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SUMMARY REPORT

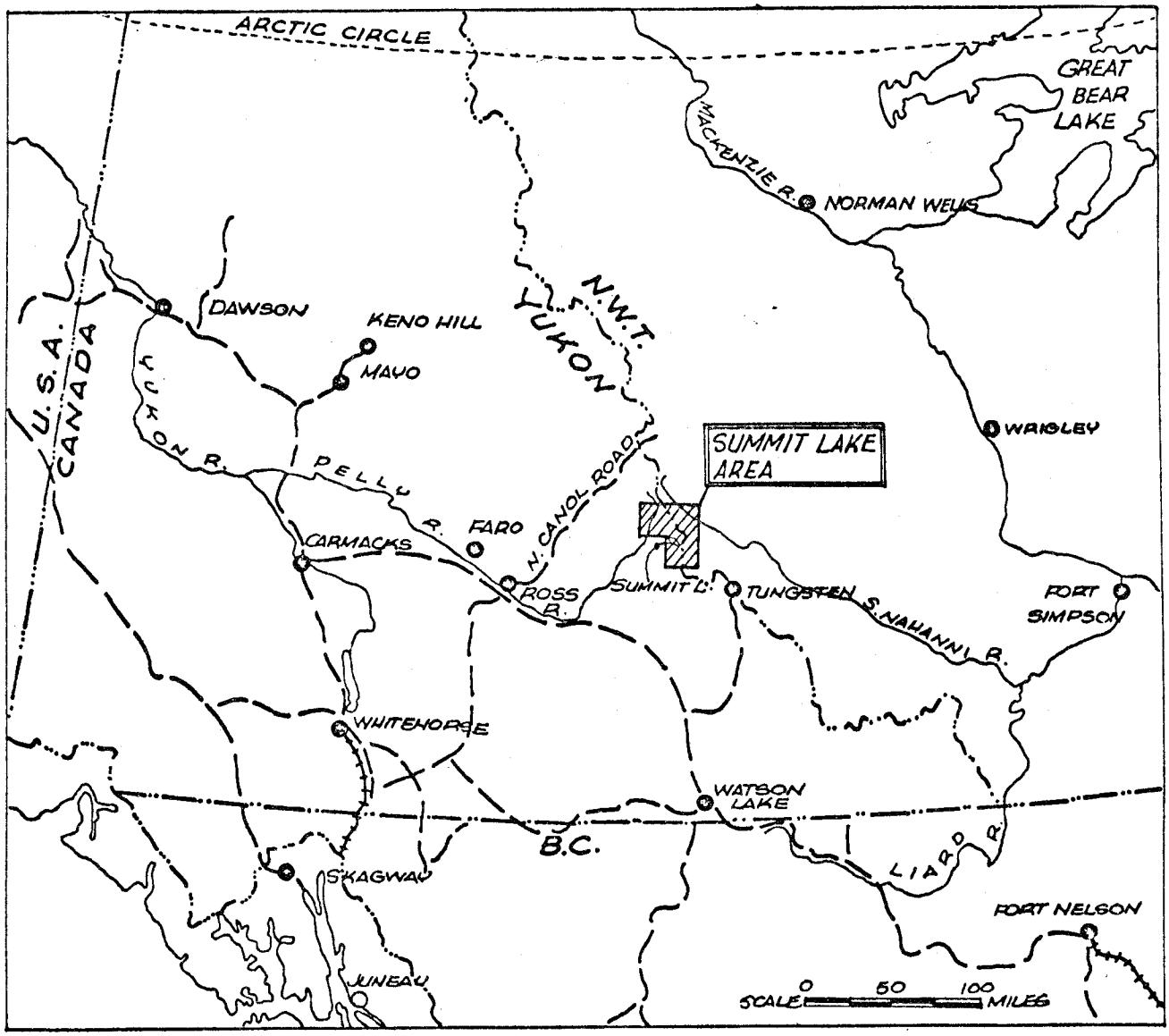
EXPLORATION ACTIVITY, SUMMIT LAKE REGION

WATSON LAKE AND NAHANNI MINING DISTRICTS

YUKON AND NORTHWEST TERRITORIES

by

JOHN S. BROCK, B.Sc., F.G.A.C.,
VANCOUVER, B.C.
MARCH 14, 1973.


