Frontier Analysis, Ltd

TECHNICAL SERVICE RESPONSE NO.: UT068

Subject: Examination of Soil and Grass Samples That Were in Close Contact with a UFO (May 18, 2009, Buffalo Oklahoma)

Date: January 20, 2010

Requested By: C. J Modlin
MUFON
Chief of Investigations

Vicki LeBlanc
MUFON
Legal Affairs Admin.

David MacDonald
MUFON
Field Investigator

Reported By: P. A. Budinger
Analytical Scientist

Background/Objective:

A witness experienced a close contact with a UFO in Buffalo, Oklahoma on May 18, 2009 at 12:30 a.m. Excerpts from the Field Investigator's report follow.

"5/18/2009 Sunday about 12:30am. facing west

- Witness first noticed that lights were flying very low (going way to slow to be an airplane) and appeared to have just flown over Buffalo
- Witness described object with blue, red, and white strobe lights (were large and in line with each other) with quite a bit of distance in between all three. The middle light was white and strobe very slowly, and the red/blue lights were on the ends.
- The lights turned and were coming directly towards witness at a diagonal angle, the white light was covered with a round, concave, clear, glass-type covering which appeared to be very thick glass, and had some type of circular design on it.
- The red and blue lights were different than the center light. They were tall and cylinder shaped, more like beacons, and they appeared to be sitting on top of something, and appeared to be covered by a different type of material, it looked more like some type of colored plastic, but transparent enough that the lights underneath could shine through.
- Witness never saw a shape or even any type of structure behind the lights.
- Within 10-15 seconds the lights had reached the dirt road in front of witness, and where crossing over the top of the power lines. It became apparent that the lights were slowing down as they got closer, and were now nearly at a complete stop.

- Witness ran from the corral to pickup and jumped inside, which took about 15 seconds, (wearing flip flops) Once in the pickup truck witness was now facing north, and the lights had moved just behind the corral and had turned south, facing witness again. THE LIGHTS WERE SITTING COMPLETELY STILL, HOVERING, ABSOLUTELY NO MOVEMENT, other than the strobeing white light. The distance from witness and the lights at this point was estimated around 150'.
- Witness thought it was a single craft, and judging by the distance of the lights from end to end, would have been anywhere from 40-50'.
- For about another 5 seconds witness fumbled trying to find cell phone, and staring at the lights in disbelief.
- Witness indicated this was the most terrifying moment she ever experienced.
- Witness drove forward, and got to the gate leading out of the pasture, stopped looked over shoulder, the lights were still sitting in the same place, NOT MOVING. Witness couldn't go towards town without passing close by the lights, so turned south. (And laid the pedal down).
- About a 1/4 mile down the road, witness turned and looked over shoulder, and the lights were nowhere in sight.
- Witness indicates behind the corral a large portion of the grass is laid down, and Witness took some pictures of that area.

Investigator Narrative: 5/29/2009
Arrived in Woodward OK. At 2:30 PM CDT. Woodward is 35 miles South of Buffalo OK. This is where the sighting took place. Contacted the witness and made arrangements to meet at the site. Arrived on scene at 5:30 PM CDT.

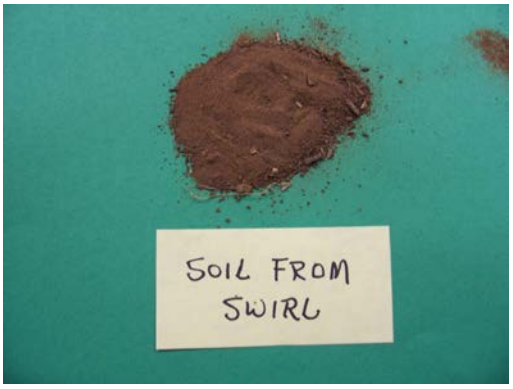
Upon meeting the witness her sincerity and creditability was very evident. So was her fear and apprehension. It appeared that the witness experienced something traumatic. Introductory discussion ensued followed by site evaluation. Initial photographs of the affected area were taken and measurements of that same area were acquired. As darkness fell it became apparent that a lot can be seen in the dark sky and the witness appeared nervous over every moving light but all observed that night was explainable.

