

HESS REGION REPORT

No. 69-5

Detailed Work in the Vicinity

of

Geochemical Anomaly #90

N.T.S. 105-N-10

Work done in the period

June 24 - 28, 1969

by

G.R. Sanford

REPORT ON ANOMALY #90

PLEASANT CREEK GOSSAN

105-N-10

June 24-28, 1969

The Pleasant Creek gossan is a moderately large swampy rust seepage found on Pleasant Creek about 5 miles NNE of Swan Lake. The rust seepage covers an area of several hundred square feet and is found at the base of a hill on the west side of the creek. Zinc values from 70-12,000 ppm, copper values from 30-400 ppm and lead values from 10-60 ppm were obtained from soil and silt samples in the 1968 season.

The gossan was revisited for four days near the end of June, 1969, during which time the area was prospected, a grid laid out, a Jalander magnetometer survey run and soil samples collected. The grid consisted of a 1200 ft. east-west base line with 1000 ft. crosslines every 400 ft. Magnetometer stations were at 100 ft. intervals along the base and crosslines. Soil samples were taken at the same spacing. The grid adequately covered the exposed parts of the gossan and continued some distance up the hill. Lines 0 and the south half of Line 4 lay along the valley bottom and the remaining lines were on the side-hill. Soil samples obtained along the valley bottom were of a peaty nature.

A magnetometer traverse was run along the base line to check for closure and the grid was covered in a figure eight loop pattern. Unfortunately, the base line traverse did not close - 180 gammas difference and by the end of the grid traverse 450 gammas difference from the initial reading. As the maximum difference in the survey was 900 gammas it was decided that nothing could be gained by interpreting the results.

The nearest outcrop seen was one mile away, at the top of the hill above the gossan and was of little extent. The rock was a grey weathering chert breccia with interbeds of black slates and grey weathering black argillites and cherts.

Contoured soil sample results are attached. The high zinc concentration near the southern end of line 2 are in the vicinity of a second small rust seepage. Relatively high copper concentrations, up to 280 ppm, are found just above the main gossan. Three individual readings of 520, 520 and 400 ppm are found in this same area. There are no significant lead concentrations.

Two low hills on the valley bottom are possibly large frost boils which could create regions of high metal concentration due to capillary action and adsorption on near surface clays.

