Frontier Analysis, Ltd

TECHNICAL SERVICE RESPONSE NO.: UT034

Subject: Analysis of Tree Branches which Purportedly Came into Contact with a UFO (Centerville, Ohio, March 6, 2004)

Date: July 11, 2004

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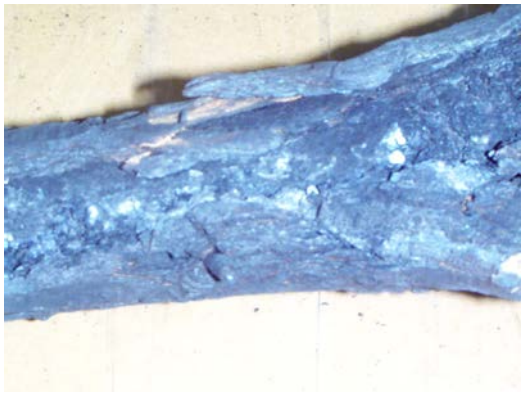
Background/Objective: An unusual event happened in Centerville, Ohio at approximately 5:30 a.m. Saturday morning March 6, 2004. Residents saw a UFO apparently interacting with power lines. The extent of the interaction was explosive in nature, and also involved the burning of tree tops. Flame and 'glitter' from the trees were purported to continue for several hours after the event. A detailed account of the UFO's movements and witness's descriptions can be found on http://home.fuse.net/ufo. The object of this analysis is to analyze the exposed tree branches for any unusual or foreign materials. Following are photographs of the branches.






Conclusions:

1.) No unusual or foreign materials were detected on the charred and unburned areas of the branches. The results show normal natural products from trees and normal burn byproducts. The natural products include primarily celluloidal material, some natural ester, a small amount of secondary amide, and trace amounts of possible natural carboxylic acid salts. Burning byproducts include carbon, calcium carbonate, calcium phosphate, inorganic nitrate, and organic oxidation products, which are primarily carboxylic acid salts.

2.) It is worth noting that there are no radioactive or fluorescing materials. It is reassuring to know radioactivity is absent.

3.) The results do not confirm or rule out a UFO as a cause of the burning phenomenon. An interaction with such unknown craft could have resulted in normal burning byproducts, and may not have left any unusual residues or craft deposits.

Procedure:

Samples: Several charred tree branches from the event were sent.

Numerous infrared spectra were obtained from both burn and unburned areas of the tree branches “as received”. These were obtained on the Nicolet Avatar 360

spectrometer using the Harrick SplitPea™ sampling accessory. Some of the selected sampling areas of a branch are shown in the photograph below.

In addition, infrared spectra were also obtained from solvent extractions from the charred and unburned sections of the branches, as well as a control branch. Progressively polar solvents were used, i.e. hexane, 1:1 acetone:methanol and water. The extracts were weighed for a quantitative estimate of their amounts.

The branches were also examined with a radiation monitor (SE International's Radiation Alert™ Monitor 4) and a UV light (Optical Engineering's Model 22-UV).

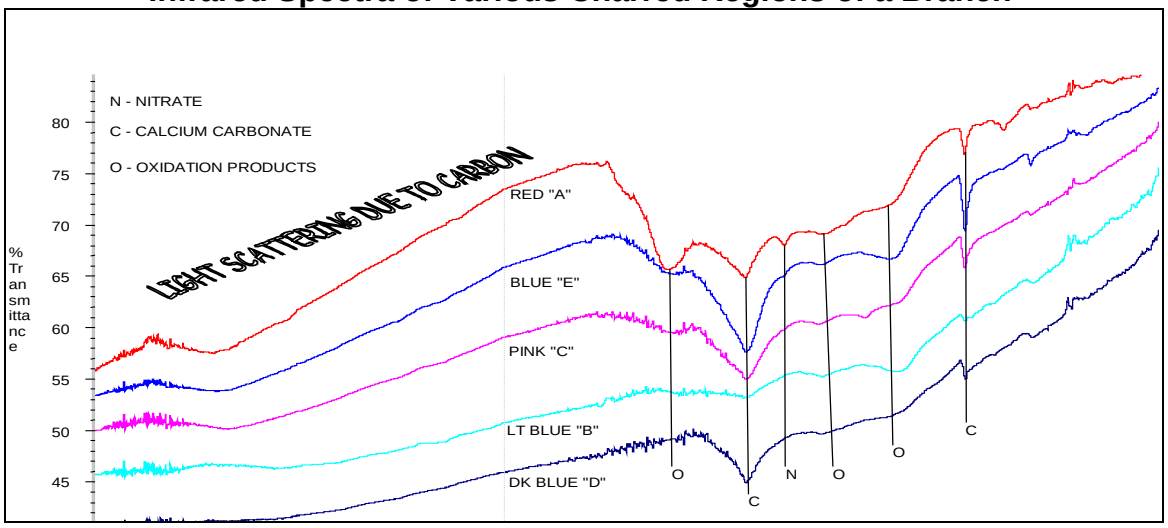
Results:

