GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL

REPORT

- o n -

THE NIN CLAIMS

REVELSTOKE AREA

REVELSTOKE MINING DIVISION, BRITISH COLUMBIA

- f o r -

W.J. WORRALL

1790 - 777 Hornby Street
Vancouver 1, B.C.

82L/16W

- b y -

JAMES M. DAWSON, M.Sc., P.Eng.

VERSATILE MINING SERVICES LTD.

P.O. Box 609
Kamloops, B. C.

January 7th, 1970

Claims: NIN 1 to NIN 38, Inclusive

Location: 50°, 118° N.E.

Dates: August 11th to September 5th, 1969

2153

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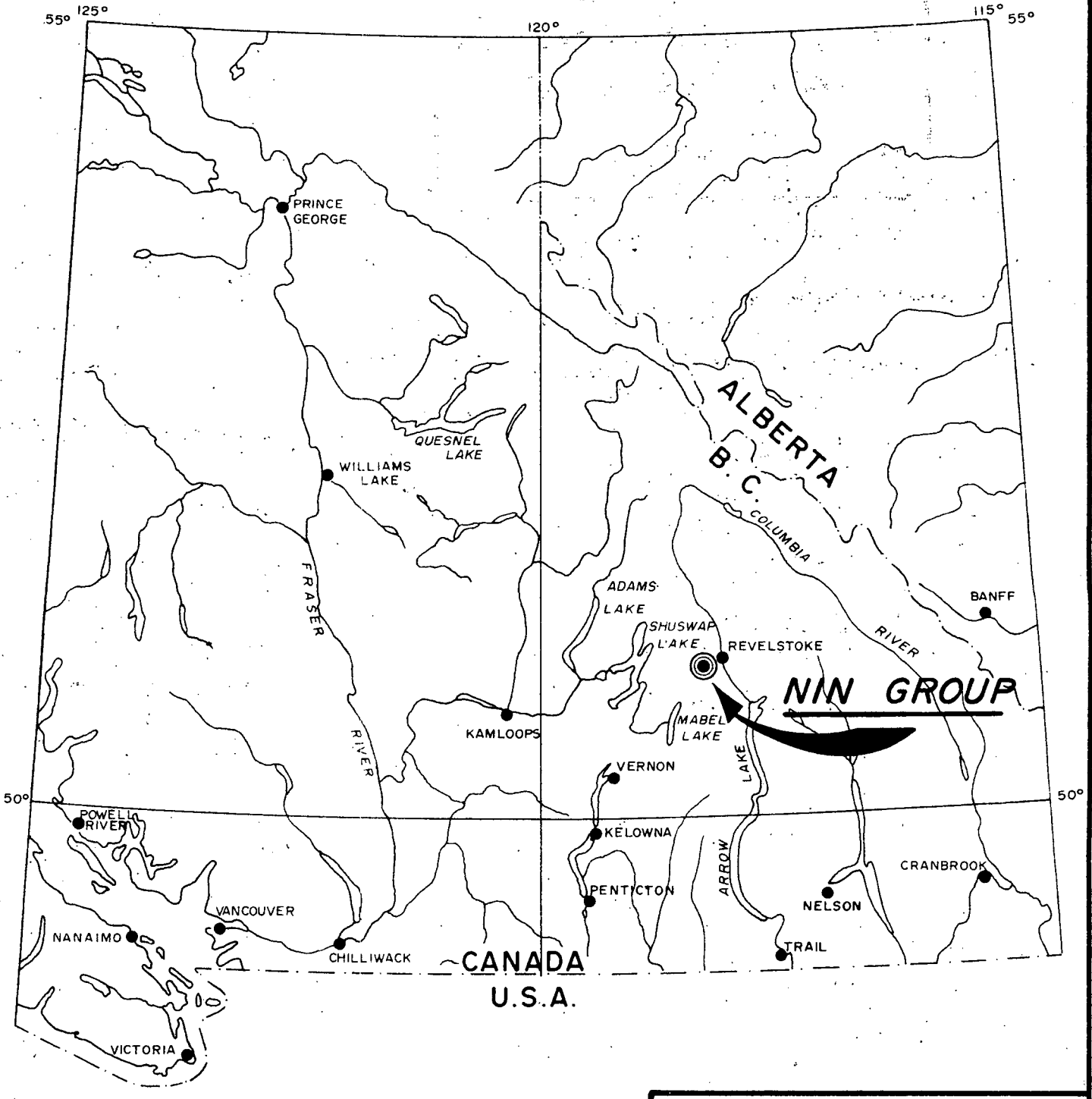
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 2153 MAP



