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TERRACE GOSSAN PROJECT

(103I, 103J)

*Proj 189*

for

Dome Exploration (Canada) Ltd.

by

J. R. Woodcock

February 5, 1982

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February 5; 1982

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## TERRACE GOSSAN PROJECT

### INTRODUCTION

In 1980, J. R. Woodcock started a program of gossan checking and mapping for Dome Exploration Canada Ltd. in the Terrace area of British Columbia. This was to be a continuing program with changes in budget and in location for subsequent years. Such mapping of the gossans, both those that have very little previous work and some that have even been drilled, have led to new targets and renewed exploration drilling in a number of places in British Columbia.

Work in the Terrace area started in early June with Mr. Dennis Gorc and Mr. Henry Awmack collecting some geochemical samples from some targets previously selected by Woodcock. This program continued intermittently throughout the summer when Woodcock was in Terrace and when weather permitted. All of the work was tied in with other property work in the Terrace and Stewart areas. No specific trips were made to Terrace for this work alone as the weather is very unreliable. The work was inhibited because of poor flying conditions in the mountains and so only three targets were examined.

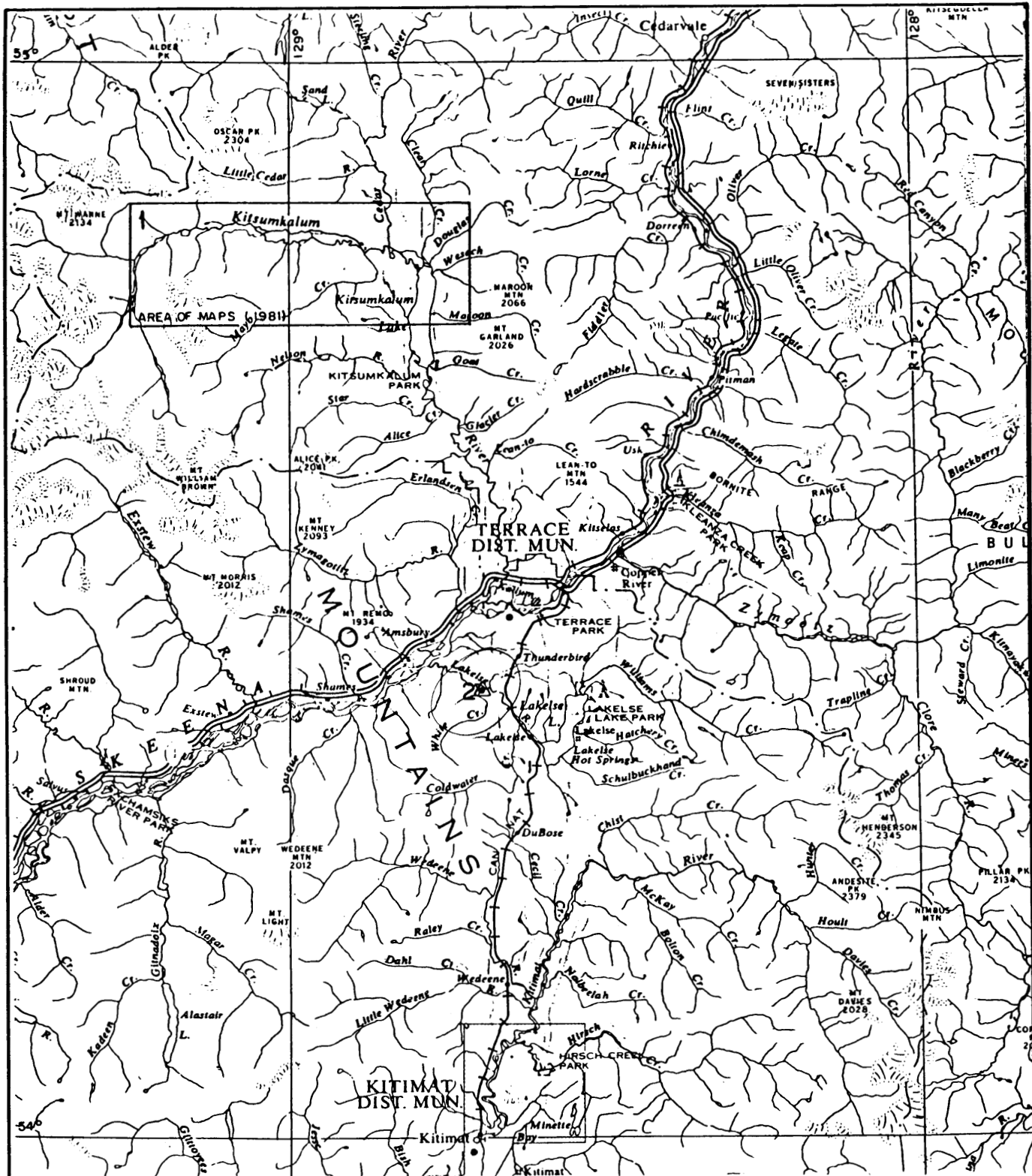
### GOSSAN EXPLORATION TARGETS

#### Kitsumkalum Gossan

The Kitsumkalum River drains eastward from the rugged Coast Range Mountains, where a number of glaciers occur in its drainage basin. The stream consequently carries considerable silt and is murky throughout most of its length. In the lower reaches of the valley, a second stream runs parallel to the river. This is an old abandoned channel which meanders throughout a somewhat swampy area in the bottom of the valley near the south side of the valley. This channel, over 10 kilometers long, carries the drainage from the streams which flow down the south side of the valley. Many of these little creeks cross a logging road on the valley slope and, at the bottom of the slope, enter swamps before the water enters the south channel of the Kitsumkalum River system. The water in this channel, in contrast to the murky water in the main channel, is fairly clear with little or no silt.

The sand and gravel bars for at least 10 kilometers along the south channel are coated with a rusty looking material. This rusty colour appears as an extensive gossan-like colour anomaly which can be seen from the main valley, about 10 kilometers to the east. This conspicuous target has been observed by exploration geologists for a number of years who have always been intrigued with it and pondered on its origin.