ARCTIC CIRCLE
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NORMAN WELLS
DAWSON
KENO HILL
MAYO
YUKON
N.W.T.
U.S.A.
CANADA
YUKON R.
PELLY R.
N. CANOL ROAD
SUMMIT LAKE AREA
WRIGLEY
CARMACKS
FARO
ROSS R.
SUMMIT L.
TUNGSTEN
S. NAHANNI R.
FORT SIMPSON
WHITEHORSE
WATSON LAKE
B.C.
LIARD R.
SKAGWAY
FORT NELSON
JUNEAU
SCALE 0 50 100 MILES

EXPLORATION ACTIVITY, SUMMIT LAKE REGION

Introduction

Reports of a lead-zinc discovery by Canex-Placer near Summit Lake, Yukon, stimulated a moderate "staking rush" during the winter months of 1972 and 1973. As of this date, about 40 mining and exploration companies have acquired approximately 4,000 claims in the Summit Lake area. Staking activity is continuing on a small scale.

Few details of the Canex-Placer discovery have been released and the required geologic setting can only be generally interpreted from available publications of the Geological Survey of Canada. In spite of limited available geologic information, outside interest by mining companies appears intense and several large exploration programs in addition to Canex-Placer's are now in the planning stage for the coming field season.

Location and Access

Summit Lake, located within the Yukon Territory, is 105 miles east-northeast of Ross River and 157 miles north of Watson Lake. In the past access to the area has been by aircraft, although Canex-Placer, during the late summer in 1972, walked two bulldozers to their property from the Cantung Road, some 60 miles south of Summit Lake.

Apparently Canex-Placer have plans to construct an airstrip on their property which will accommodate wheel-equipped, medium-sized, twin-engine aircraft.

Float equipped aircraft may land at Summit Lake during summer months, at which point, during this coming field season, several helicopter companies plan to have machines available for casual charter.

Canex-Placer plan to mobilize most of their heavier equipment overland by tracked vehicle from the Cantung Road.

It appears that much of the exploration activity, other than Canex-Placer's, will be supported from the settlement of Ross River, where supplies and necessary services are available to normal exploration operations.

Exploration History

The Summit Lake area and, in general, the region within the Pelly River watershed has seen comparatively little prospecting in the past. Reports of well-mineralized lead-zinc float found near the Mackenzie divide by old-time trapper-prospectors did create mild interest in the area during the 1940's. During the 1950's, the area saw some regional prospecting by a few major companies, among them Kennco Explorations. In the late 1950's Hudson's Bay Mining & Smelting acquired the Tom lead-zinc deposit, about 58 miles north of Summit Lake. During the early 1960's Chapman, Wood & Griswold operated an exploration syndicate in the area, one of the participants was Canex, the exploration arm of Placer Development. During the mid 1960's Atlas Explorations carried out regional exploration to within an area 40 miles west of Summit Lake. Spartan Explorations, during the same period, worked to within close proximity to Summit Lake. Hudson's Bay Mining & Smelting, in addition to exploring their Tom deposit, also carried out prospecting programs immediately north of Summit Lake. During the course of the abovementioned exploration work, seven properties were staked on minor lead-

zinc-copper prospects within a 30 mile radius of Summit Lake; most of these occurrences were discovered by Hudson's Bay.

In the late 1960's Canex-Placer initiated a regional program to follow up and explore zinc-rich black shales near the Cantung Road, about 60 miles south of Summit Lake. By 1970 and 1971, the Summit Lake area had been covered, and in July, 1972, re-evaluation of several areas of high zinc geochemical values led to the discovery of surface showings of lead-zinc mineralization. Placer began staking claims in the area during late July of 1972, and by early fall had acquired about 450 claims. "Tie-on" staking by outside companies commenced in November, 1972.

