

GENERAL NOTES ON THE ELECTROMAGNETIC METHOD

Electromagnetic measurements are made in degrees of dip angles which represent the attitude of resultant magnetic fields that are caused by induction within a conductor body by an effectively applied primary current of high frequency. These angles are plotted on the accompanying map, either above or below the line of traverse. Readings below the line on a North-South traverse represent northerly dips, while those above the line the converse or southerly dips.

Transmitter coil setups are marked on the map by triangles with letter numbers. From these setups, several lines are read as traversed and correlation of traverse readings from their respective setups are noted.

Conductor axes as shown on the map locate the "Cross-Over" points of readings and indicate the position of the vertical projection of an electrically conductive body.

Electromagnetic anomalies may be the result of either one or several factors in any combination. Sulphides, graphite, carbonaceous material, faults accompanied by wet gouge and shear zones are all providers of conductivity that may show as anomalies. Accordingly, any testing subsequent to Electromagnetic survey should be conducted with a thorough study and appreciation of all pertinent geological data available.

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REPORT OF THE ELECTROMAGNETIC SURVEY ON  
THE DALE MINERAL PROPERTY, YUKON TERRITORY,  
for  
CAMERON DEVELOPMENTS

GENERAL:

At the request of Mr. Angus Cameron, an Electromagnetic survey was conducted during July and August of 1957 on a section of the Dale claims located some 7 miles south of Mile 706 on the Alaska Highway. The section of this property thus surveyed occupies a northerly sloping plateau promontory between the confluence of Freer and Dale Creeks of an altitude of from 3700 to 4400 feet above sea level. The altitude of the Highway at the point of access is 2000 feet.

The object of the survey in the instance of this property was specifically the location of extensions and or parallel conditions to a high grade Lead-Silver deposit located on the map by "Discovery Pit". Terrain of the area in which this deposit was discovered consists of heavy clay overburden, mixed with and largely superficially covered with large angular glacial erratics. This condition is one in which stripping and open cutting are impractical. Lack of water available for diamond drilling except for a short period during the run off presents a difficulty in that particular method of exploration. Accordingly, the Electromagnetic survey was selected as the most efficient means at this point.

The country rock of the surveyed area is Cassiar Batholith Granite. This section has been subjected to a series of east-west faults that occur "ladder-like" across the promontory at intervals of from 1500 to 1500 feet, some of which have been subsequently intruded by diabase. A marked example of this is the "Gulch" noted crossing the surveyed area. An interfault secondary shattering has occurred that appears to be the ideal Silver-Lead entrapment condition of the area and which together with the fault system

presents a parallelogramic pattern of structure.

RESULTS OF THE SURVEY:

By a study of the map, it is seen that an area of considerable extent and definitely open to the east, can be considered as a whole, anomalous. Bearing in mind that in a geological setting such as the Dale that mineral occurrences are not going to exist as simple large body deposits but likely to be numerous, narrow and of high conductivity, it is to be expected that results would be complex and in some instances difficult in interpretation. This was found to be the case, resulting in indications of the entire area bounded northerly and southerly approximately by stations 6 plus 00 and 9 plus 00 respectively.

For breakdown purpose of specific reference, the area has been zoned into A - B, B - C, and C - D.

Zone B - C (discovery zone) shows a strong forking to parallel anomaly south of the Diabase Fault which is interpreted to indicate that the extent possibility of mineralization as found is good. Across the fault, the northwest extension, though somewhat confused, appears very favorable.

Zone A - B shows a definitely delineated pattern of conductors of strength and extent that require exploration.

Zone C - D presents the most extensive anomalous characteristic with an uncompleted picture appearing to be developing on the eastern boundary of the presently surveyed area.

CONCLUSION AND RECOMMENDATIONS:

Evidence gathered concerning this area points to the advisability of underground entry by adit from a point located at approximately 13-00 E and 150 S as shown by location of proposed adit on the map. This entails up to 900 - 1000 feet of crosscut which will be for the greater part in anomalous ground in attaining the location of the ore as found at the discovery location. Results of the intersections would govern advance and lateral work progressively.