SOUTHERN BRITISH COLUMBIA

LOCATION MAP

NIN CLAIMS

Date Aug. 1969	Scale 1" to 64 miles
Drawn by C.F.C.	Drawing no. 134 - 1

VERSATILE MINING SERVICES LTD.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2153 MAP #1

INTRODUCTION:

This report has been prepared at the request of Mr. W.J. Worrall, Senate Management Ltd., 1790 - 777 Hornby Street, Vancouver, B.C. It describes the results of an exploration programme which included detailed prospecting, geologic mapping, geochemical silt sampling, and a magnetometer survey. This work was carried out between August 11th and August 28th, 1969. The writer spent nine days on the property, mapping the geology and supervising the other exploration activities.

A map showing the location and values from the geochemical and geophysical surveys, a geologic map, and a claim location map were prepared and are included in this report.

PROPERTY:

The property consists of 52 contiguous, located claims in two groups as follows:

Claim Name	Record No.	Tag No.	Record Date
NIN 1 to NIN 10	9625B to 9634B	950621 to 950630	February 24, 1969
NIN 15 to NIN 19	9639B to 9643B	950635 to 950639	February 24, 1969
NIN 23 to NIN 30	9647B to 9654B	950643 to 950650	February 24, 1969
NIN 39 to NIN 46	Unknown at this time	950676 to 950683	January 9, 1970

Total NIN "A" Claim Group -- 31

Claim Name	Record No.	Tag No.	Record Date
NIN 11 to NIN 14	9635B to 9638B	950631 to 950634	February 24, 1969
NIN 20 to NIN 22	9644B to 9646B	950640 to 950642	February 24, 1969
NIN 31 to NIN 38	9655B to 9662B	950651 to 950658	February 24, 1969
NIN 47 to NIN 52	Unknown at this time	950684 to 950689	January 8, 1970

Total NIN "B" Claim Group -- 21

Owner: W.J. Worrall
Suite 1790
777 Hornby Street
Vancouver 1, B.C.

F.M.C. 79361

LOCATION AND ACCESS:

The property is located in south-central British Columbia, about 8 miles southwest of Revelstoke and 4 miles south of the Trans-Canada Highway. The approximate geographic center of the claims is at 50° 56' north latitude and 118° 22' west longitude.

The claims are accessible by helicopter from the Okanagan Helicopter's base about 3 miles west of Revelstoke. The trip from the heliport to the property is made in 15 to 20 minutes. On the property itself, travel is extremely difficult due to precipitous slopes and dense vegetation.

TOPOGRAPHY AND VEGETATION:

The claims occupy portions of a northwesterly-trending ridge and valley. Elevations vary from 3,000 to 7,000 feet A.S.L. The southwest-facing slope between the main valley and the ridgetop is extremely steep and short vertical cliffs (10 - 50') are quite common.

Vegetation consists of small coniferous trees and grassy alpine meadows above 6,000 feet A.S.L. However, below this elevation and

particularly near the valley bottoms, the claims are covered by spruce, balsam and cedar trees with a dense undergrowth of slide alder, devil's club, and salal which makes walking, and particularly climbing, extremely arduous.

Three hours of climbing was required for men to go from the camp (in the valley bottom) to the top of the ridge and they were exhausted when they got there. For this reason, personnel were lifted to the ridgetop by helicopter so that a reasonable day's work could be completed, and magnetometer traverses could be tied in with base stations over a relatively short time period.

HISTORY:

There is no record of previous staking on the ground covered by the NIN claims, or of technical or physical work done on it by the mining industry. The claims lie within an area (Vernon Map area) mapped at 4 miles to the inch by personnel of the Geological Survey of Canada.

GEOLOGY:

The property is underlain by high-grade metamorphic rocks of the Monashee Group of the "Shuswap Terrane" which have a complex history of folding and faulting. Most of the rocks are fine to coarse-grained gneisses which are arbitrarily divided into map units on the basis of overall variation in colour, grain size, and mineralogical composition, although gradations to many intermediate types are often found. Bands of quartzite with minor amounts of included marble and calc silicate rock are found at two places on the property. The only intrusive rocks found are several exposures of a narrow, north trending diabase dike near the southeastern corner of the property.