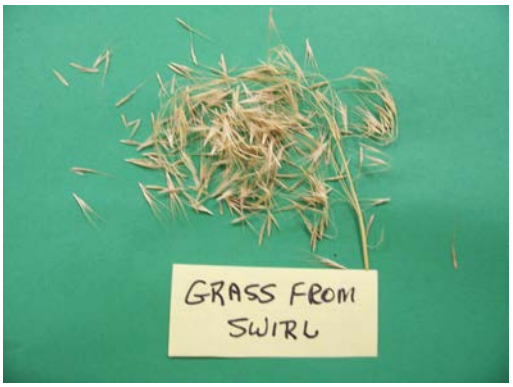
Initial evaluation of the site showed a definite disruption of the area where the alleged Craft hovered or landed. The entire area appears dead with three areas where the vegetation is crushed in a swirled pattern. A scan using a handheld Geiger counter showed no abnormal reading and no evidence of radiation. Photos were taken and clearly show the condition of the affected area.

5/30/2009
Arrived at the site at 10:30 am. This investigator chooses to arrive early so as to collect samples and specimens alone. Samples of the affected grass were taken as well as control samples from an area about 200ft. removed from the subject area. The same procedure was used to acquire soil samples. Investigator then proceeded to the witness home to begin the formal debriefing. Following a detailed discussion in which the witness repeated the events sited in the background report and also revealed her growing sense of apprehension we proceeded back to the site to attempt a video interview and to acquire additional video of the area of concern. We also wanted to take specimens of the anomalies on the horse's coat.
Everything was accomplished with the exception of the horse samples. Seems they were not willing to return to the corral until their nighttime feeding. That necessitated another trip to the field tomorrow. Arrived back at the motel at about 6:00 PM.

It should be noted at this time that the area (Buffalo, Oklahoma located in the county of Harper) is completely surrounded by hundreds of wind turbines. These things seem to be constantly working."

The objective is to examine soil and grass samples from the site to determine whether there are any anomalies that may be related to the event. Following are photographs of the samples.





Conclusions:

•No anomalies are detected in the site soil. Detected are common mineral components of quartz and clay. There is slightly more clay in the site sample. This is considered to be insignificant. Magnetic material content appears to be slightly higher in the site sample14 (mg/g) than the control (11 mg/g). However, this is within experimental error of the test.[1]

•Also no anomalies are detected in the site grass. Typical compositions of both site and control grasses (carbohydrate and natural oil) were observed. There was less natural oil in the site sample compared to the control sample. However, the site grass could not be compared to the control because both were from two different species. Natural oil varies from plant to plant. Dirt was adhering to the surfaces of both grass samples.

[1] Sample limitations did not permit multiple tests on the soils. A small amount of sample, actually insufficient, was subjected to one test. Larger samples and multiple tests should have been done.

•The site has not been subjected to heat effects as evidenced by the intactness of the grass sample from the site.

Recommendations:

•Sufficient amounts of soil should be collected to accommodate the assorted tests, especially soil assays which required at least ½ a cup. This would be about one cup per sampling. There should be at least 3 site samples and 3 control samples. Control samples should be taken at least 50 yards or more from the site soil. Ideally there should be both surface soils (no more than one inch deep) and depth soils (approximately 4 inches deep). The samples should be dried and placed in self-sealing plastic bags (Ziploc®-type) before sending.

•The recommendations on plant samplings are excerpted from Charles Leitzau's report in the addendum. While these are focused toward crop formations, most are applicable to a UFO contact site. They are quite detailed.

"Sample-sets should number a minimum of 3 from control areas and 3-5 from the "formation" areas. Each sample-set should consist of 15-20 intact complete plants from the inflorescence to ground level. Deep roots are not necessary for each specimen, however one or two plants per sample set should include the underground parts to a depth of an inch or two for the purpose of species identification if required. Each sample set should represent the "typical" distribution of plants *of the same species* at a site consisting of a circle of 2 feet in diameter. Where possible, grasses and crops provide the greatest amount of data.

