

113

LANGENFELDER AND SON

82F/1W

REPORT ON THE GEOPHYSICAL
SURVEY OF THE DELAWARE CROWN
GRANT CLAIMS, CRESTON, B. C.

49° 116° SE

COVERING THE FOLLOWING MINERAL CLAIMS:

DELAWARE M.C. L.L.

Wm. P. HILL M.C.

GEORGE LANGENFELDER M.C.

JACK HILL M.C.

C. P. HILL M.C.

JACK HAYDEN M.C.

GEORGE YOUNG M.C.

LOCATION: 1/2 mile N.E. of Creston - 49° 116° S.E.

DATES OF FIELD WORK - JULY 13-26, 1954.

McPHAR GEOPHYSICS LIMITED

GENERAL NOTES ON THE McPHAR ELECTROMAGNETIC METHOD

Electromagnetic measurements are made in terms of "dip angles" and are recorded in degrees. The dip angles measure the amount of distortion of the primary (applied) electromagnetic field caused by secondary fields associated with currents induced in subsurface electrical conductors. These angles are plotted in degrees on the accompanying maps either beneath or to the right of the station from which each observation was taken. Where a minus sign precedes a number, the angle of dip is to the west or south; the absence of a sign preceding a number indicates an easterly or northerly dip angle.

Transmitting coil locations are termed "setups"; each one being marked on the maps with a triangle and bearing a code number. Several lines are traversed with the receiving coil when the transmitting coil is at any one location; the readings on these lines are related to the corresponding setup by the code at the end of each series of readings.

"Conductor-axes" are marked on the maps according to the legend. They are, in general, vertical projections to the surface of the upper extremities of electrically-conductive bodies.

Electromagnetic anomalies can result from either sulphide mineralization, graphite, carbonaceous sediments, fault and shear zones, or any combination of these factors. Consequently,

exploration of a property subsequent to an electromagnetic survey should be based not only on the indicated electromagnetic anomalies, but should take into account all the geologic and physiographic data that can be obtained.

McPHAR GEOPHYSICS LIMITED

REPORT ON THE GEOPHYSICAL SURVEY OF THE DELAWARE CROWN GRANT CLAIMS NEAR CRESTON, B. C.

1. INTRODUCTION

On behalf of Mr. John W. Hill and his associates, Langenfelder and Son, Inc. of Baltimore, Maryland, a series of geophysical tests were made during July 1954 on the Delaware Crown Grant claims which are located near Creston, B. C. These tests were carried out in order to determine whether any geophysical method was suitable for tracing the known galena-bearing quartz veins which occur in this district. Assuming some degree of success in this initial work, it was hoped that it might be possible to trace any extension of the known zones, and possibly locate any others occurring on the property.

It was considered that the electromagnetic method was the most suitable one for an initial test over the old lead workings and if a response were detected, a complete survey of the Delaware Crown Grant claim would be justified. Some self potential surveying was scheduled to determine whether this method might be of assistance as a primary or supplementary exploration tool, and a few water tests were considered advisable also. The results of these geophysical tests are discussed below.

2. DISCUSSION OF RESULTS

(a). Electromagnetic surveying

The results of the electromagnetic work are shown on map No. E-4140 on a scale of 1" = 200'.

The initial test was made in the vicinity of the old mine workings. A frequency of 1000 cps. was used and a weak response was detected near the galena-bearing quartz veins. In order to increase the response and obtain results which might be interpreted more easily, it was considered advisable to carry out the remainder of the electromagnetic surveying at 3000 cps. Systematic traverses were made across the mine workings and the results indicated several small conductive structures. They were correlated with the sporadic, discontinuous galena deposits of the area. From this correlation, the use of the electromagnetic method for locating this type of mineralization appeared justified, and it was decided to continue the surveying over the whole property.