The bulk of the gneisses consist of medium to coarse-grained feldspar-biotite gneiss. They are dominently light coloured rocks consisting mainly of feldspar, biotite, and quartz. They vary from types resembling gneissic, acid intrusive rocks to those which are clearly of sedimentary origin. Occasional bands of biotite-rich or biotite, hornblende-rich material are found within the lighter coloured gneisses, becoming more numerous towards the central and northeastern parts of the property.

The gneisses commonly contain bands of pegmatitic material. These vary from several inches to over 10 feet in width and although most are concordant, some of the larger ones are observed to crosscut the gneissosity. This pegmatitic material is composed primarily of coarse feldspar

and lesser quartz. There is no distinct contact between the light and dark gneisses, rather the proportion of the darker bands in the light, biotite, feldspar gneiss increases until a biotite-hornblende-feldspar gneiss becomes the predominent rock type. These rocks are generally finer grained than the light-coloured gneisses and acid pegmatites are more common. The dark gneiss varies from a biotite-hornblende-feldspar gneiss through various types of augen gneiss and garnet-rich varieties.

Near the eastern side of the property, there are two small areas of quartzitic rocks. The predominent rock type is a dense, sugary, relatively pure quartzite; however, there are areas where the quartzite proper grades into quartzose, feldspar-mica schists. A few outcrops of impure marble and calc silicate rock were noted within the quartzite zones. The calc silicate rock is a fine-grained, greenish, gneissic rock composed primarily of feldspar, diopside, epidote and (?) actinolite.

Attitudes of gneissosity and bedding are generally north to northwesterly and dips are gentle to moderate westerly or southwesterly. The lack of marker horizons and general heavy vegetation and overburden cover at the lower elevations precludes any detailed analysis of deformation or fold patterns. In general, linears strike north-northwesterly and most of these are interpreted as the surface expression of fault zones.

MINERALIZATION:

Scattered pyrite is found at a number of places on the property, more particularly in the dark gneisses which also commonly show limonite staining. Minor pyrrhotite was noted at several locations in the southeast corner of the property -- in some of the calc silicate rocks. These rocks also carry graphite in places. No other sulphides or minerals of potential economic interest were noted on the claims.

MAGNETOMETER SURVEY:

The purpose of this work was to supplement geological information in areas of drift or dense vegetation cover. One 4,000 foot and six 7,500 foot traverses were run, 1,500 feet apart, across the apparent geological trend. One traverse, located 3,000 feet from the southeast end of the property could not be completed because of excessively steep terrain.

Magnetic observations were taken at 100 foot intervals with a Sharpe MF-1 model fluxgate magnetometer. Maximum readout sensitivity of this instrument is 10 gammas. Each traverse was corrected internally for diurnal variation by looping back to a base station. No correction

was made for daily variation or regional gradient.

The magnetic background is relatively "quiet" or "flat" (see magnetic profiles - Fig. 134-5). Several small magnetic disturbances with a maximum relief of 500 gammas are located near outcrops of the diabase dike and some pyrrhotite-bearing calc silicate rock.

GEOCHEMICAL SILT SURVEY:

Silt samples were collected from 38 locations in stream beds on the property. These samples were packaged in waterproof, manila bags and analysed for copper, molybdenum, and zinc by atomic absorption methods in the laboratories of Bondar-Clegg and Company, North Vancouver.

The results of this silt sampling programme show copper and molybdenum values to be fairly constant. Only two copper values are in excess of 40 P.P.M. (42 and 48 respectively). Except for one sample which ran 6 P.P.M., all molybdenum values are 4 P.P.M. or less. Zinc shows more of a spread in values. Background is about 70 P.P.M. and there are four values in excess of 100 P.P.M. (118, 124, 129, 136 respectively). However, most of this area was prospected diligently

and no trace of any mineralization other than pyrite or pyrrhotite was found. It is thought that these four anomalous values are due to small, local concentrations of sulphides.

SUMMARY, CONCLUSIONS & RECOMMENDATIONS:

1. The property consists of 52 claims in two groups, 38 of which were staked in February, 1969, and 14 in December, 1969. They are located about 8 miles southwest of the town of Revelstoke in the Revelstoke Mining Division.

2. An exploration programme consisting of geologic mapping, prospecting, geochemical silt sampling and a magnetic survey was carried out during August, 1969.

3. The claims are underlain by high-grade gneisses of the Monashee Group of the "Shuswap Terrane" with lesser quartzite and minor contained lenses of marble and calc silicate rock.

4. Mineralization found on the property consists of minor disseminated pyrite and pyrrhotite. No other sulphides were noted although some graphite was found in the calc silicate rocks.