Field grasses often consist of a mixture of several species, which can be recognized by carefully viewing the seed head inflorescence and comparing specimens. Choose the most dominant or common species. It is permissible to take a single plant from outside the immediate sample site and carry it around to compare with others to make sure that the same species is collected. Label the "voucher specimen" or at least tie a knot near the base so that it cannot become intermixed with field samples during field collecting. Labeling of individual stalks is not necessary unless they contain specific anomalies to be additionally studied separately. A convenient label consists of a 2" length of masking tape folded around the stem at the middle and with the trailing ends stuck together. Write directly on the "flap" that is formed in waterproof pen, marker, or pencil. The specimens in a sample set can also be held in a bundle with masking tape, properly labeled. When finished collecting, wrap each sample set entirely in newspaper or something similar to reduce evaporation, and also label appropriately. Be sure that control and formation samples are stored in similar circumstances. Avoid cooking the plants in the sun. Storage near an air conditioner is fine for several days. If the plants cannot be shipped within 4 or 5 days, then drying out is acceptable as long as all samples are treated the same. Do not wrap samples in plastic in order to avoid molding and deterioration.

Control samples are best collected at 50, 100, and 150 yards if possible. Be sure that they do not originate within 10 yards of any downed areas no matter how small as they could represent energy spillover."

Procedure:

Four samples were submitted in plastic bags and received on October 23, 2009 with the following information

1.) Soil from the center of one of the "swirled" depressions within the affected area, collected 5/30/09.
2.) Control soil taken from an area about 100 yards from the affected area, collected 5/30/09.
3.) Grass collected from the center of a "swirled" depression within the affected area, collected 5/30/09.
4.) Control grass collected from an area 100 yards from the affected site, collected 5/30/09

Infrared spectra were obtained of all samples (soil and grass) as received. All spectra were taken on the Thermo Electron Avatar 360 spectrometer using the Smart Herrick diamond sampling accessory. The amount of magnetic material in the soil was also determined on the pulverized soil samples by 'extracting' with a magnet. Only one aliquot of the soils were examined, because of sample limitations. All samples were tested with a SE International Radiation Alert™ Monitor 5 radiation meter and an Optical Engineering Model 22-U UV light. Photographs were taken of all samples with a Kodak EasyShare CX7430.

The grass samples were sent to Dr. Charles Leitzau for examination. His knowledge of plants and vast experience and skills in the evaluation of vegetation from crop formations were pertinent to this UFO event. He was requested "1) To determine if both samples belonged to the same species, and decide whether further identification to exact species by an Agronomy specialist was warranted, 2) To determine whether any anatomical anomalies were apparent to visual inspection up to 30x magnification, and 3) If anomalies were present to categorize and appropriately document their presence, 4) Then subject them to evaluation for statistical significance." Microphotographs were also taken by Charles Leitzau at his facility.

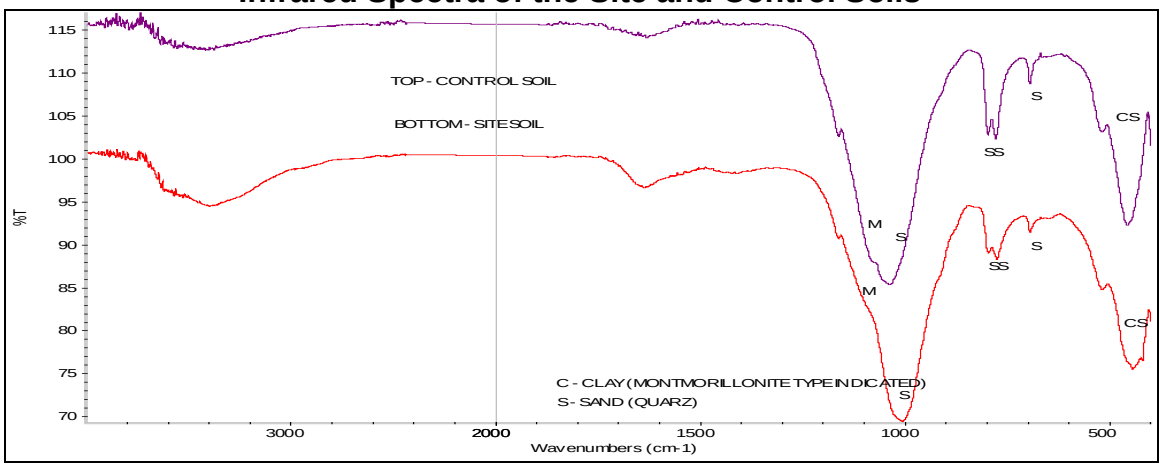
Results:

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

Analysis of the Soil Samples

Infrared analysis detects no difference that can be considered significant between the site soil and control soil. The spectra show a typical soil composition of clay and sand (quartz). No unusual components are obvious. There is a subtle difference between the concentrations of clay and sand. There is more clay in the site sample. This is not unusual.