The results of the individual tests done on the branches follow. These results are summarized in the conclusions section on the page 2 of this report.

Analysis of the Branches "As Received"

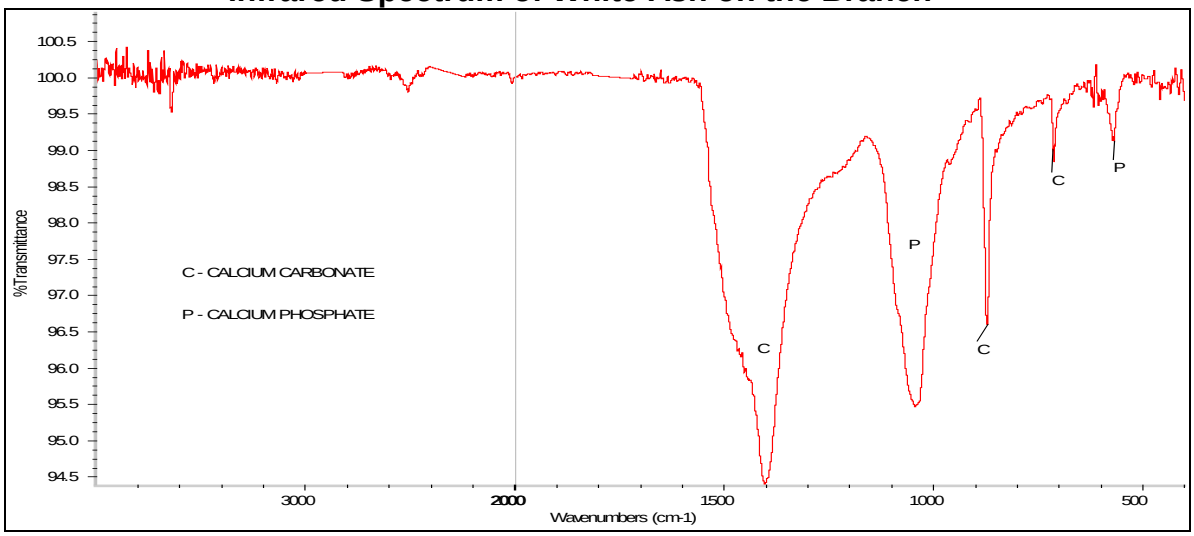
Infrared analysis of the charred areas of the branches shows products typical of burned wood. Carbon, calcium carbonate, sometimes organic oxidation products and inorganic nitrate are noted. The amounts of these materials vary and depend on the degree of burning the sample area of the branch experienced. The spectra follow.

