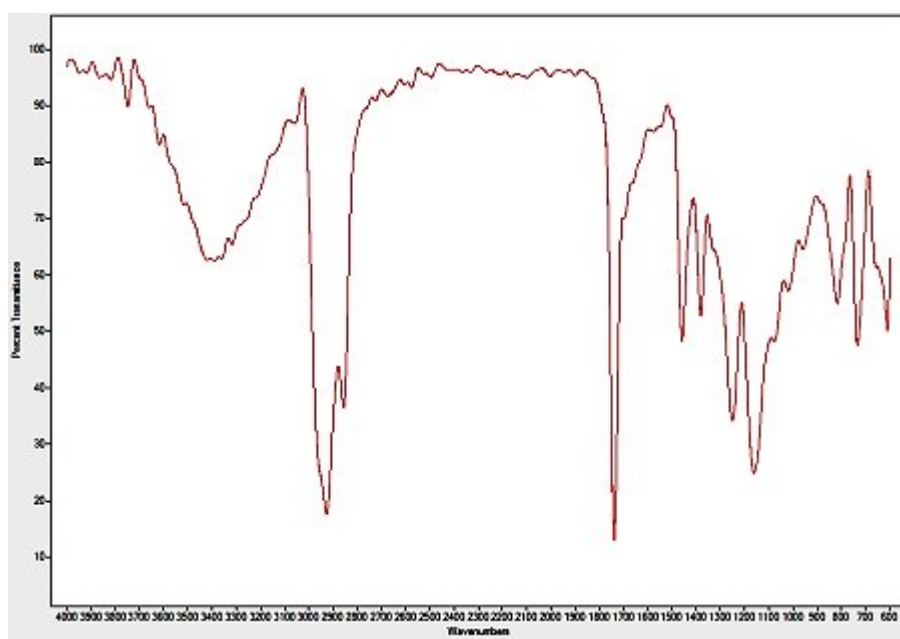
Tests to Determine the Boiling Point
for the Concentrate Rainfall Sample Using an Oil Bath
(Contamination is Evident)

PART IV: INFRARED ANALYSIS: (ORGANIC)



An Organic Extraction Process

(Results subsequently to be examined by Infrared Spectroscopy)

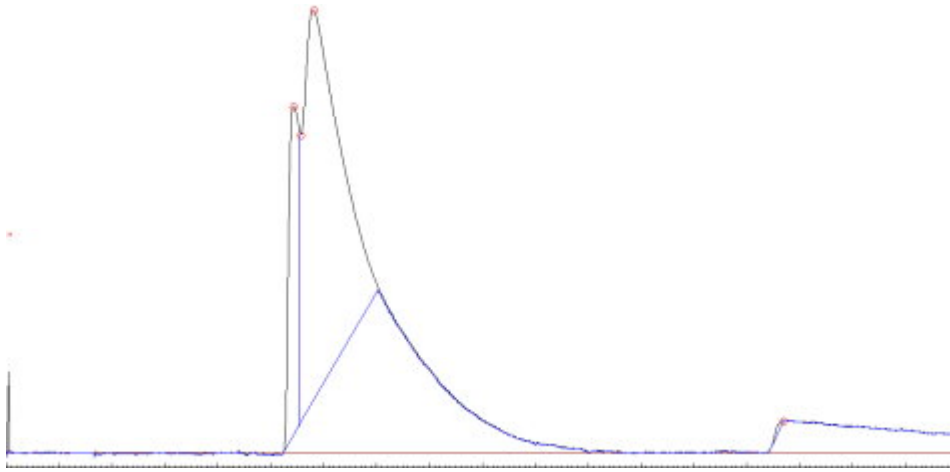


Infrared Spectrum of Rainfall Organic Extraction :

