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NORTHWESTERN EXPLORATIONS, LIMITED

Geological, Geochemical, and Geophysical Report

on the

B. J. Claims

Kamloops, M.D., B.C.

Situated 2 miles southwest of Pimainus Lake, B.C.

50 - 121 Southeast

by

Charles S. Ney, P. Eng.

November 10, 1958

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Claims on which Assessment Work is being Applied

Claim	Group	Tag No.	Distribution of Work: Geolog.	Geophys.	Geochem.	Total	Yrs Work Claimed
BJ 1)		225161	$45.30	$34.70	$46.50	$126.50	1
3)		225163	45.30	34.70	46.50	126.50	1
4(	BJ	225164	45.30	34.70	46.50	126.50	1
5(	No.1	225165	45.30	34.70	46.50	126.50	1
6)		225166	45.30	34.70	46.50	126.50	1
25		300925	45.30	34.70	46.50	126.50	1
BJ 7)		225167	44.00	25.00	34.10	103.10	1
8)		225168	44.00	25.00	34.10	103.10	1
9(		225169	44.00	25.00	34.10	103.10	1
10(		B51310	44.00	25.00	34.10	103.10	1
11(	BJ	B51311	44.00	25.00	34.10	103.10	1
12(	No.2	B51312	44.00	25.00	34.10	103.10	1
13)		B51313	44.00	25.00	34.10	103.10	1
27)		300927	44.00	25.00	34.10	103.10	1
BJ 2)		225162	46.15	37.90	52.90	136.95	1
19)		300919	46.15	37.90	52.90	136.95	1
20)		300920	46.15	37.90	52.90	136.95	1
21(	BJ	300921	46.15	37.90	52.90	136.95	1
22(	No.3	300922	46.15	37.90	52.90	136.95	1
23)		300923	46.15	37.90	52.90	136.95	1
24)		300924	46.15	37.90	52.90	136.95	1
26)		300926	46.15	37.90	52.90	136.95	1
BJ 14)		225160	44.35	26.70	35.70	107.00	1
28)		300928	44.35	26.70	35.70	107.00	1
29)		300929	44.35	26.70	35.70	107.00	1
30)	BJ	300930	44.35	26.70	35.70	107.00	1
31(	No.4	300931	44.35	26.70	35.70	107.00	1
32)		300932	44.35	26.70	35.70	107.00	1
47)		300947	44.35	26.70	35.70	107.00	1
49)		300949	44.35	26.70	35.70	107.00	1
BJ 39)		300939	46.90	42.50	57.50	147.00	1
41)	BJ	300941	46.90	42.50	57.50	147.00	1
43(	No.5	300943	46.90	42.50	57.50	147.00	1
45)		300945	46.90	42.50	57.50	147.00	1

Northwestern Explorations, Limited

B. J. Claims

Introduction

The B.J. claims lie 1/2 to 4 miles south and west of Pimainus Lake on the west side of the Guichon Creek Batholith. The claims were examined by Northwestern Explorations, Limited during the summer of 1958. The program included geological mapping, geochemical sampling, magnetic survey and a restricted Induced Polarization survey. This latter method is not discussed in this report.

Geological mapping was done by G. Rayner, R. Chaplin, and C.S. Ney, P. Eng., under the supervision of Ney. Geochemical sampling was done by O. Bradley, D. Sleigh, R. Hyndman and R. Wright, under the supervision of C.S. Ney P. Eng., H.E. Hawkes and J.A. Gower consulted on the geochemical surveys and interpretation. Samples were assayed at Guichon Creek Camp by C.E. Olsen, R. Jalbert and T. Walsh. Magnetometer and Dip Needle surveys were run by J. McAusland under instruction and supervision of D. Hansen, geophysicist for Northwestern Explorations, Limited. Surveying and line-cutting were done by J. Komlossy, R. Wright, R. Gullison and others named above. The procedure was generally to put the entire crew on line-cutting at the start, then separate the work as lines became available. The work was done in August, 1958.