Regional Geology

The Selwyn Basin is a division of the eastern tectonic belt of the Canadian Cordillera which lies over much of the Yukon Territory east of the Tintina Trench. The Selwyn Basin is comprised of a thickness of at least 15,000 feet of Proterozoic and Lower Paleozoic predominantly miogeosynclinal metasediments. This area contains a variety of stratiform lead-zinc deposits, among them the Faro, Swim, Vangorda and Tom[1]. The newly discovered Canex-Placer Howard's Pass deposits near Summit Lake, are within the Selwyn Basin and are related to a sequence of Ordovician-Silurian black shales, found in close proximity to the southeastern borders of Devonian and Mississippian sediments.

The general area in the vicinity of the Summit Lake lead-zinc occurrences is underlain by three rock types which have been tentatively identified by the Geological Survey of Canada as belonging to three separate formations.

1. C.L. Smith, 1970.

The most extensive unit in the area is black-grey shale of probable Upper Devonian age; this has been mapped by the G.S.C. as Unit 18. Within Unit 18 extensive regional metamorphism has altered shales to argillite with well developed foliation. The argillite is noticeably harder than the unmetamorphosed shale and is locally pyritic; otherwise, the two rock types are not readily distinguishable in the field by casual observation. Most of the rock exposed in the area of Summit Lake base metal occurrences is argillaceous and some is pyritic enough to have produced gossans. Local intense (isoclinal) folding of the shale-argillite sequence is common, and, combined with the absence of distinct marker beds, makes precise stratigraphic positional determinations difficult in this sequence.

Due to the difficulty of determining the proper sequence in the shale-argillite rocks, recognition of Unit 10, as mapped by the G.S.C. has been difficult. This unit is an Upper Ordovician black graptolitic shale and argillaceous limestone, which, in the Summit Lake area, has been identified in certain areas stratigraphically between 18b (Devonian black shale and argillite) and 7b (Upper Cambrian limestones, siltstones and dolomite).

In the Summit Lake area the Cambrian rocks underlie the Devonian shale-argillite sequence and are exposed as windows in the lower flanks of the ridges in northwest-trending bands that are separated by isolated caps of the Devonian rocks. This relatively simple relationship is locally complicated by steep folding and possible faulting parallel to the northwest trending contacts. The contact itself is not well exposed in the area but it is probably an erosional one that in other locales is an angular unconformity[2].

2. D.D. Campbell, 1973.

Economic Geology

A news release by Canex-Placer in November, 1972, stated that, "Interesting mineralization has been found over a strike length of three miles in broadly folded Paleozoic slates. A limited amount of hand trenching and bulldozer work has exposed widths of significant mineralization up to 150 feet. Continuous bands range from 10% to 30% combined lead-zinc, separated by lower grade values. Individual five foot samples assayed as high as 40 to 50% combined lead and zinc."[1].

Through discussions with members of the Geological Survey of Canada, it appears that lead-zinc mineralization found to date is confined to Ordovician black graptolitic shales. This unit has been locally mapped at one location near Summit Lake on the Nahanni Sheet (G.S.C. Map 8-1967). Later work in the area by the Geological Survey has indicated that Unit 10, called the "Road River formation", is more extensive than previously recognized. Inspection of unpublished G.S.C. data shows the Road River Unit, mapped between units 18b and 7b on the Canex-Placer property and immediate surrounding area. As "follow up" field work by the Geological Survey in the Summit Lake area was of a brief nature, the extent of identifiable Unit 10 is not known. Where mapped, the black graptolitic shale has an apparent maximum thickness of 800 feet and appears to host the known lead-zinc occurrences found to date.

Hand specimens of ore-grade material from Canex-Placer mineral occurrences show laminae of fine grained galena and sphalerite mineralization confined to parallel cleavage planes within sooty-black argillaceous shale and limestone. Some

1. George Cross News Letter No. 225, 1972.

specimens contain an abundance, up to 20 or 30%, of fine-grained pyrite. Most specimens examined, contained about 30% sulphide mineralization by volume.

