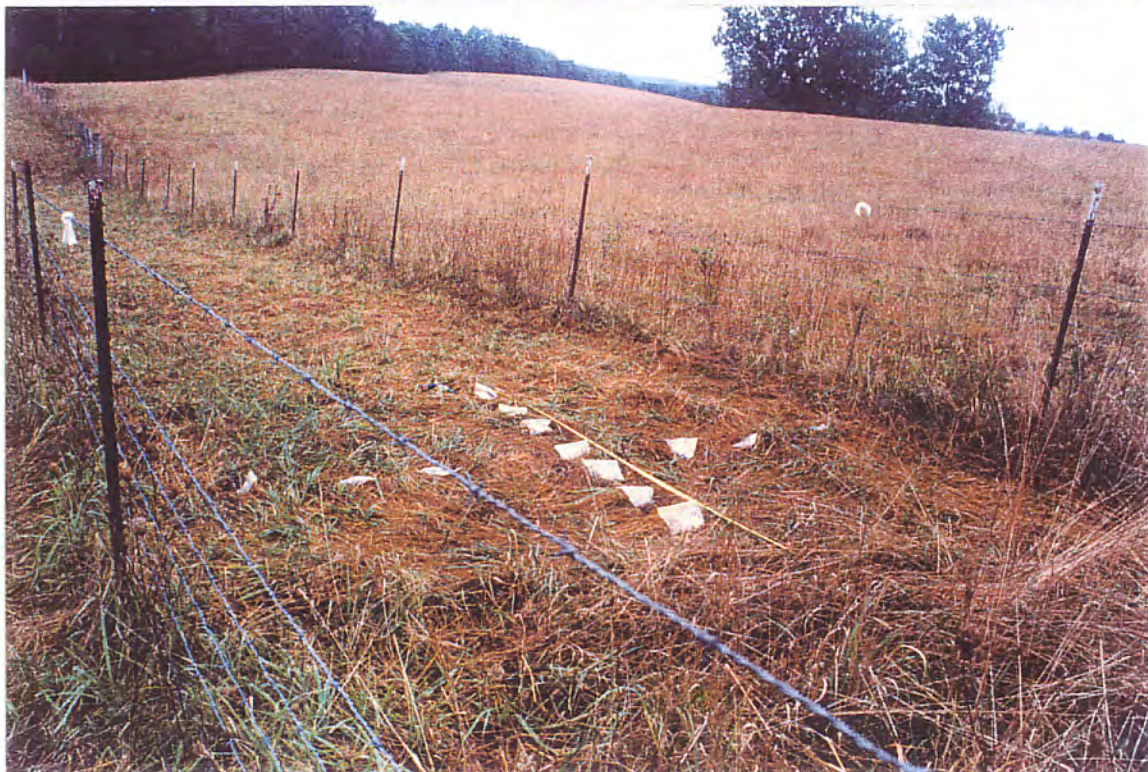


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LAB.REPORT #116

GRASS CIRCLE, SOUTHERN MISSOURI - July, 1999

Top: Circle in fescue, approximately 3 wks. after discovery (photo 8/15/99).  
Bottom: Circle with soil sampling bags 1 month later (photo 9/12/99). Circle occurred within 12' diameter fenced cattle lane around time farm caretaker saw BOL near area. Photos: J.D. Scarpellini.





### **Crop Formation: Southern Missouri - July, 1999**

**Lab.Code:** KS-04-148

**Event Location:** Farm, Southern Missouri (location confidential, by request)

**Date Occurred:** July 7, 1999 (?)

**Date Discovered:** July 20, 1999

**Date Sampled:** September 12, 1999

**Material Sampled:** Fescue grasses and soils

**Sampled By:** Ms. JoAnne D. Scarpellini

**Formation Characteristics:** A 9'-diameter circle in grass, found inside a 12' wide, fenced cattle lane, following report by resident caretaker of a basketball-sized, bright, yellowish-white, "structured," solid-looking light observed in the air near the area where flattened circle was subsequently found. For details and photographs of some of the magnetic material recovered from soil samples see the excellent report by Scarpellini and Hart, attached.