The most significant response in the region of the known mineralization occurs at station 1400E on line 400N. A shallow pocket of conductive material is indicated here (Lens A on the map) which most probably does not extend beyond lines 200N and 600N. Another isolated, shallow lens (Lens B) is suggested by the electromagnetic results near station 1500E at 800N. Lens A and Lens B correlate well with galena deposits in the old workings. The questionable conductor axes indicated on the map to the east of these lenses most probably reflect insignificant bands of mineralization or shearing, but they may be of assistance in

the strike of this type of conductive material is not possible without extensive detailed surveying. Such work is not warranted unless encouraging results are obtained when the recommendations made at the end of this report are carried out.

Between lines 1400N and the southern property boundary in the vicinity of station 1000E, a continuous anomalous zone was delineated, which is shown on the map as Zone A. The conductivity varies considerably along its length, suggesting small pockets of mineralization along some structural feature. The shallowest indication occurs at station 1100E on line 800N. It appears that DDH #7 intersected part of Zone A approximately 300 feet south of this shallow conductor.

Assuming a near-vertical dip to the west, Zone A would be intersected by DDH #7 at about 300' depth. From the log of DDH #7, there was a section of cave around 310 - 313 feet which is probably a vein section. A few nuggets of galena were recovered. However, the conductors delineated by the electromagnetic survey do not appear to go to depth and are probably shallow pockets of mineralization. The vein may widen nearer the surface and the two areas of increased conductivity - station 1075E on line 800N and station 1000E on line 400N warrant testing by diamond drilling to check this possibility. Our recommendations are discussed at the end of this report.

Zone A may terminate near line 1400N. Here, some cross-cutting feature is suggested by the electromagnetic results but its trend is uncertain. The electromagnetic results present a complex

pattern of conductors but none are considered likely to represent mineralization of the type sought. A fault zone or series of small, mineralized shears would explain the results.

Zones B and C exhibit very similar, consistent electromagnetic responses, and they appear to be composed of a series of parallel or subparallel conductive structures. Such long, consistent anomalies seldom result from significant mineralization. They more usually represent extensive shearing and in this case, the anomalies parallel one of the major fault directions of the area. Although a new quartz vein was located at station 5750N on line 3859E, it was not possible to determine its relationship to the electromagnetic anomalies. If pockets of mineralization are associated with the quartz vein, they would be very hard to delineate by electromagnetic surveying, as the other strong conductive structures comprising Zones B and C would tend to obscure their response. We would suggest that some blasting in the vicinity of the exposure might be beneficial. Examination of an unoxidized section would determine the value of the vein and the advisability of further exploration in this part of the claim group. Further work does not seem warranted on Zones B and C unless encouraging results are obtained from the work recommended for Zone A, which is the most promising anomaly of those located by the survey.

(b). Self potential survey

The results of the self potential surveying are shown

on map No. S-4140 on a scale of 1" = 200'. The results were disappointing. No anomalies were located other than those which could be accounted for by the margin of instrument error. It is considered therefore that this method is not suitable for delineating mineralization of the type found in this district.

(c). Water tests

These results were presented in our letter dated August 6, 1954, and are reproduced here so that all the data concerning the Delaware Crown Grant claims are assembled together.

| <u>SAMPLES</u> | <u>LOCATIONS</u> | <u>ANALYSIS</u> | parts/million combined Zn, Pb, Ag, Cu, Sn, Co. |
|----------------|---|-----------------|---|
| #1 | Spring N 3600 | NIL | |
| #2 | Above 5200 Elev. 2100 | 0.03 | |
| #3 | 75'E of 3600 on baseline (drinking spring) | 0.03 | |
| #4 | North fork at baseline | NIL | |
| #5 | South fork | NIL | |

Assuming no contamination from the bottles used, the mineralization indicated in samples #2 and #3 suggests that the method may be used successfully in the region of the Delaware property. We would suggest that additional samples be taken up these streams to ascertain whether any increase in mineral content occurs. These tests should be made with a reliable water kit in order to avoid spurious results.