Staking Activity

About 4,000 claims have been staked by companies and individuals in the Summit Lake area. Some of these are:

Cream Silver Mines
Acheron Mines
Colt Resources
Maverick Mountain Mines
Makaoo Development
Dynasty/Atlas Explorations
Welcome North Mines
Teck Corporation
International Obaska
Vestor Explorations
Golden Gate Explorations
Noranda Mines
Canex-Placer
Tanzilla Explorations
Demsey
Skyline Explorations
Belmoral
Cominco
Conwest
Texore
Tay River Mines
Slocan Ottawa
Black Giant
Galvaston
Fosco
Agilis Explorations
Highland Mercury
Hub Mining
Bonus Resources Limited
United Chieftain.

M. Black
W.W. Dennis
W. Kennedy
A. Harman
J. Malinchuck
T. Rich.
G. Wing.

Exploration Activity, 1973

Serious mineral exploration plans for the eastern Yukon are being drawn up by numerous mining and oil companies. The exploration "boom" forecasted for the Yukon this summer is due to a combination of factors: the Canex-Placer discovery, a reluctance on the part of many to further conduct exploration programs in British Columbia under the present mining policy of the N.D.P. Government, strengthened lead-zinc prices and the realization of the over all lead-zinc potential of the Selwyn Basin.

Within the Selwyn Basin, the search for lead-zinc will be concentrated around Summit Lake, MacMillan Pass, Godlin Lakes, Ross River, Anvil area and the Beaver River in south eastern Yukon.

Companies indicating a large commitment to regional exploration for lead-zinc throughout areas in the Selwyn Basin are: Cominco, Teck, Noranda, Dynasty, Conwest, Getty Oil, Union Oil, Chevron Standard, Canex-Placer, Cyprus Explorations, Welcome North Mines and Vestor Explorations.

At Summit Lake, Canex-Placer have unofficially indicated that their property evaluation will include construction of an airstrip, bulldozer trenching and diamond drilling with at least two drill rigs. It has also been unofficially reported that their Yukon exploration budget will be in excess of One Million Dollars for 1973. Mobilization of fuel and drilling equipment to Howard's Pass is already underway.

Of the smaller companies holding ground at Summit Lake, it could be anticipated that at least half will carry out preliminary exploration of their holdings. Geologic mapping, geochemical soil sampling and detailed rock geochemical surveys appear to be the best initial exploration techniques.

Further and subsequent exploration at Summit Lake will depend on drill results as announced in the future by Canex-Placer. Assuming that their deposit is stratabound and confined to a recognized stratigraphic horizon, it will be worth the while of other property holders in the area to conduct limited drill programs in search for possible underlying favourable stratigraphy.

Conclusions

The Canex-Placer, Howard's Pass lead-zinc discovery is a significant one; initial results indicate than an extensive zone of economic lead-zinc mineralization could exist at Summit Lake.

The recognition of another "sedimentary type" lead-zinc environment in the Selwyn Basin will create an "exploration boom" for the eastern Yukon Territory.

Based on information from the Geological Survey of Canada, the Ordovician black graptolitic shale (Unit 10) appears to be the host to known base metal sulphides in the Summit Lake area. Unit 10 should be found, where not structurally altered, stratigraphically between units 18b and 7b, as mapped on the Nahanni Sheet (G.S.C. Map 8-1967).

Respectfully submitted,

John S. Brock, B.Sc., F.G.A.C.,
Geologist/Geophysicist.