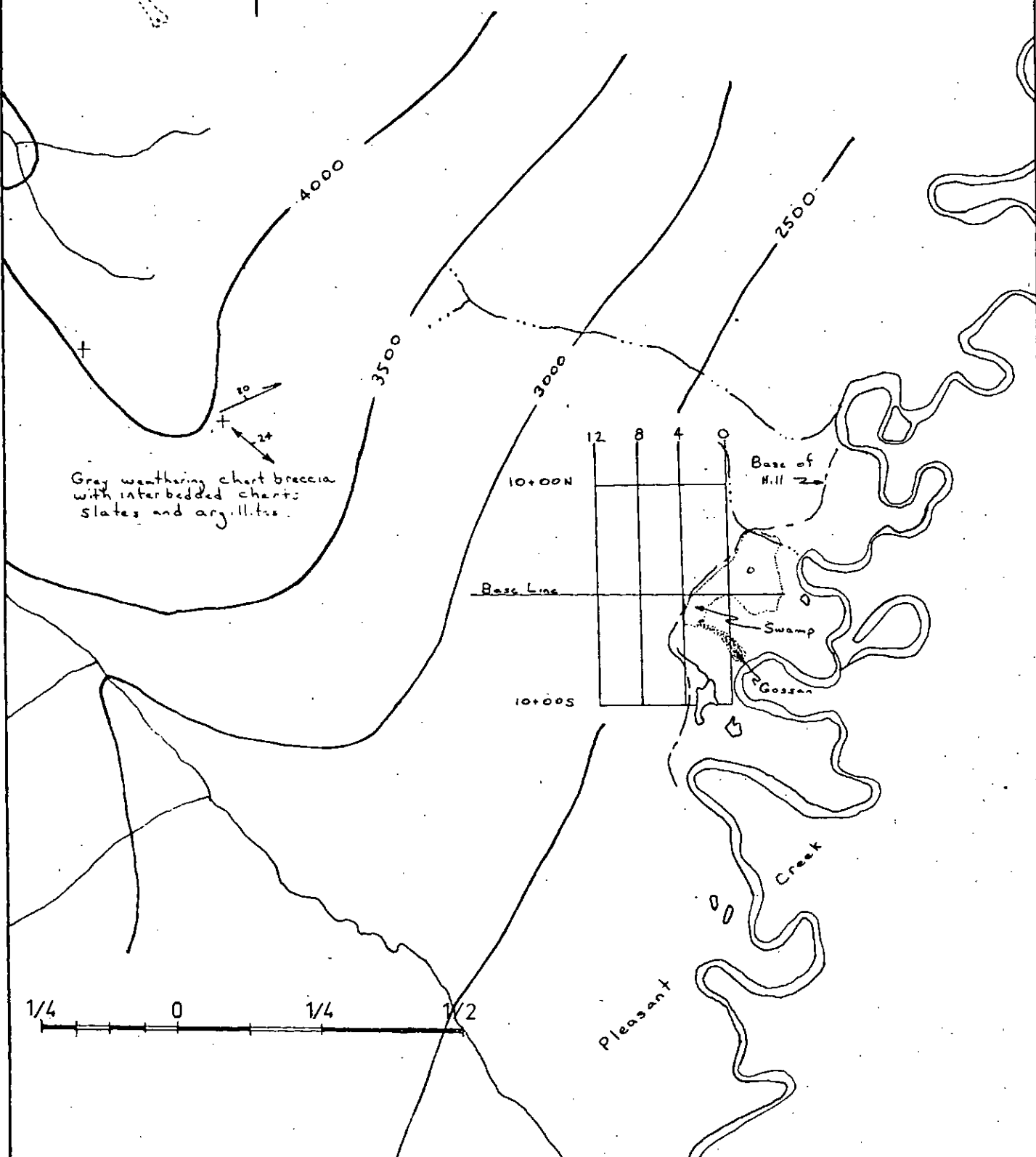
As no rock was seen close to the gossan and nothing could be learned from the magnetometer traverse, little can be said as to the probable origin of the gossan. It is recommended that the magnetometer survey be re-run but only if a crew happens to be in the area. Possibly an additional line should be run to the east of line 0 and soil samples taken along crosslines spaced at 200 ft. instead of 400 ft. to the present line 8.

Illustrations: Pleasant Creek Gossan  
Geochemistry  
Copper contours  
Lead contours  
Zinc contours

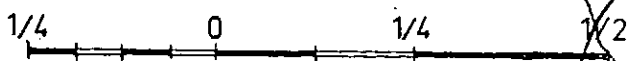
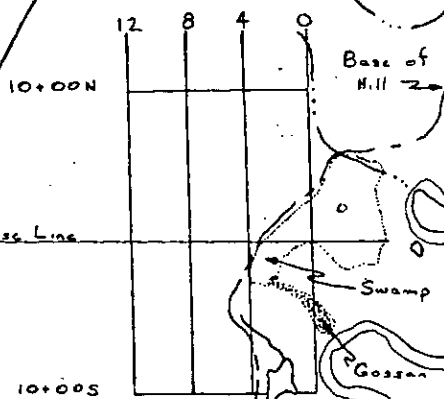
Respectfully submitted,