Infrared Spectra of Various Charred Regions of a Branch

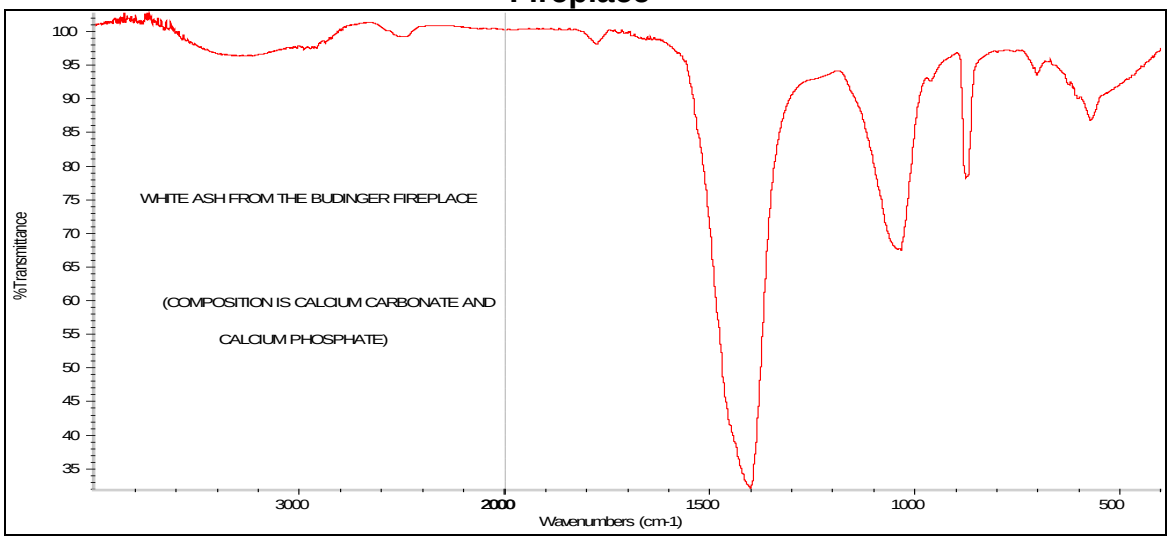


A spectrum of a white material also is typical of white ash from a fireplace. The major component is calcium carbonate, and there is a smaller amount of calcium phosphate. (The carbon is completely gone because of complete oxidation.) Following is a spectrum of the branch white material and a reference of white ash from the Budinger fireplace for comparison.

