

Crop Formation: Marion, New York 1997

Laboratory Code: KS-04-42

Location: Marion, New York

Material: Oats, *Avena sativa* **Formed:** Week of Aug. 11 or 18th **Sampled:** Aug. 31, 1997

Sampled By: Larry G. Thomas, Newark, New York and Don Goverts, New York.

Formation Characteristics: Five circles with paths between.

Relevant Findings:

1)- remarkably uniform distributions of what appear to be micrometeorite material were found in soil taken within and immediately outside the circle formations.

2)- very significant, linear correlations ($r > 0.9$) were obtained by examining the relationship between the amount of magnetite material in the soil and the distance from the observed epicenters of the sampled circles. This type of linear distribution was shown to agree with the fundamental physics of centrifugal forces on particles suspended in a rotating, plasma vortex system.

(3)- this linear distribution pattern is not unique with this N.Y. formation: similar, linear correlations between distributions of magnetic material and distance from circle epicenters were also observed in a 1996 Canadian formation.

4) - detailed node length analyses disclosed no significant node length changes.

Results and Discussion:

The very comprehensive sampling carried out by Mr. Thomas is detailed in the Fig.1 and Fig.2 diagrams. The plant collections consisted of sample sets containing between 15 to 20 plants each. All of the plants were examined for node length changes and these data are collectively summarized below.

<u>Sample Group</u>	<u>ave.</u>	<u>s.d.</u>	<u>N-plants Examined</u>
Controls	1.75	0.30 mm	189
Formation	1.73	0.27	556

On the basis of individual sample sets, the maximum observed node length expansion was +14%, a value within the range in mature plants exposed to formation energies.

Very high levels of magnetic material were separated from soil samples taken both within and outside this event (Fig. 3). When the levels of magnetic material found along the NW radii of Circles #3 & #4 were compared with the distance from the epicenters a very precise linear correlation was obtained. The data from Circle-#3 (shown in Fig.4) gives a correlation coefficient of $r = 0.98$ and data from Circle-#4 (shown in Fig.5) an $r = 0.90$ correlation. These regression data immediately tell us that the energy interactions within the entire formation were very uniform, smooth transients within a "well organized" plasma system which contained micrometeorite material (as confirmed by microscopic analyses).

If we assume that the crop formation-iron particle interactions are taking place as hypothesized in our 1995 paper⁽¹⁾, then it might be fruitful to explore the physics of the forces acting on the magnetic particles within the rotating plasma system. For a particle within a rotating system and moving in a circular path of radius r and at a velocity v , its acceleration a is given by,

$$a = v^2/r \quad (1)$$

the outward directed or centrifugal force F on a particle of mass m is computed as,

$$F = mv^2/r \quad (2)$$

the relationship between the linear velocity v and the angular velocity ω (in revolutions per second) is described by,

$$v = 2\pi r\omega \quad (3)$$

and by substituting in eq.(2) we obtain,

$$F = (4\pi^2\omega^2 m)r \quad (4)$$

Since the size distribution of the magnetic particles fall within a fairly narrow range (5-10 micrometers) we may take m as representing an average particle mass. For a given vortex system ω is constant, therefore eq.4 predicts a direct relationship between the centrifugal force exerted on a magnetic particle and its distance from the center of the vortex system.

At the epicenter of the vortex systems the particles would, according to eq.4, receive the minimum centrifugal force and, consequently, one would predict the highest concentration of magnetic particles at the epicenter regions; and of course a linear decrease in concentration with increasing radial distance. The excellent agreement between eq.4 (the hypothesized physical force) and the actual magnetic particle distributions is demonstrated in the Fig. 4 and 5 soil separations. It should be noted that this linear distribution was found in the NW-radii, but not in the East radii. Although it may seem unusual that the concentration profiles would so drastically change by simply altering the sample traverse by 130° to 140° , we have found that the energies are highly compartmentalized within the crop formations.

One of the most ubiquitous characteristics of crop formations is the compartmentalization of energies into cells or quadrants acting totally independent of one another. The effects of the energies may change quite drastically within discreet, sharply defined regions inside a crop formation. If energy spill-over occurs these sharp gradients of energy may also take place outside the visibly-downed crop confines.