Location

The claims are located at latitude 50°23' N; longitude 121°07'W, immediately south and west of the west end of Pimainus Lake. The area is 12 miles east of Spence's Bridge, B.C. Elevation ranges from 5100 feet a.s.l. to 5800 feet. East of the claims Mt. Spaist rises to an elevation of 6072 feet. Most of the area is lightly timbered plateau with subdued topography.

Access

A very narrow private Jeep road extends through the claims from Skuhun Valley to Little Pimainus Lake. A good jeep road continues out to Highland Valley Lodge via Calling Lake, a distance of eleven miles.

Field Methods

Surveys: East west lines about one thousand feet apart were run by tape and compass to provide a control for mapping, magnetic observations, and soil samples. These lines were set off from a north-south baseline and tied in to a second line at the west end. An enlargement of the B.C. Government Interim Maps from 2640 scale to 1000 scale provided a planimetric control and furnished details of the drainage.

Geology: All lines were traversed, and in addition mapping was extended to the east on Mt. Spaist because of the good rock exposures in that area. Individual outcrops are indicated except where the total percentage of outcrop became very high. Directions of jointing and of rock foliation were regularly observed, as well as the details of rock type and composition.

Magnetic Survey: Readings were taken at 100 foot intervals on all lines. The work was started off with a Sharpe A3 magnetometer and completed with a Gurley Lake Superior Model Dip Needle. The results of Dip Needle and A3 cannot be directly compared because the former measures total field rather than vertical force and it also responds to changes in the inclination of the field apart from changes in intensity. The instrument used had a sensitivity in the lower part of its' range of 300 gammas per degree. Readings should be reliable to at least one degree, and comparable in precision to the warm weather results which were being obtained with the A3. No gain in overall speed was achieved with the Dip Needle. It is in fact more tedious to operate continuously than the A3.

Geochemical Survey: Geochemical work included collection of samples from sediment in streams draining the area and soil samples along grid lines. In the streams, three samples were taken at each site as a check against an erratic occurrence. Sites were spaced at 1/4 mile intervals along the streams. The fine silt in actual contact with running water was preferred for a sample. Soil samples were taken at 100 foot intervals along the lines, one per site, of the material just beneath the loose organic layer. All samples were dried and screened to minus 80 mesh, in a field laboratory at Guichon Creek. They were tested for exchangeable copper by the procedure devised by R.H.C. Holman. A selected few of the samples were tested by a method using hot nitric acid to extract the copper and biquinoline for a colorimetric determination.

Geology

Outcrops occupy an estimated three percent of the total area of the claims. They are concentrated in the south half of the claim area and mainly in the southeast. Exposures are notably absent in the northern third of the claims and in a northwesterly trending belt through the centre of the area.

The most prevalent map unit is a complex of medium grained dark colored dioritic rocks of varied appearance. Rarely this rock is banded in a manner suggestive of former bedding. On the other hand it grades off to normal quartz diorite. It is suggested that these rocks represent partially granitized remnants of older rocks. Though well jointed, the rock is tough

and apparently more resistant to weathering than the more granitized rocks, so that it characteristically outcrops in topographically high areas, of which Mt. Spaist is typical.

The second unit is moderately coarse-grained light-gray intrusive referred to simply as Guichon Quartz-diorite. This clearly intrudes the older complex but may in places be gradational into it. The relations between the two are very irregular in detail.

On the east a coarser and more acid granodiorite intrudes the diorite complex and the Guichon Quartz-diorite. This rock has been named Skeena Silver from the widespread occurrence of the type in the vicinity of Skeena Silver Mines.

Rock foliation, shown by the alignment of the mafic constituents of the intrusives, is particularly common in the Guichon Quartz-diorite. It is always steep and usually trends 20-30 degrees either side of north. This direction is across the general trend of the areas of diorite complex, though in detail some parallelism of the foliation with the contacts is shown.

In the southeast corner of the property there is a small solitary outcrop of limestone showing bedding dipping 69° southwest. It is partially altered to wollastonite and contains a little copper. The occurrence is interesting because it apparently represents a xenolith in the Guichon Quartz-diorite and is not a part of the diorite complex.

Magnetic Results

The Dip Needle results are shown in a series of profiles, looking north and arranged in sequence from north to south. Even allowing for instrumental variations and human inaccuracies of reading, the profiles show extremely erratic variations. These in part must certainly indicate variations in rock magnetism. It is nearly impossible to contour from such erratic and widely spaced observations.