#### **Relevant Findings:**

- (1) The mean level of magnetic material found deposited in the soils was significantly higher ( $P < 0.05$ ) inside the circle formation than outside; magnetic drag tests conducted on 52 soil samples revealed more than 40 times the background or control level (0.4 mg/g-soil) expected in normal soils (see Figs. 1 & 2 for sampling locations).**
- (2) A decline in the amount of deposited magnetic material was found, beginning at about 1.5m outside the formation along four orthogonal, radial samplings taken at fixed, increasing distances away from the edge of the circle.**
- (3) No magnetic material was detected at 1,000' away from the circle (as reported by Ms. Scarpellini from her ancillary sampling, reported on 11/30/99, Attachment "A").**
- (4) No conclusive data could be obtained regarding possible external energy affects on plant respiration; two complete redox studies (which examine the efficiency of plant cell respiration and the effects of exposure to external energies) were conducted on the submitted grass samples, which clearly indicated that the plants were going into Fall-dormancy.**

#### **Results & Discussion:**

Magnetic drag tests conducted on the submitted 52 soil samples revealed amounts of magnetic material of more than 40 times the upper limit of what can be expected in normal soils (0.4 mg/g-soil). Table 1, following, shows the mean level of magnetic material found, in terms of the sampling locations.

**Table 1**  
Mean Levels of Magnetic Material Found in Soil

Sample Location	mg/g-soil Average	s.d.	# of Samples
Inside Circle	10.57	5.48	17 (P < 0.05)
0.3 to 98m Outside Circle	5.25	2.83	35
1000' (305m) Outside Circle	-	-	1*

\*Ms. Scarpellini sampling

In many formations studied we have found that levels of deposited magnetic material are higher in the immediate regions outside the events than they are inside, a finding which can be understood by considering the physics of the forces on particles captured within a rotating vortex. In this case we find higher levels of deposited material inside the formation, suggesting that the vorticity or angular momentum was not sufficient to distribute the bulk of the magnetic material outside the circle confines. In Fig. 3 the mean level of magnetic material found at each of the orthogonal, radial samplings is plotted as a function of distance from the circle edges; the peak amount of magnetic material found in the soils outside the formation occurs at about 1.5m (about 5') from the edge of the circle, decreasing to zero at 305m (about 320') away.

Two complete series of redox tests were carried out, producing data that clearly indicated that the plants were beginning their period of dormancy. By mid-September the plant respiration response becomes quite variable and the dormancy effect masks any possible externally-induced respiration changes.

However, the distribution patterns found in the deposited magnetic material in the soils at this event clearly indicate that plasma vortex energies were involved in the formation of this flattened grass circle.

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Notes: No compass deviations or RF/Electrical Field/Magnetic Field Meter responses were observed by the fieldworker on 9/12/99, at sampling; farm dogs were observed at that time to enter the circle without apparent distress. However, the farmer reports that on August 8, more than 2 wks. after the circle was found, cattle being herded through the cattle lane (for the first time since the circle was discovered) absolutely refused to cross the flattened circle, knocking down the barbed-wire fencing in order to avoid the area; also, Ms. Scarpellini reports that the magnetic coating on film shot at the site on 9/12/99 had apparently been affected, since this film would not advance properly in the printing machine when it was taken to be developed, making it necessary to develop the prints by hand.

Fig. 1: Field-Sampling Diagram Showing Location of Fescue Samples & Controls w/Soils Sampled at Same Locations (KS-04-148)

LOCATION: Southern Missouri

DATE OCCURRED: July 7, 1999 (?)

