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GEOCHEMICAL SURVEY AND GEOLOGY
of the
GAIL 1-50 and GMGW 1-100 CLAIMS
OMINECA MINING DISTRICT, BRITISH COLUMBIA

for

LEWES RIVER MINES LTD.
355 Burrard Street
Vancouver 1, B.C.

by

A.R. Archer, P.Eng.

Archer, Cathro & Associates Ltd.

January 15, 1971

Geochemical Survey and Geology

Arche + Cathro

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INTRODUCTION

During the period October 15 to October 29, 1970, Archer, Cathro and Associates Ltd. conducted, under contract, a program of geochemical sampling on a 150 claim property owned by Lewes River Mines Ltd. in the Goosly Lake area, British Columbia. Outcrops observed while soil sampling were identified and a geological map prepared. The field crew consisted of P. Tredger (geological engineer), R. Dennett (senior field man), K. Carswell, D. Tuttle, G. Piper and J. Rance (field men). The project was organized and supervised by the writer, A.R. Archer, P.Eng.

PROPERTY, LOCATION, ACCESS AND HISTORY

The property consists of the contiguous Gail 1 - 50 mineral claims (record numbers 84409 to 84458 respectively) and the GMGW 1 - 100 mineral claims (GMGW 1 - 39 with record numbers 87135 to 87173 respectively, GMGW 40 with record number 87173A, and GMGW 41 - 100 with record numbers 87174 to 87233 respectively). Figure 2 shows the location of posts that were found in the field.

The property lies 20 air miles southeast of Houston, B.C., at latitude 54°08'N and longitude 126°25'W. It is accessible by the all weather "Buck Flats" gravel road that services a logging operation at Goosly Lake. Several logging roads passable to pick-up truck during dry weather branch from the Buck Flats road and cross the property.

No evidence of previous mining or exploration activity was found during the geochemical survey. The claim area was examined briefly in September and October, 1969, by consulting engineer D.W. Tully and the writer had access to Mr. Tully's report.

GEOLOGY

Regional

A significant copper-silver deposit was outlined in the Goosly Lake area by Kennco Explorations (Western) Ltd. from 1968 to 1970. The main zone of mineralization is in Mesozoic pyroclastics lying between an Eocene feldspar porphyry stock to the east and an Eocene granitic stock to the west. Although the granitic stock is weakly mineralized with copper and molybdenum, no definite genetic relationship has been proven between the intrusions and the mineralized Mesozoic pyroclastics.

The Mesozoic series, ranging from shale to conglomerate with a thick section of light-coloured tuff, is capped by Tertiary volcanics. The intrusive stocks cut the Mesozoic and the lower portion of the Tertiary sequences. The youngest Tertiary volcanics are mainly basaltic and cap the intrusions. Most of the outcrops in the Goosly Lake area are composed of Tertiary volcanics.

Property

Only six definite outcrops were found in the Lewes River property (see Figure 2). Most of these are on the northern portion of the property as a light snowfall impeded recognition of outcrop when the southern portion of the property was being soil sampled. Outcrops 1, 2 and 4 are vesicular, fine grained, light brown dacite of the older Tertiary volcanic series. Outcrop 3 is a dark green altered tuff of the Mesozoic sequence. Outcrops 5 and 6 are fresh equigranular hornblende diorite. The diorite at outcrop 5 contains minor disseminated pyrite. Assuming that angular rock fragments found as float are fairly close to their source, most of the property is probably underlain by the older Tertiary volcanics and altered Mesozoic pyroclastics and sediments. The probable extent of the diorite stock, based on float, is shown on Figure 2. An outcrop of monzonitic granite, reported by D. Tully to occur on the western side of the property, was not found.

The property is heavily wooded with gentle rolling hills rising above flat areas of swampy ground. Streams are rare and relief is only 600 feet with the highest point being 3400 feet above sea level. Underbrush is light. Walking is difficult in logged areas due to slash. Overburden in the hilly areas is a combination of glacial and residual till of unknown depth. Other than a few small drumlins, accumulations of glacial till are not obviously extensive.

GEOCHEMICAL SAMPLING

Technique

Chained baselines were cut along the claim location lines and station points were established at 400 foot intervals with three foot lath pickets. Soil samples were taken at 400 foot intervals between station points on the baselines. Sample points were located by pace and compass and marked with an 18-inch lath picket that was numbered with a co-ordinate relative to the baseline from which pacing originated. Baselines and sample lines were marked with orange glow flagging. Stream sediment (silt) samples were taken when a sample line crossed a creek.

