

TABLE OF CONTENTS

589

	<u>PAGE</u>
INTRODUCTION	1
SUMMARY	1
LOCATION AND ACCESS	1
PROPERTY AND HISTORY	2
PERSONNEL AND PROGRAM	2
REGIONAL GEOLOGY	3
LOCAL GEOLOGY	3
Limestone	4
Recrystallized Sediments	4
Ultrabasic Rock	4
Pyroxenite	4
Diorite and Quartz diorite	5
Dykes	5
Structure	5
Mineralization	6
RECONNAISSANCE STREAM SEDIMENT SAMPLES	7

ATTACHMENTS:

Statement of Qualifications

Evidence of Expenditures Incurred

Map No. 1

Location Map

1" = 4 mi.

Map No. 2

Middle Scud Group Geology

1" = 500'.

<p>Department of Mines and Petroleum Resources ASSESSMENT REPORT</p> <p>NO 589 MAP</p>
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104 G/bw

18 December 1964

GEOLOGICAL REPORT

ON

MINERAL CLAIMS BIK 117 - 136 INCLUSIVE

57° 131° S.E.

INTRODUCTION

A program of preliminary geologic mapping was carried out on the Middle Scud Group (BIK 117-136 M.C., incl.) as part of "Scud Venture" arrangement, with Silver Standard Mines Limited. Objective of the work was to appraise the mineral occurrence on the property and to determine its local geologic setting. This report describes the fieldwork and the results derived therefrom.

SUMMARY

The claims are near two major structural features; firstly, the major northerly contact between the Coast Range Batholith and Paleozoic rocks, and, secondly, a major northerly fault bringing Permian limestones into contact with ultrabasic rocks. Small amounts of argentiferous tetrahedrite occupy fractures in ultrabasic rocks near diorite porphyry dykes in the proximity of the major contact.

LOCATION AND ACCESS

The property lies between elevations of 2000' and 7000' on the precipitous southeast slopes of a mountain some 20 air miles northeast of the confluence of Anuk and Stikine Rivers in northwestern B.C. The junction of these rivers is 70 flying miles up river from Wrangell, Alaska, and Wrangell in turn is 180 flying miles northwest along the coast from Prince Rupert, B.C. Both Wrangell and Prince Rupert are supply centers for the area. Telegraph Creek, B.C., the nearest community, lies 45 miles to the north. Map 1 (frontpiece) which is a photocopied portion of the Telegraph Creek Sheet 104G gives a more detailed location picture.

Access to the mouth of the Anuk River, presently the supply depot of Midwest Diamond Drilling Co., is by chartered float aircraft from either of the supply centers mentioned above. Shallow draught river boat and barge ascend the Stikine as far as Telegraph Creek. Access to the mountainous parts of the Scud River District is limited to helicopter.

PROPERTY AND HISTORY

The property consists of 20 mineral claims, BIK 117 to 136 inclusive, which are called the Middle Scud Group. These claims were staked on February 26, 1964 by A.R.C. Potter, agent for Silver Standard Mines Ltd., from a single location line along the north side of Highgrader Glacier*, a narrow northwesterly flowing glacier near the headwaters of Scud River. All of the claims, except those 8 adjoining the location line, were staked by witness post. Only one of the posts was found and consequently the outline of the claim group is largely inferred from the direction of the location line stipulated on the claim tags. Winter conditions would provide reasonable staking conditions, and so it is believed that the claims are more or less contiguous as shown on Map 2. However, some discrepancy in the coverage is inevitable and unavoidable.

Highgrade stringers of copper sulphides were reported on the ground several years ago by prospectors carrying out regional work for the BIK Syndicate (Silver Standard, McIntyre Porcupine, Kerr Addison), but no follow-up work was done at that time. The ground was staked as an exploration bet in 1964 following rumours of important mineral developments 11 miles to the southwest on Galore Creek. In the course of our work, no showings other than the original ones were found.

PERSONNEL AND PROGRAM

The field work was carried out by C.A.R. Lammle, geologist and R.E. Hague, student-assistant, working out of Scud Venture's base camp on the East Fork of Galore Creek. Access to and from the property was provided by helicopter, the flying distance being about 13 miles one-way. A total of 8 days in late July and early August were involved in the examination and two of these were lost due to inclement weather.

* Coined to facilitate description.

Two prospectors, Bob Watson and Larry May, working out of fly-camp near the property, spent 12 days prospecting the property and vicinity. Their efforts were essentially unrewarded.