3. RECOMMENDATIONS

Zone A warrants two preliminary test holes to ascertain whether it corresponds to a widening of the vein section indicated in

DDH #7. These holes, #8 and #9, have been spotted to intersect the most favourable electromagnetic indications along the zone.

The conductive bodies do not appear to go to depth and they dip at a high angle to the west. If for topographic reasons, it is necessary to alter the collar of these holes, they should be planned to intersect the conductive structure at a vertical depth of 100 - 150 feet.

If the drilling results prove interesting, further systematic drilling should be planned for Zone A, and possibly Zones B and C at a later date. However, if only slight mineralization is encountered such as that of DDH #7, it would seem unlikely that the Delaware Crown Grant claims contain important mineralization.

DRILLING SCHEDULE

| <u>HOLE</u> | <u>LOCATION</u> | <u>DIP</u> | <u>BEARING</u> | <u>LENGTH</u> |
|-------------|--------------------|------------|-----------------------------|---------------|
| #8 | 950'E on line 800N | 45° | East along traverse line | 300' |
| #9 | 850'E on line 400N | 45° | East along traverse line | 300' |

4. CONCLUSION

On the basis of the geophysical work, it does not seem probable that the Delaware property contains any large deposit of massive sulphides. However, two indications were recorded which may reflect small pockets or lenses of galena, similar to those already mined near the southern property boundary. Our recommendations are

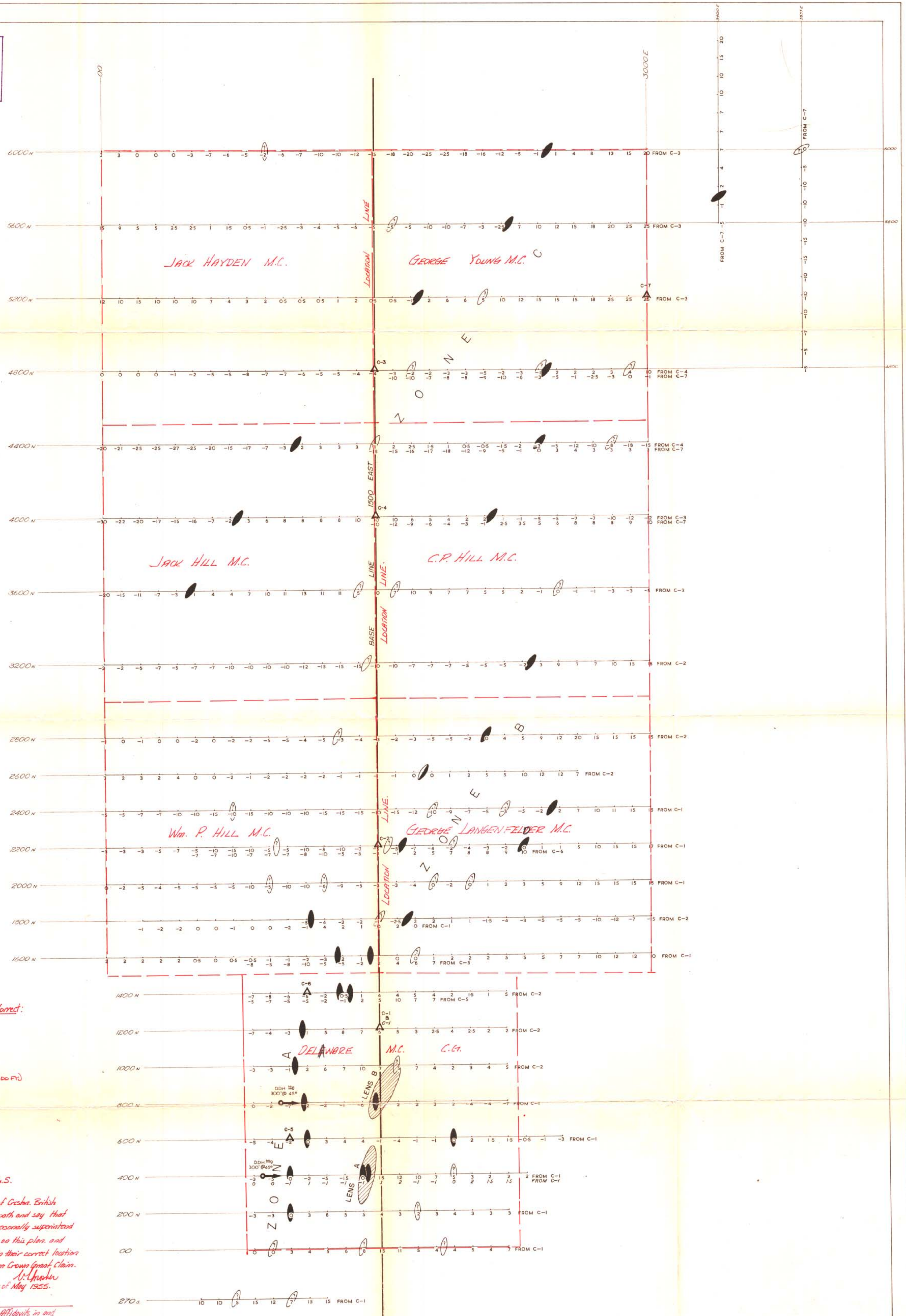
designed to test these indications thoroughly. If mineralization is encountered, we will be glad to assist in outlining a supplementary drilling program.

