

FIN RESOURCES INC.  
CORRELATION OF SURVEYS  
PLAYFAIR TOWNSHIP PROPERTY  
ONTARIO

KL-88

## INTRODUCTION

The purpose of this report is to correlate the geophysical survey work completed on the Playfair Township claims both before and after the diamond drilling completed in the spring of 1976. New work, included in this report and never reported on before, consists of total field and gradient magnetic surveys of the north east quarter of the property. The field work was carried out by E.M. Hall, geophysical contractor of Toronto. The interpretation of the data was done by the writer.

This report is based on the following sources of information.

1. Generalized geological maps and reports of the area published by the Ontario Ministry of Natural Resources.
2. Various geological, magnetic, and VLF surveys of the claim group.
3. The logs of two diamond drill holes totalling 1406 linear feet of core.
4. The survey herein reported.
5. I have been physically involved with all of the work done on this property.

## PROPERTY AND LOCATION

The four claims are numbered L 346406 to L 346409 inclusive and are located in the north west quarter of Playfair Township, Larder Lake Mining Division, Ontario. Sufficient assessment work has been recorded on these claims to make Application for Mining Lease and steps have been taken to bring all of the claims to Lease.

## HISTORY

The claims are located in a well known mineralized area and have been staked on several occasions. However, according to the assessment work records and the records in the Resident Geologist's Office, Kirkland Lake, no one except those currently in control of the Company have ever done any exploratory work on the claims.

The lands lying to the east, south, and west are patented farm lots and have not been explored for minerals. Adjoining on the north is the property of Canadian Arrow Mines Ltd. Some 2000 feet north and slightly west of the northwest corner of the Fin property is the main Canadian Arrow gold deposit. Here, a vein of substantial width strikes southwest by west and dips nearly vertically. The vein has been explored by a shaft to a depth of 450 feet with levels at the 250 and

450 foot horizons. The last exploration work done was completed in 1962. With respect to the development of this property the following is quoted from the Northern Miner of April 10, 1975. "With a view to gaining further assurance as to the feasibility of developing a continuing custom milling operation at the Hislop Township gold property of Canadian Arrow Mines, Pamour Porcupine Mines is to take a further open pit bulk sample of 16,000 tons.

The net proceeds to Canadian Arrow of the initial 5000 tons taken by Pamour last year, after all expenses including some non-recurring charges, are expected to exceed \$30,000...."

Some 7 miles north and west of the Fin property, there is a new mineral discovery controlled by a company called Tillex which is a consortium of some of the larger mining companies. It is rumoured that the discovery is a copper-zinc body. Details concerning the character of this discovery have never been published.

#### BACKGROUND TO THE CURRENT SURVEY

To generalize slightly on the original geophysical work one may say that the original magnetic and electromagnetic (VLF) surveys showed an intriguing magnetic pattern with one weak electromagnetic conductor occurring just off

the flank of a magnetic high. The pattern clearly demonstrated the need for more detailed surveying but the Company's Consultant, J.D. McCannell, P.Eng., taking note of the total lack of outcrop in the area, advised a preliminary <sup>diamond drill</sup> program to supply geological data as a basis for interpreting the available and future geophysical data. Subsequent events have established the soundness of the Consultant's advice.

Two holes were drilled. The first hole showed that the direction of drilling (from south to north) was wrong. Therefore, the second hole was drilled from west to east and was designed to cross the north-south trending magnetic phenomenon. The second hole demonstrated that the west to east direction was a superior drilling direction to the south to north direction but not necessarily the ideal drilling direction. The conclusion is that in the general area of the drilling the formations strike in a generally northeasterly direction. The dip of the formations was and is indeterminate. In all of the original work, the assumption was made that the dip of the formations was steeply south. The first drill hole may be interpreted to give a steeply north dip to the formation.

The original VLF survey was done on lines 400 feet apart. During the drill program, the drill control lines were VLF surveyed. This survey covered only the general area of the drilling that was on lines 100 feet apart. Many strong electromagnetic responses were found - far more than on the original survey. But, they were uninterpretable in that they

could not be correlated from line to line. Since VLF surveys are directional in character, the strong, erratic responses characteristic of the detail survey, are definite indications that the north-south survey direction is wrong.