Examination of the channel itself shows that the individual



**LEGEND**

- 1. Kitsumkalum Target
- 2. Lady Luck Prospect



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**GOSSAN PROJECT  
KITSUMKALUM TARGET**  
SKEENA M.D., B.C. — N.T.S. 103 I-14E, 15W  
**LOCATION MAP**

SCALE 1:600,000



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FIGURE NO. 1

particles of the gravel and grit and also the sand in places is coated by this rusty looking material. The surface rusty layer in this channel is underlain with dark grey muds. In addition the bushes along the banks which have at times been submerged are also coated with this material.

In the initial investigation of this target, a boat was used to travel up the channel and collect silt samples along its course. At many of the sample sites along the south channel two or more samples were collected. These include the surface rusty looking material and the underlying dark grey muddy material. In addition, the silt samples were collected from creeks crossed by a logging road along the valley side to the south of the channel. These samples, in addition to some rock chip samples, have been analyzed for lead, zinc, molybdenum, copper, and a few of the rock samples have also been analyzed for fluorine. The analytical work was done by Vangeochem Laboratories Ltd.

In addition some rusty, slimy material being deposited at a seepage in one of the small streams (W81-127K) was analyzed for a number of samples with the following results:

7 ppm Mo, 4 ppm Cu, 83 ppm Pb, 310 ppm Zn, 760 ppm Mn, 50% Fe, 27.9% organic and pH of 6.4%. The material has concentrated lead and zinc.

A perusal of results in the rusty channel shows that all values are low background with no anomalous metals. I suspect that this rusty material is not a true iron oxide but is a mixture of iron oxide and organic slime similar to sample W81-127K and that it is related somewhat to the wet or swampy conditions along this north-sloping valley side. There are some pyritic zones within the sedimentary rocks along the road and these and other rock types may have contributed the iron that occurs in the slime.

A perusal of the geochemical results from rock and silt samples along the logging road south of the channel shows mainly background values. In one place a rock cut in the road has exposed some quartz veinlets in the sedimentary rock and these quartz veinlets do carry pyrite and some molybdenite. Samples A27, 29, and 33 are grab samples from the broken rock and these samples returned 2, 3, and 37 ppm Mo and 20, 40, and 910 ppm Cu. The other metals are merely background. At the western end of this sample line is some more hornfels. Sample G610 is a sample of hornfels, it returned 27 ppm Mo, 33 ppm Cu, 21 ppm Pb, 95 ppm Zn and 365 ppm F.