McPHAR GEOPHYSICS LIMITED

A Burlinson
March 7/55
A. Burlinson,
Geophysicist.

Dated: September 14th, 1954.

NO. 113
MAP #1
ASSESSMENT REPORT
Mines and Petroleum Resources
Department of



Additions in Red Certified Correct:
10/2/55

Note: EPOCH POINT SHOWN (EVERY 100 FT.)
MARKED BY WOODEN HUB.

Additions in Red
by V.L. Mascher B.C.L.S.
I, Vaughan L. Mascher, of Creston, British
Columbia Land Surveyor, make oath and say that
I was present at, and did personally supervise
the survey of the grid shown on this plan, and
that the claims shown are in their correct location
with relation to the Delaware Crown Grant claim.
Sworn before me this 26th day of May 1955.
V.L. Mascher
A Commissioner for taking Affidavits in and
for British Columbia.

#113
MAP 1

DELAWARE CROWN GRANT CLAIMS
CRESTON BRITISH COLUMBIA

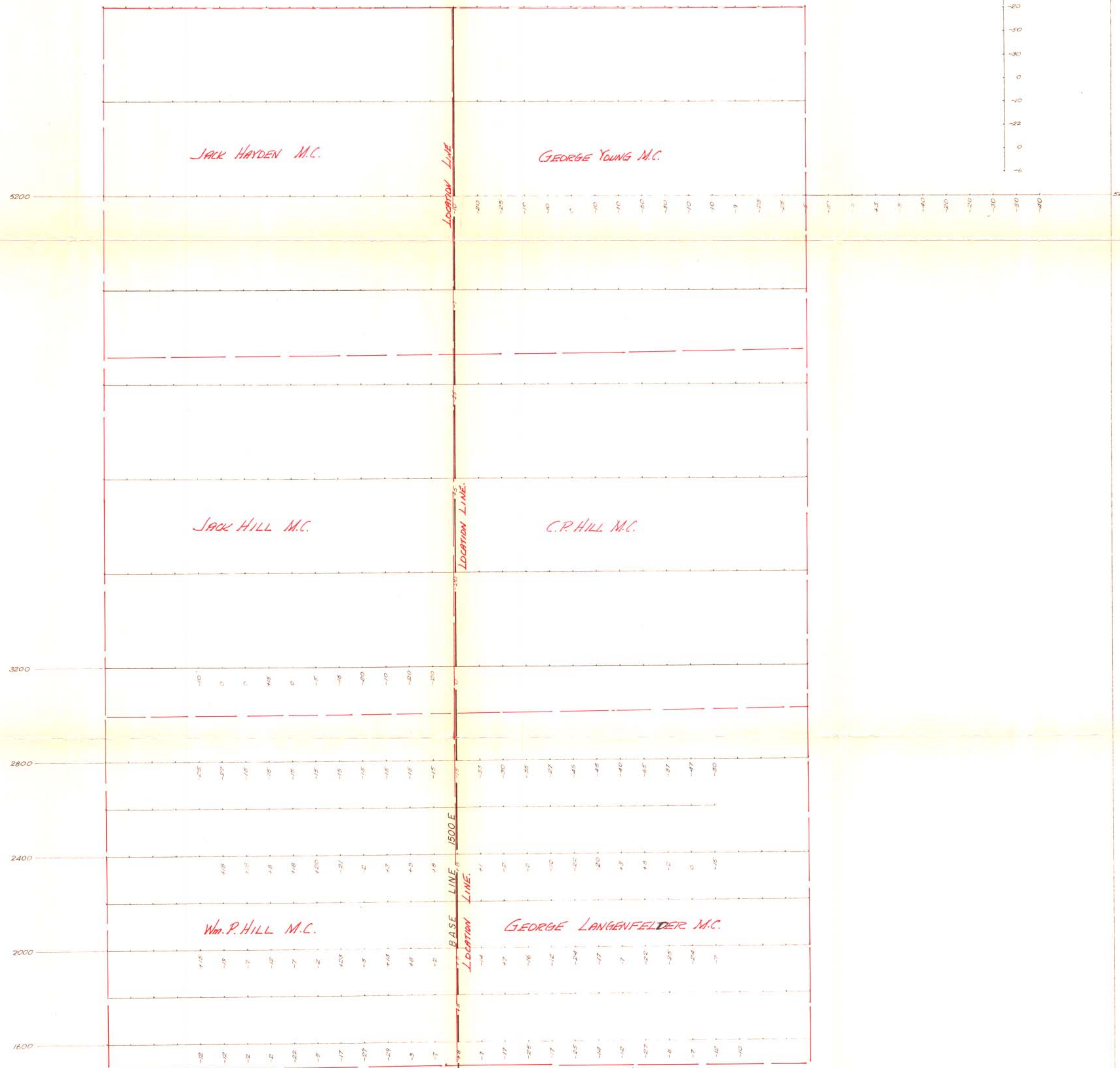
LEGEND
▲ TRANSMITTER LOCATION
○ -○S RECEIVER TRAVERSE AND
READINGS-3000 CYCLE
NOTE: LOCATION OF CORRESPONDING
TRANSMITTER IS INDICATED AT THE
END OF EACH SERIES OF READINGS
○ -○S RECEIVER TRAVERSE AND
READINGS-1000 CYCLE

SCALE: ONE INCH TO TWO HUNDRED FEET

SYMBOLS
● CONDUCTOR AXIS ESTABLISHED
○ POSITION OF CONDUCTOR AXIS
○ UNCERTAIN
○ EXISTENCE OF CONDUCTOR AXIS
○ UNCERTAIN
○ SUGGESTED TEST DRILL HOLE