Infrared Spectra of the Site and Control Soils



A test for the amount of magnetic material in the soils was done because there is a theory that a craft entering Earth's atmosphere will 'drag'/attract meteoric dust thus depositing it when it lands.[2] The 'jury is still out' on the theory for this analyst. However, I did perform the test, if anything, to gain statistical information. This test is commonly done on soils from crop formations. The test shows the magnetic materials amount to 14 mg/g in the site soil and 11 mg/g in the control soil. While there appears to be more magnetic material in the site soil than the control soil, this analyst feels the values are within statistical error of the test. Also, only one test was done on the soils because of sample limitations. Triplicate tests should have been done on each sample.

A test for radioactivity showed none above background. There was also no UV fluorescing material.

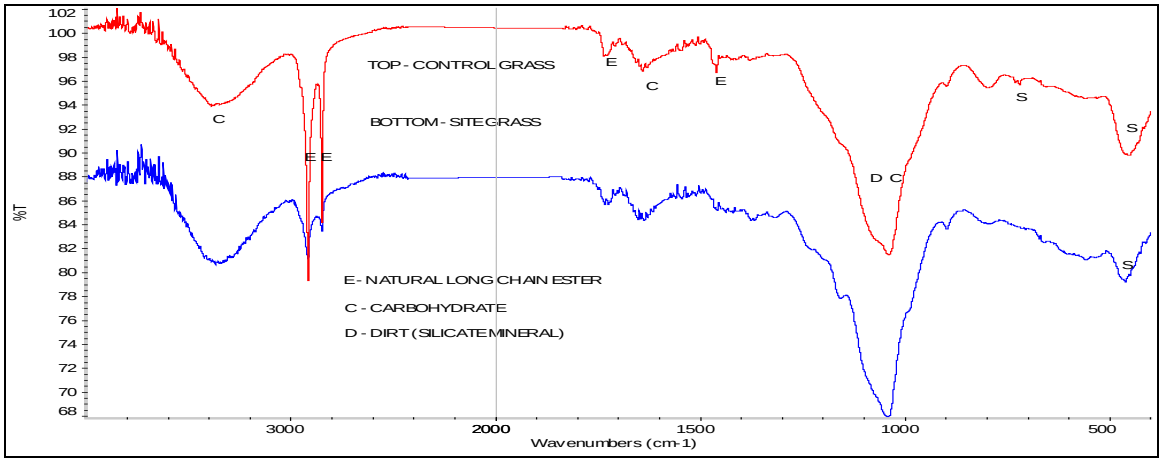
Analysis of the Grass Samples

Charles Leitzau's complete report on his evaluation of the grass samples can be found in the appendix. In summary, he determined that the site grass and control grass were of different species, and not two varieties of the same one. Since they are two different species, for our purposes, neither consists of a sufficient sample, nor do they provide the required controls to document any differences.

[2] William C. Levengood, Pinelandia Laboratory.

The specimens themselves do not display any visual abnormalities at magnifications up to 30X. (See appendix for micro photographs.).

Infrared examination of the site grass sample detects no unusual anomalies. The spectrum compares to that of the control soil, showing bands typical of carbohydrate, natural ester, as well as some surface dirt. The natural ester content is higher in the control sample, and this is probably not unusual. As noted above the grasses are from different species. These components vary between species. The spectra of the site and control samples follow.



File: UT068

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Phyllis A. Budinger

APPENDIX

Evaluation of Plant Samples
By Charles N. Lietzau, Ph.D.

DETERMINATION OF PLANT SAMPLES FROM MUFON Case # 17125.
(Confidential-Case Report MUFON SIP Deployment)

Extract:

Two 4x6½ inch bags of grass samples were received from Phyllis Budinger forwarded from the laboratory of Frontier Analysis, Chagrin Falls, OH. One was labeled "Control "Grass," 100 yards from site," and the other, "Swirl "Grass," from center of depression."