There is a general but by no means perfect correspondence between magnetic highs and the diorite complex. There is a distinct low trough extending from Baselines 1 to 2 at about 40 west. Another low on Baseline 1 at zero west appears to extend the length of the property on a N 20° W bearing. This occurs over rock mapped as diorite complex which might be expected to have given a high.

Geochemical Results

Data from the stream silts are not as complete as desired. Values range from 1.5 to 36 ppm. Values from streams of any size, i.e., drainage area more than one square mile, are less than 16 ppm. No large source of copper is indicated.

In the soils, the most frequently recurring value, hence the background, is zero. Several weakly anomalous areas are indicated. The most striking is the area 2000 feet x 4000 feet trending northwesterly through the claim area. Values here range as high as 28 ppm, which are significant for dry soils. A selected few of the samples were tested by a method using nitric acid digestion for total sulphide copper extraction. These values were always higher than the Holman Copper values and ranged as high as 200 ppm. Such a large increase in value between total copper and Holman copper indicates that the copper has not been merely brought in in solution but is present in the soil as sulphide particles.

Mineralization

Several small occurrences of copper are shown on the map one on Baseline 1 at 10 west is float of undetermined origin. The limestone xenolith in the southwest corner of the map area contains a small veinlet of chalcopyrite. The two showings along the south edge of the area are mere specks of malachite.

Conclusions

None of the mineral occurrences known are of any economic importance. The central geochemical anomaly warrants further investigation but the low values in the stream silts do not offer much hope of extensive mineralization. It was hoped that the areas of diorite complex might contain rock units favourable for mineralization. The only favourable rock type on the ground was the limestone, which apparently occurs as an independent xenolith.

Charles S. Ney

Vancouver, B.C.

November 25, 1958

Pimainus Lake

CU-FIT

MT SPALST

N

W E

Copper Mineralization — CU
Granodiorite (Skeena Silver Type) — S
Guichon Quartz Diorite — g
Dioritic Complex — D

Joints
Shears
Rock Foliation
Glacial Striae

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 231 MAP #1

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NORTHWESTERN EXPLORATIONS LIMITED

B.J. GROUP
KAMLOOPS M.D, B.C.

GEOLOGY

DATE: 17/11/58	DRAWN BY: C.S.N.	PLATE NO.
REVISED BY	DATE	SCALE: 1"=1000'

Charles S. Ney P.Eng.

Pimainus Lake

N

W E

MT. SPAIST

GROUP 1

GROUP 2

GROUP 3

GROUP 4

GROUP 5

17 15 13 11 9 7 5 3 1

18 16 14 12 10 8 6 4 2

37 35 33 31 29 27 25 23 21 19

38 36 34 32 30 28 26 24 22 20

57 55 53 51 49 47 45 43 41 39

58 56 54 52 50 48 46 44 42 40 64 66

59 60 61 62 63 65

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NORTHWESTERN EXPLORATIONS LIMITED

B.J. GROUP

KAMLOOPS M.D, B.C.

CLAIM MAP

DATE: 12/11/58	DRAWN BY: C.S.N.	PLATE NO.
REVISED BY	DATE	SCALE: 1" = 1000'

Charles Sibley P.Eng.