DATE FOUND: July 20, 1999

DATE SAMPLED: Sept. 12, 1999

MATERIAL SAMPLED: Fescue grasses, soils

SAMPLED BY: JoAnne D. Scarpellini

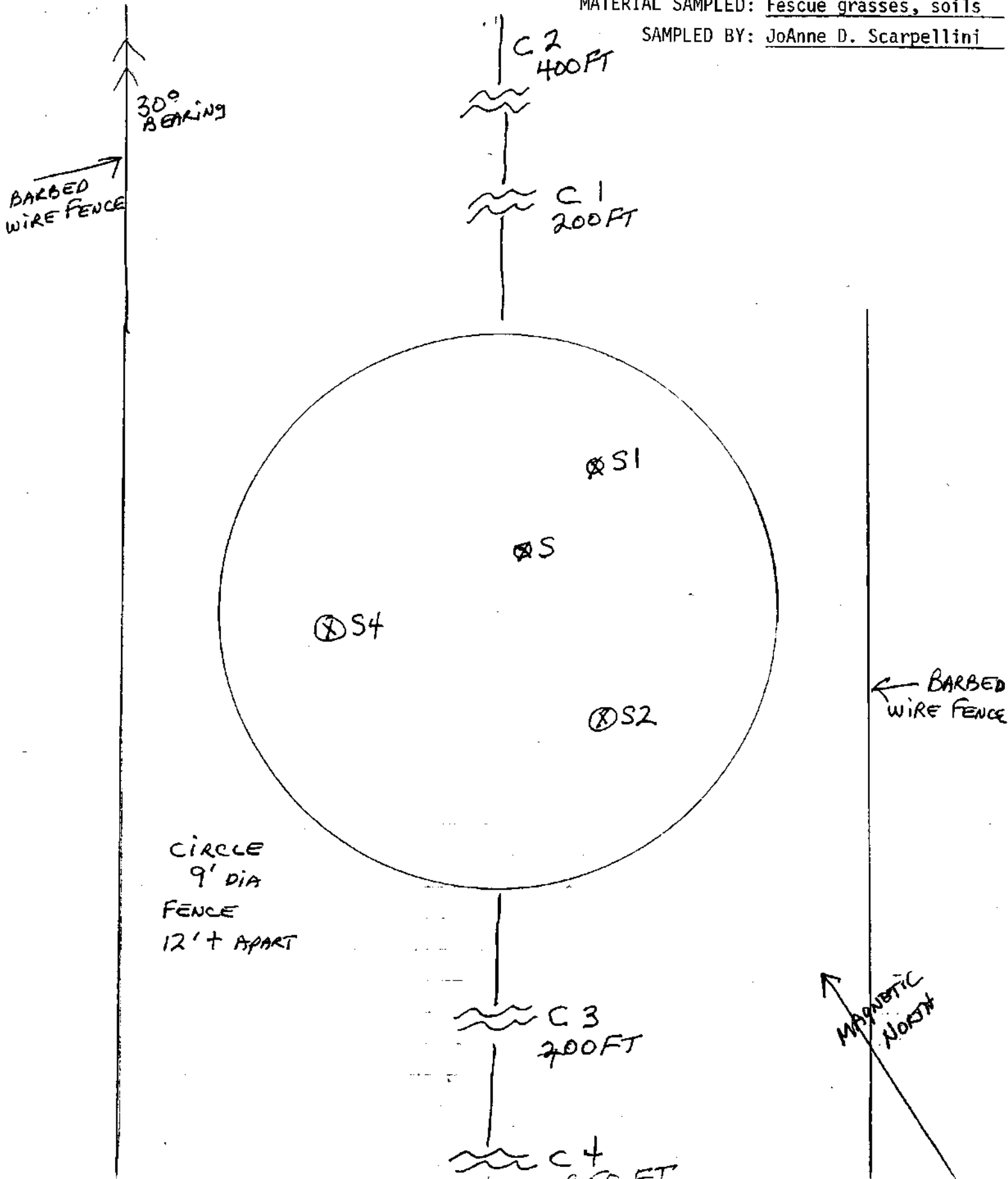


Fig. 2: Field-Sampling Diagram Showing Location of Additional Soil Samples (KS-04-148)

LOCATION: Southern Missouri

DATE OCCURRED: July 7, 1999 (?)