#### CURRENT WORK PROGRAM

##### PROTON MAGNETIC SURVEY

The northwest quarter of the property was surveyed with a Proton Magnetometer taking readings at two elevations so that magnetic gradients could be measured. This type of total field survey is non-directional in character so the line directions are of little consequence. The survey interval was 200 foot lines with 100 foot readings.

There may be one weakness in the survey results. The gradient survey is suited to areas of flat topography with a uniform mantle of very thick overburden. The terrain over the claims is flat but the drill holes showed 40 and 10 feet of overburden. The gradient results would be more dependable if the overburden were thicker.

The total field survey results have added only detail to the original total field results. There is no marked change in magnetic pattern. However, correlation with the drill results allows some interpretation respecting formational types and trends. The very strong magnetic highs are due to magnetite

present in specific sections of trachytic lava flows. The north-south trending "embayment" of intermediate magnetism is confirmed by the detail survey. The "embayment" was crossed by the second drill hole without finding any specific explanation of the magnetic phenomenon. Certainly it is not caused by a north-south fault unless that fault has a definite easterly dip. If this is the case then the drill hole would have passed under the fault and therefore missed it. A deep seated intersection of schistose serpentine and talc might be a wall rock feature of a fault zone. The presence of felspar porphyry dikes in the second drill hole is strongly suggestive that the magnetic low centered in the north east corner of the claim area is an acid intrusive stock. Such features are common in adjoining Hislop Township. In fact, an acid intrusive stock is the host rock for the Consolidated Golden Arrow vein system which is located 4000 feet north west of the north west quarter of the Fin property.

The magnetic gradient results have added materially to the picture. This may be due not only to the increased detail of the survey but also to the manner of interpretation. The results are presented as "gradient contours" as opposed to "gradient profiles" used in the original interpretation. Using the contour method subdues the effect of the north-south "embayment" which is so obvious on the total field results and emphasizes a northeast by east trending linear of gradient change which is scarcely apparent on the total field plan. The linear

has the area of strong magnetism on its north west flank and, on its south east flank, the broad area of weak magnetism which may be an acid intrusive stock. The strike of the linear is the same as the strike of the Consolidated Golden Arrow vein system. Assuming that the dip of the formation is to the south or, at the very least, near vertical, then the first drill hole would have to cross the linear. In the general vicinity of the linear, the first drill hole intersected a fault zone albeit the shearing appeared to be nearly parallel to the core axis. Furthermore, the best gold values (they were all very low) occurred in the vicinity of this linear.

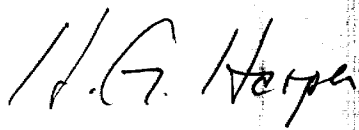
The ideal way of drilling the linear is on a north-west to southeast bearing and, judging by other gold occurrences in the neighbourhood, the hole should be located to intersect the area of low magnetism in the northeast corner of the property which may be underlain by an acid intrusive stock.

#### CONCLUSIONS AND RECOMMENDATIONS

1. The geophysical surveying and the diamond drilling done to date have produced considerable knowledge concerning the geology of the property but to date, nothing of an economic value has been discovered.

2. The work done clearly indicates that a new line grid system having a northeast baseline needs to be cut and that more geophysical surveying and diamond drilling is warranted.
3. The current down trend in the price of gold makes the exploration of these claims unattractive at the present time.
4. Sufficient work has been done on the claims to hold them at negligible cost for several years. Therefore it is recommended that the claims be held in good standing but that further exploration be delayed pending an improvement in the price of gold.

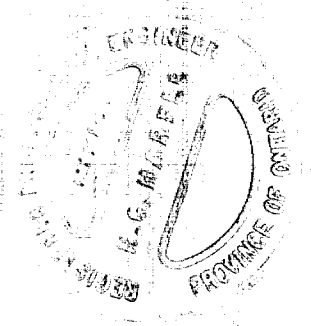
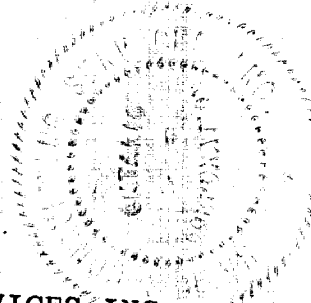
This report is respectfully submitted.