Infrared Spectrum of White Ash on the Branch

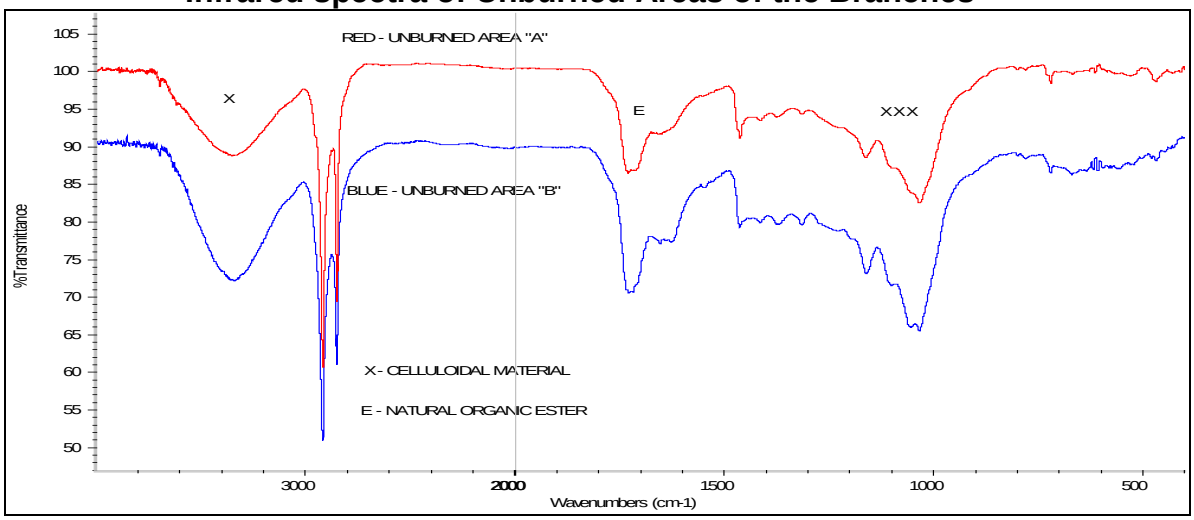


Infrared Reference Spectrum of White Ash from Budinger Fireplace

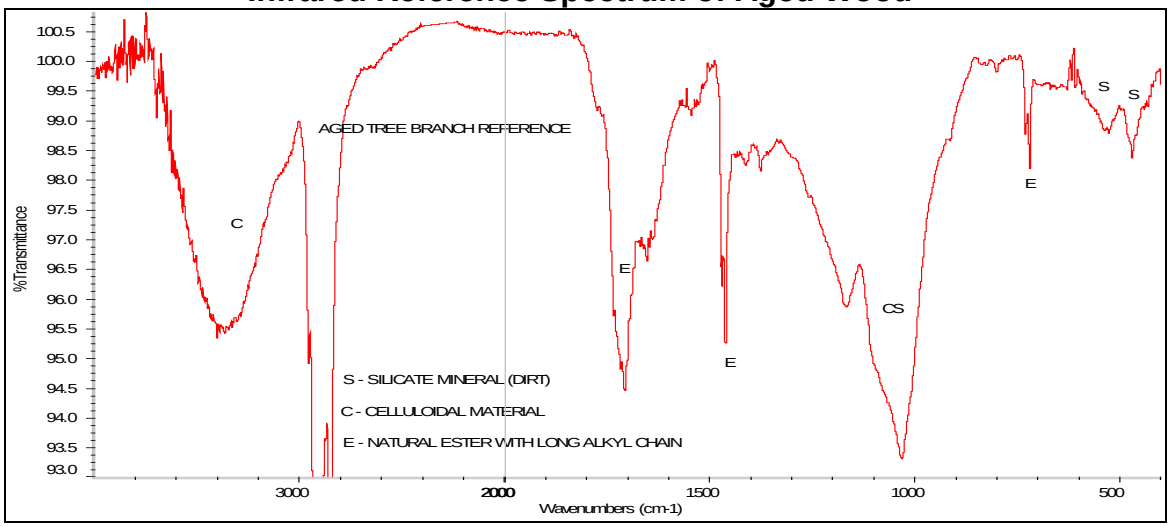


Infrared spectra from unburned areas of the branch show typical celluloidal material and natural ester. For the most part the spectra of the unburned area compare qualitatively to reference control spectra of aged and new wood. (It should be noted the aged wood additionally contains some mineral silicate (dirt).) However, due to the differences in wood sources and ages of the controls before data acquisition, the quantitative amounts of the components vary. Following are two spectra from unburned branch areas and reference spectra of an aged piece of wood and live wood for comparison.

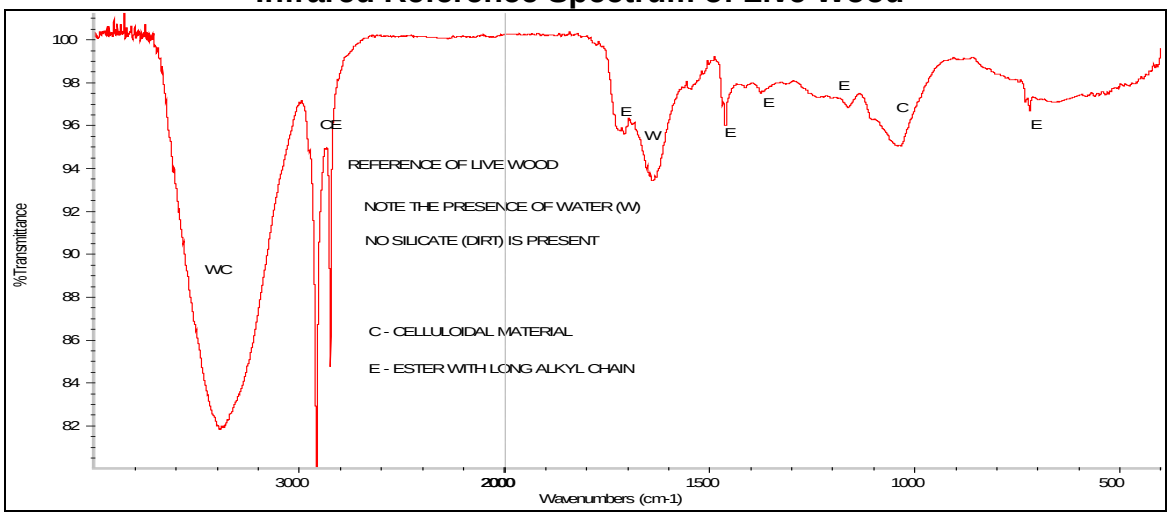
Infrared spectra of Unburned Areas of the Branches