In another place a gossan occurs on the north side of the river. At one stop with the helicopter, two rock chip samples were collected, both of which were a brownish hornfels. The one sample (A269) contained some quartz veinlets and it re-

turned 113 ppm Pb, 69 ppm Zn, 33 ppm Cu, 11 ppm Mo, and 300 ppm F.

In the three places where hornfels was collected, generally some quartz veinlets are present. Generally some of the samples are somewhat anomalous in molybdenum and some base metals. Many of the hornfels occurrences could be merely zones adjacent to outliers of the batholith rather than zones adjacent to specific stocks. However, the limited field work did not eliminate this second possibility. The specimens examined did not look particularly encouraging; they were generally dry-looking mineralization without bleached selvages along the quartz veinlets.

#### Prince Rupert Target

Immediately to the northeast of the city of Prince Rupert is an area with unusual geological structure, indicating a dome area or a very sharp flexure in the regional trend. The regional trend is northwesterly and the structural contours in this area are circular, completely cross-cutting the regional trend. One small gossan was observed from the air within this region. Further to the south similar metamorphic rocks, but assigned to a different sequence, host a massive sulphide deposit owned by Texas Gulf Inc.

Dennis Gore and Henry Awmack spent part of one day with a helicopter collecting lake samples and stream samples which drain this circular target. Results of the sampling are shown on Figures 7. All values are low background and nothing of encouragement was obtained from this limited survey.

#### Lady Luck Prospect

Along Lakelse Creek south of Terrace is an area of extensive silicated rock adjacent to some intermediate intrusions or outliers of the Coast Plutonic Complex. These erratic skarn zones have widespread pockets of sulphides, including some chalcopyrite. In the early 70's the exploration subsidiary of The Hanna Mining Company acquired a large block of claims covering the showings and did an extensive mapping program.

During our stay in Terrace, we spent a portion of one day studying data from assessment work reports and visiting the area. During this limited examination, I saw nothing of significance to provide enthusiasm for further appraisal.

#### CONCLUSIONS AND RECOMMENDATIONS

The work in this area was done intermittently throughout the summer and most times it was inhibited by adverse flying conditions. Therefore, some of the gossans lying east of the Coast Plutonic Complex, between Terrace and the Kitsumkalum

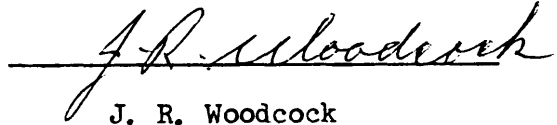
River could not be examined. Also some molybdenite prospects which Woodcock wished to examine in the vicinity of Terrace could not be visited because of low cloud.

Information has been obtained on the spectacular rusty south channel of the Kitsumkalum River. This so-called rust appears to be a mixture of iron oxide and organic slimes and is probably partly caused by the swampy or wet conditions on the south side of the valley. Rusty looking silts collected out of this channel are not anomalous in any of the metals tested.

Up the Kitsumkalum River are some hornfels zones and some of these carry sparse quartz veinlets, generally with the appearance of a dry contact and no sericitized selvage. Although some of these quartz veins and veinlets are mineralized with pyrite, minor chalcopyrite and occasionally molybdenite and although some of them are somewhat anomalous in metals, nothing exciting was noted in this limited examination by Woodcock. Whether or not these are merely parts of hornfels zones along outliers or the Coast Plutonic Complex or whether they are indicative of mineralized stocks within the covered area is not known.

The one target tested in the Prince Rupert area was rather a wildcat idea; however, only one day was spent on the field work. The geochemical results were very low and provided no encouragement.