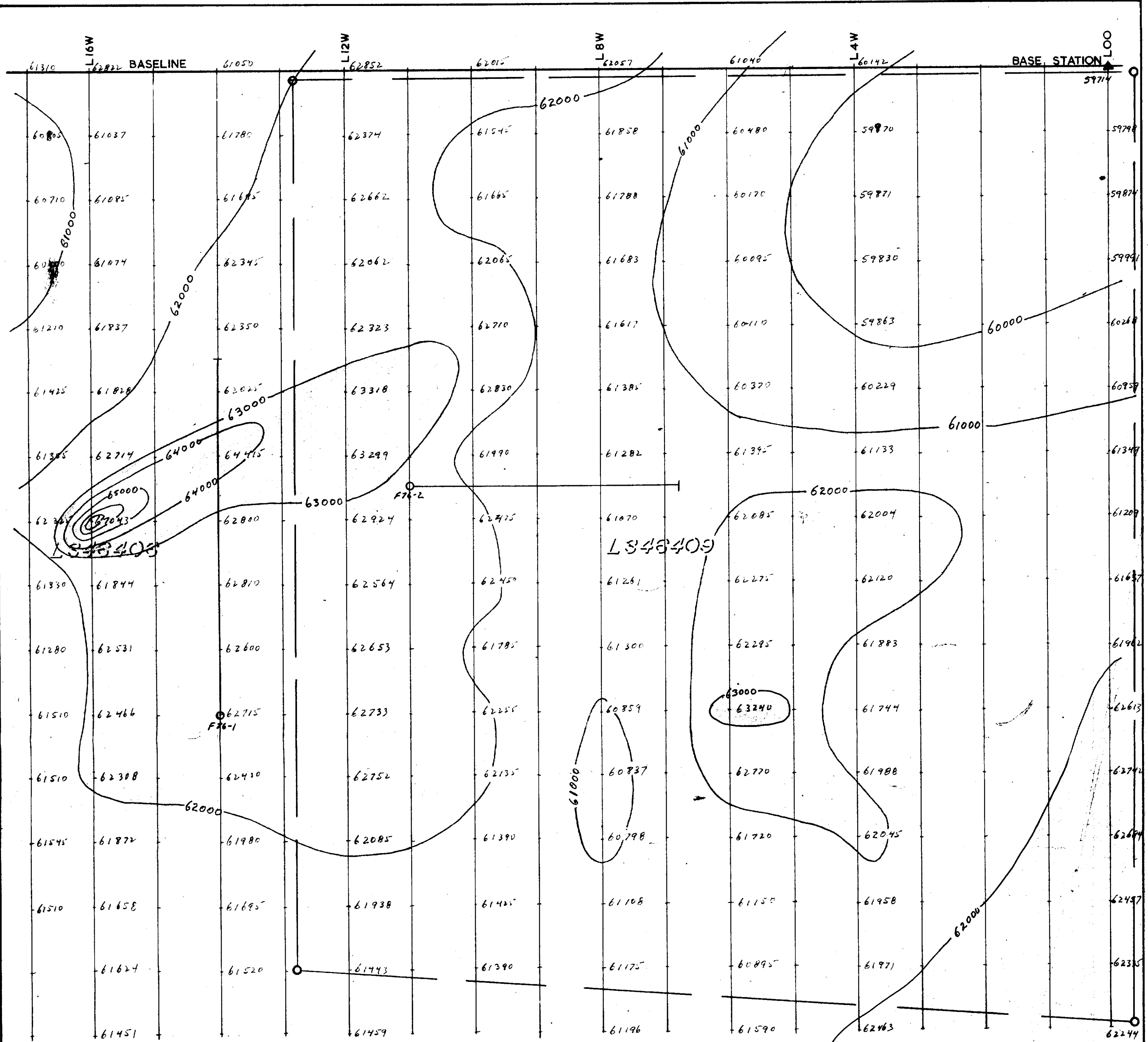
HARPER CONSULTING SERVICES INC.