Infrared Reference Spectrum of Aged Wood



Infrared Reference Spectrum of Live Wood



The “as received” charred and unburned areas of the branches were examined with a UV lamp for any unusual fluorescing material. None was detected. These areas were also scanned with a radiation monitor. There was nothing detected above background radiation.

Analysis of Solvent Extracts from the Samples

The amounts of solvent extractable materials using progressively polar solvents (hexane, 1:1 acetone:methanol, water) from the charred and unburned areas of the branch as well as a control follow.

Amounts of Solvent Extracts

Sample	Hexane (Wt.%)	1:1 Acetone:Methanol (Wt.%)	Water (Wt.%)
Charred	0.30	1.70	2.31*
Unburned	0.26	1.09	1.51
Control Wood	0.31	2.80	1.64

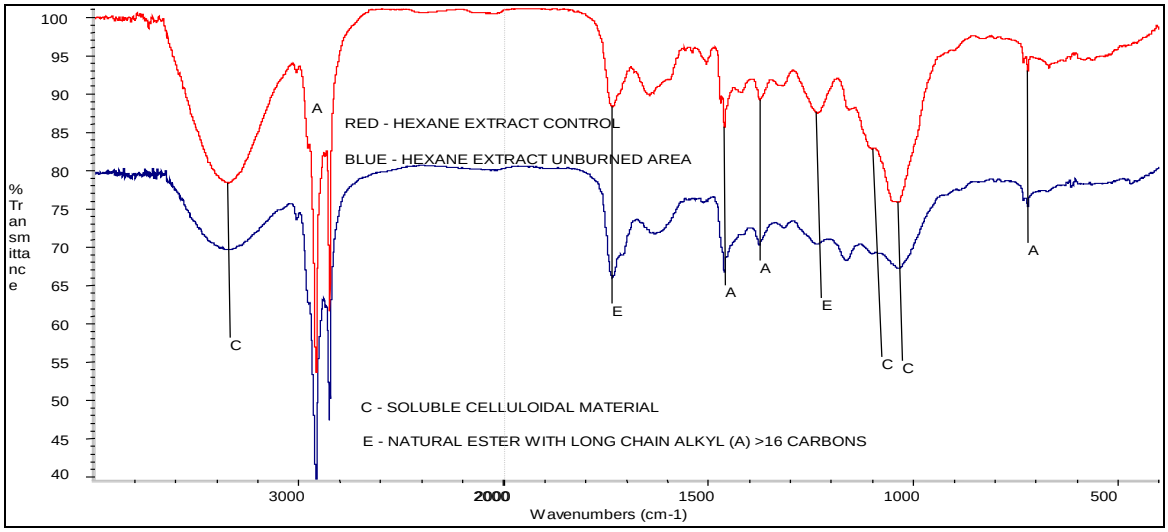
* Some carbon fines present.

Expectedly, more material is extracted from the charred area than the unburned area because of the increase in soluble burn byproducts (oxidized organics). (See infrared analysis below.) Comparison of the control extract amount to the charred and unburned amounts vary and may be accounted for by the differences in wood types and wood age when the extraction was done. That is, extractions of the branches were done 20 days after the event, and the control was done the same day it was cut. However, as the infrared analysis shows below, the control compositionally compares closely to the unburned wood.