Selected References

1. S.L. Blusson, Geologist, Geological Survey of Canada, personal communication.

2. Canex-Placer - personal communication with exploration staff.

3. Geological Survey of Canada - Map 8-1967, by Green, Rodick and Blusson (1967).

4. Dynasty Explorations - personal communication with exploration staff.

5. C.L. Smith, Consulting Geologist - personal communication.

6. Welcome North Mines - In-house report by Consulting Geologist, D.D. Campbell (1973).

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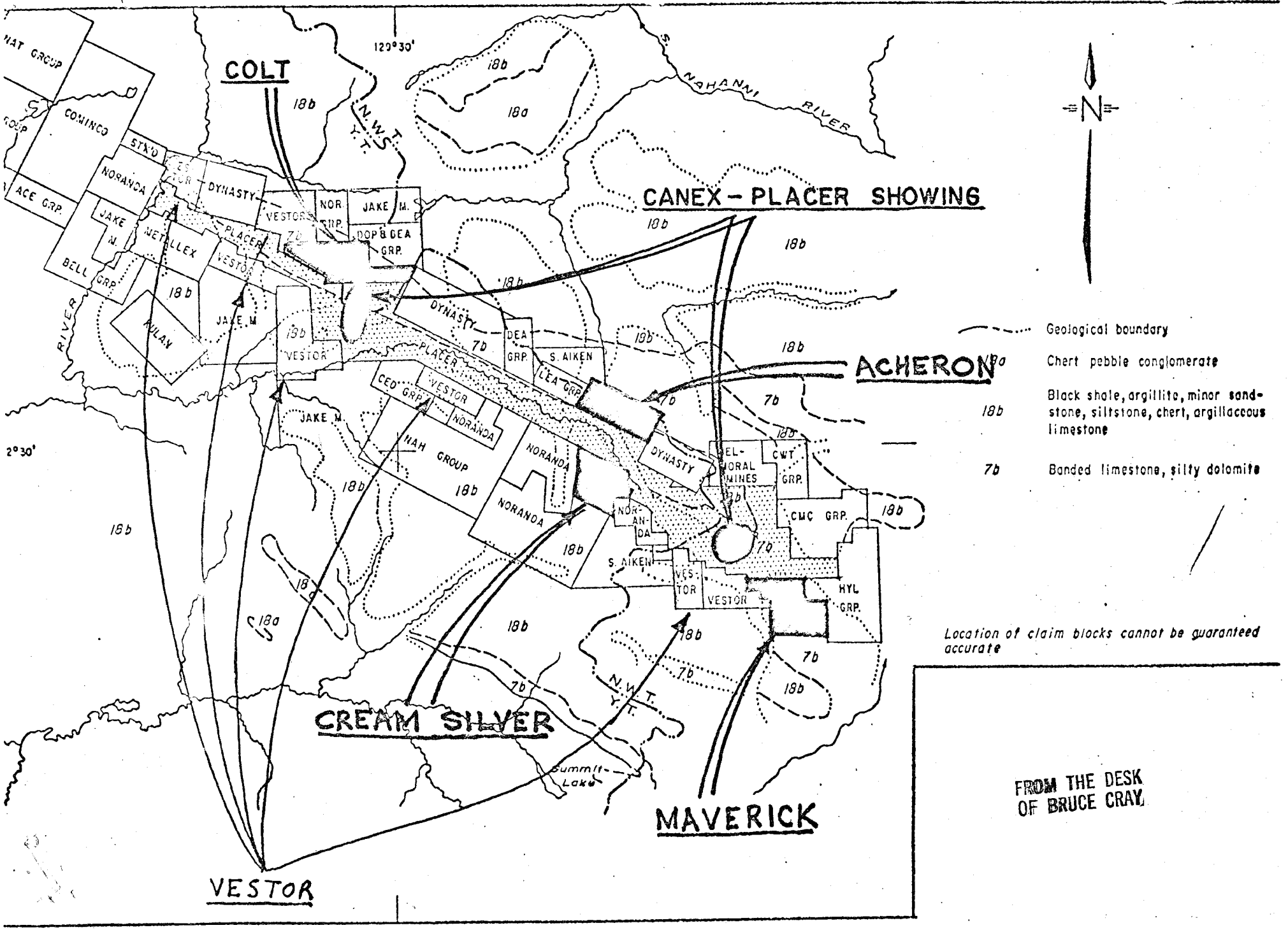
COLT
CANEX - PLACER SHOWING
ACHERON