February 5, 1982

  
J. R. Woodcock





- SYMBOLS**
- Rock sample
  - × Rock specimen
  - Silt sample
  - △ Water "
  - ⊠ Soil "
  - ⊗ Organic "
  - Road
  - ⊖ Swamp
  - Organic iron stained mud

NOTE: Sample numbers have been abbreviated.  
 eg. G81-24R to 24  
 A81-74L to A74  
 W81-127K to W127

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GOSSAN PROJECT  
 KITSUMKALUM TARGET  
 SKEENA M.D., B.C. — NTS. 103 I-14E, 15W

**SAMPLE NUMBERS**

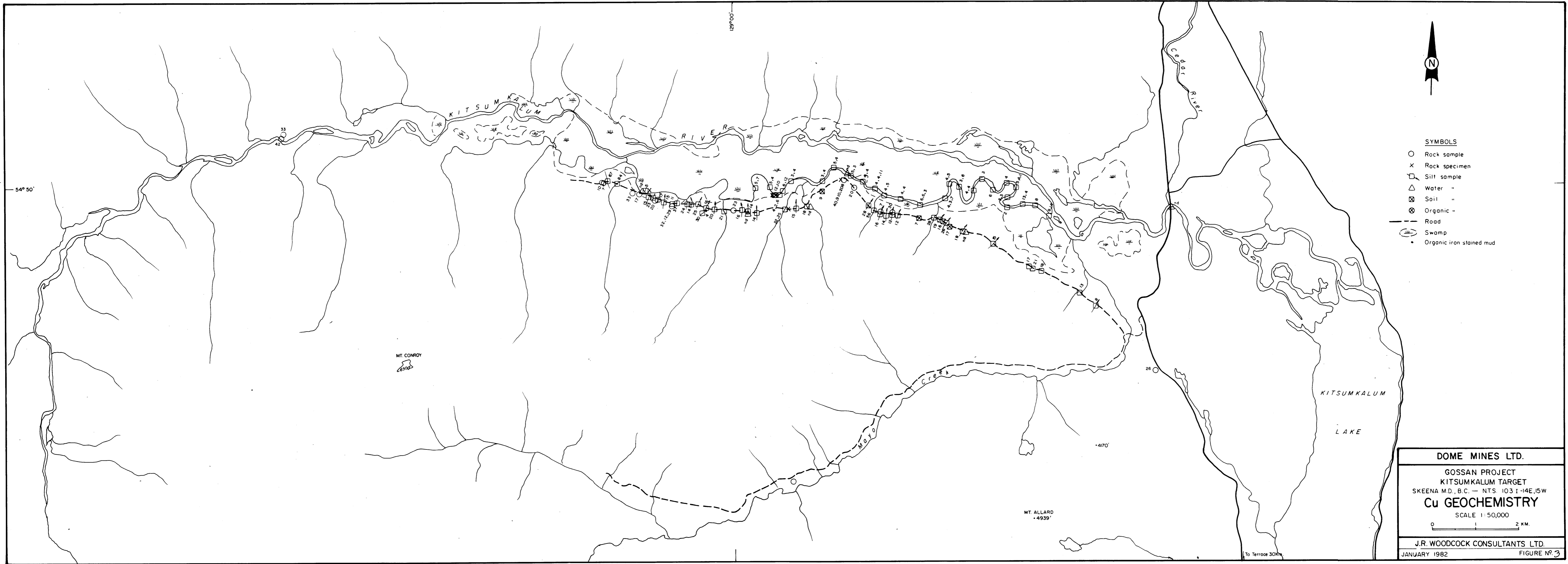
SCALE 1:50,000

0 1 2 KM.

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To Terrace 30Km



- SYMBOLS**
- Rock sample
  - × Rock specimen
  - Silt sample
  - △ Water "
  - ▣ Soil "
  - ▤ Organic "
  - Road
  - ⊖ Swamp
  - Organic iron stained mud

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GOSSAN PROJECT  
KITSUMKALUM TARGET  
SKEENA M.D., B.C. — NTS. 103 I-14E, 15W

**Cu GEOCHEMISTRY**

SCALE 1:50,000

0 1 2 KM.