Hexane Extracts:

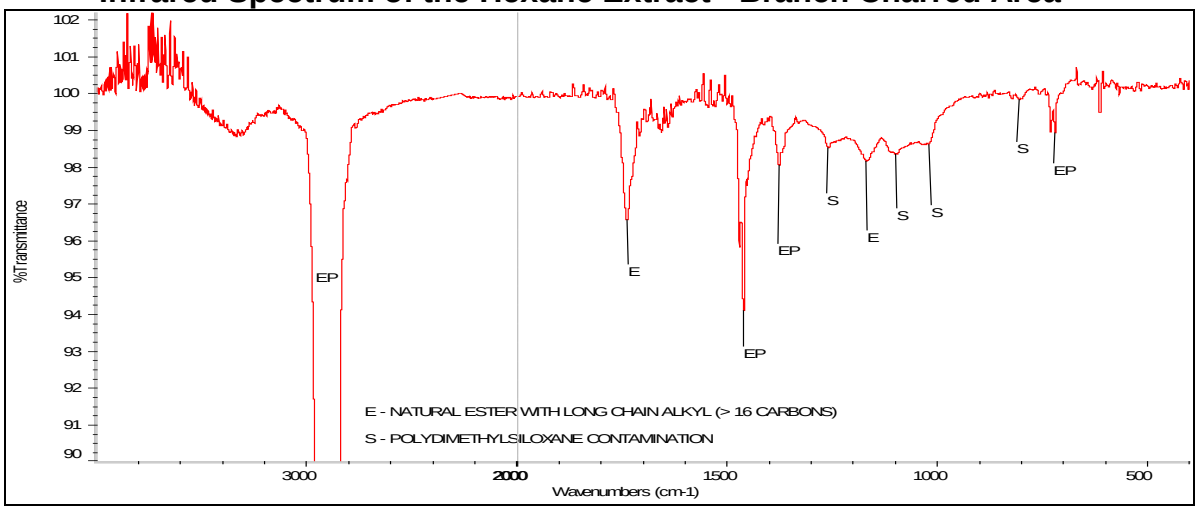
Infrared analysis shows the hexane extracts from the unburned area compare to that of the control. That is, the same components are present. These consist of celluloidal material and natural ester. However, the quantitative amounts vary. There is less soluble celluloidal material in the unburned branch area. Following are the spectra of these two extracts.

Infrared Spectra of the Hexane Extract - Branch Unburned Area and Branch Control



The hexane extract from the charred area is expectedly different. This is because of a chemical change as a result of the burning action. The infrared spectrum shows long chain natural ester and a trace amount of poly(dimethylsiloxane) contamination. This is a common contaminant and is probably from the aluminum pans used in the experiment. There is no longer any celluloidal material. The spectrum follows.

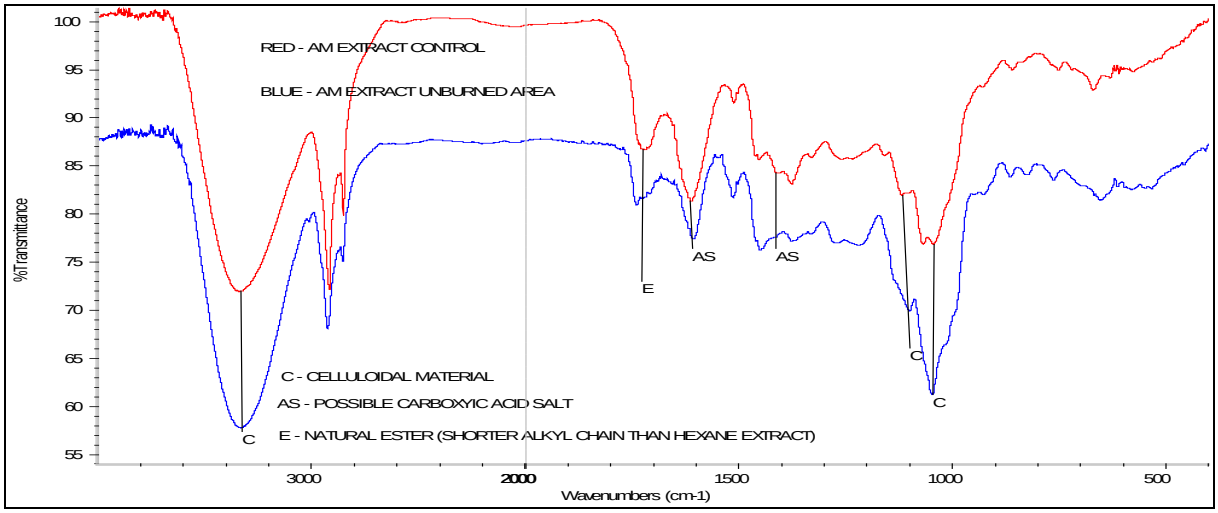
Infrared Spectrum of the Hexane Extract - Branch Charred Area