DATE FOUND: July 20, 1999

DATE SAMPLED: Sept. 12, 1999

MATERIAL SAMPLED: soils

SAMPLED BY: JoAnne D. Scarpellini

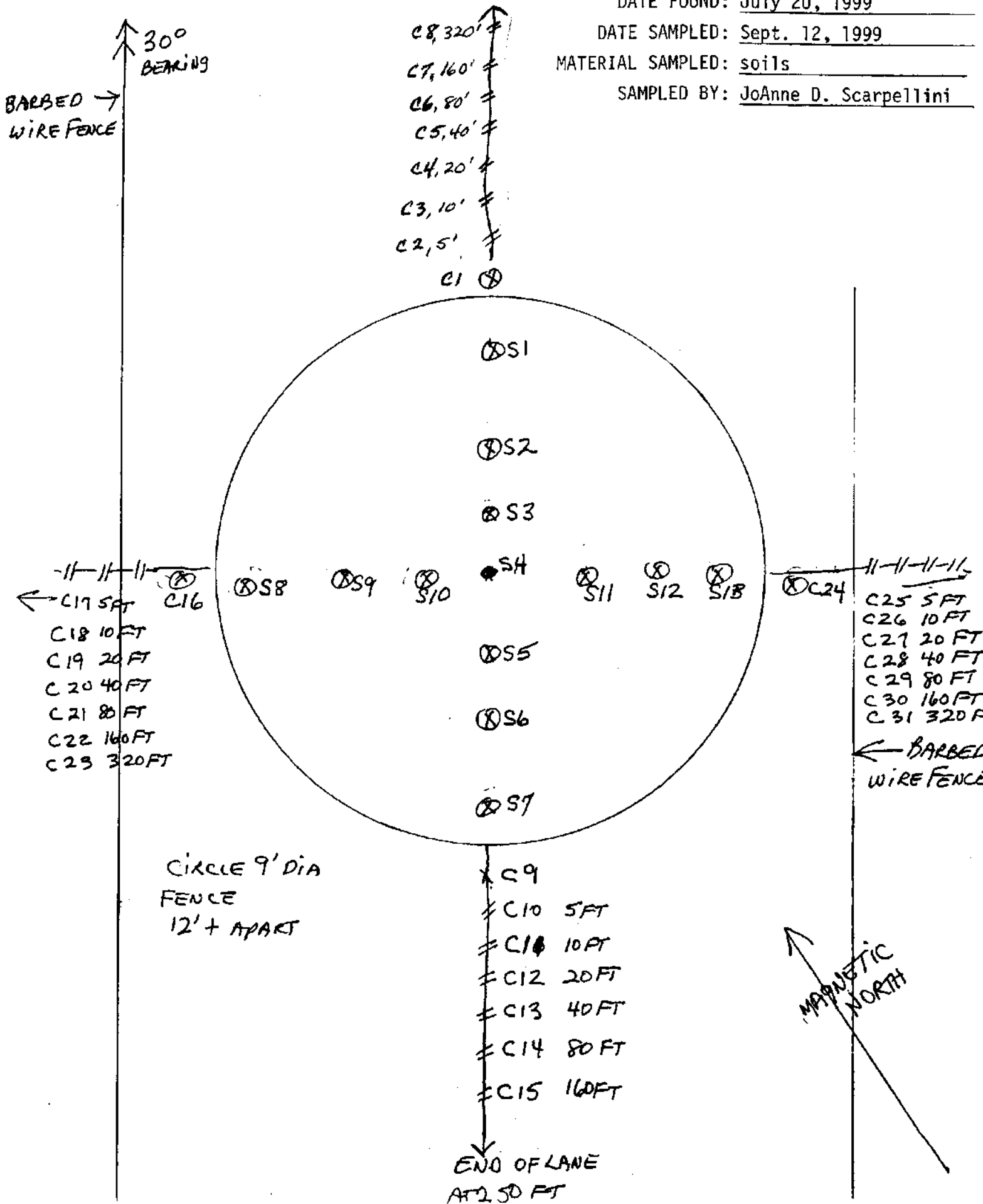
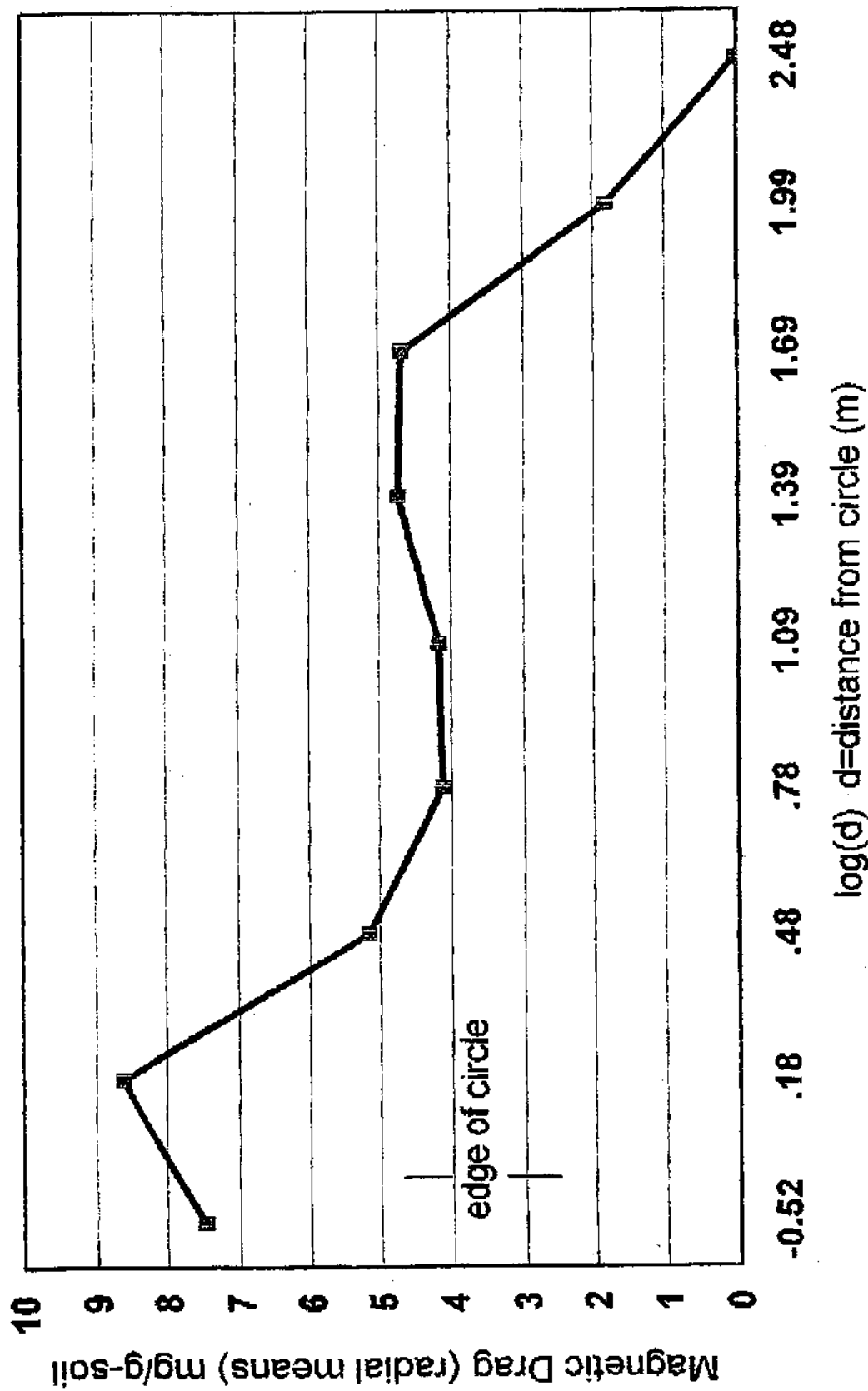