In this formation we found an excellent example of the spill-over interactions during an examination of the magnetic particle data obtained outside circle #3. In Fig.6 are data obtained along a West traverse, starting at the edge of circle #3, and it is quite clear that the distribution pattern agrees with the eq.4 model. The data from the East traverse samples was not linearly correlated, for the reasons stated above. In the region West of the edges of circles #2-#3 the magnetic particles were carried along in a rotating vortex, which extended well beyond the confines of the downed, circular regions.

In science, mathematics is used to represent the attributes of a system, and when one obtains data which gives very close agreement with fundamental physical models (as in eq.4) it is often worthwhile to think about the "universality" of the effect; that is, we ask the question - is the application of this physical model unique with the formation discussed here, or can we find evidence of similar energy interactions in other "well sampled" crop formations? Within our data base it was very exciting to find that we have indeed observed these same linear distribution patterns in the magnetic material obtained from a 1996 Canadian crop formation.⁽³⁾ This formation consisted of two interacting vortex systems and in both circles the linear distribution profiles were observed with correlation's $r > 0.9$, thus showing agreement with the eq.4 predicted distributions of magnetic material.

References:

- (1) W.C. Levensgood & J.A. Burke, *Semi-Molten Meteoric Iron Associated with a Crop Formation*. Journal of Scientific Exploration, 9 (1995) pp.191-199
- (2) Crop Formation: Saskatchewan, Canada, 1996, BLT Report No. 90, 10-19-97

Nancy Talbott
Cambridge, Mass.

W.C. Levensgood
Pinelandia Biophysical Lab.

John A. Burke
Am-Tech Lab.

Office:

P.O. Box 127
Cambridge, MA 02140

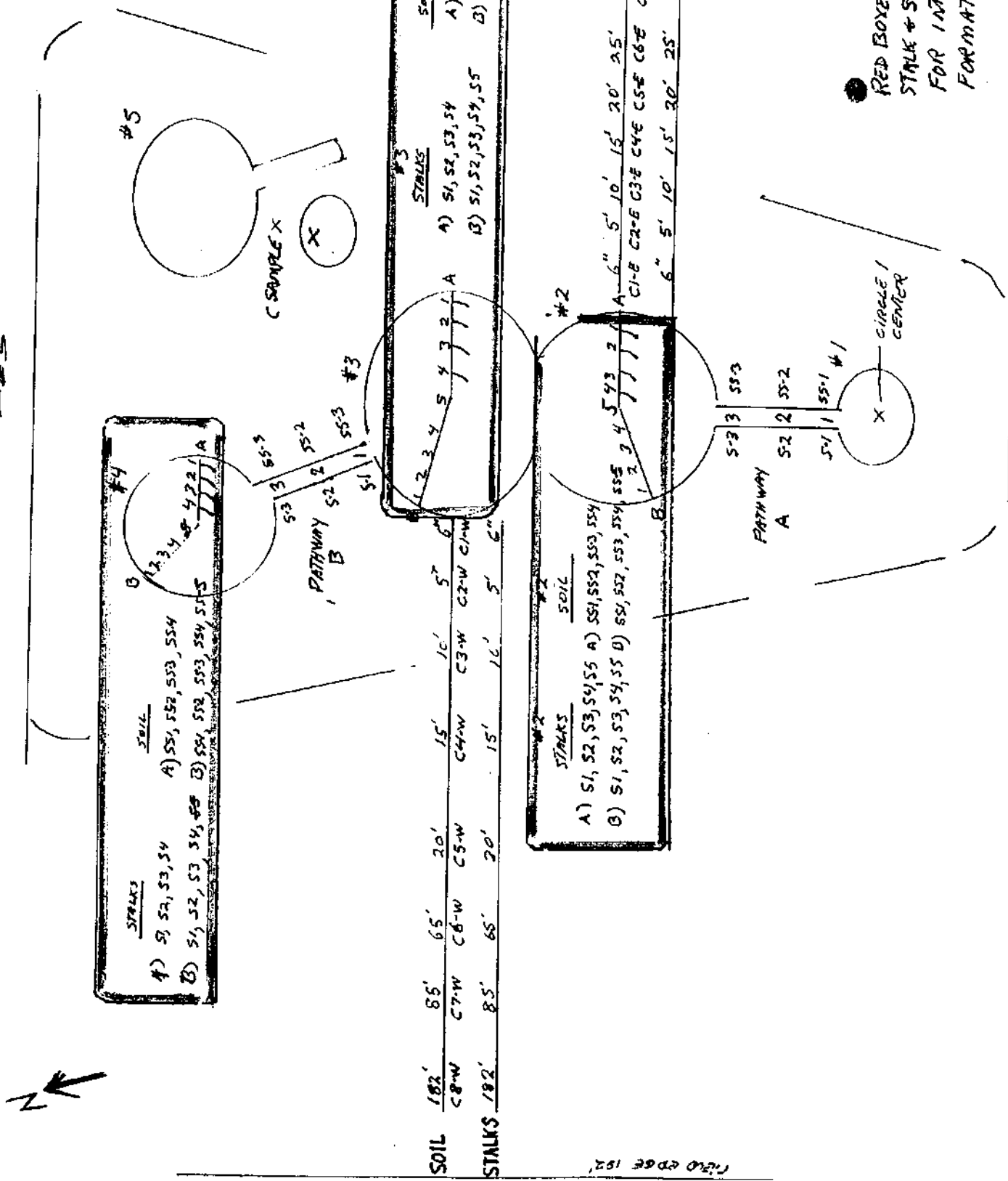
Phone: 617 492 0415
Fax: 617 492 0414

Addendum: See Fig. 7 for interesting compass deviations mapped at site by field personnel, and Fig. 8 which shows two examples of photographic anomalies also obtained at the site.

Fig. 1: Plant & Soil Sampling Diagram, Marion, NY Crop Formation.

Date Sampled: 8/31/97
 By: Larry Thomas,
 Don Goverts

SAMPLES



FIELD EDGE 193

RED BOXES CONTAIN ALL STALK & SOIL SAMPLES FOR INTERIOR OF FORMATION.



FIELD EDGE 192

Fig. 2: Field Diagram (Marion, NY; August, 1997) Showing Crop Formation Dimensions & Details of Crop Lay.

Note that all of the circular & ovoid areas have internal spiral crop lays, with the exception of Circle #2 which has a centered radial lay.

