

Crop Formation: Delta, Colorado 1996

Laboratory Code: KS-03-159

Location: Ceder Mesa-Delta, Colorado

Material: Plants and Soil **Formed:** around Aug. 12, 1996 **Sampled:** Oct. 14 & 23, 1996

Sampled By: Davina M. Ryszka and Audrey Ruddick

Formation Characteristics: Oval ring formation in soil (very few plants - "very dry summer")

Relevant Findings:

- 1) - very significant amounts of magnetic drag material obtained from two sets of soil samples. Amounts were in the range of 20 to 30 mg/g soil (level in normal soil 0.4 mg/g soil or less) and the deposits were uniformly spread throughout the region.
- 2)- microscopic examination revealed beads and larger clumped spheres of what appears to be the usually observed magnetite (Fe_3O_4) deposits.
- 3)- in a "dark dirt" area within the formation the magnetite particles strongly adhered to sand grains and a "splattered" appearance indicated they were in the molten state when they contacted the soil.
- 4)- subsurface soil samples taken 2 and 6 inches below the epicenter of the formation contained a considerably reduced amount of magnetic material. This clearly indicates that the magnetic drag material is associated with the formation in the surface soil.

Results and Discussion:

Samples of field bindweed (*Convolvulus arvensis*) taken outside and from within the oval ring formation were examined for redox activity. No useful data were obtained due to equipment failure during the sequential testing.

A total of 23 soil samples (each from 60-150 gms.) taken within and outside the oval formation were examined for magnetic material. The level of magnetic material in the first set of samples (taken 10-14-96) is summarized in Fig. 1, attached. It is immediately apparent that the level of magnetic drag material does not drop off with distance away from the edge of the oval ring. This is not an isolated finding, in the 1996 Paulding, Ohio crop formation⁽¹⁾ it was necessary to extend the sampling to over ½ mi. from the formation before the level of magnetic material dropped to the level found in normal soil (less than 0.4 mg/g soil).

From the drop in magnetic particle concentration in the sample taken 2" below the epicenter it seems quite probable that the presence of the magnetic material is linked to the oval ring formation in the upper soil layers only. This subsoil decrease was confirmed in a second set of samples (Oct. 23, 1996), where the concentration level in soil taken 6" below the epicenter was 14 mg/g soil. The fact that the amount is higher than found at the 2" level is probably due to the extreme dryness of the soil. As the 6" hole was dug, considerable material from the surface would have sifted down into the excavation.

The levels of magnetic material found in the soil from the second sampling group were inserted on the sampling diagram (Fig.2), and these levels are somewhat higher than those shown for the first sampling. This may be accounted for by the fact that there were more samples taken inside the oval ring itself, where the level tends to be slightly higher than outside. The specific pattern of deposit in the formation and in the region surrounding the formation is dependent on the distribution of energies in the vortex producing the complex, organized energy pattern.

Microscopic examinations revealed that the soil drag collections were composed of the magnetic beads which are characteristic of magnetite (Fe_3O_4); there was no evidence of hematite (the oxidized form of magnetite). In one region inside the ring in a "darker dirt area" the magnetic particles were found to be adhering to sand grains and appeared to be "splattered" on the soil in the molten state. This indicates a condition of very high, transient heating, similar to that reported in our 1995 publication⁽²⁾.

References

- (1) *Crop Formation: Paulding, Ohio*. BLT Report No. 80, 3-31-97
- (2) Levengood, W.C. & Burke, J.A., *Semi-Molten Meteoric Iron Associated with a Crop Formation*. *J. Scientific Exploration*, 9, pp. 1910199 (1995).