The purposes of evaluation were;

1) To determine if both samples belonged to the same species, and decide whether further identification to exact species by an Agronomy specialist was warranted,
2) To determine whether any anatomical anomalies were apparent to visual inspection up to 30x magnification, and
3) If anomalies were present to categorize and appropriately document their presence,
4) Then subject them to evaluation for statistical significance.

Microscopic examination of selected florets indicated that each of the two samples consisted of a different species. Therefore, there is no material to use in a controlled comparison for either species and thus further determination to name each species is unnecessary.

No gross abnormalities were visible at magnifications up to 30x.

The evaluation of possible variations in characteristics such as node sheath length were not able to be carried out since comparison samples from different locations for each species were not available, and the sampling technique failed to include the complete stalks.

Recommendations are presented for improving the sampling techniques so that future samples will provide sufficient materials for more thorough scientific evaluation.

Descriptions of the sample site allow multiple hypotheses as they are also consistent with irregularly shaped "crop circles" referred to as "RDFs," or Randomly Downed Formations, which not only can produce downed swirls but anatomical and soil anomalies as well including increased radioactivity. These are often present intermixed with what appears to be weather related "lodging" of the crop.

ANALYSIS:

Following are the details of the examination of samples sent by Analytical Chemist, Phyllis Budinger of the "Frontier Analysis" laboratory, 17100 Wood Acre Trail, Chagrin Falls, OH, 44023.

As indicated above in the extract, the foci are as follows.

1) Determine if the "Control" and "Swirl" samples are two varieties of the same species or
two different species.

2) Examine the samples visually at magnifications of up to 30x for the possible presence of
anatomical anomalies of structure or development.

3) If the two samples are of the same species, then evaluate and document any differences in

anatomical characteristics such as node sheath length.

4) If differences occur then determine whether they are statistically significant or not.

5) If both samples are determined to belong to the same species, then forward them to an

Agronomy specialist for species identification.

"CONTROL SAMPLE:"

Sample in plastic bag identified as "Control "Grass," 100 yards from Site." (See Figure 1a) for original sample at Frontier Analysis laboratory).

The received sample consists of a 13.8 cm section of bent panicle rachis removed distal to the apical node. 5 pedicillate spikelets are present, each with attached glumes. The two most basal spikelets still contain one floret each which have not yet been shed . Additionally, the sample bag does contain 12 isolated florets. Slight pressure implies the presence of a mature grain or caryopsis.

Many of the following details are visible in Figures 2a) and 2c), depending on visual contrast.

The determinant characteristics are also listed with the figures.

The dominant structure is the lemma which represents the "outer husk." The length of the lemma proper is 1.2 cm to the base of the awn between the apical "teeth." The awn, which is the extension of the middle nerve or vein then continues a very short distance of an additional 1 mm.

The terminal "teeth" at the base of the awn are approximately 0.1 mm in length. The middle nerve and awn are armed with short, distally directed, bristles. The visible half of the lemma demonstrates 4.5 lateral nerves at the half-way point thus totaling between 9 through 11 altogether. The surface of the lemma, excepting the mid nerve as above, is completely glabrous or devoid of armature.

The samples either consist of two varieties of the same species such as "bearded" and "beardless" wheat, or two separate species. If they are separate species then further comparison for growth anomalies is ruled out since this would require both a "swirl" sample and a "control" sample for each species.

If the samples are of the same species, they should be identical in all of the above noted characteristics save the length of the awn extension.

No anatomical abnormalities are visible at magnification. Comparison for anatomical variations, some of which could prove significant, if present, is unable to be carried out due to the absence of complete specimens from both sites.

"SWIRL SAMPLE:"

The second sample is labeled "Swirl "Grass" from center of depression." See Figure 1b) for original sample at Frontier Analysis laboratory. Many details as discussed below are also visible in Figures 2b) and 2d) depending on contrast.