CREAM SILVER
MAVERICK
VESTOR
129°30'
62°30'
S. NAHANNI RIVER
N.W.T.
Y.T.
RIVER
COMINCO
ACE GRP.
NORANDA
JAKE M.
BELL GRP.
METALLEX
PLACER
DYNASTY
VESTOR
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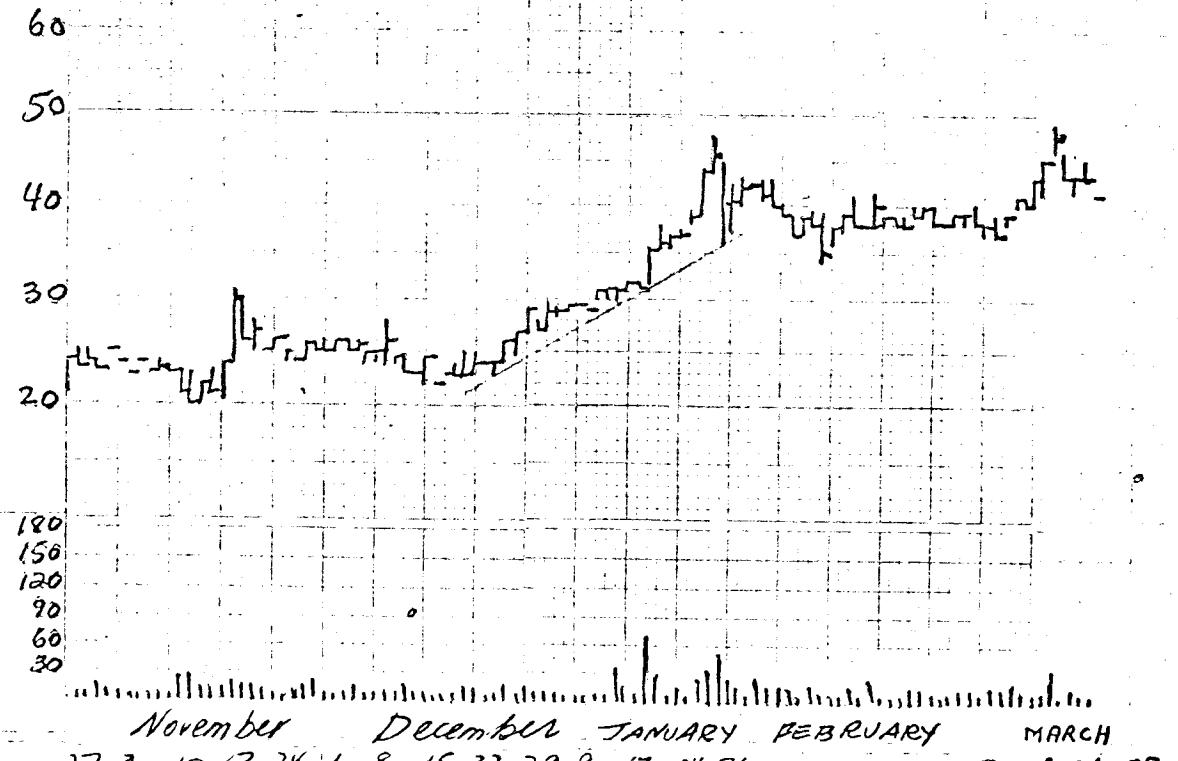
DOP & DEA GRP.
AVLAN
DEA GRP.
S. AIKEN
CED GRP.
NAH GROUP
EL-DORAL MINES
CWT GRP.
CMC GRP.
NOR-AN-DA
HYL GRP.
Summit Lake
N
Geological boundary
Chert pebble conglomerate
Black shale, argillite, minor sandstone, siltstone, chert, argillaceous limestone
Banded limestone, silty dolomite
Location of claim blocks cannot be guaranteed accurate
FROM THE DESK OF BRUCE CRAY