Control for the preliminary mapping was 1" to 500' topographic maps with 50' contours (Map 2) prepared by V. Zay Smith Associates from available government photographs. In the field, elevations were obtained by pocket aneroid barometer. The topographic map was found deficient in detail and accuracy, and, hence, in places it restricted precise fixing of details.

REGIONAL GEOLOGY

The regional geology of the Scud River District and environs has been described elsewhere, and no more than background remarks are required here. In gross aspects the geology of the area can be described as a very large pendant-like mass of deformed and faulted Paleozoic-Mesozoic rocks set in granitic rocks on the eastern flank of the Coast Range Batholith. The older rocks are pre-Permian in age and consist of limestone, phyllite, slate, argillite and related rock. Overlying is the distinctive Permian assemblage of quite pure, white limestone containing minor amounts of chert, argillite, and slate. Overlying the Permian in turn is the Triassic which consists largely of flow breccia, tuff and basalt with some related sediments. All of these rocks have been disrupted and intruded during several stages of tectonic activity. Cenozoic volcanic rocks overlie large areas to the east.

LOCAL GEOLOGY

The Middle Scud Group lies at the northern margin of the aforementioned pendant-like mass of rock and it actually straddles a north-trending portion of the main contact between the pendant and the batholith. Near the claims the older rock is largely the massive, white limestone of Permian age as established by the G.S.C. and the batholithic rock is largely diorite of probable L. Cretaceous age. Lying in between is older looking, recrystallized bedded rock assumed (herein) to be pre-Permian. This older rock is intruded by dark, serpentinous ultrabasic rock which appears to be pre-batholith in age. Small dykes of variable composition cut most of the above rock types.

Mineralization on the property consists of very small amounts of argentiferous tetrahedrite which occurs in fractures in the ultrabasic rock near diorite porphyry dykes in the proximity of the main diorite-ultrabasic contact.

The local geology is discussed in more detail under the appropriate heading below.

Limestone -- Extensive areas of massive bedded, white, Permian limestone outcrop abruptly on the western portion of the area mapped. The rock is generally quite pure but a few specimens display a small proportion of white quartz grains. In places the rock has been crystallized to a fine textured marble.

Recrystallized Sediments - Outcropping near the toe of a glacier northwest of the claim group are dark grey to black, fine-grained, crystalline rocks consisting largely of foliated biotite with smaller amounts of plagioclase and hornblende. These rocks are non-limy and only very slightly magnetic as tested with a suspended "pencil magnet". In the field they are rather distinctly bedded and tightly folded. They are thought to be of volcanic origin but no direct evidence to support this premise was found. The relationship of the unit to other rocks in the district is not understood.

Ultrabasic Rock - Outcropping on either side of the toe of Highgrader Glacier are dark grey to black, aphanitic to fine-grained, fractured and serpentized rock composed dominantly of mafic minerals, serpentine, and a little plagioclase. Where distinguishable, the mafic mineral occurs in equidimensional grains, suggesting that it is augite. Hand specimens are quite strongly magnetic indicating an appreciable magnetite content. In the field the rocks were observed to intrude and gently crosscut the recrystallized sediments.

Pyroxenite - These rocks are dark grey, fine-grained equigranular intrusive types composed largely of

augite with lesser feldspar and a little hornblende and magnetite. A small mass of the pyroxenite with associated dykes occur in the recrystallized sediments. Dyke-like masses cut ultrabasic rocks to the south. The main intrusive mass forms a resistant knob at the toe of the glacier northwest of the claims.

Diorite and Quartz-diorite - These rocks are part of the main Coast Range Batholith. They are grey, medium to coarse-grained, hypidiomorphic textured rocks with occasional porphyritic phases and they are composed largely of plagioclase and hornblende with lesser quartz and biotite and a little magnetite. Phases of the granitic rock near the contact are leucocratic and porphyritic due to the feldspar. A few dykes having this general character and widths of only a few feet cut both ultrabasic and dioritic rock near the main contact. One such dyke was found to contain a small amount of tetrahedrite.

Dykes - Lamprophyre and andesite dykes occur in addition to the ones mentioned above. The lamprophyres are brown, aphanitic to fine-grained, at times weakly porphyritic rocks composed of a few small phenocrysts of hornblende and feldspar set in a brown aphanitic matrix. Occasionally, an embayed phenocryst of glassy quartz can be found in the rock. The dykes are generally only a few feet wide, but reach widths of 15 feet. They split and coalesce, gently cutting across the older recrystallized sediments.