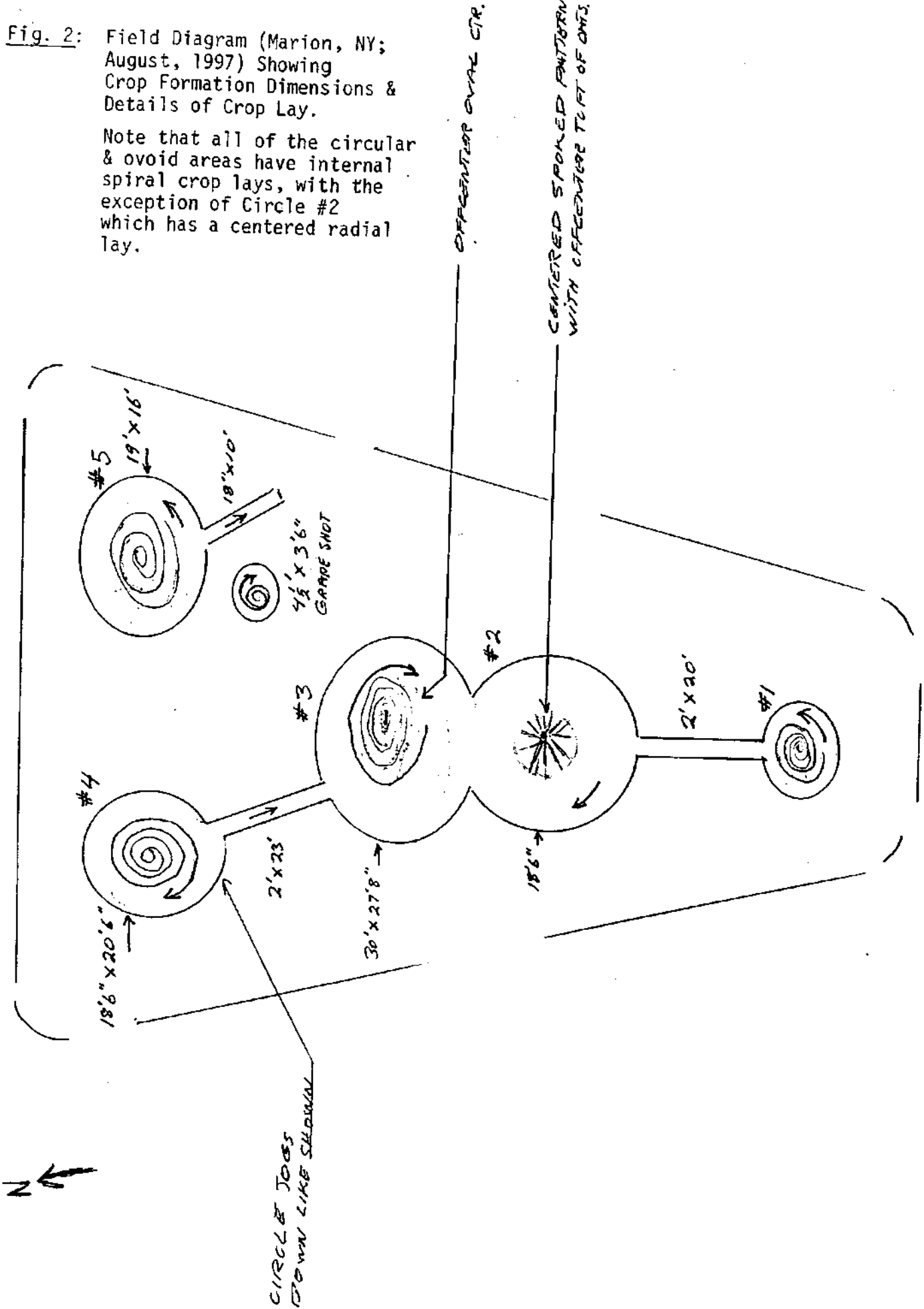
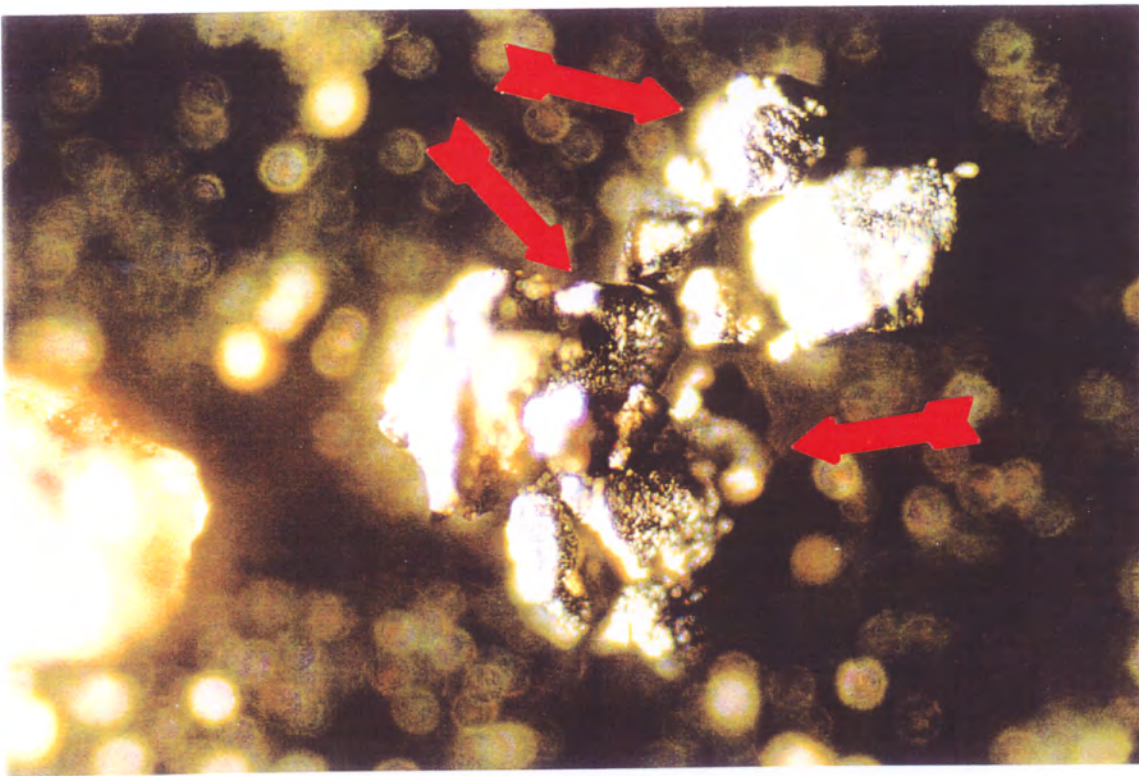
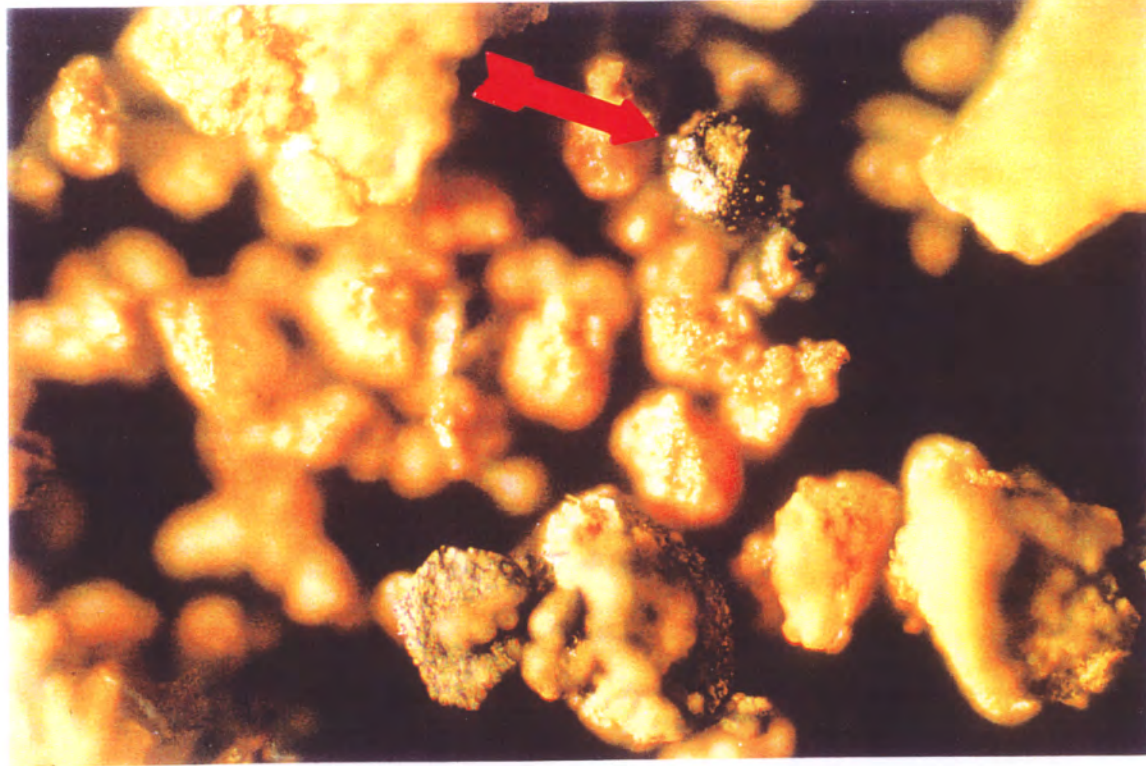


Fig. 3: Magnetite particles found in soil samples from Marion, New York crop formation (1997) (100 x). Red arrow in photo #1 points to one of the commonly observed spherical particles; rounded shape clearly indicates heating (probably from microwave radiation) has occurred. Photo #2 shows a cluster of large particles of Fe_3O_4 , many with rounded edges and some partially ablated. Very significant ($r > 0.9$) linear correlations were obtained between amount of magnetite in soil and sampling distance from circle epicenters.



1.

2.

Fig. 8: Two of the multiple (and fairly typical at crop formation sites) photographic anomalies obtained at the Marion, NY formation. Top photo shows a smoke-like arc in one of the downed pathways inside the formation which is very similar to a series of such photos obtained at another crop formation at Columbia, NY in August 1993. Bottom photo shows "flying black line" anomalies, one directly over circle, the other nearby; these have appeared on many photos taken at crop circle sites in recent years.

Larry Thomas, the photographer and fieldworker in the Marion case, also has a whole series of diamond-shaped and circular "white dot" photographic anomalies obtained at and near the formation location.