Fig. 3: Distribution of magnetic material at various distances outside circle formation KS-04-148 (data points represent the means of four radial samplings). Data is presented as a log function so that the details of the distribution curve can be seen.



**Magnetic Particles From a Small Crop Circle in  
Southern Missouri**

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**30 November 1999**

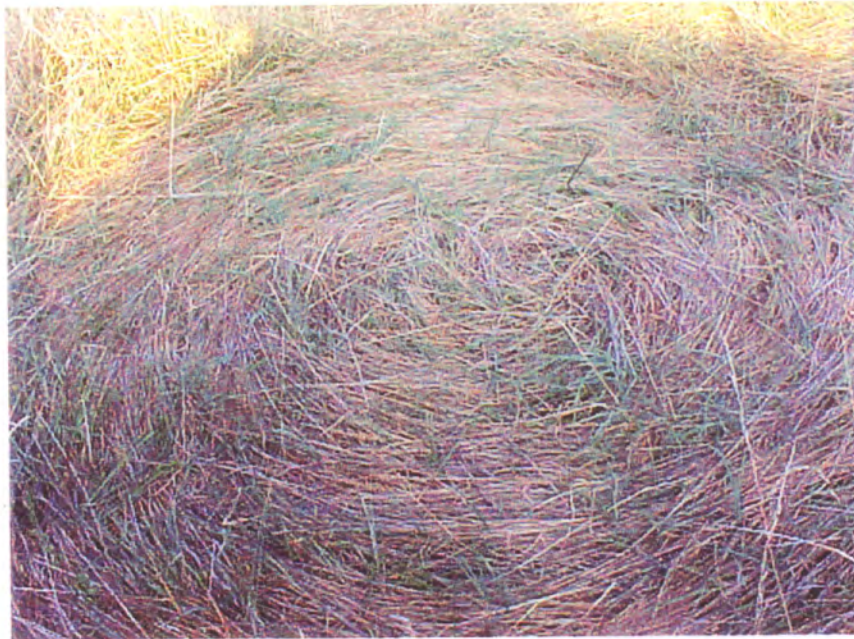


Photo 12 September 1999

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On a large cattle farm in Southern Missouri a small (9ft. diameter) crop circle was formed in late July. Access to the property was gained in September 1999, about seven weeks after the formation was discovered. At that time the circle was still entirely intact being protected from cattle by enclosure in a narrow lane formed by two barbed wire fences twelve feet apart. Since almost no rain had fallen since the formation of the circle there was no damage from water run-off or heavy rain. Unfortunately sampling of the circle was delayed until mid-October as these investigators were erroneously informed that sampling had been performed by another investigator. As a result the downed vegetation, mostly fescue, was not usable for sampling. However, successful sampling was done on green plants and soil samples within the circle and for a distance of over 300 feet outside the circle. These samples continue to undergo laboratory testing. Preliminary laboratory reports told us that magnetic particles were present in the soil samples, the quantity diminishing outward from the circle. When the laboratory gave us this information (personal communication by phone) another sampling was done, this time soil samples only were taken for the sole purpose of recovering magnetic particles.

Magnetic particles are frequently found in crop formations but this circle varied somewhat from average in that the magnetic particles were much larger than those commonly recovered. Usually the particles are from micron size (about 50 microns) to as large as 1 mm. In the case of the Southern Missouri circle the particles were much larger. Some recovered by the laboratory were of micron sizes, but more were very large being as much as 2 mm in size.

In October 1999 the circle was still intact except for slight damage done during the first sampling of soil and vegetation. There had been no rain, run-off or anything else to alter the circle surface or underlying soil.

To collect magnetic particles on the surface a very strong magnet covered by a plastic bag was used. The magnet was applied to the soil surface in measured areas, the particles collected from the surface being combined into a single sample. To recover embedded particles soil samples were removed from measured areas to a depth of 1/4 inch and combined into a single sample. A control sample was taken approximately 1000 feet from the circle.

The surface particles were washed repeatedly with distilled water then dried under methanol followed by absolute ethanol. The embedded particles were collected from the soil samples, combined and washed in the same manner. Surface particles were weighed and embedded particles weighed separately, then all were combined. There is no apparent difference between surface and subsurface material recovered. Some of the particles apparently simply hit with enough force to cause them to be embedded.

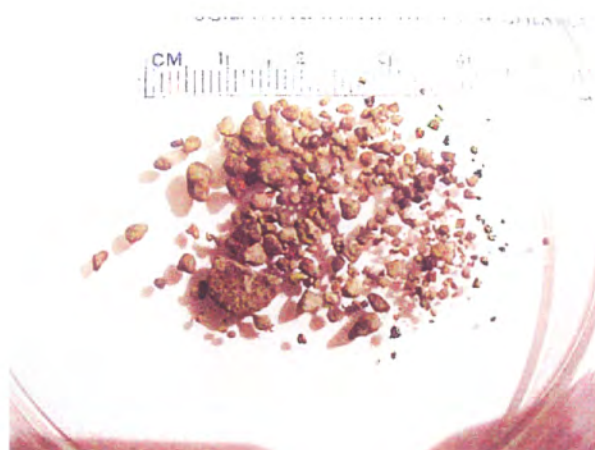
The particles recovered are irregularly shaped, rounded globules that appear rusty to the naked eye. Under magnification by a microscope the particles appear very much like slag as would be found in the spray from a dirty cut made by an acetylene torch. Magnified the particles are rusty, somewhat glazed with the glazed areas being dark brown to black. They are quite smooth and appear to have been melted then cooled as a heavy spray.

A rough calculation was made to reach an approximate figure representing the quantity of magnetic material present in the circle to a depth of one-fourth inch. The result was a surprisingly large amount of material present. The surface of the circle is estimated to bear 53.1 gm (1.87 oz) of magnetic particles while the embedded amount is estimated to be 212.36 gm (7.48 oz), with the total of surface and embedded material being an astounding 265 gm (over 9 oz).

The control sample taken 1000 feet from the circle did not yield any magnetic particles at all.

Addendum: It later came to the attention of these researchers that five more circles had been formed in the area at about the same time. All five were within one-half to three-fourths mile of the circle sampled, all five on another single farm. Unfortunately these could not be sampled at all. They had been totally destroyed by a very large herd of grazing cattle which obliterated all traces of the circles. The owner knew the approximate location of the circles but no trace could be found.

Close-up photos of the magnetic particles recovered.



Photos by the authors