The andesite variety are grey rocks with a porphyritic texture due to more or less equigranular hornblende and plagioclase crystals set in a fine-grained gray matrix.

Structure - The two dominant structural features of the mapped area are, firstly, the north trending batholithic contact with the ultrabasic rocks, and, secondly the major north-northwesterly fault which brings the Permian limestone into contact with the ultrabasics. The dips of both these structures is

steep (nearly vertical) to the west.

The diorite-ultrabasic contact is not clearly intrusive for the diorites are not chilled and the ultrabasics are apparently little affected. There are small diorite porphyry dykes spanning the contact but these are later than the batholith, and later than the contact itself.

The nature of the movement on the major fault was not ascertained, but it would probably be graben-like, that is, the limestone down with respect to the rocks to the east.

The recrystallized sediments strike northeasterly with moderate but rapidly changing dips to the northwest. They appear to be very tightly folded.

Jointing is not well developed, the best noted being east striking and steep south dipping. This jointing occurs in the recrystallized rocks. Erosional gullies and chimneys in the diorite have the same general attitude and may reflect the same jointing.

Mineralization - A very small, but rather unique lense of massive, argentiferous tetrahedrite occupies a small fracture in ultrabasic rock near some dykes of leuco-diorite porphyry on BIK 133, near the main contact. The actual lense was about 8" wide and 30" long and a foot or so deep, but the fracture could be traced for 20'. Selected specimens gathered from the lense assayed 49.5% Cu and 6.5 oz/ton Ag. The sulphides did not penetrate the ultrabasic rock to any extent. One of the diorite porphyry dykes was found to be mineralized in proximity to the sulphide lense, but further westwards in the same dyke no mineralization could be found. Trace amounts of copper, principally as malachite, occurs in a similar setting some 2400' to the north and off the claims. Similar slight traces of malachite were observed near a dyke on the south side of Highgrader Glacier.

RECONNAISSANCE STREAM SEDIMENT SAMPLES

Map 2 shows the location of, and analyses from six stream sediment samples taken near the Middle Scud Group. Three of these samples show weakly anomalous concentrations for copper, two for zinc, and one for lead. In addition, two samples show a little nickel. These results can be adequately related to the geology, and it is unlikely that they reflect any mineralization of interest. The copper and nickel are likely related to the ultrabasic rocks, for such rocks usually contain above normal concentrations of these metals. The zinc and lead results probably reflect traces of mineralization related to the major structures cutting through the area.

Respectfully submitted,

Chas. A. R. Lammle

Chas. A.R. Lammle.

CARL:sm

EVIDENCE OF EXPENDITURES INCURRED

SALARIES

C.A.R. Lammle	8 days @ \$525.00/mo.	\$140.00
R.E. Hague	8 days @ \$425.00/mo.	113.00
P.I. Conley	2 days @ \$35.00/day	70.00
W. Dunn	1 day @ \$35.00/day	35.00

TOTAL SALARIES \$ 358.00

LIVING EXPENSES 212.00

HELICOPTER 11 hrs @ \$130.00/hr 1,430.00

TOTAL EXPENDITURES \$ 2,000.00

Declared before me at the

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province of British Columbia,