ACHERON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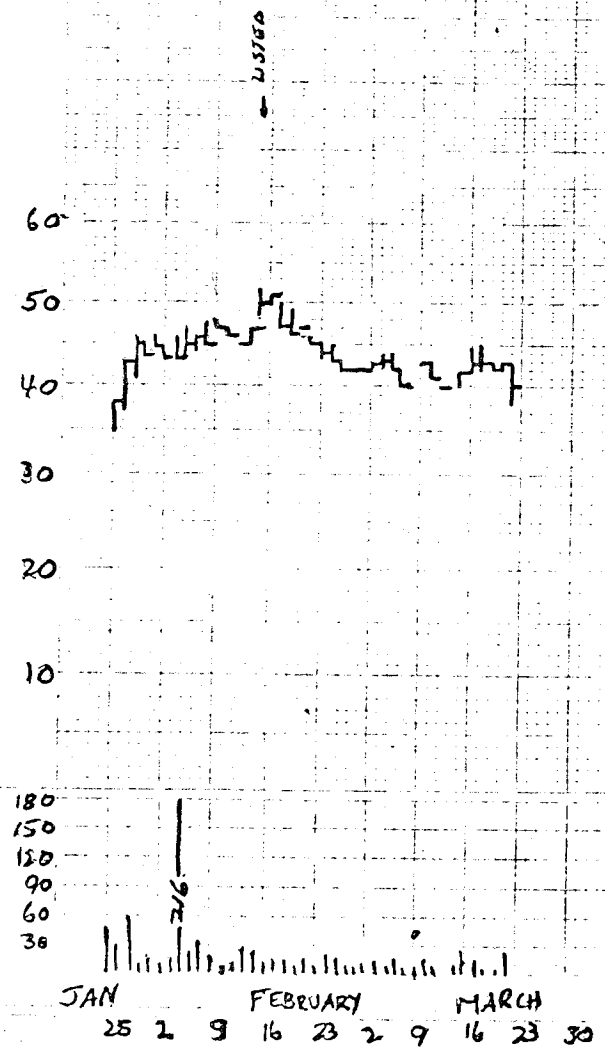
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