MR - 119 - 06

GEOMAG GEOPHYSICAL REPORT
of the
BONANZA GOLD INCORPORATED
in the
JUMBO BASIN, PRINCE OF WALES ISLAND, S.E. ALASKA
55°15' North - 132°40' West
September - October, 1964

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GEOPHYSICAL REPORT

JUMBO BASIN

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Plans: 115-1 North Resistive Contours

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115-3 North D.I.V. Vectors

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October 30, 1964

Summary of a Geomag Geophysical Survey of the Jumbo Basin, Prince of Wales Island, Alaska, for Bonanza Gold Incorporated, September and October, 1964

PURPOSE

The purpose of this survey was to utilize the deeper measuring capacities of the Geomag System to determine anomalies that might lead to the disclosure of more extensive mineralization in the area. With the co-operation of Mr. Duval submitting a considerable quantity of mine history, geological and geophysical reports, it is now possible to submit herein, plans having anomalous relations with some of the underground work.

The report is divided into two parts, the first part covering the south section of the Jumbo Basin near the upper terminal of the serial tramway, and the second part referring to the magnetite deposits some 1200 feet to the north.

GEOPHYSICAL INSTRUMENTATION

The Geophysical Survey comprises making precise measurements of the magnetic field components along the traverse lines at regular intervals with close enough tolerance to reveal the magnetic and telluric variations from geological influence.

. . . . Continued.

The entire survey consisted of -

10½ man days surveying

22½ man days staking

4 man days field office plotting

2 man days mobilization

39 field man days

21 man days interpretation and preparation of plans

60 total man days (excluding casual labour)

PART I

"Resistive" contours are shown on drawing no. 115-1 South. The low resistance values are anomalous and usually associated with mineralization.

The line spacing permissable under the rugged topographical conditions is not conducive to extensive contouring and it was therefore decided that the importance of "linear" anomalies superceded the "resistive" anomalies by following the strike of formations. The drawing no. 115-2 shows the topographical surface contours and the strike of linear anomalies L4-5-6-7-8.

Drawing No. 115-3 South is a vector plan including the 1570 foot level and the open stope, also the relative location of strike lines that may be associated with the mineralization found in the mine. L1 represents a linear anomaly extending to the northwest below the 1570 level and L2 represents a parallel strike that appears to originate from the anomaly L5. The anomaly L3 extending to the southeast from L5 is in alignment with the open stope.

It is quite apparent that the stronger vectors are predominantly between the linear anomaly L4 and the linear anomaly L5. The linear strikes L1, L2, and L3 seem to be following the known vein strikes. These are also supported by the resistive contours in drawing no. 115-1 in the vicinity of stations 49, 50 and 53, 54, 55. This again occurs along L1 at stations 128 and 129, plus 130, 131, 132 and 137, 138.

SUMMARY

The linear anomalies L1, L2, and L3 are listed in accordance with their evaluation. L1 appears to extend considerably downward from the 1570 foot level in a slightly westerly dip. L2 unfortunately has not sufficient control to be closely oriented but indicates considerable strength for a distance of about 400 feet.

The L3 strike continues to the south close to the stope mineralization and maybe the southern extension of L2. L5 has indications of mineralization and maybe a fault. L6 is relatively weak and could represent the contact strike. The anomaly L7 and L8 appear to be dykes.

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The stronger vectors at the extreme northwest end of the survey appear to indicate the first increased mineralization approaching the magnetite ore body on Jumbo No. 1-A. The vectors and the low resistance contours on the west end of L1-N suggest the mineralization follows along this strike. The same general condition prevails on the northeast end of L3-N with the low resistance contours shown on drawing 115-1 in the vicinity of Station 99 coinciding with the stronger Vectors.

CONCLUSIONS

Reference should be made to the drawing 115-4 for overall orientation and relative locations of this survey and the associated workings of the mine. There are two areas of important anomalous interest and are best indicated by the strength of the Vectors. In part I of the southerly half of the survey, the values of the vectors are all relatively smaller than the vectors near the magnetite in part II of the northern portion. This is attributed to the ore mined in the vicinity of the Number 4 Adit at the tramline terminal having a much lower percentage of magnetite with higher percentages of associated sulphites. In view of this, the anomalous area between L5 and L7 shown on plan 115-2 south extending to Line 1 shown on plan 115-3 south and beyond as indicated on the resistive plan 115-1 south is the southern area of greatest potential. The vector angles suggest depth on the northwest portion of the linear anomaly L2 that could be in excess of 300 feet.

The vectors to the southeast indicate the general structure principally derived from dykes and faults, etc., however low resistance areas on Plan 115-1 south suggest disseminated mineralization, with very little magnetite, following the strike pattern. The vector and resistive

anomalies that have been shown in the southern portion appear to be valid and should form a basis for detailed geological investigation.

The area of heaviest mineralization in the northern portion of the survey as indicated by the very strong vectors and the low resistance hatched areas of the resistive anomalies, are undoubtedly caused by magnetite deposits. The vector pattern of the strongest anomalies indicates two parallel ore bodies, one in the vicinity of station 126 and the other in the vicinity of station 145 as shown on the resistive contours in plan 115-1 North. These two strong magnetite bodies may join to the northwest, just south of station 145. The polar indications show massive ore deposits in a near vertical plain. Further measurements at lower elevations should be made to confirm the extent prior to drilling. The apparent linear anomalous tie along 11 North towards the northwest to the magnetite deposits on Jumbo 1A should act as a guide for geological investigations. For relative locations refer to plan 115-4.