1:1 Acetone:Methanol Extracts:

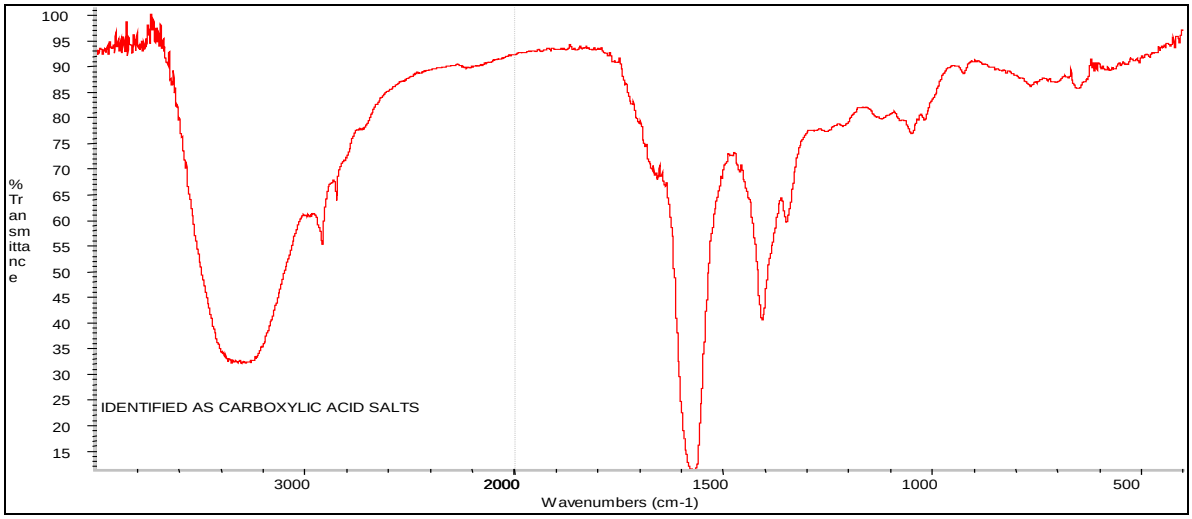
Infrared spectra of the acetone:methanol extract from the unburned area compare well to that of a control. The same components are detected with very subtle quantitative variations. The spectra show mostly soluble celluloidal material and smaller amounts of natural ester and possibly carboxylic acid salts. The spectra follow.

Infrared Spectra of the 1:1 Acetone:Methanol Extract - Branch Unburned Area and Branch Control



The spectrum of the acetone:methanol extract from the charred area is different and displays highly oxidized carboxylic acid salts. These are byproducts of the burning (oxidation). The spectrum follows.