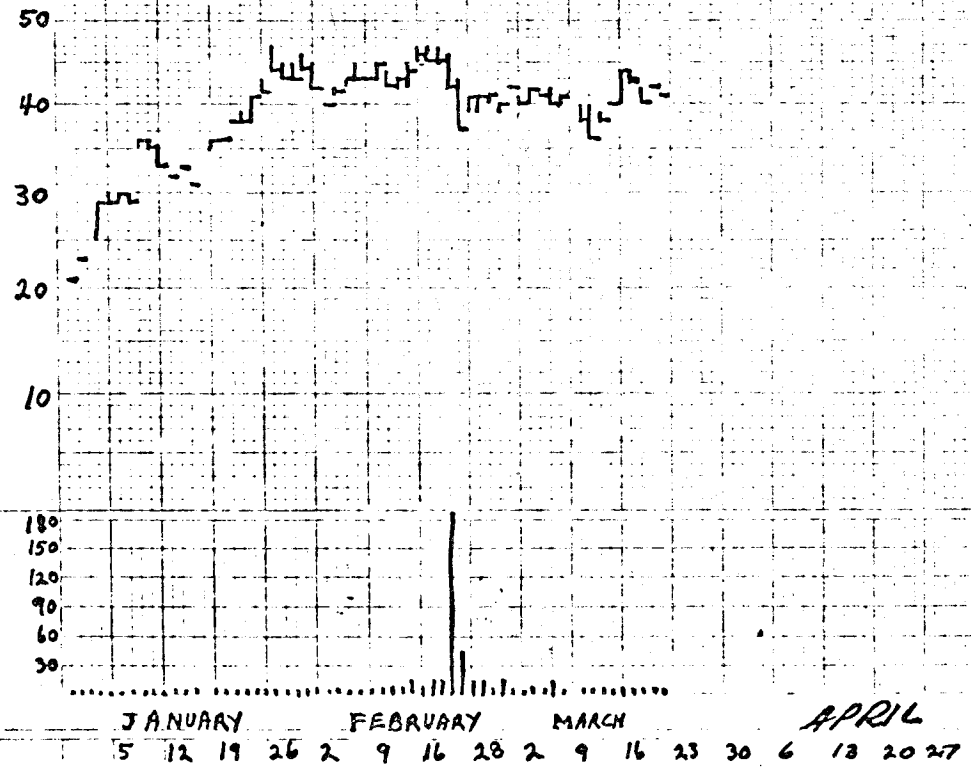
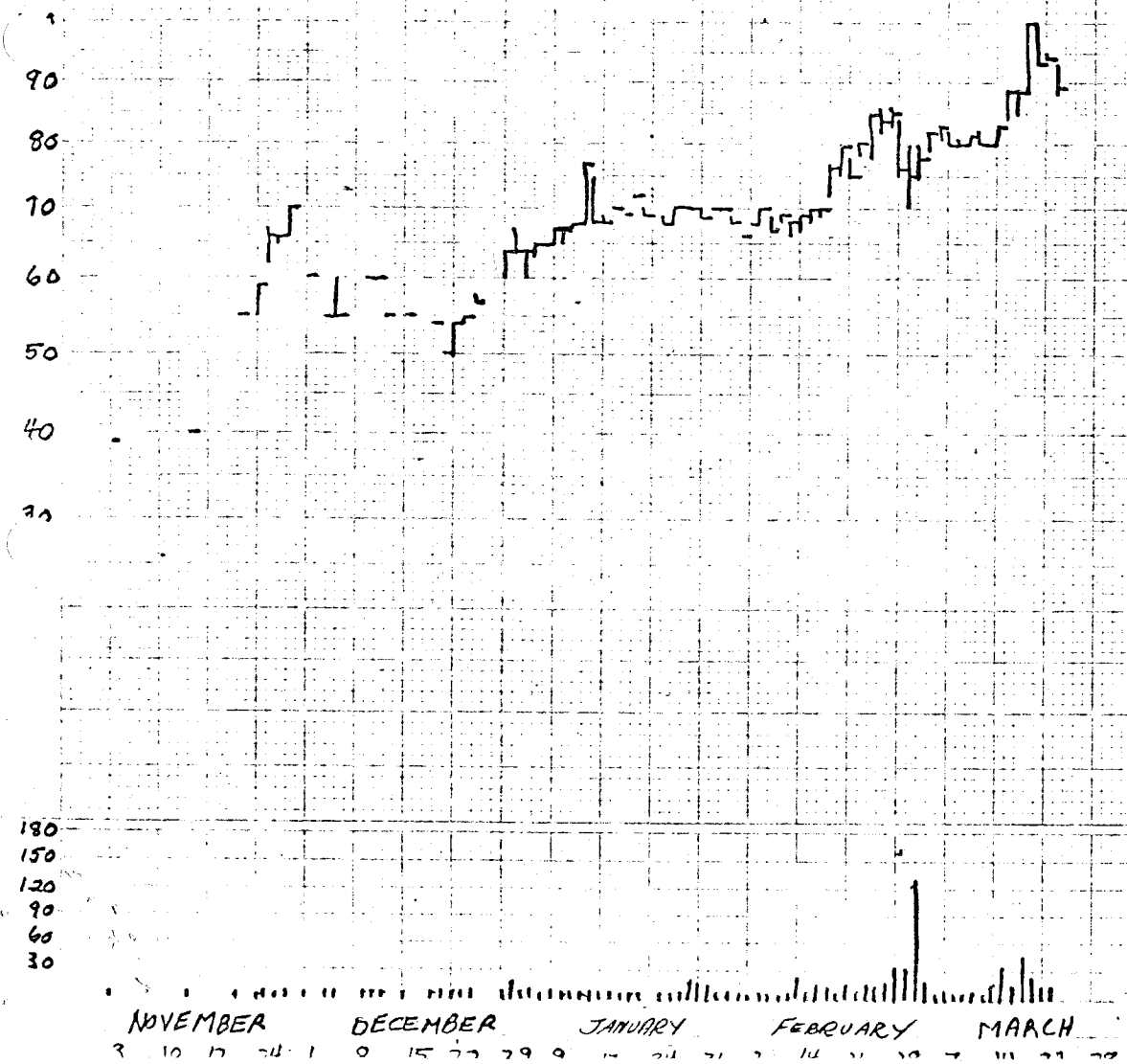


VESTOR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