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JANUARY 1982

FIGURE NO. 3



- SYMBOLS**
- Rock sample
  - × Rock specimen
  - Silt sample
  - △ Water "
  - ⊠ Soil "
  - ⊗ Organic "
  - Road
  - ⊖ Swamp
  - Organic iron stained mud
  - 2.66 Pb, Zn (ppm)

**DOMINE MINES LTD.**

GOSSAN PROJECT  
 KITSUMKALUM TARGET  
 SKEENA M.D., B.C. — N.T.S. 103 I-14E, 15W

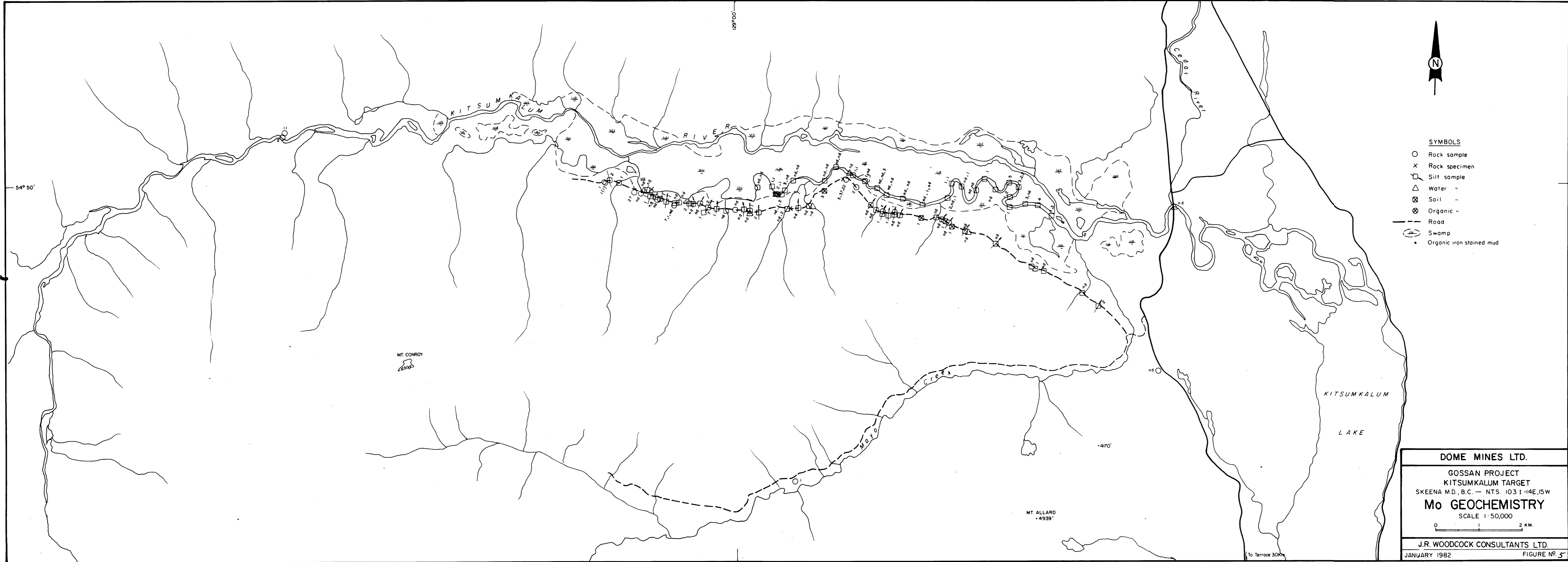
**Pb & Zn GEOCHEMISTRY**

SCALE 1:50,000

0 1 2 KM

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FIGURE NO. 4



- SYMBOLS**
- Rock sample
  - × Rock specimen
  - Silt sample
  - △ Water "
  - △ Soil "
  - ⊗ Organic "
  - Road
  - ◌ Swamp
  - Organic iron stained mud