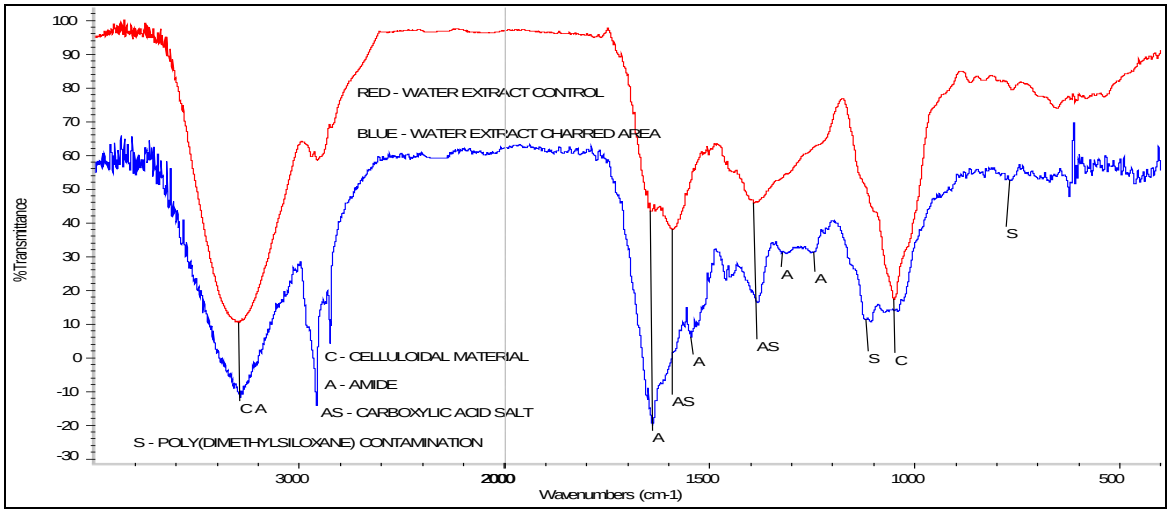
Infrared Spectrum of the 1:1 Acetone:Methanol Extract - Branch Charred Area



Water Extracts:

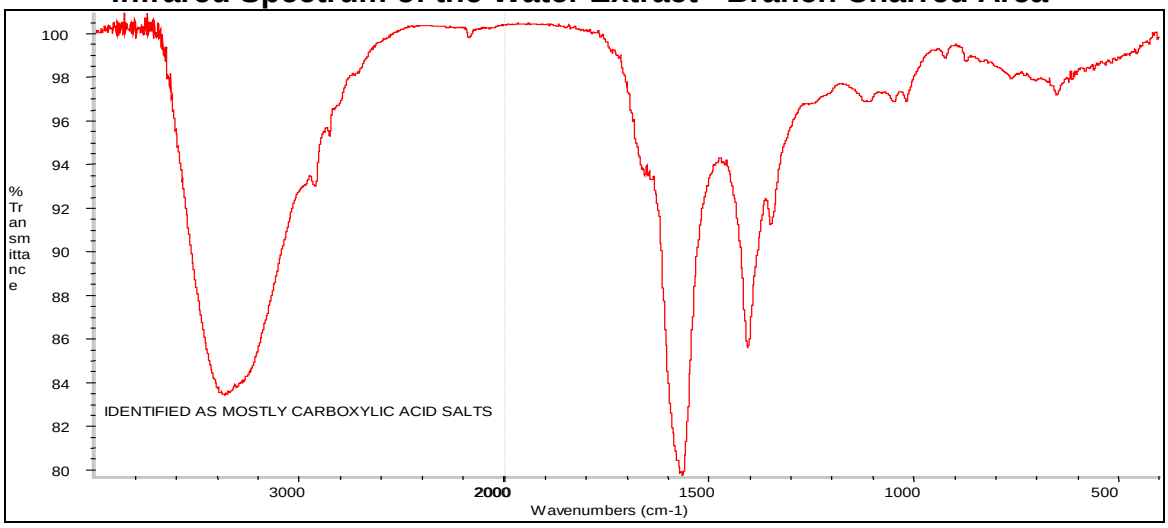
Infrared analysis of the water extracts from the unburned area and the control show they contain similar components. The amounts appear to vary. Identified are celluloidal material, carboxylic acid salts, and secondary amide. A trace amount of poly(dimethylsiloxane) contamination is found uniquely in the unburned extract.

Infrared Spectra of the Water Extract - Branch Unburned Area and Branch Control



Infrared analysis of the extract from the charred area shows primarily carboxylic acid salts which are definitely a product of the burning. The spectrum follows.

Infrared Spectrum of the Water Extract - Branch Charred Area



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