Water Soluble & Insoluble Components

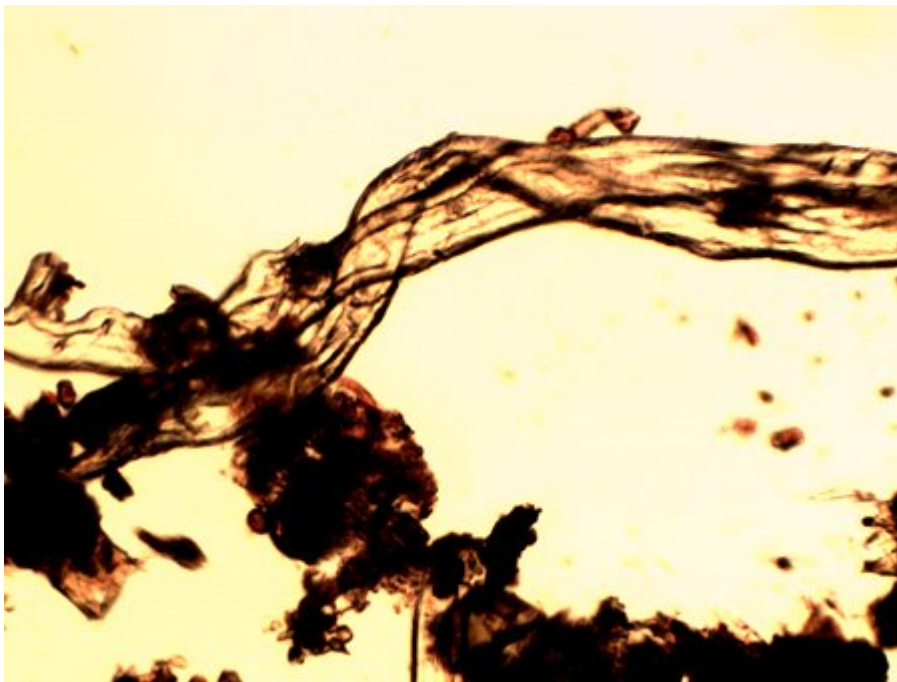
(see previous photo)

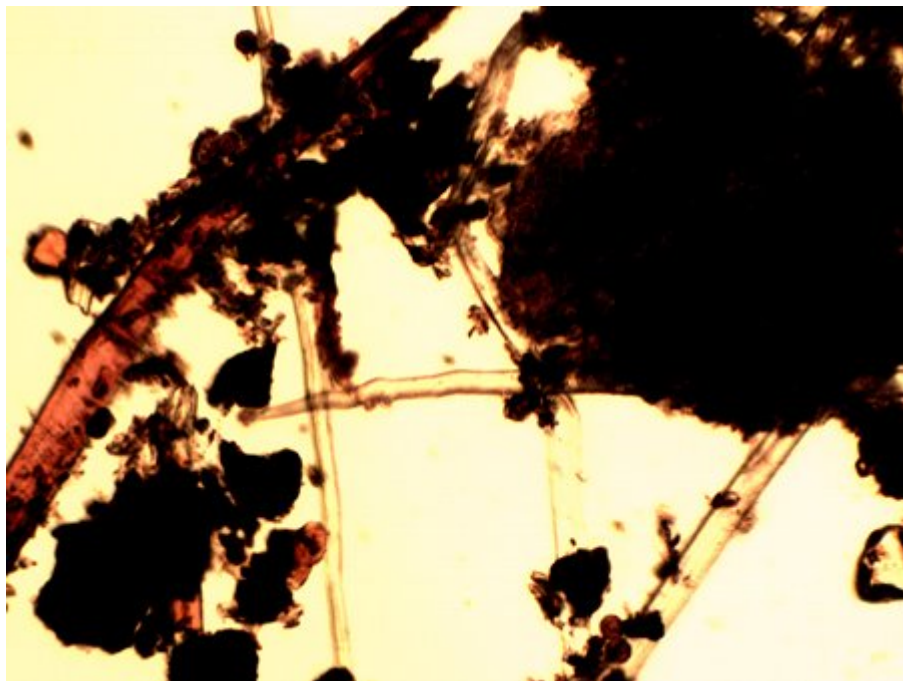
(solvent influences removed)



Gas Chromatography (TCD) Applied to Organic Extracts
(tailing from varying polarities)

PART V: BIOLOGICALS





Biologicals Extracted from Rainfall Concentrate Samples

~2000x

Additional Note:

I wish to thank Mr. John Whyte for his dedication and effort to organize and produce an environmental conference in Los Angeles, California during the summer of 2012. Mr. Whyte, in support of the speakers at the conference, provided the means for some of the environmental test equipment used in this report. I also wish to thank the general public for their assistance during this last year in the acquisition of important scientific instrumentation by Carnicom Institute. This report is made possible only by that generosity.

Clifford E Carnicom

Jun 18, 2016

To be continued.