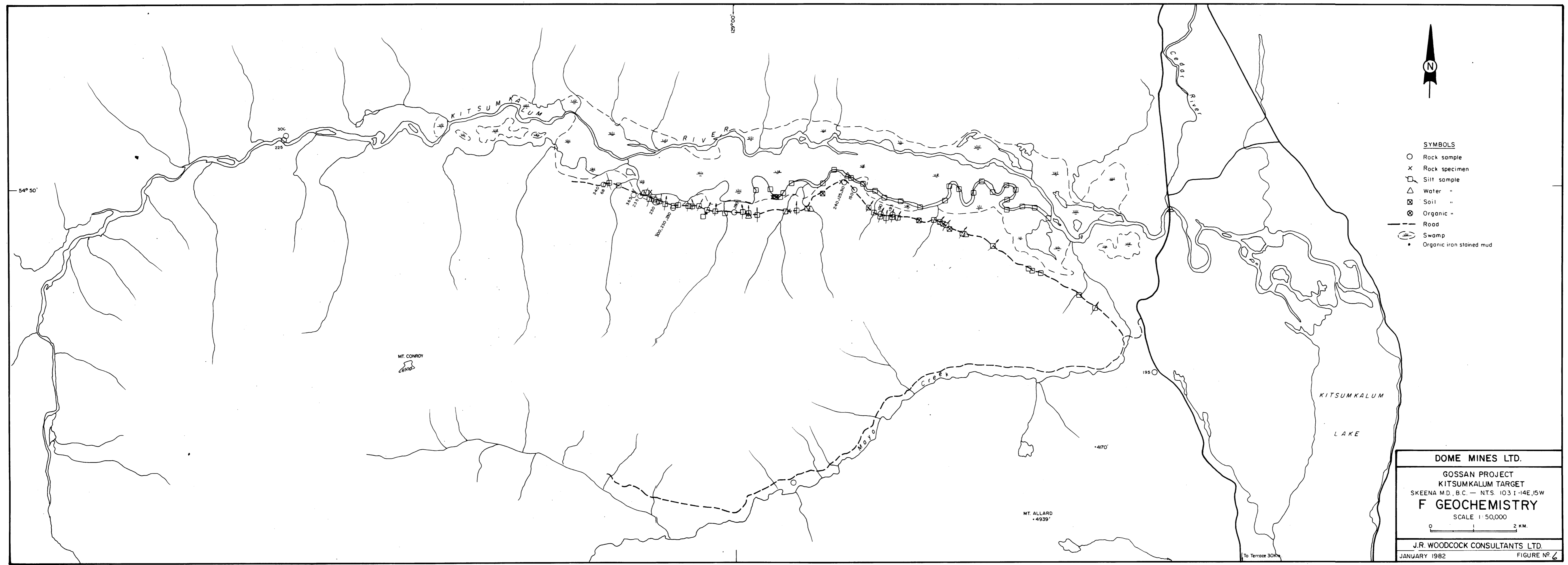
**DÔME MINES LTD.**

GOSSAN PROJECT  
 KITSUMKALUM TARGET  
 SKEENA M.D., B.C. — N.T.S. 103 I-14E, 15W

**Mo GEOCHEMISTRY**  
 SCALE 1:50,000

0 1 2 KM.

J.R. WOODCOCK CONSULTANTS LTD.  
 JANUARY 1982 FIGURE NO. 5



- SYMBOLS**
- Rock sample
  - × Rock specimen
  - Silt sample
  - △ Water "
  - ⊠ Soil "
  - ⊗ Organic "
  - Road
  - ⊖ Swamp
  - Organic iron stained mud

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GOSSAN PROJECT  
 KITSUMKALUM TARGET  
 SKEENA M.D., B.C. — N.T.S. 103 I-14E, 15W

**F GEOCHEMISTRY**

SCALE 1:50,000




0 1 2 KM.

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FIGURE NO. 6



**SYMBOLS**

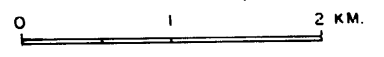
-  Gossan
-  Silt sample
-  Lake sediment sample

NOTE: The sample numbers have been abbreviated. e.g. A81-13L to 13

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GOSSAN PROJECT  
 PRINCE RUPERT TARGET  
 SKEENA M.D., B.C. — N.T.S. 103 J-8 E.  
**SAMPLE NUMBERS**