Soil samples were collected in standard Kraft bags from the "B" soil horizon from pits dug with a mattock grub-hoe. Organic cover on the "B" horizon varied from a few inches to over twelve inches depending on hill slope. In hilly areas the "B" horizon is a medium brown clay soil while in swampy areas it is white-brown and appears leached. Samples were oven dried, screened to -60 mesh and analyzed for copper and silver by Chemex Labs Ltd., North Vancouver, B.C. Analyses was by atomic absorption spectrometry of a hot nitric-perchloric extraction of the -60 mesh fraction.

Results

Copper values are plotted on Figure 3. Background is in the range of 18 to 20 parts per million (ppm). About 10% of

the values exceed 40 ppm and these can be considered anomalous. Contouring 40+ ppm outlines three fairly well defined anomalous areas, referred to on Figure 3 as anomalies 1 to 3. A graph of normal and log-normal distribution of copper values is shown on the following page. The well defined dog-leg on the log-normal graph indicates the existence of two separate geochemical distributions. The fact that sampling near the three outcropping rock types shows only background values indicates that the second, more anomalous distribution, is caused either by mineralization or by a non-outcropping rock type with a higher background.

Silver values are plotted on Figure 4. About 10% are 1.0 ppm or greater and can be considered anomalous. A comparison between copper and silver values indicates a direct relationship with silver showing a similar, but slightly subdued, anomalous pattern.

CONCLUSIONS AND RECOMMENDATIONS

The log-normal plot of the copper values indicates that the +40 ppm anomalies are real. The fact that the copper anomalies have associated silver anomalies indicates that the source is more likely copper-silver mineralization than an unexposed high background rock type.

Further work on the property is justified and should consist of IP and magnetic surveys over the three copper