5. No significant anomalous zones were outlined by the magnetometer survey. Analysis of stream sediments showed only background amounts of Cu and Mo. Four anomalous values in Zn were recorded but they are thought to represent only small, local concentrations of sulphides.

6. On the basis of this exploration programme, the potential for finding economic mineralization on the NIN claims is considered to be low and no further work is recommended at this time.

Respectfully submitted,
VERSATILE MINING SERVICES LTD.

James M. Dawson

James M. Dawson, M.Sc., P. Eng.,
Geologist

APPENDIX A

PERSONNEL

PERSONNEL

FIELD:

J.M. Dawson	Geologist	August 20-28, inc.	9 days
R. Emery	Geophysical Operator Surveyor	August 13-27, inc.	15 days
G. Emery	Prospector Field Assistant	August 13-27, inc.	15 days
D. Shea	Prospector Geochemical Assistant	August 11-26, inc.	16 days
G. Short	Prospector Geochemical Assistant	August 11-26, inc.	16 days

OFFICE:

J.M. Dawson	Geologist	November 10 January 2, 3, 5, 6	5 days
R. Emery	Geophysical Operator Surveyor	September 3-5, inc.	3 days
C. Cook	Draughtsman	July 31 August 5, 6, 7, 29 September 22-26, inc. November 12, 13 December 17, 19	14 days

APPENDIX B

STATEMENT OF EXPENDITURES

PROGRAMME COSTS ON NIN CLAIMS

1. LABOR:

1 Geologist - 14 days @ $125.00 per day	$ 1,750.00	
1 Technologist - 18 days @ $75.00 per day	1,350.00	
1 Draughtsman - 14 days @ $60.00 per day	840.00	
3 Fieldmen - 47 man days @ $45.00 per day	2,115.00	
		$ 6,055.00

2. MOBILIZATION AND TRANSPORTATION:

(a) Travel expenses to and from job	232.73	
(b) Truck rental	200.00	
(c) Fuels and service	41.15	
(d) Helicopter		
(1) G3B1 -- 6 hrs. @ $150.00 per hour	900.00	
(2) F-1100 - 3 hrs. 45 min. @ $225.00 per hour	843.75	
		2,217.63

3. Camp, accommodation, groceries, tools, equipment, etc. 71 man days @ $15.00/m/d		1,065.00
4. Engineering supplies, reproductions, air photos, stationery, maps, assays, geochemical analysis, magnetometer rental		724.27
5. Miscellaneous Telephone, secretarial, photo-copying, etc.		163.81
TOTAL		$ 10,225.71

APPENDIX C

AFFIDAVIT IN SUPPORT OF STATEMENT

OF EXPENDITURES

CANADA)
) IN THE MATTER OF the Statement of
) Expenditures for geological, geophysical
Province of British Columbia) and geochemical exploration of the Nin
) Claims in the Revelstoke Mining Division.
TO WIT:)

I, JAMES M. DAWSON, Geologist of 972 Jasper Avenue in the City of Kamloops, in the Province of British Columbia, DO SOLEMNLY DECLARE:

1. THAT the geological, geophysical and geochemical investigation of the Nin Claims was carried out under my direction.

2. THAT the Statement of Expenditures set out in Appendix B of my report "Geological, Geochemical and Geophysical Report on the Nin Claims" dated August 11 to August 28, 1969, truly represents the amounts expended on geological mapping and geochemical and geophysical surveys of the said claims.

AND I make this solemn Declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath, and by virtue of the Canada Evidence Act.

DECLARED before me at the)
City of Kamloops in the)
Province of British Columbia,)
this 6th day of January,)
A.D. 1970.)

James M. Dawson

A Commissioner for taking Affidavits
for British Columbia

APPENDIX D

REFERENCES

REFERENCES

JONES, A.G. (1959): Vernon Map Area, British Columbia; G.S.C. Memoir 296

WHEELER, J.O. (1965): Big Bend Map Area, British Columbia; G.S.C. Paper 64 - 32.

ROBINSON, M.C. (1968): Preliminary Technical Review of the Vic - Tor Group of Located Mineral Claims, Report to Copeland Syndicate.

APPENDIX E

WRITER'S CERTIFICATE

APPENDIX F

MAPS

VERSATILE
MINING SERVICES
LTD.
P.O. BOX 609, KAMLOOPS, B.C.