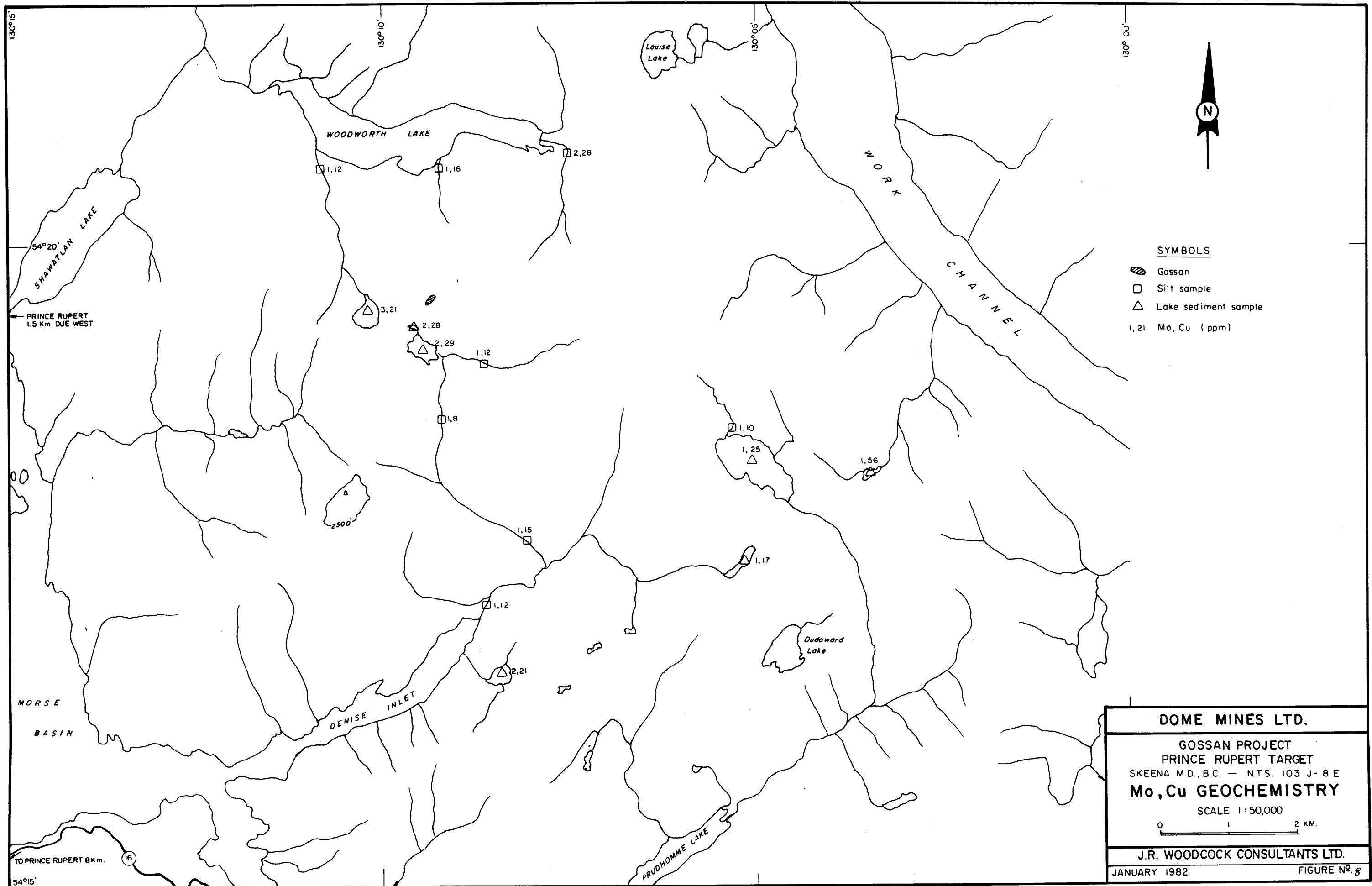
SCALE 1:50,000



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FIGURE NO. 7



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GOSSAN PROJECT  
 PRINCE RUPERT TARGET  
 SKEENA M.D., B.C. — N.T.S. 103 J- 8 E

**Mo, Cu GEOCHEMISTRY**

SCALE 1:50,000

0 1 2 KM.