The sample as received consists of approximately 50 isolated florets and partial spikelets. The rachis as visible in Figure 1b) was not included, however examination of the photo again demonstrates the absence of the stem and leaves below the inflorescence,

thus eliminating the portions most likely to demonstrate variations in structures, were appropriate controls available.
Once again the midvein of the lemma is prolonged into a distinct awn covered with terminally directed short bristles. This awn itself measures an additional 16 mm beyond the apex of the lemma. The length of the lemma to the bases of the apical "teeth" only measures 9 mm, however the teeth themselves are an additional 1.4 mm in length.

Examination of Figure 2d) demonstrates the presence of only 2 distinct nerves on the visible side providing a total of only 5 nerves for the entire structure. Although not visible in the photo due to the illuminated background, unlike the lemma of the "Control" specimen which was smooth and hairless, this structure bears ciliary pubescence up to 1 mm in length.

Mature grains are not present in the Swirl florets. Instead, the stamens are still visible in position between the outer "husk" or lemma and the inner or palea. This could represent a normal condition based upon seasonality, or a cessation of maturation at an earlier stage. Without samples of the same species from the "Control" location, it is not possible to distinguish if this condition is a normal variation in maturation cycles or an abnormal modification of the developmental sequence. There are no abnormal anatomical features visible at magnifications up to 30x.

SUMMARY, CONCLUSIONS:

Although the sample labeled "Control" does not actually fulfill that function, it will continue to be referred to as such to maintain continuity in the discussion and data.

The awn lengths of the Control and Swirl samples differ by an order of magnitude, the control awn length being 1 mm and that of the Swirl lemma 16 times longer.

Were this the only difference, then the determination would be that these were two varieties of the same species such as "beardless" and "long-bearded" oats. However, the florets additionally differ in each of the other examined key characters.

Similar to the awns themselves, the apical "teeth" of the lemma at the origins of the awns also differ with that of the Control specimen at 0.1 mm being 14 times shorter than that of the Swirl specimen. Numerous florets were examined to ensure that those few measured in detail were "typical" of their samples.

The awns are actually the continuation of the tip of the middle nerve or vein on the outer husk or lemma. The Control and Swirl specimens also differ in the total number of nerves which indicates a different species identity for each. The Control demonstrates 9-11 nerves whereas the Swirl specimen only has a total of 5.

Additionally, the covering of the Control lemma is smooth or glabrous whereas the Swirl lemma is clothed in nearly transparent but microscopically distinct ciliary hairs up to 1 mm in length.

Since the samples lack comparison specimens of both species from each location, no developmental variations can be compared between them. Therefore, further determination to species identification is not called for.

No actual anatomical abnormalities are visible. In the absence of samples of each species from each location, the origins of differences in maturation between the Sample and Swirl specimens cannot be determined as to whether they are naturally developmental or represent externally arrested development in the swirl case.

RECOMMENDATIONS:

Many aspects of this case seem parallel to that of a form of the "crop circle" phenomenon, the RDF or Randomly Downed Formation. These can occur as "energy spillover" effects along with authentic geometric formations or by themselves, often intermixed with "storm lodging" and therefore overlooked; (See http://www.iccra.org/reports/wisconsin_mayville_kekoskee_7_4_2003.htm) .

Although in need of serious scientific updating, the use of the field sampling methods modified from the MUFON Field Investigators' Manual for crop circles at the time of sampling would have greatly improved the amount, type, and quality of information possible in this report.

The following "short hand" sample collection procedures are recommended for plant samples, soil samples, and field radiation readings. These will ensure credible scientific analysis of the sites.

PLANT SAMPLES.

Sample-sets should number a minimum of 3 from control areas and 3-5 from the "formation" areas. Each sample-set should consist of 15-20 intact complete plants from the inflorescence to ground level. Deep roots are not necessary for each specimen, however one or two plants per sample set should include the underground parts to a depth of an inch or two for the purpose of species identification if required. Each sample set should represent the "typical" distribution of plants *of the same species* at a site consisting of a circle of 2 feet in diameter. Where possible, grasses and crops provide the greatest amount of data.