The foregoing program is advised in this instance rather than the conventional follow up program of diamond drilling for several reasons, two of the most important being:

- 1) Surface indications plus electromagnetic survey results are deemed sufficient to justify immediate underground entry for the purpose of ore extraction during exploratory development:
- 2) The difficulty of diamond drilling as noted with the probable attendance of inconclusive results in such mineral deposits to which must be added the dead loss of costs toward production.

Estimated cost of the suggested exploratory-production adit is \$35,000.00. Should the type of ore be encountered in the advance of this crosscut that exists in the discovery area, i.e.— Silver-Lead to the value of \$140.00 per ton across a five foot width, then very profitable mining can be engaged in forthwith.

Respectfully submitted,

MIDGLEY MAGNETIC SURVEYS LTD.

PER: 

George E. Midgley, P.Eng..



PLAN OF DALE - SAMMY GROUP  
SHOWING ADIT BURNED DURING  
1958 AT SCALE 1" = 250'

LATITUDE 60°00' N

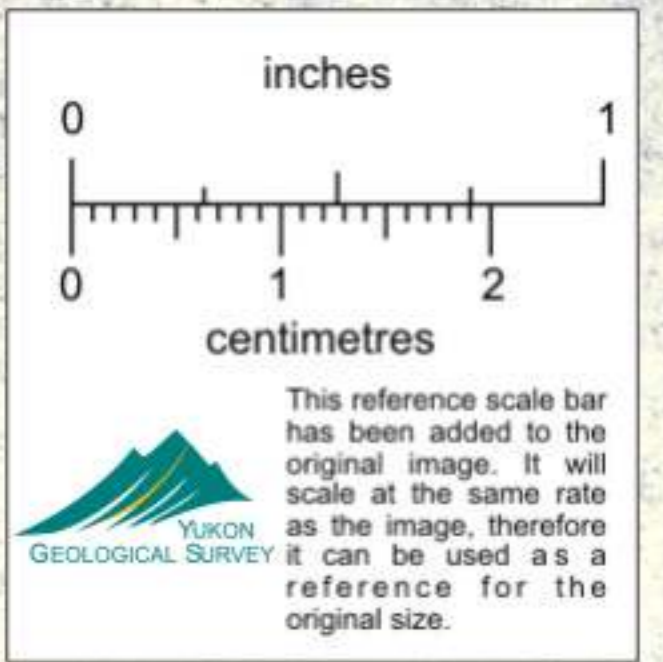
YUKON TERRITORY

BRITISH COLUMBIA

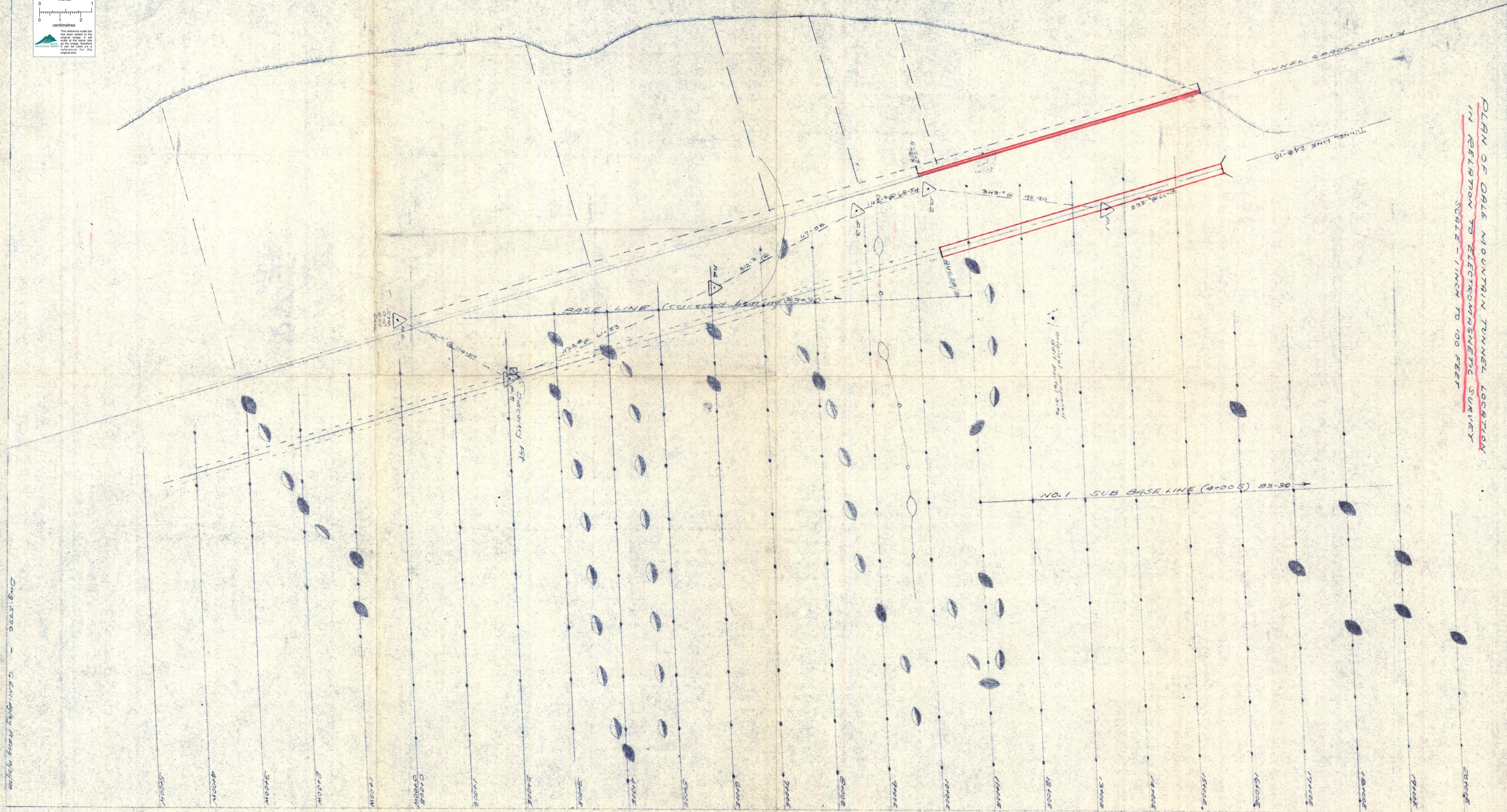
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SECTIONAL ELEVATION OF DALE MOUNTAIN TUNNEL AND  
SURFACE PROFILE RELATIVE TO ELECTROMAGNETIC SURVEY  
SCALE - H & V - 1 INCH TO 100 FEET