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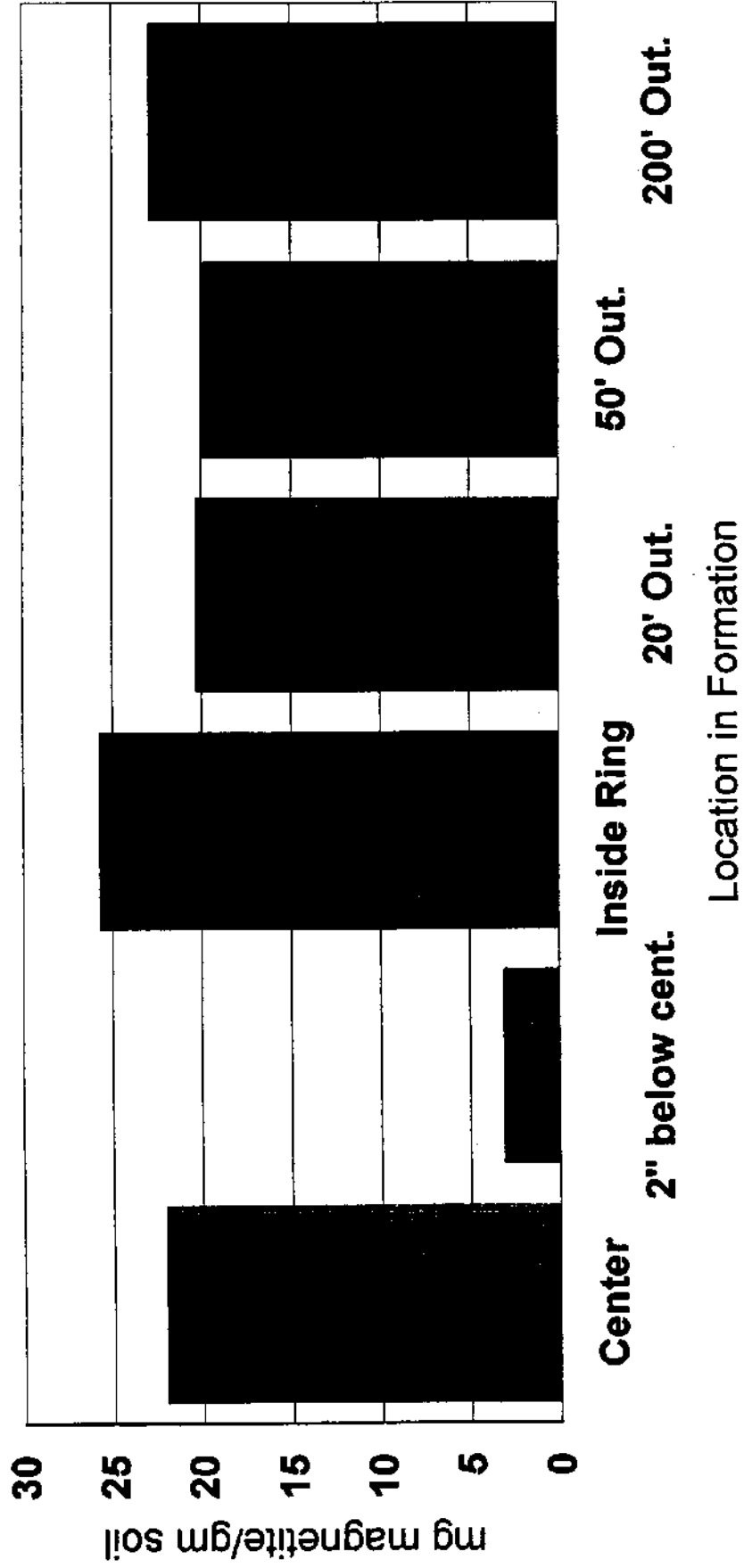
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Fig. 1

Circular Region in Field Devoid of Vegetation Colorado, Aug. 1996; Lab. Code KS-03-159 (magnetic particle content mg/gm soil)