Willowdale, Ontario  
January 31, 1977.

H. G. Harper, P.Eng.,  
President.













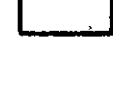
# FIN RESOURCES INC.

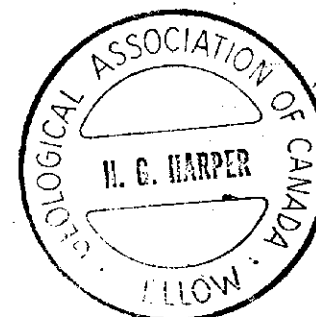
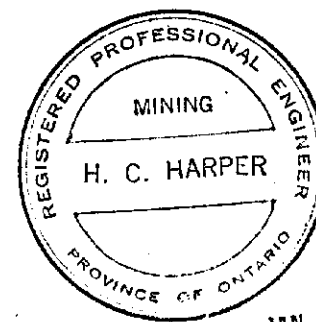
PLAYFAIR TWP

## PROTON MAGNETOMETER SURVEY

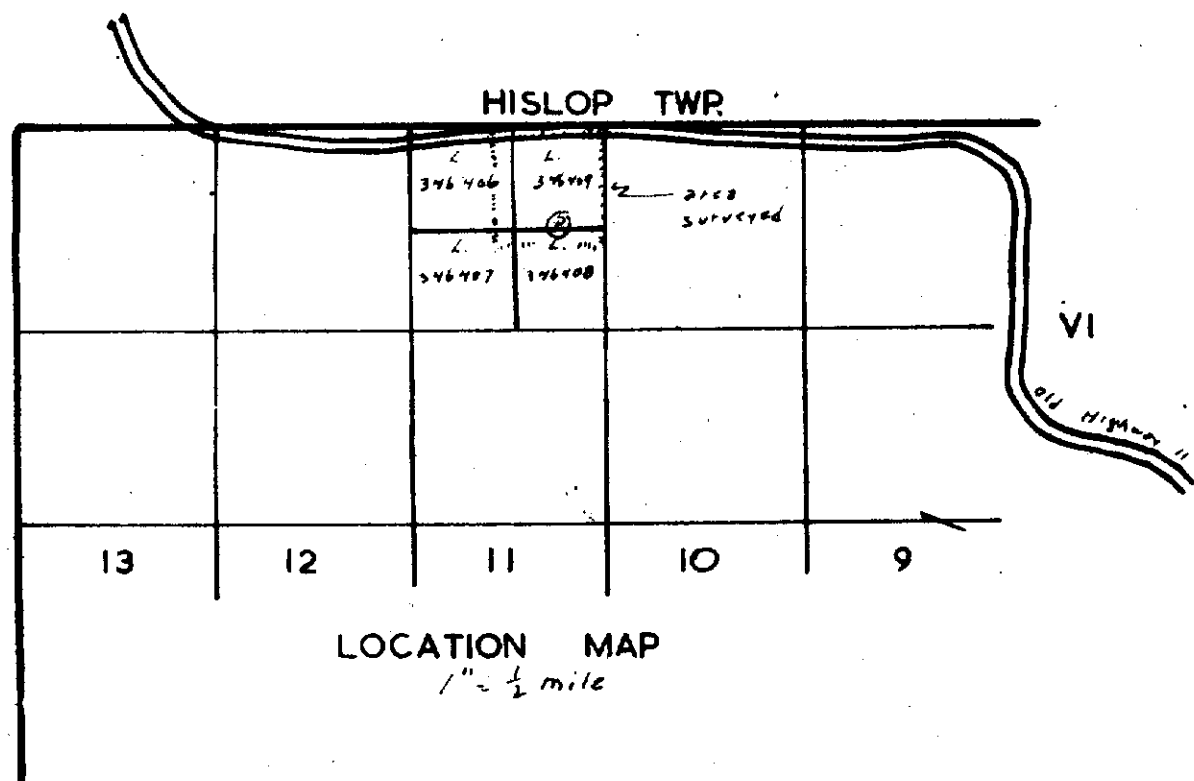