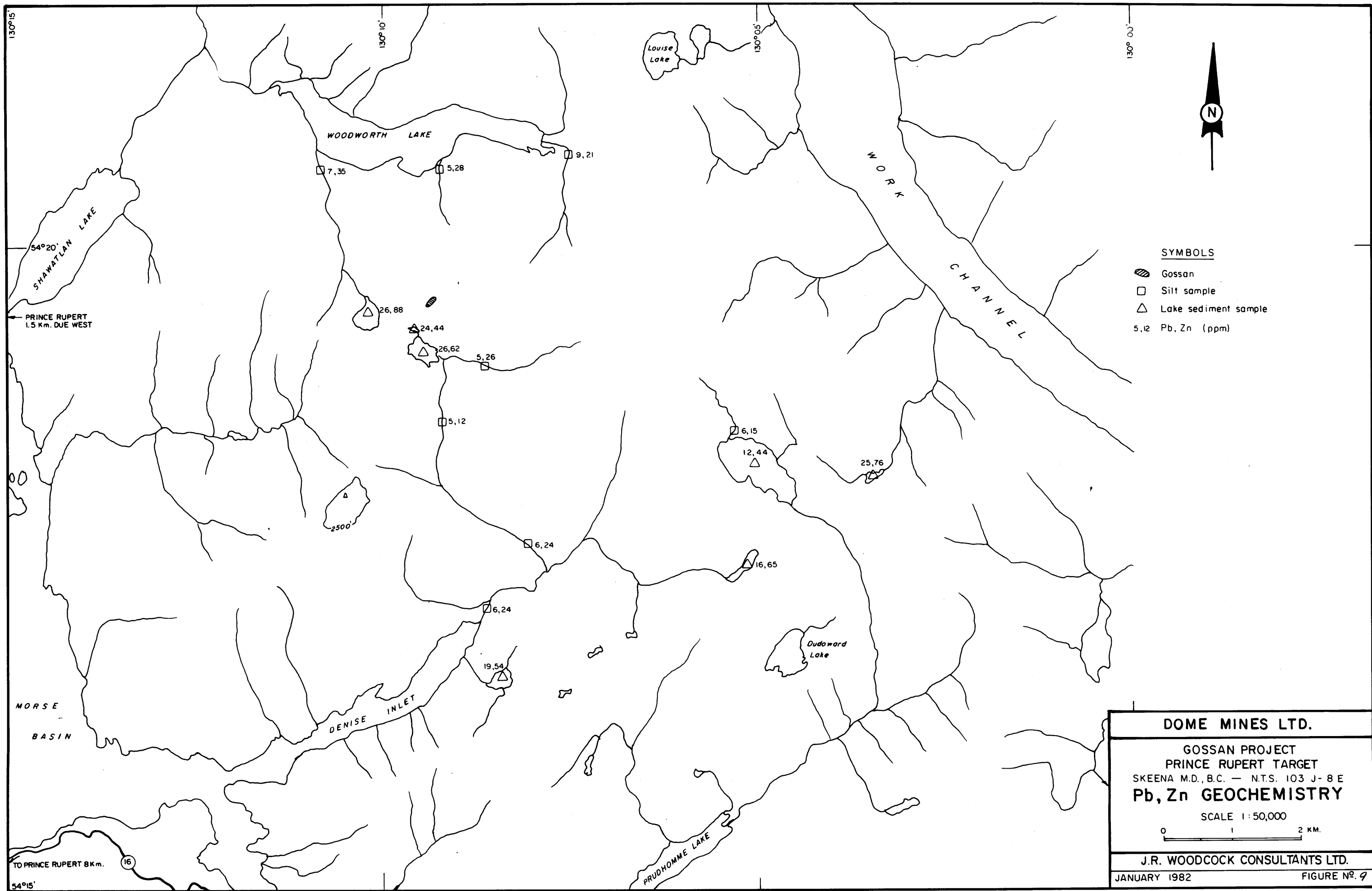
J.R. WOODCOCK CONSULTANTS LTD.

JANUARY 1982 FIGURE No. 8

TO PRINCE RUPERT 8 km.

16

54°15'







**SYMBOLS**

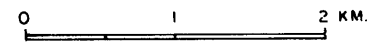
- Gossan
- Silt sample
- Lake sediment sample
- .2,2 Ag, As (ppm)

**DOMES MINES LTD.**

GOSSAN PROJECT  
 PRINCE RUPERT TARGET  
 SKEENA M.D., B.C. — N.T.S. 103 J- 8 E

**Ag, As GEOCHEMISTRY**

SCALE 1:50,000



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FIGURE NO. 10