

3121

GEOLOGICAL & MAGNETOMETER REPORT
ON THE MARINER GROUP OF CLAIMS
SPANALLEN MINING LTD. (N.P.L.)

93A/1111

PREPARED BY

PRIMAC EXPLORATION SERVICES LTD.

Maps

#1 Mag. Survey

Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. 3121 MAP

April 20, 1971

INTRODUCTION

At the request of Spanallen Mining Company Limited, Primac Exploration Services Ltd. carried out some reconnaissance magnetometer survey on their property situated in the Cedar Creek area, Cariboo Mining Division, British Columbia.

PROPERTY

The property consists of some twenty five contiguously located mineral claims known as Mariner "C" 1 to 25, record numbers 48709 to 48733. The above claims are recorded at the Mining Records Office in Quesnel, British Columbia.

LOCATION AND ACCESS

The property is situated approximately six miles east, south-east of the village of Likely, British Columbia. Likely is some fifty-two miles from the One Hundred and Fifty Mile House, by a good gravel road. The property is accessible by a fair dirt road from Likely and it leads to the Cedar Dam, which is situated at the southern end of this property. Cedar Creek runs along the center of these claim groups.

TOPOGRAPHY AND VEGETATION

Elevation encountered on the property would be from 3000 feet to 3500 feet above sea level. The property lies in a valley between the Spanish Mountain on the east and Mount Warren on the west. The area of the property is forest-covered with sub-commercial and commercial fir, pine and

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alder. The climate is temperate, with a fairly heavy seasonal rainfall.

GENERAL STATEMENT AND REGIONAL GEOLOGY

The Cariboo Mining Division has attracted many prospectors to search for rich gold placer deposits for more than a century. Many placer gold deposits were found and operations were carried out successfully. Even today, small scale gold placer-operations are being carried out. But in the very recent years, mining companies and prospectors are moving into this area, with a slightly different object of finding copper prospects. Properties with a low, economically feasible grade and large tonnage, have taken the shape of producing mines in past few years in British Columbia. The steady increase in the price and demand for copper has induced many prospectors to look for such copper deposits and it is believed from the regional geology that the Cariboo division is best suited for this new venture. Many of the old workings in this area reveal copper mineralization, but since the copper value was very insignificant, it completely escaped the attention of the "Old Timers".

The regional geology of this area is not simple. Multiple deformation has rendered most of the rocks schistose and tightly compressed in complex repetitive fold. Due to high metamorphism and by the intensity of hydrothermal alteration, many rock types have changed their original texture, structure and composition. Poor rock exposure in this area is the major reason for the difficulties in obtaining more information from geological mapping.

The south-eastern part of Cariboo district is underlain by complex metamorphic rocks of precambrian to the mesozoic era. Rocks of upper triassic to upper jurassic are predominant. Majority of the type of rocks in this area are the basic variety, of which dark green pyroxene-rich andesites of

different textures are very common. It is believed that during the latter part of jurassic, rocks of acidic and intermediate character intruded these older formations along the plane of weakness and fault zones.

Structure in this area is highly complex but in general a broad antichinorium is reported. The axis thereof trends north-west and runs for several miles. Numerous drag folds are believed to be present in this area. The major fault systems trend north-west, which has developed many minor cross faults and fractures perpendicular to it.

GEOLOGY

A great majority of this property is covered by an overburden of varying depths. Outcrops are scarce, but when noticed, they are mostly of volcanic andesitic group of rocks, believed to be of middle or upper jurassic age. This group consists of dark green pyroxene bearing andesitic agglomerate, breccia and minor tuff. These andesites are chloritized with an abundance of secondary epidote, which are mostly rich in pyroxenes. Chloritic schists and argillites were noticed in limited exposures along the Cedar Creek bed.

The structure in this area is characterized by the north-westerly trends of the major fault systems. The north-east boundary of this property is flanked by the major fault system in this area. There are few indications of less well developed fracture-systems striking north-east. These fractures could be contemporaneous to the major fault systems in this general area. Both, the government air-borne magnetic map 1533-G and the ground magnetometer survey map, indicate a possible fault running through the middle of the property which co-incides with the Cedar Creek. To sum up, Cedar Creek could be the expression of the existing fault. Since the mineralizations are mostly noticed along the creek bed, this fault and the adjacent areas could be of some economic interest.