Pimainus Lake

MT. SPAIST

N

W E

13 11 9 7 5 3 1

14 12 10 8 6 4 2

31 29 27 25 23 21 19

32 30 28 26 24 22 20

49 47 45 43 41 39

Values are P.P.M. Holman Copper Only Positives Shown

Silt Samples 0/6 Soil Samples 4/44

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ASSESSMENT REPORT
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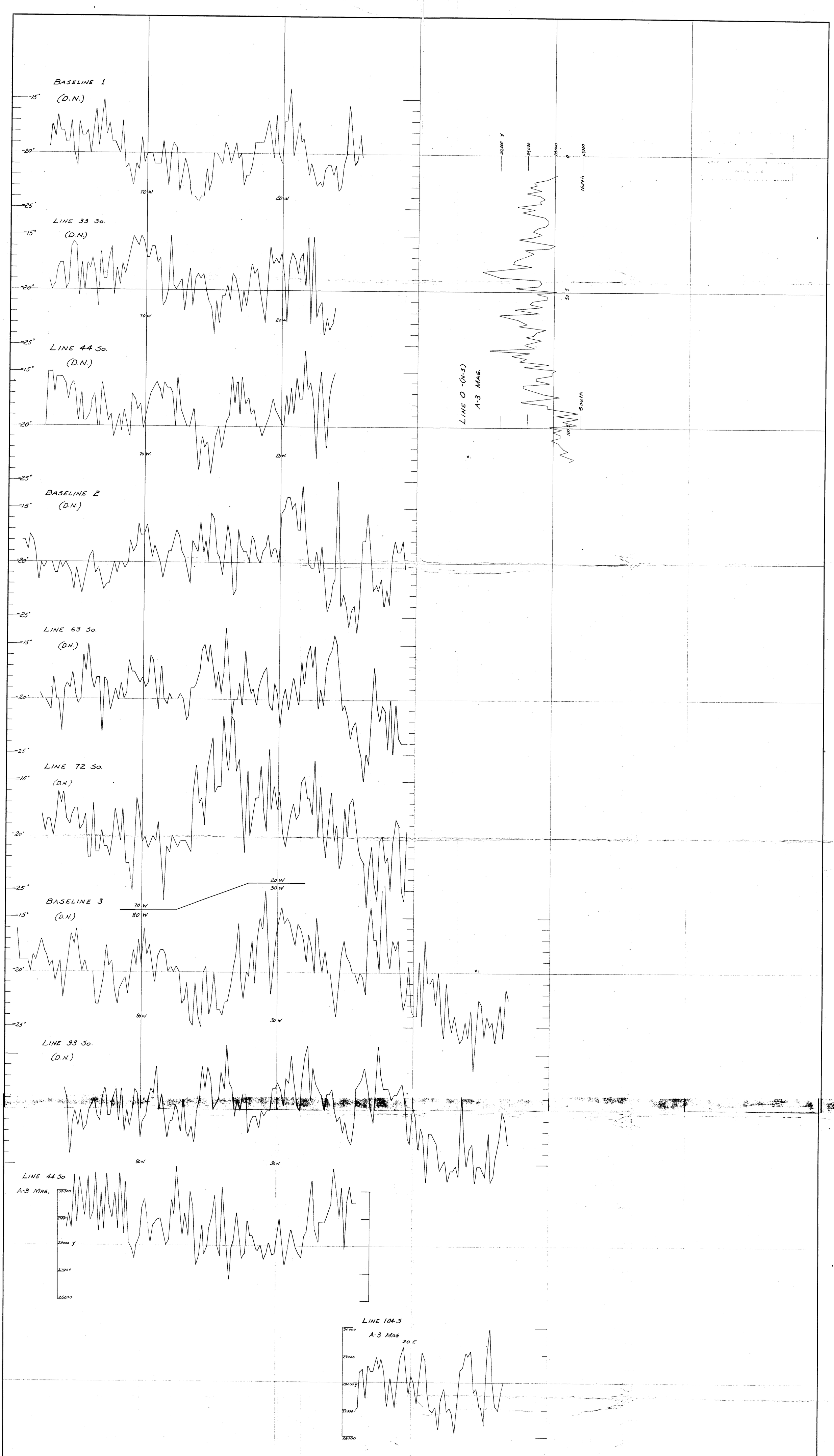
KAMLOOPS M.D., B.C.

GEOCHEMICAL DATA

DATE: 14/11/58	DRAWN BY: CSU.	PLATE NO.
REVISED BY	DATE	SCALE: 1" = 1000'

Charles Shy P.Eng.



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VERTICAL SCALE: 1 IN. = 25 SCALE DIV.
= 1000 GAMMAS

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ASSESSMENT REPORT
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NORTHWESTERN EXPLORATIONS LIMITED

B.J. GROUP
KAMLOOPS M.D. B.C.

MAGNETIC PROFILES

DATE: Nov 16/68	DRAWN BY: C.S.W.	PLATE NO.
REVISED BY	DATE	SCALE: 1" = 1000'