TELEPHONE 374-6263

CERTIFICATE

I, James M. Dawson, of Kamloops, B.C., hereby certify that:

1. I am a geologist residing at 972 Jasper Avenue, Kamloops, and employed by Versatile Mining Services Ltd. of P.O. Box 609, Kamloops, B.C.

2. I am a graduate of the Memorial University of Newfoundland -- B.Sc., (1960), M.Sc. (1963), and a member of the Association of Professional Engineers of B.C. I have practised my profession for six years.

3. I am the author of this report which is based on a programme of geological mapping, geochemical silt sampling, and a magnetometer survey supervised by me during August 1969.

4. I have no direct or indirect interest in the property described in this report nor do I expect to receive any.

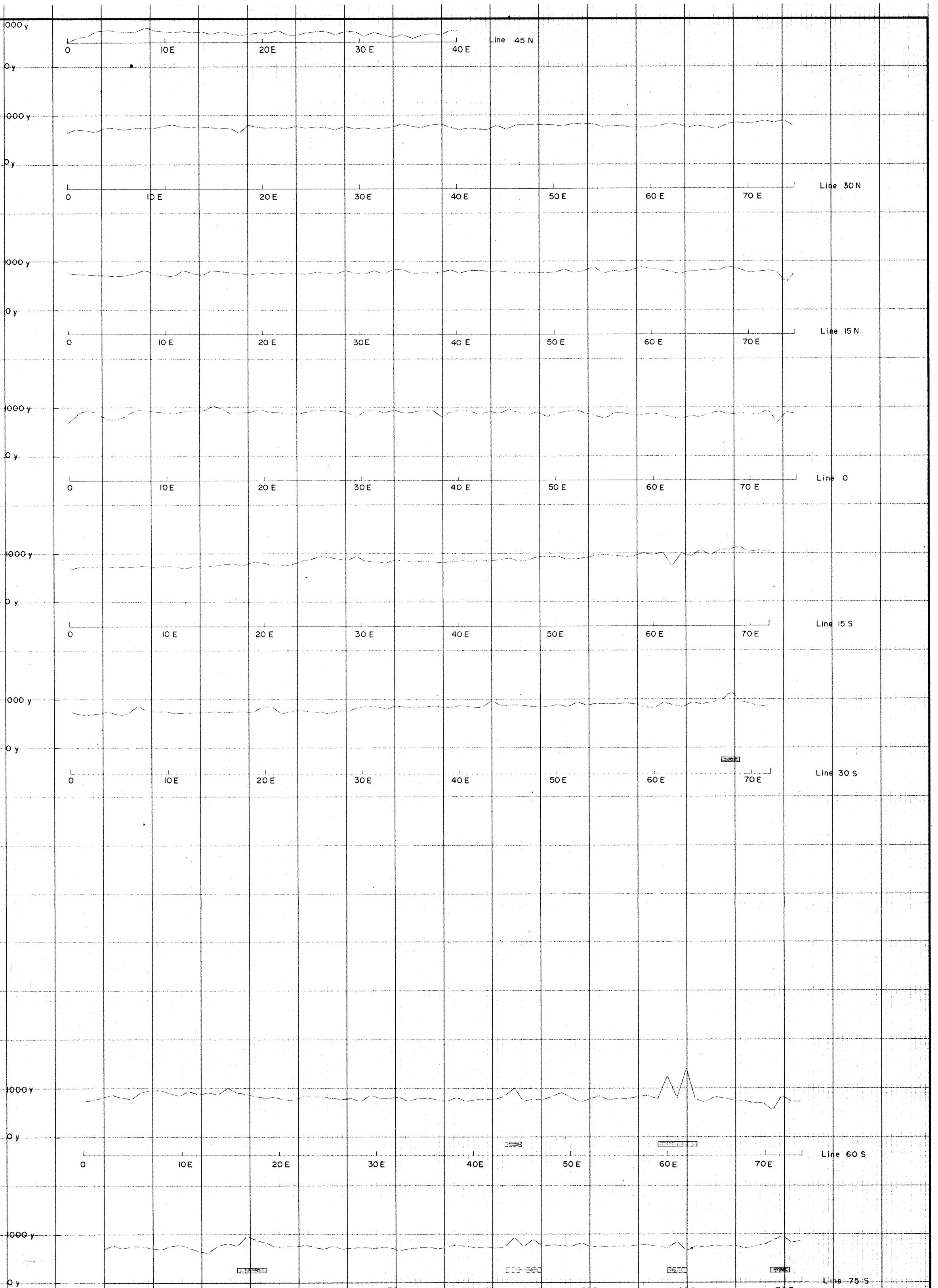
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. M. DAWSON

VERSATILE MINING SERVICES LTD.