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MINERALIZATION

Some of these outcrops are heavily mineralized with pyrite. Mostly pyrite is disseminated, but sometimes cubes of 3/4" are also noticed. Fair amounts of chalcopyrite are associated with pyrite. Small valves of gold are present in some of the samples. These mineralizations appear to be structurally controlled as they are present along the shear zones, slips and joint planes. In places, pyrite is highly oxidized and appears rusty.

Some five miles east of these claims is situated the Cariboo Bell Mines Ltd. (N.P.L.), who have come up with a substantial tonnage with approximately 0.515% copper. Ardo Mines Ltd. (N.P.L.) is situated some five miles north-west and recent drilling on their property has indicated good potentials.

MAGNETOMETER SURVEY

A magnetometer survey using a fluxgate MF. 1 instrument was carried over the pre-cut grid lines on this property. Readings were taken at every 200 feet intervals. These readings were plotted, and the results are as follows:

"I have perused G.Sc. Map 3-1961, Geology, Quesnel Lake; G.S.C. Map 1533-G, airborne magnetometer survey, Hydraulic area, British Columbia and the results of a ground magnetometer survey executed by Primac Exploration Services on the Cedar Creek claim group.

The airborne magnetometer survey reveals a distinct north-westerly trending magnetic gradient lying just west of the property which would normally be interpreted as a contact between rock types of different magnetic susceptibilities. The geology map shows the entire area of the aeromagnetic sheet to be underlain by Triassic and Jurassic rocks, mostly volcanics, intruded in places by Jurassic or Cretaceous acidic intrusives. No change in rock type has been mapped which may correspond to the

abrupt change in magnetic susceptibility.

A mapped intrusive about five miles west of the property is characterized by a circular magnetic high of the order of 2000 gammas relief. The base metal sulphide deposit being developed by Cariboo Bell Mines Ltd. lies within this intrusive.

Various linear magnetic features are seen on the airborne magnetic map, some of which may reveal faults. One weakly defined lineament trends east-west just north of the Cariboo Bell intrusive and traverses the property in the vicinity of Cedar Creek.

The limited ground magnetometer survey carried out by Primac Exploration Services reveals a total magnetic relief of the order of only 300 gammas. There is no distinct contour pattern so that no interpretations as to rock types or lineaments can be made.

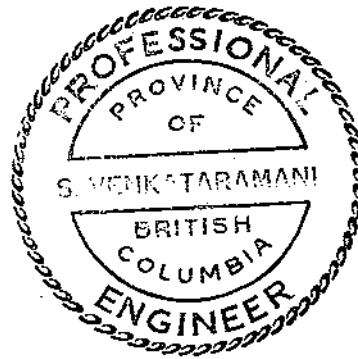
There is an association of magnetite with chalcopyrite in the Cariboo Bell deposit. If such a deposit may occur on the Cedar Creek claims, an extension of the ground magnetometer survey may therefore be warranted. The east-west trending lineament near Cedar Creek is a very subtle feature on the airborne map and may not be seen on a ground survey. On the other hand, some magnetic features associated with ore mineralization may not be discernable from an airborne survey. Predicated on a geological appraisal, further ground magnetometer surveying may be in order. It is considered however, that the induced polarization method may be the most efficient technique to directly locate a large tonnage, low grade base metal sulphide deposit."