Field grasses often consist of a mixture of several species, which can be recognized by carefully viewing the seed head inflorescence and comparing specimens. Choose the most dominant or common species. It is permissible to take a single plant from outside the immediate sample site and carry it around to compare with others to make sure that the same species is collected. Label the "voucher specimen" or at least tie a knot near the base so that it cannot become intermixed with field samples during field collecting. Labeling of individual stalks is not necessary unless they contain specific anomalies to be additionally studied separately. A convenient label consists of a 2" length of masking tape folded around the stem at the middle and with the trailing ends stuck together. Write directly on the "flap" that is formed in waterproof pen, marker, or pencil. The specimens in a sample set can also be held in a bundle with masking tape, properly labeled. When finished collecting, wrap each sample set entirely in newspaper or something similar to reduce evaporation, and also label appropriately. Be sure that control and formation samples are stored in similar circumstances. Avoid cooking the plants in the sun. Storage near an air conditioner is fine for several days. If the plants cannot be shipped within 4 or 5 days, then drying out is acceptable as long as all samples are treated the same. Do not wrap samples in plastic in order to avoid molding and deterioration.

Control samples are best collected at 50, 100, and 150 yards if possible. Be sure that they do not originate within 10 yards of any downed areas no matter how small as they could represent energy spillover.

Each site offers different challenges and the requirements for an actual geometric crop formation are more stringent. It is suggested that while in the field, the investigator contact Phyllis Budinger by phone to be directed to an appropriate researcher who can

evaluate the situation in real time and "walk" the investigator through details over the phone.

SOIL SAMPLES.

Two types of soil samples should be taken at each plant sampling site. One is to be a deep sample, so marked. It can be several inches in diameter and to a vertical depth of 4 inches. The second should be a surface sample about 3" x 6" in surface area but to a depth of only 1" which is 2.5 cm. Each should be appropriately labeled. The lab analyst must be presented with a minimum of 3 control and 3 formation samples as statistical analysis will multiply the scientific value of any analytical data, especially if it can be correlated with possible plant anomalies.

SITE READINGS.

If evaluated within 10 days of formation, RDF sites and presumably, landing sites, often demonstrate statistically significant increases in radioactivity and magnetic response when compared with the appropriate nearby controls.

However, although these may be several times normal background readings, they are often relatively small. Therefore, they will not usually register on a hand held instrument due to the inverse-square law. Instead, the sensitive probe device should be placed upon the soil surface pointing to magnetic north for uniformity. A setting admitting all 3 major types of radiation and providing an "average" count per minute is most convenient. A minimum of 5-10 readings taken at 30 second to 1 minute intervals *per location* are required for statistical analysis. Preferably, the reading sites will be immediately adjacent to the plant and soil sampling sites.

A gauss meter can be used for magnetic field readings. Once again, the device should be on the soil surface and oriented to magnetic north for uniformity. As before, 5-10 readings at 30 second to 1 minute intervals should be taken at each location.

Devices such as the "Trifield Natural EMF Meter" can provide additional information. If employed, follow the above directions for field directions.

The application of the above suggestions will improve the MUFON sampling techniques to a level that demonstrates the required scientific significance.

REPORT PREPARATION.

This report was prepared by Charles N. Lietzau, Ph.D., MUFON and MIMUFON Consultant. Initial scientific evaluation of specimens was begun on 24NOV09. Contact: cnlietzau@Hotmail.com, or phone 586-924-5186.

SAMPLE COMPARISON:
Electronic images: Phyllis Budinger

Figure 1a) "Control Grass," 100 yards from site center as scanned by Frontier Analysis laboratory.

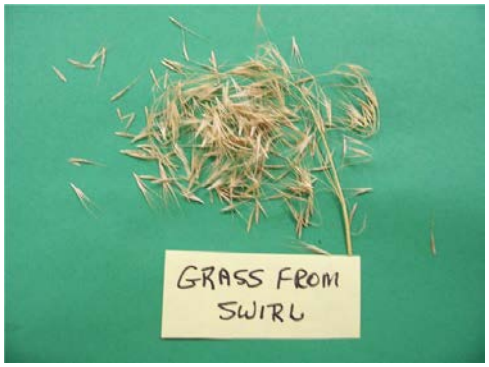

Figure 1b) "Swirl Grass" from depression.

COMPARISON OF FLORETS.
Photomicrographs by Charles N. Lietzau, Ph.D., MUFON and MIMUFON Consultant.