PLAN OF DALE MOUNTAIN TUNNEL LOCATION  
IN RELATION TO ELECTROMAGNETIC SURVEY  
SCALE - 1 INCH TO 100 FEET

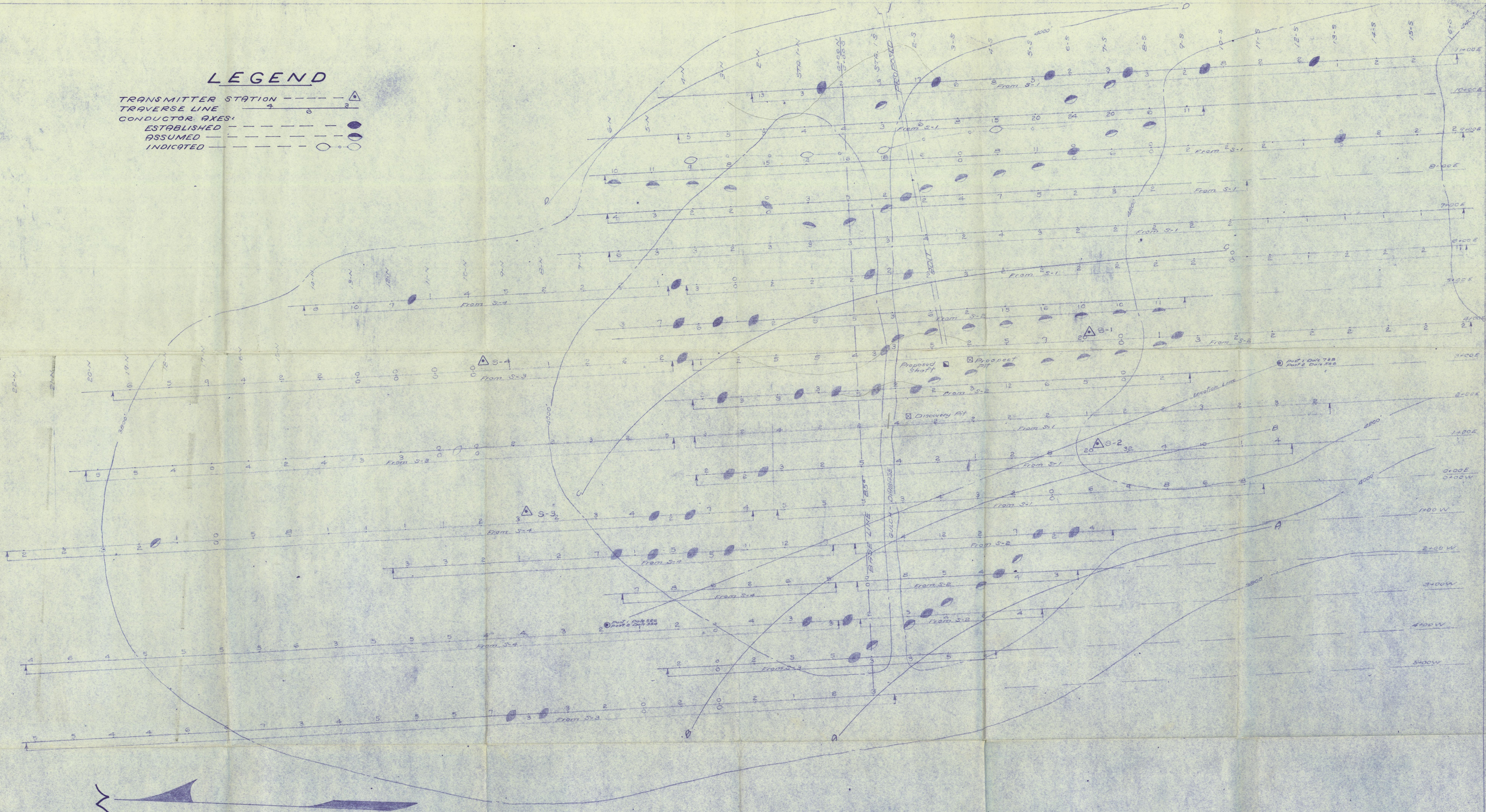


Dwg. 577C - GEOL. SURV. AREA 9/1/59

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**LEGEND**

- TRANSMITTER STATION
- TRAVERSE LINE
- CONDUCTOR AXES:
- ESTABLISHED
- ASSUMED
- INDICATED



**PLAN SHOWING**  
**ELECTROMAGNETIC SURVEY**  
OF DISCOVERY SECTION OF  
**DALE MINERAL CLAIMS**  
FOR  
**CAMERON DEVELOPMENTS**  
BY  
**MIDGLEY MAGNETIC SURVEYS LTD.**  
SCALE: 1 INCH TO 100 FT.