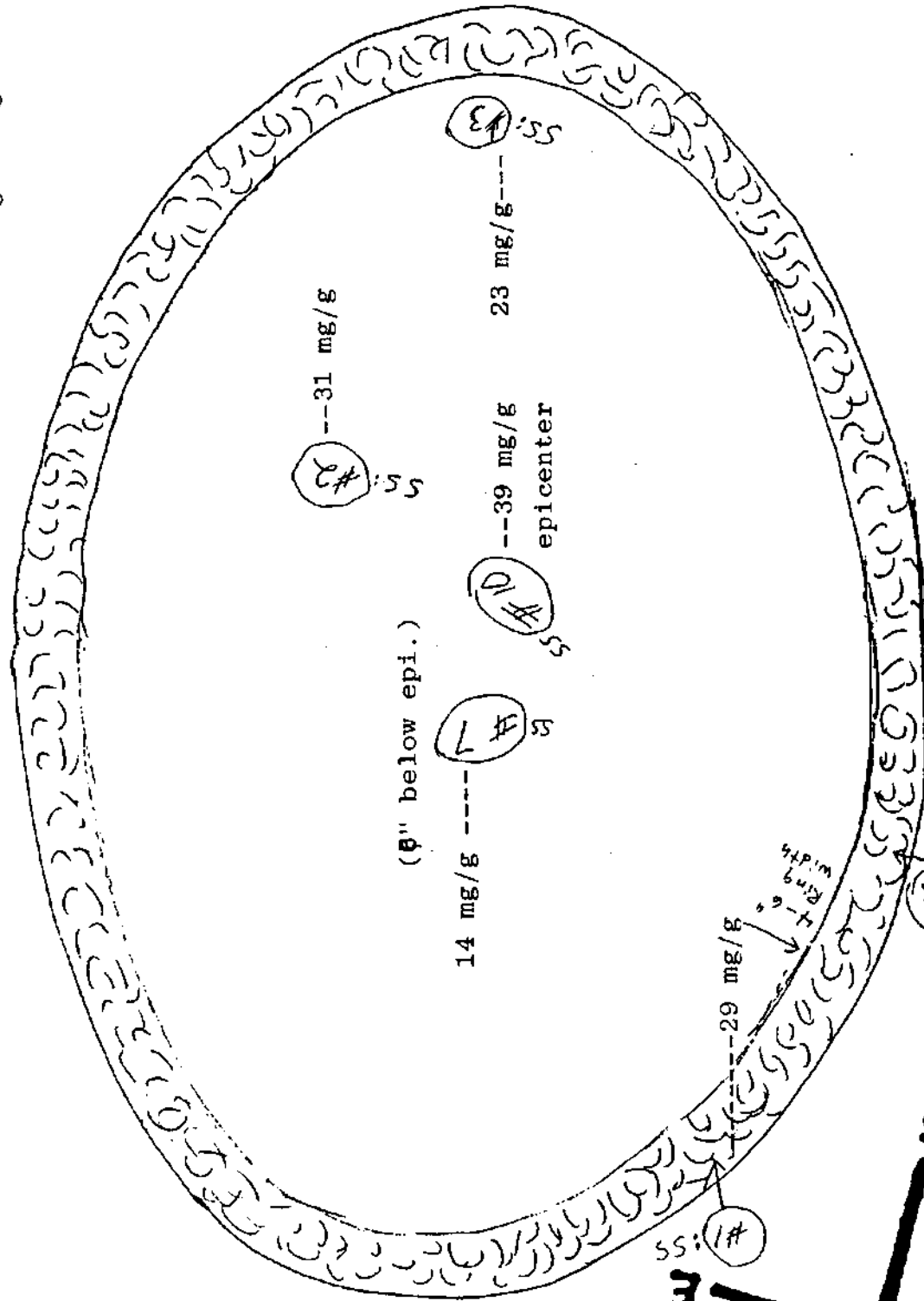
SOIL SAMPLES

Taken: Davina Rysaka
496 High Garnet Ln
Delite, Colorado 81416
(970)-874-8679

From: Cedar Mesa
12 miles NE East
of Delite
Fred Smith
Property.

SS: Soil Sample
CSS: Control Soil Sample

Fig. 2 Magnetic drag data.



KS-03-59-
Suppl. Env. Lab.
(KS-CB-191)

(#5)
22 mg/g --- SS

20 mg/g (#11) CSS

(#2) SS
---31 mg/g

(#3) SS
23 mg/g ---

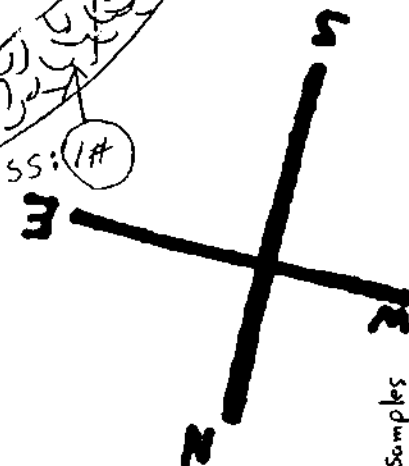
(#10) SS
---39 mg/g
epicenter

(#7) SS
14 mg/g ---
(8" below epi.)

(#9) SS
29 mg/g
28 mg/g

30 mg/g
(#6) SS
200 ft

(#8) SS
36 mg/g
from the outside edges



Samples
Taken: 10/23/96
Estimated