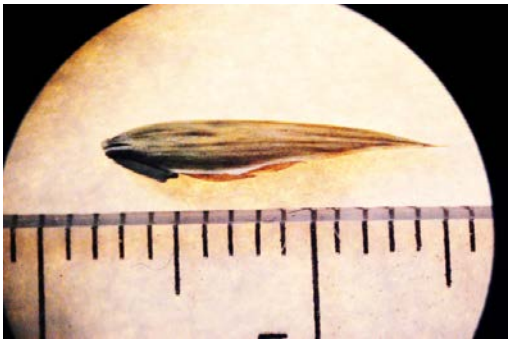

Figure 2a): "CONTROL" FLORET #1.

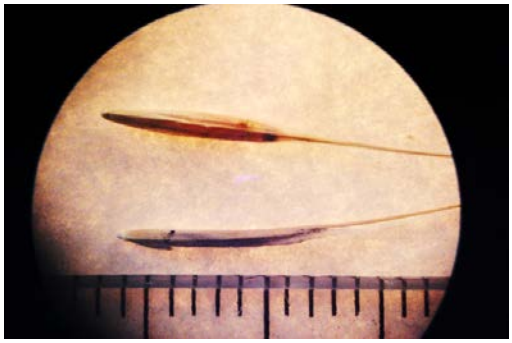

Figure 2b): "SWIRL" FLORETS #'s 1 and 2.

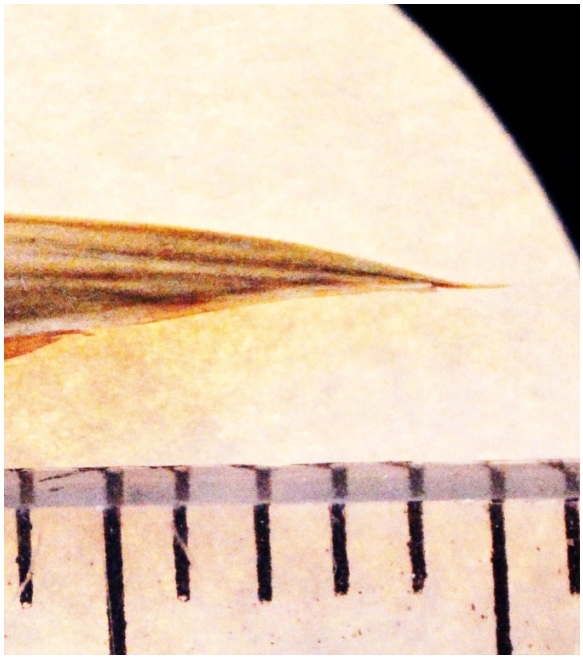

Figure 2c): "CONTROL" FLORET #1.

Awn length 1 mm.

Awn armature of short bristles not visible above.

Lemma apices app. 0.1 mm.

Total terminal nerves, (veins), 9.

Lemma surface glabrous.

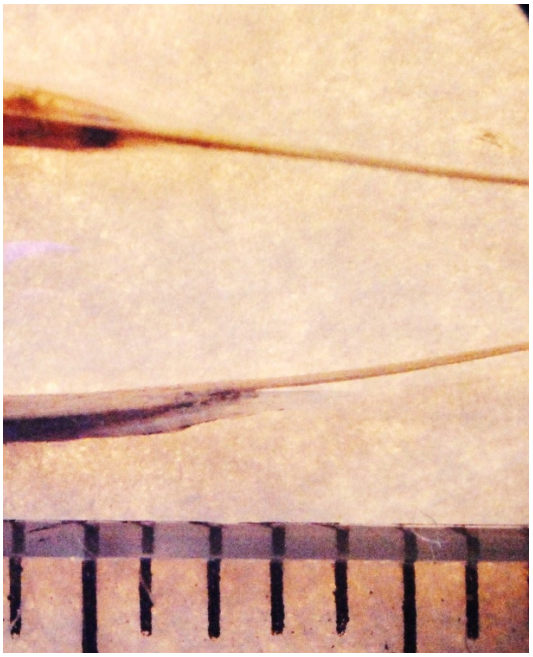

Figure 2d): "SWIRL" FLORETS #s 1 And 2.

Awn length 16 mm.

Awn armature of short bristles visible on upper floret.

Lemma apices 1.4 mm.

Total terminal nerves, (veins), 5.

Lemma surface with long, 1mm., cilia not visible above due to transmitted light.