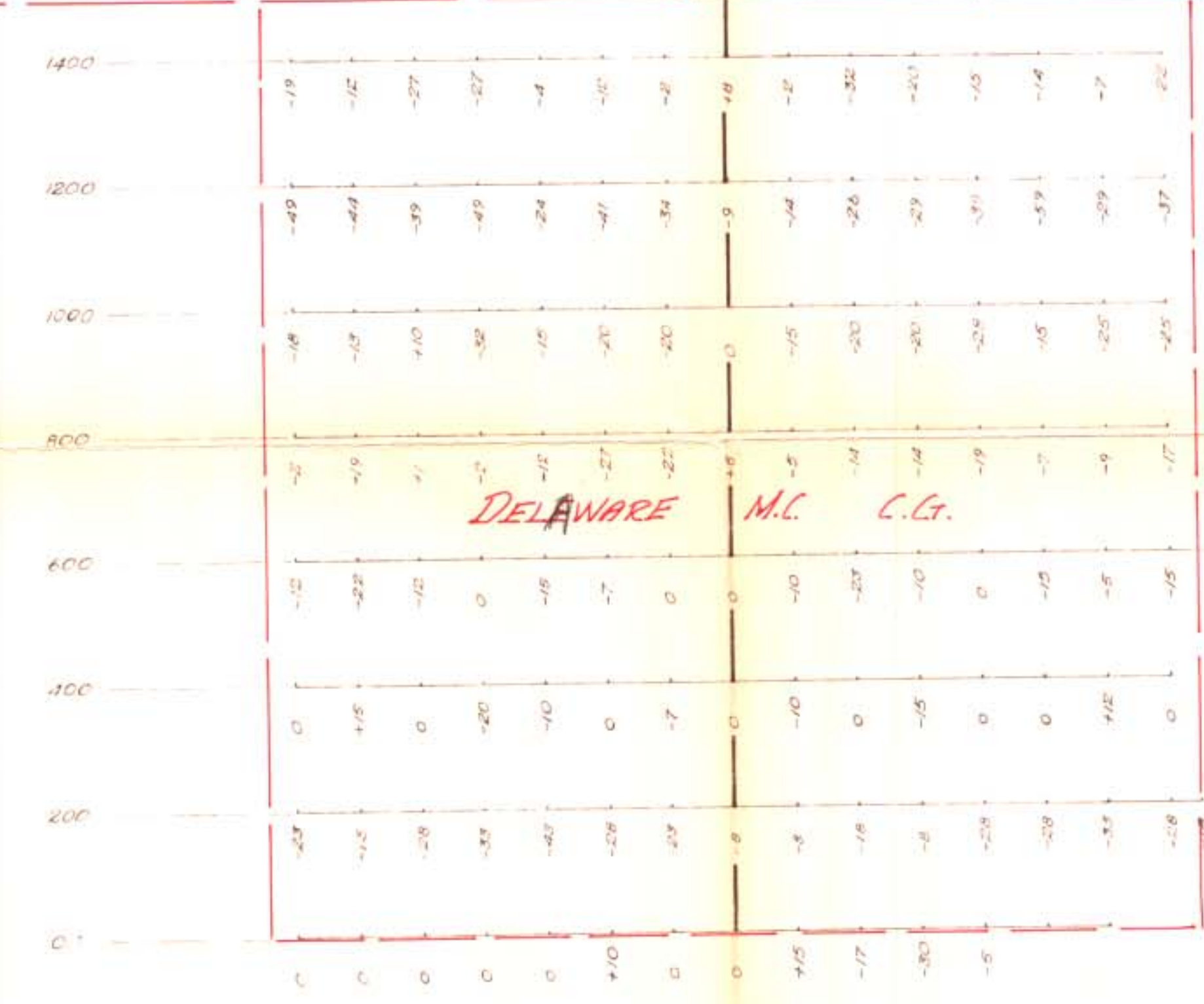
DRAWN R.A. GREER
DATE AUGUST 1954
APPROVED
A. B. ...
DATE
10/2/55

DWG. S4140



Additions in Red Certified Correct
 re: young

Additions in Red
 by V.L. Masher, B.C.L.S.
 I, Vaughan L. Masher, of Creston, British
 Columbia Land Surveyor, make oath and say that
 I was present at, and did personally supervise
 the survey of the grid shown on this plan, and
 that the claims shown are in their correct location
 with relation to the Delaware Crown Grant Claims.
 Sworn before me this 26th. day of May 1955.
 [Signature]
 A Commissioner for Taking Affidavits in and for
 British Columbia.



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 113 MAP #2

DELAWARE CROWN GRANT CLAIMS
 CRESTON BRITISH COLUMBIA

SCALE ONE INCH TO TWO HUNDRED FEET



DRAWN R.A. GREER
 DATE: AUGUST 1954
 APPROVED
 A. Boulton
 DATE
 1/26/55