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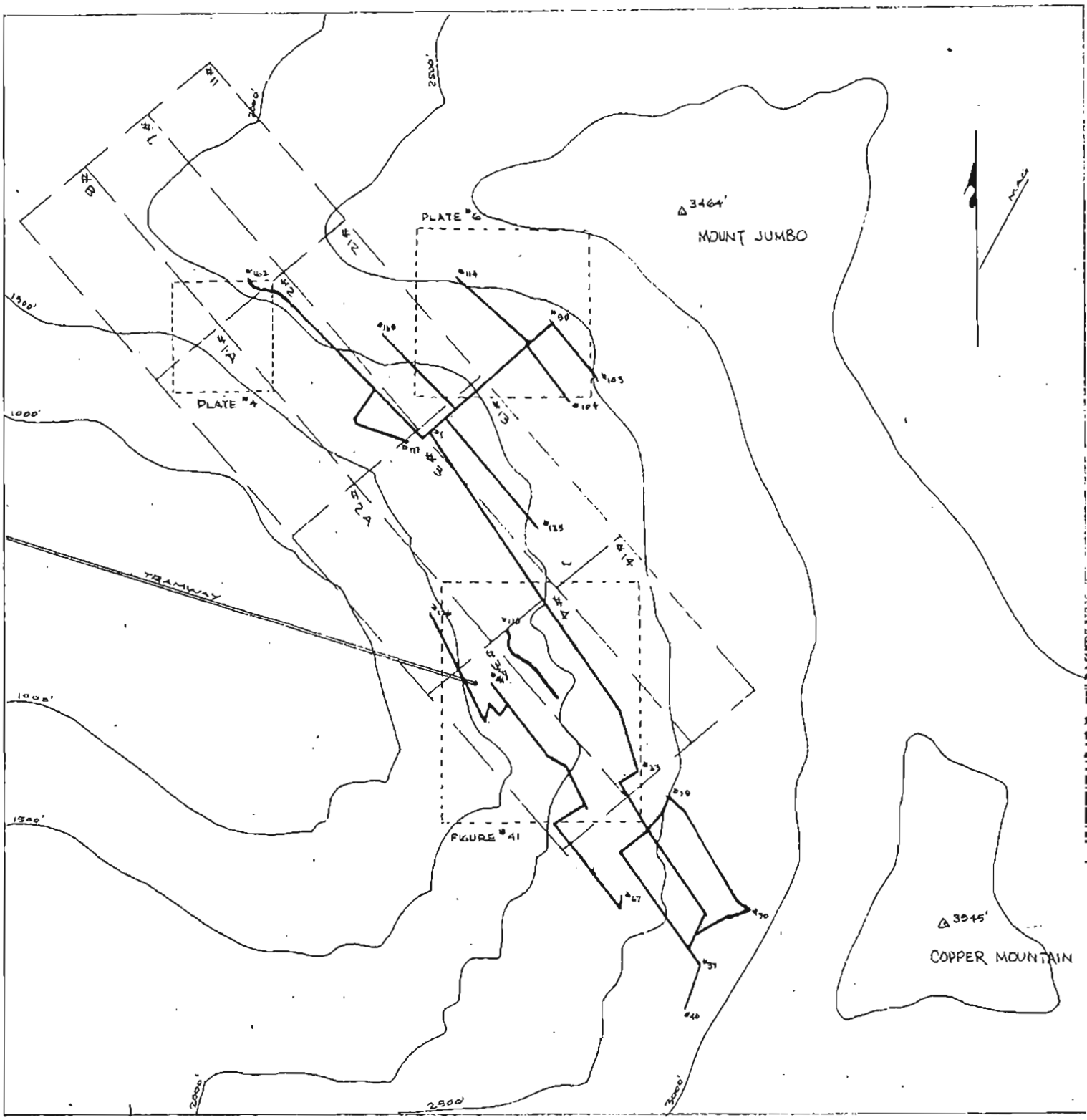

NOV. 3 1964.

SCALE = 1" = 1000'

E.G.S. SURVEY PLAN NO. 115-

HEAVY LINES INDICATE APPROX. LOCATION OF SURVEY LINES
DASHED LINES INDICATE APPROX LOCATION OF CLAIMS
DOTTED LINES INDICATE BOUNDARIES OF GEOLOGICAL PLANS
FROM GEOLOGICAL SURVEY U.S. PAPER 251. 1953.

November 3, 1964

Part II of the Geomag Geophysical Survey of Report 115 for Bonanza Gold Inc., of the Jumbo Basin Area, Prince of Wales Island, Southeast Alaska.

Part II portion of the report covers the northern half of the survey as indicated on the Drawings 115-1, 115-2, North and 115-3 North. These drawings overlap the equivalent number of drawings of the southern portion at stations 7, 8, and 9, and stations 124, 125. Referring to both the Vector Drawings 115-3 it will be noted that the vector value are greatly reduced north of the linear anomaly L-4 located in the vicinity of station 10.

Strong anomalies begin again at Station 88 and are particularly strong in the boundaries of the linear anomalies L-1 North, L-2 North and L-3 North. The vectors from stations 140 through to 147 have high values that can be attributed to a magnetite horizon in the immediate vicinity. The vector angles suggest nearly vertical polarization of the ore mass, possibly dipping a few degrees to the southwest. The consistently strong vectors in the vicinity of L-1 N. suggest this linear formation is the northern boundary of mineralization and it is interesting to note that the strike to the northwest of L-1 N leads to the known magnetite ore body on Jumbo 1-A. (See Plan 115-4)

The anomaly L3-N to the northeast appears to be the boundary of the mineralization to the south with all readings on the vectors being higher on the northern side. This would indicate L3-N is roughly representative of the contact region.