James M. Dawson

James M. Dawson, M.Sc., P. Eng.,
Geologist

January 7th, 1970
Kamloops, B.C.



Vert. scale 1" – 1000 gammas
Horiz. scale 1" – 500 ft.
Instrument Sharpe MF – I

Anomalous magnetic disturbance

To accompany a report by J.M. Dawson, P.Eng.

2153

REVISIONS	
Date	By

PREPARED FOR CHANCELLOR CONSULTANTS LTD.

MAGNETOMETER PROFILES of the NIN CLAIMS REVELSTOKE M.D.

Technical Work By: Versatile	Scale: See at left
Drawn By:	Date: Sept 1969
Approved By:	Drawing Number: 134 – 5

VERSATILE MINING SERVICES LTD.
P.O. BOX 559, KAMLOOPS, B.C.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. M. DAWSON

118° 2.0'

REVELSTOKE - 8 Miles

50° 55'

2153

To accompany a report by J.M. DAWSON, P. Eng.

LEGEND

Claim Boundary

Stream

" (intermittent)

Lake

LEGEND

1 — QUARTZITE, containing some beds of lime silicate and marble

2 — Coarse to medium grained biotite - feldspar gneiss, quartzose and pegmatitic in part

3 — Medium to fine grained, dark biotite - hornblende gneiss, garnetiferous and limonitic in part, more acid pegmatite dikes common

4 — Greenish black diabase dikes

Fault - inferred

Attitude of foliation or gneissosity

Geological contact - approximate

Outcrop area

Sample No.
Location
Cu (ppm)
Mo "
Zn "

REVISIONS	
Date	By

PREPARED FOR CHANCELLOR CONSULTANTS LTD.

PLAN OF SURFACE GEOLOGY and GEOCHEMICAL SURVEY of the NIN CLAIMS REVELSTOKE M.D.

Technical Work By	Scale
Versatile	1" to 500'
Drawn By	Date
C.F.C.	Aug. 1969
Approved By	Drawing Number
	134-3

VERSATILE MINING SERVICES LTD.
P.O. BOX 1691 SILVERCREST, B.C.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. M. DAWSON

Part of map 82 L/16W

REVELSTOKE - 8 Miles

NIN 37 NIN 38 NIN 22 NIN 52 NIN 51 NIN 14 NIN 13 NIN 21 NIN 24 NIN 23 NIN 39 NIN 15 NIN 1 NIN 2

35 36 34 33 49 50 48 47 32 31 20 11 12 10 9 8 19 7 18 6 5 4 3 16 17 42 41 40 46 45 44 43 30 29 28 27 26 25

3000' 3500' 4000' 4500' 5000' 5500' 6000' 6500' 7000' 7500'

50°55'

LEGEND

Claim Boundary

Stream

(Intermittent)

Lake

Boundary of A Group

Boundary of B Group

Contour Interval - 500'

Datum - Sea Level

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2153 MAP #4

REVISIONS	
Date	By

PREPARED FOR CHANCELLOR CONSULTANTS LTD.

CHAIN and COMPASS SURVEY and TOPOGRAPHY of the NIN CLAIMS REVELSTOKE M.D.

Technical Work By: Versatile	Scale: 1" to 500'
Drawn By: CFC	Date: Aug. 1989
Approved By:	Drawing Number: 134 - 4

VERSATILE MINING SERVICES (LTD.) P.O. BOX 559 KAMLOOPS, B.C.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA J. M. DAWSON

To accompany a report by J.M. Dawson, P.Eng.

2153

Part of map 82 L/16W

LINE 45 N

LINE 30N

LINE 15 N

LINE 0

LINE 15S

LINE 30S

LINE 60S

LINE 75S

LINE 0

118°20'

REVELSTOKE - 8 Miles

50°55'

50°55'

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2153 MAP #2

2153

LEGEND

Claim Boundary.

Stream

" (Intermittent).

Lake.

Magnetometer - Sharpe M.F.1

REVISIONS	
Date	By

PREPARED FOR CHANCELLOR CONSULTANTS LTD.

MAGNETOMETER SURVEY of the NIN CLAIMS REVELSTOKE M.D.

Technical Work By	Scale
Versatile	1" to 500'
Drawn By	Date
CFC	Aug. 1969
Approved By	Drawing Number
	134-2

VERSATILE MINING SERVICES LTD.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. M. DAWSON

Part of map 82 L/16W