### Total Field Readings

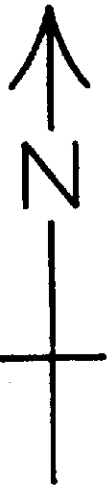
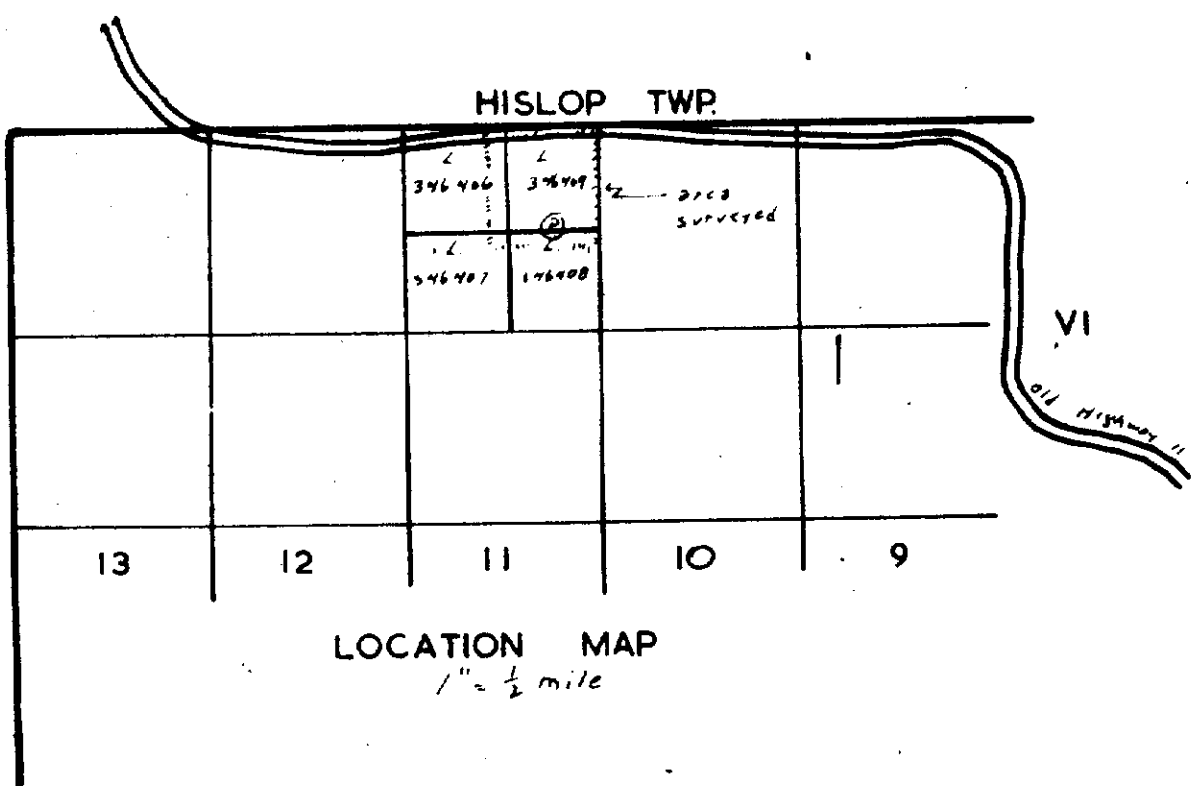
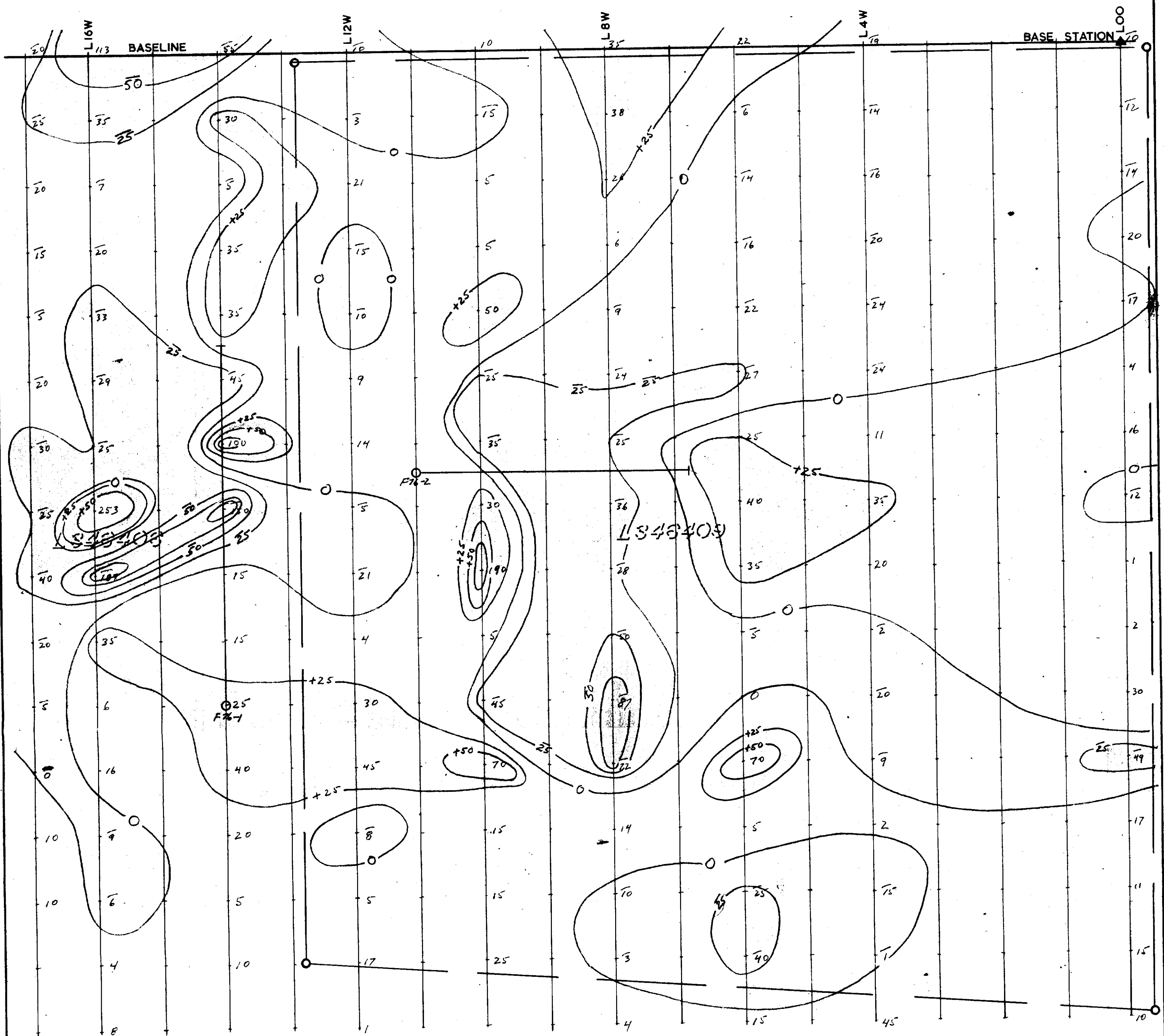
Readings taken 8 feet above ground level

-  over 65000 gammas
-  64000 to 65000 gammas
-  63000 to 64000 gammas
-  62000 to 63000 gammas
-  61000 to 62000 gammas
-  60000 to 61000 gammas
-  under 60000 gammas



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## PROTON MAGNETOMETER SURVEY

### Calculated Gradient Results

Gradient = 8' elevation readings less 12' elevation readings

- over +50
- +25 to +50
- 0 to +25
- 0 to -25
- 25 to -50
- over -50



*H. G. Harper*