G. R. Sanford

PLEASANT CREEK GOSSAN  
SOIL AND MAGNETOMETER GRID  
JUNE 1969



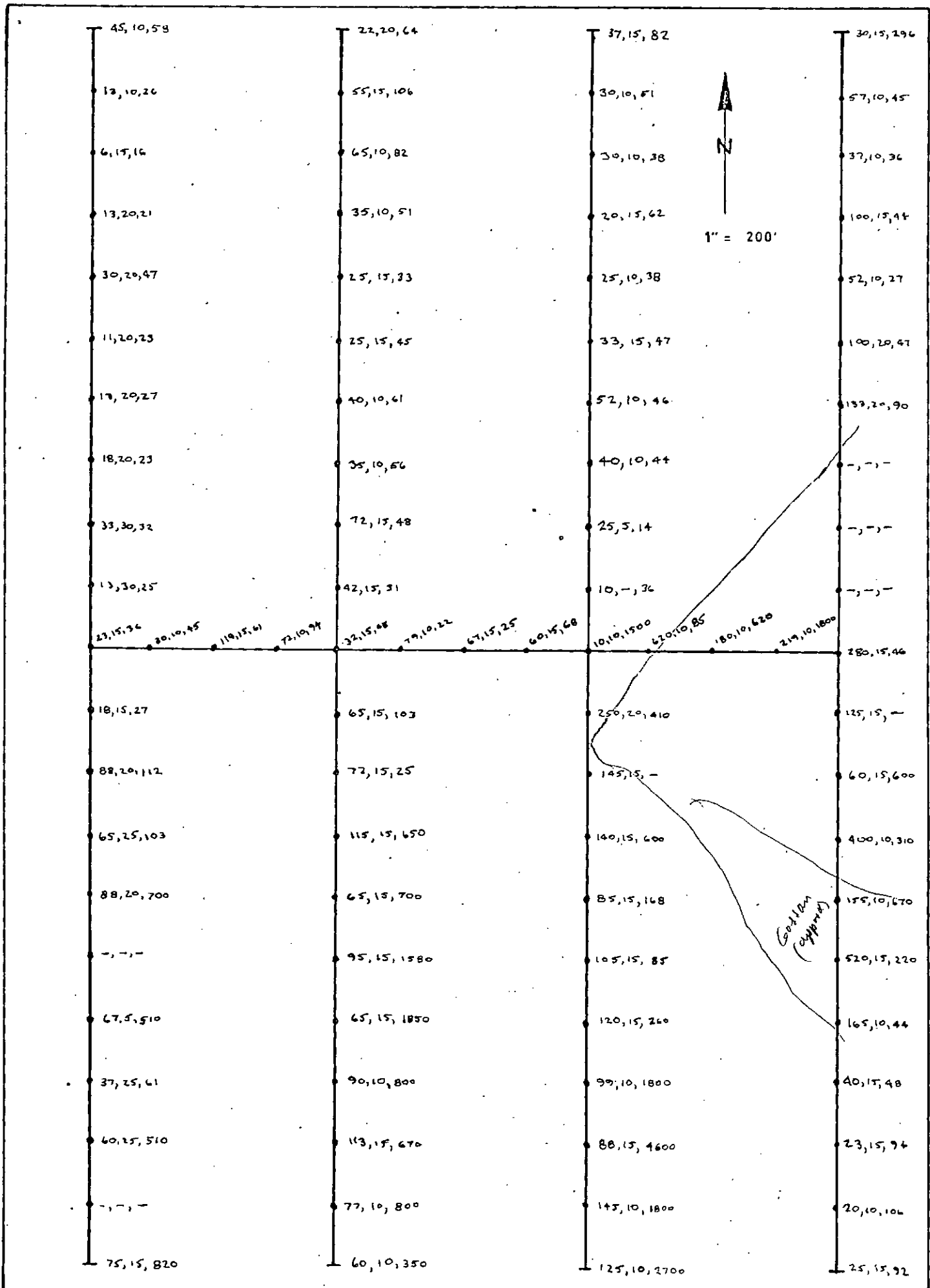
Gray weathering chert breccia  
with interbedded cherts  
slates and argillites.



Pleasant  
Creek

GEOCHEMICAL ANALYSIS

COPPER LEAD ZINC in ppm.







# ZINC

CONTOUR INTERVAL 200 ppm

1" = 200'