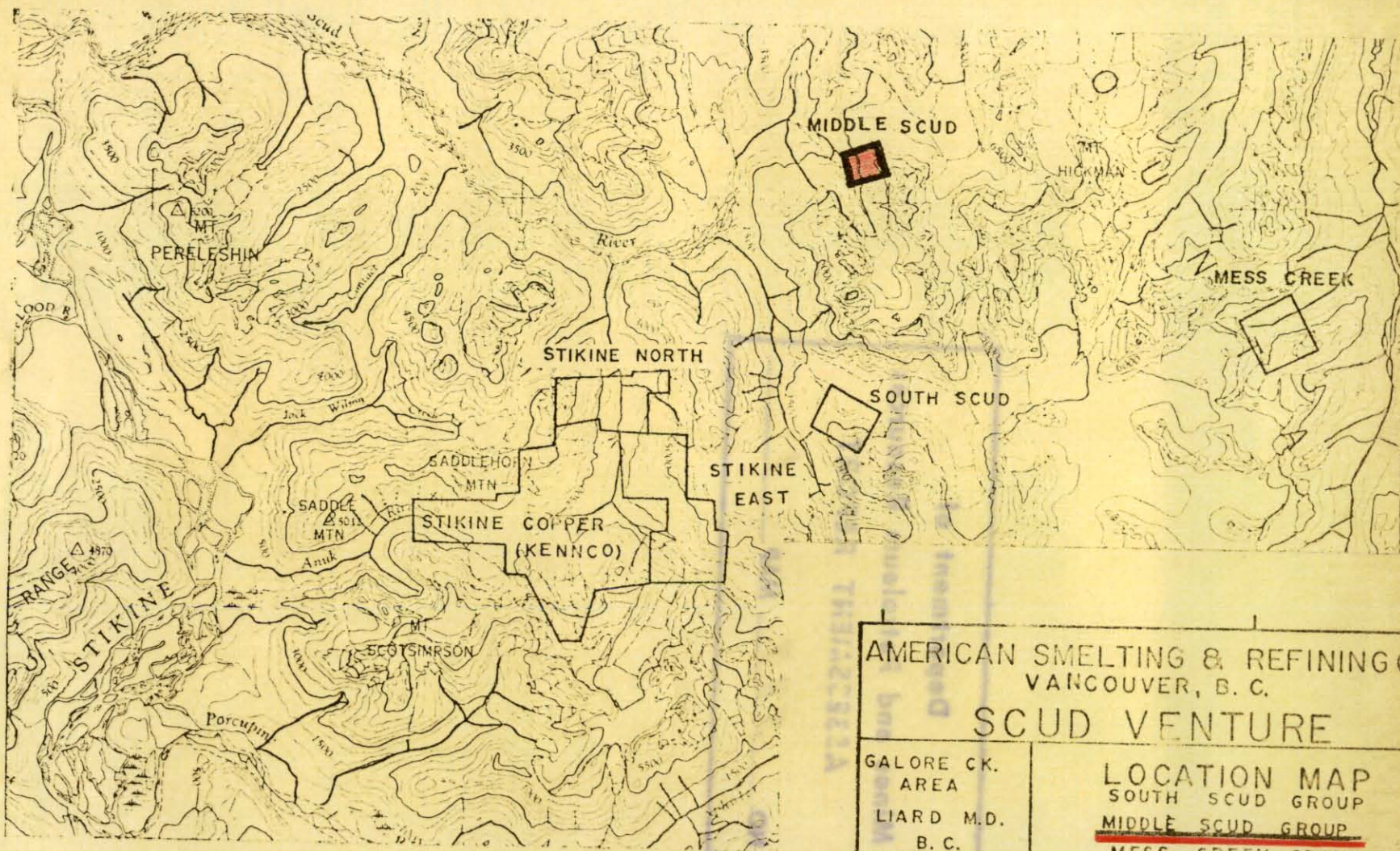
this of , A.D.