FIG. 5

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NORMAL AND LOG-NORMAL DISTRIBUTION COPPER

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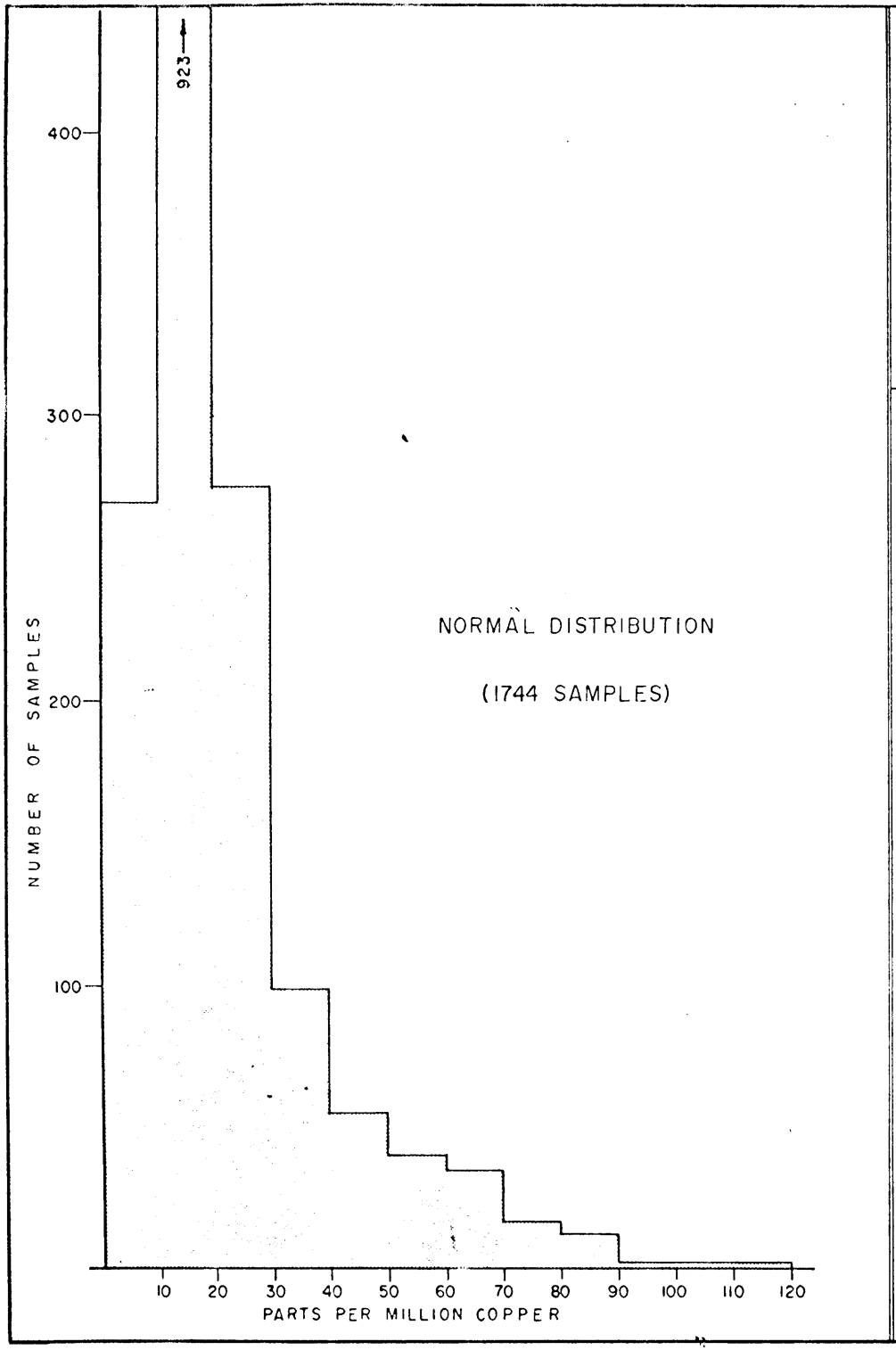
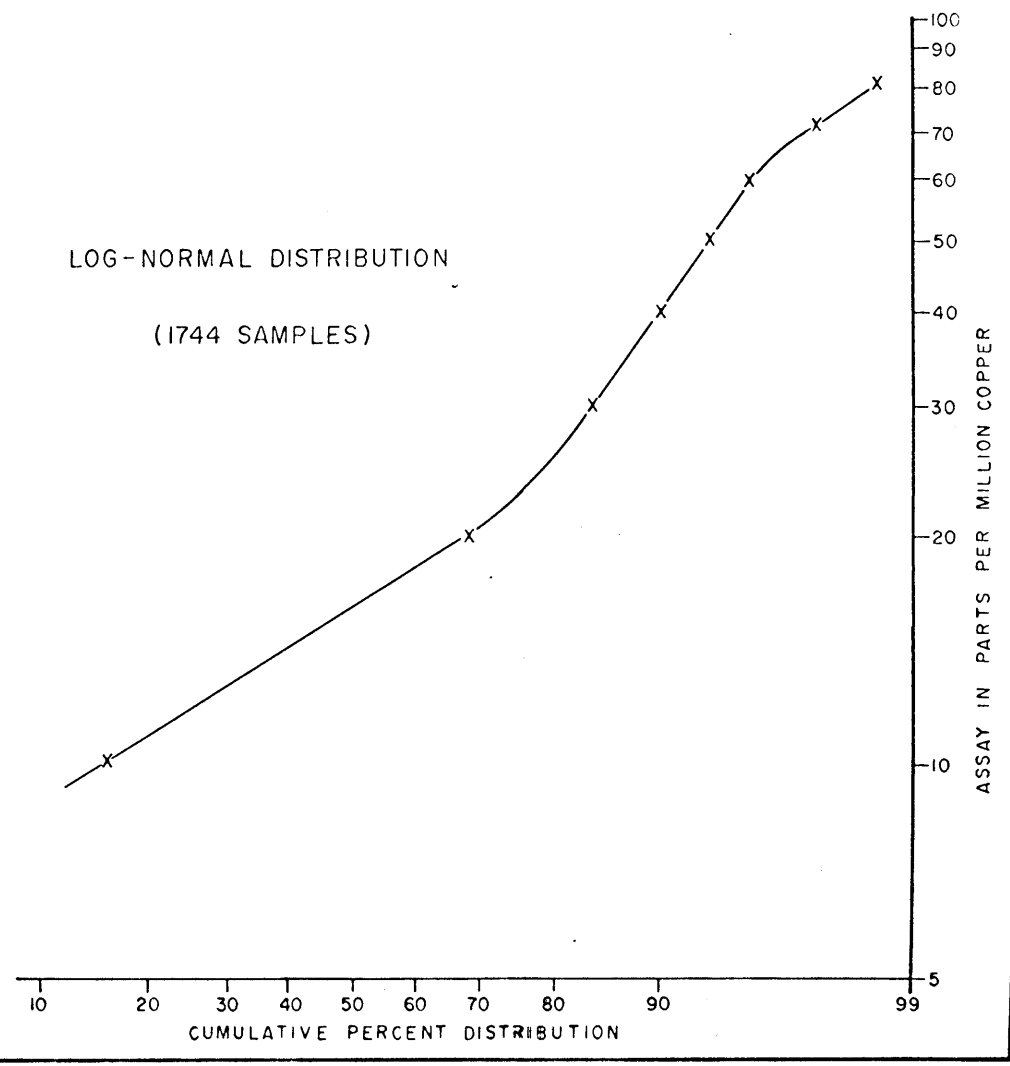
GOOSLY LAKE PROPERTY, HOUSTON, B.C.

JAN. 15, 1971





anomalies followed by bulldozer trenching and/or diamond drilling of geophysical targets. Anomaly 1 should have first priority as it has the largest areal extent (about 3000 feet by 400 feet) and the most geologically favourable position being near the diorite intrusive.

Respectfully submitted,
ARCHER, CATHRO & ASSOCIATES LTD.

A.R. Archer, P.Eng.

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