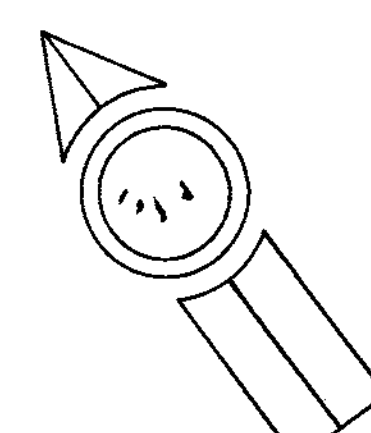
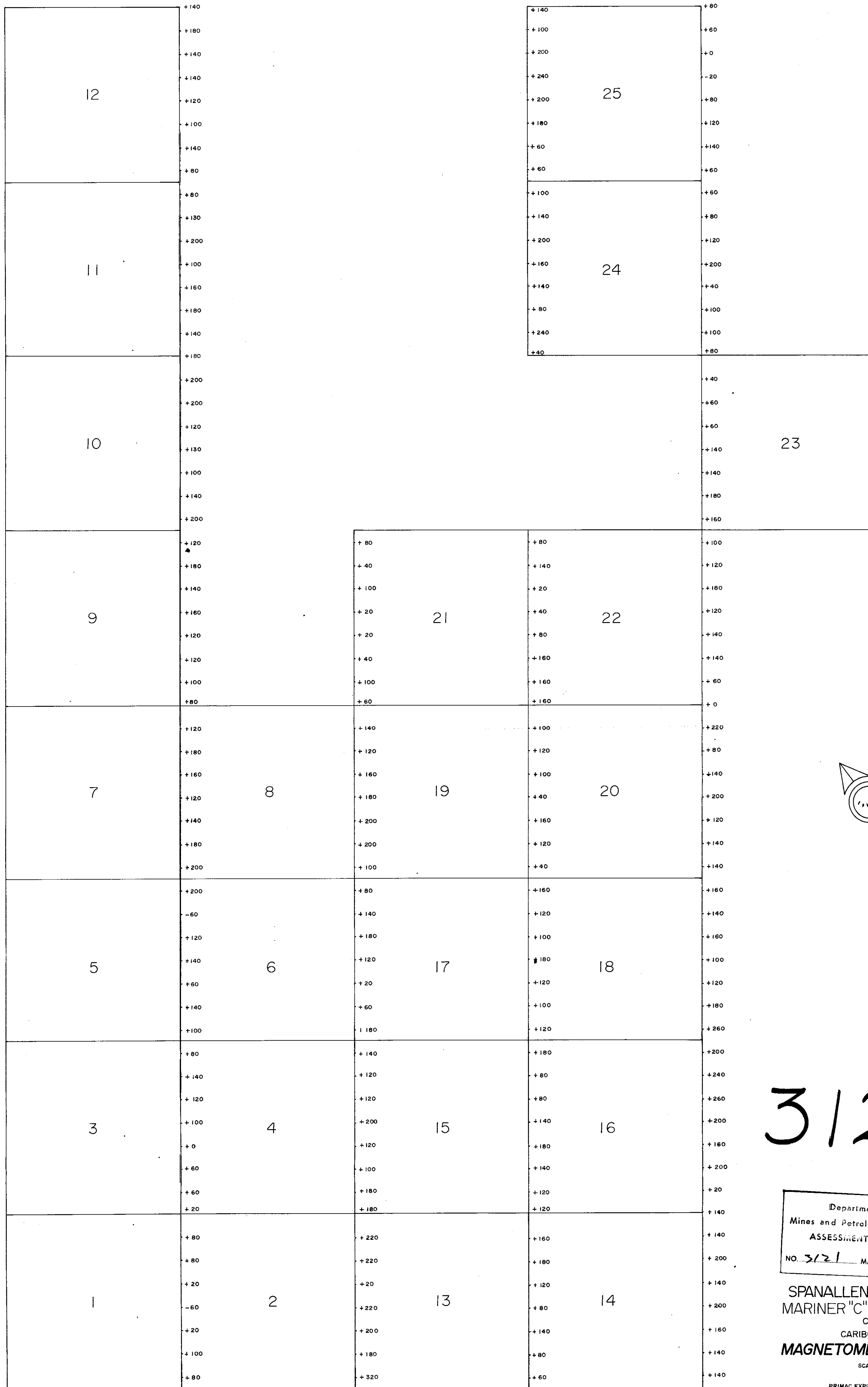
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Respectfully submitted,



S. Venkataramani, M.Sc., P.Eng.



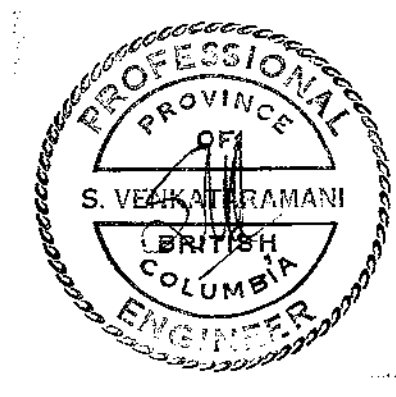


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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3121 MAP #1

SPANALLEN MINING CO. LTD.
MARINER "C" GROUP OF CLAIMS
Cedar Creek Area
CARIBOO MINING DIVISION
MAGNETOMETER SURVEY MAP
SCALE = 1" = 400'

PRIMAC EXPLORATION SERVICES LIMITED



BASELINE A BASELINE B BASELINE C BASELINE D