W. St.C. Dunn

Sub-mining Recorder

57° 15' N



131° 30' W

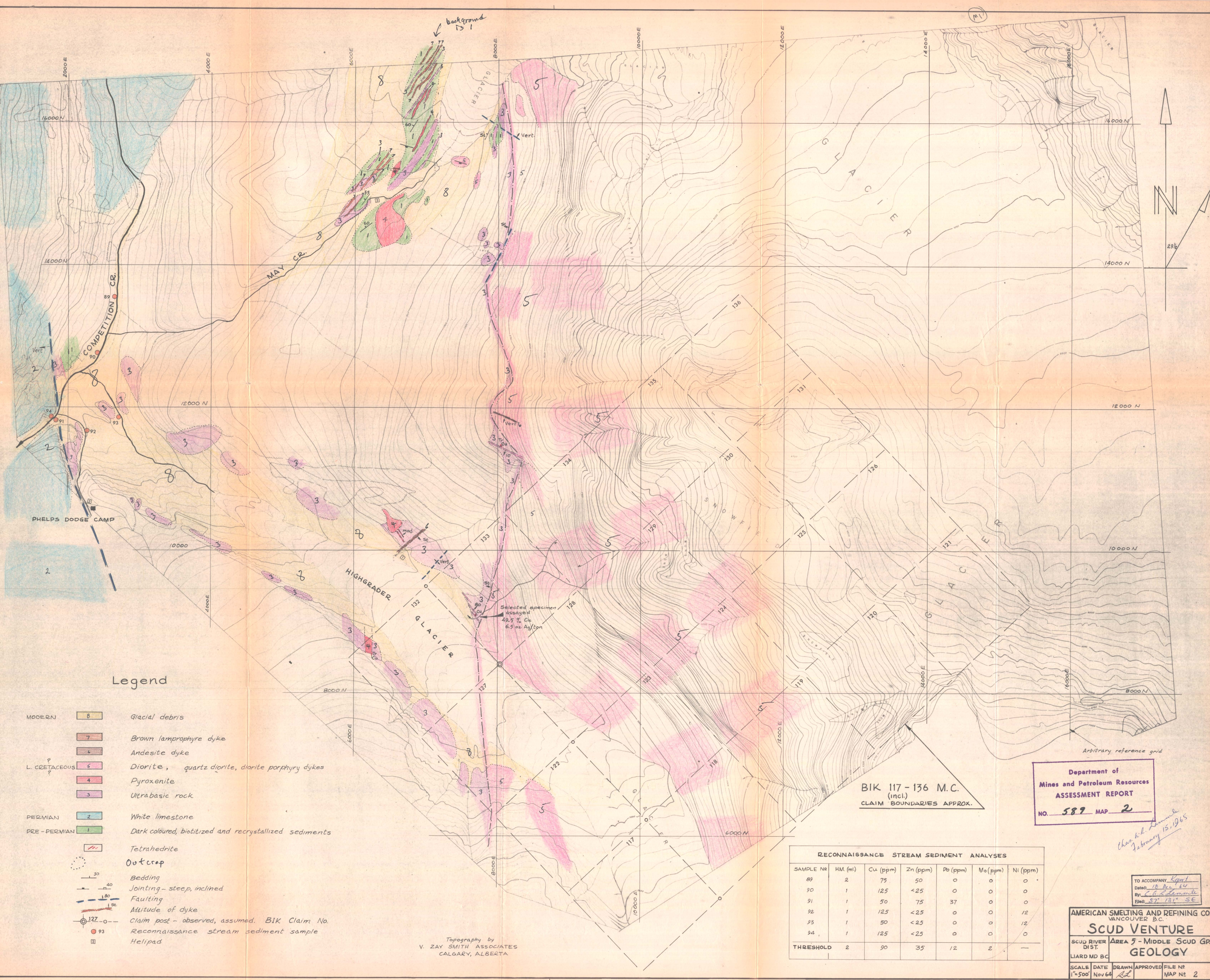
AMERICAN SMELTING & REFINING CO.
VANCOUVER, B. C.

SCUD VENTURE

GALORE CK.
AREA
LIARD M.D.
B. C.

LOCATION MAP
SOUTH SCUD GROUP
MIDDLE SCUD GROUP
MESS CREEK GROUP

SCALE 1" = 4 miles	DATE NOV 64	DRAWN	APPROVED	FILE NR.
				MAP NR. 1



Legend

- MODERN Glacial debris
- Brown lamprophyre dyke
- Andesite dyke
- L. CRETACEOUS Diorite, quartz diorite, diorite porphyry dykes
- Pyroxenite
- Ultrabasic rock
- PERMIAN White limestone
- PRE-PERMIAN Dark coloured, biotitized and recrystallized sediments
- Tetrahedrite
- Outcrop**
- Bedding
- Jointing - steep, inclined
- Faulting
- Attitude of dyke
- Claim post - observed, assumed. BIK Claim No.
- Reconnaissance stream sediment sample
- Helipad

Topography by
V. ZAY SMITH ASSOCIATES
CALGARY, ALBERTA

BIK 117-136 M.C.
(incl.)
CLAIM BOUNDARIES APPROX.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 589 MAP 2

*Charles L. Lamonde
February 15, 1965*

RECONNAISSANCE STREAM SEDIMENT ANALYSES

SAMPLE NO	HM. (m)	Cu (ppm)	Zn (ppm)	Pb (ppm)	Mo (ppm)	Ni (ppm)
89	2	75	50	0	0	0
90	1	125	<25	0	0	0
91	1	50	75	37	0	0
92	1	125	<25	0	0	12
93	1	50	<25	0	0	12
94	1	125	<25	0	0	0
THRESHOLD	2	90	35	12	2	—

TO ACCOMPANY REPORT
Date: 18 Dec 64
By: C. L. Lamonde
Sheet: 57° 131' SE

AMERICAN SMELTING AND REFINING CO.
VANCOUVER B.C.
SCUD VENTURE
SCUD RIVER DIST. AREA 5 - MIDDLE SCUD GR.
LIARD MD BC **GEOLOGY**
SCALE 1"=500' DATE Nov 64 DRAWN APPROVED FILE NO. MAP No 2