

4287

SELCO MINING CORPORATION LIMITED
REPORT ON GEOCHEMICAL RECONNAISSANCE

AT
SOVEREIGN CREEK
93A/13W

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4287 MAP

GEOLOGICAL RECONNAISSANCE AT
SOVEREIGN CREEK, B.C.

SUMMARY OF COSTS, 1972

SALARIES

GEOLOGICAL SUPERVISION :

G.D. Pollock	: 6 days @ \$100.00	\$ 600.00
	(May 22nd to 27th)	
I.G.L. Sinclair	: 7 days @ \$100.00	700.00
	(May 22nd to 28th)	

FIELD ASSISTANTS :

W. Kirkpatrick	: 7 days @ \$50.00	350.00
	(May 22nd to 28th)	
G. Peacock	: 17 days @ \$50.00	850.00
	(May 22nd to 29th, & June 26th to July 4th)	
P. Warwick	: 9 days @ \$20.00	180.00
	(June 26th to July 4th)	

TRANSPORTION

4-wheel drive vehicle :		
	17 days @ \$20.00	340.00

FOOD-ACCOMMODATION

660.00

LABORATORY COSTS

(Chemex Labs, Vancouver)	528.00
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REPORT WRITING & OFFICE OVERHEADS

420.00

TOTAL :	\$4,628.00
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REPORT ON GEOCHEMICAL RECONNAISSANCE CARRIED
CARRIED OUT BETWEEN
MAY 22nd, 1972 & MAY 29th, 1972 and
JUNE 26th, 1972 & JULY 4th, 1972
on the
TRIFAUX, SOVEREIGN, DON and LOUISE CLAIMS
SITUATED 30 MILES EAST OF QUESNEL
(Lat. 53° 00' : Long. 121° 55')
and held by
R. TRIFAUX, 1713 8th AVE, S.W. CALGARY.

I.G.L. SINCLAIR
SELCO MINING CORP.
55 YONGE STREET,
TORONTO. ONTARIO.

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PLANS IN ENVELOPE	
#1 <u>Plan SM-895</u> showing location of claims and results of geochemical stream sediment survey.	
#2 <u>Plan SM-896</u> Diagrams showing nickel contents of soil and rock samples.	

SOVEREIGN CREEK PROPERTY
GEOCHEMICAL RECONNAISSANCE SURVEY

INTRODUCTION :

Geochemical investigations included stream sampling, some widely spaced soil sampling and a limited amount of bedrock sampling. The accompanying map and diagrams illustrate the extent of the work and the results obtained; a brief discussion of each phase of the programme follows. All analytical work was done by Chemex Labs. Ltd. of 212 Brooksbank Avenue, North Vancouver and the Certificate of Assay are on file in our Toronto office.

STREAM SEDIMENT SAMPLING :

Sediment samples were collected at intervals of approximately 500 feet from all accessible streams draining the ultrabasic rocks. The samples were dried and sieved and the -80 mesh portion analysed for total nickel.

Sample locations and nickel values are shown on the accompanying map and it will be seen that, although there are no strikingly anomalous zones there are a few scattered values in excess of 500 ppm. If further work is planned on the property the sources of these higher values should be investigated.

SOIL SAMPLING :

Soil samples were collected at one hundred

foot intervals, wherever possible, along the lines numbered on the map which in all cases coincided with claim boundary lines.

Wherever the soil profile was sufficiently well developed to enable horizons to be identified the top of the "B" horizon was sampled; in all other cases the samples were taken at a depth of 6 inches to 8 inches.

Sampling was terminated at the north end of the lines when the boundary of the claim block was reached or when the northern margin of the ultrabasic body was crossed; at the south end sampling was generally terminated when the low-lying area of gravel deposits and swamps in the valley floor was reached since soil sampling would not be effective in such an environment. Samples were dried, sieved and the -80 mesh portion analysed for total nickel content. The results are plotted in the accompanying diagrams and a copy of a statistical analysis of the nickel values is also enclosed.

The statistical study suggests that values greater than 925 ppm should be regarded as anomalous. However, the anomalous values generally occur in isolated samples and no broad anomalous zone, such as one would expect to find associated with a significant zone of mineralization, is indicated.

BEDROCK SAMPLES :

Chip samples of fresh rock were taken from all outcrops occurring on the soil traverse lines or within a hundred feet on either side of them. Chip samples of bedrock were also collected from seven prospecting pits

found on the eastern side of line 3 near its southern end.

The chip samples were analysed for total nickel and for ascorbic acid extractable nickel - the latter nickel value is believed to correspond closely to the amount of nickel contained in sulphide minerals and therefore represents the "recoverable" nickel. Most of the interest in this prospect has hinged on the assumption that an unusually high proportion of the nickel (variously reported as being from 50 to 100%) is present in recoverable form and therefore the determination of this parameter is of critical importance in the evaluation of the prospect. The method of analysis used by Chemex Labs. is that developed by Lynch of the Geological Survey of Canada and published in the proceedings of the Geochemical Exploration Symposium held in Toronto in 1970 (C.I.M.M. Special Vol. II, 1971) and is believed to be an effective method of evaluating the 'sulphide'-nickel content of rocks. The results obtained are plotted in the accompanying diagrams and may be summarized as follows :-

1-a/ Mean total Nickel content of

62 outcrop samples = 1,731 ppm (range 1,160-2,400)

1-b/ Mean 'sulphide'-nickel content of same 62 samples expressed as percentage of total nickel = 23% (range 13-14).

2-a/ Mean total nickel content of

7 pit samples = 2,006 ppm (range 1,800-2,240).

2-b/ Mean 'sulphide'-nickel content of

pit samples = 55% (range 30-77).

The overall tenor of the bedrock samples is thus lower, both in terms of total nickel and of the proportion of 'sulphide'-nickel, than the pit samples. This is likely to be due to the pits having been blasted out at locations where some sulphides could be seen in outcrop.

The outcrop samples show that the overall background content of 'sulphide'-nickel is less than 500 ppm. This figure must be regarded as discouraging, especially in the light of the work of Cameron, et al also published in C.I.M.M. Special Vol. II, 1971 which demonstrated that barren ultrabasic bodies have sulphide-nickel contents which lie below a threshold of 1,780 ppm whereas these bodies related to economic orebodies generally contain a range of 'sulphide'-nickel values which crosses this threshold.

CONCLUSIONS

The geochemical reconnaissance has failed to provide us with any positive indications which would justify further work on the property.

It is, of course, possible that a mineralized zone may exist along the southern boundary of the ultrabasic body where the geology is obscured by thick gravel deposits. Geochemical techniques would not be a practical tool in that environment and the available data is not sufficiently encouraging for us to undertake the expense of the detailed geophysical surveys and drilling which

would be necessary to explore that zone thoroughly.

I. G. L. Sinclair
I.G.L. Sinclair



APPENDIX

STATISTICAL PROPERTIES OF SOVEREIGN SOIL SAMPLES :

(Nickel content of samples in parts per million)

Number of values	=	150
Arithmetic mean	=	273.7
Range	=	1880 (1880 - 0)
Variance	=	106038
Standard Deviation	=	325.635
95 percent confidence limits	=	-377.57 to 924.97

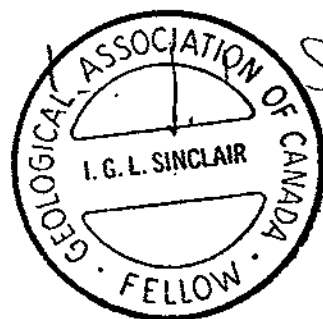
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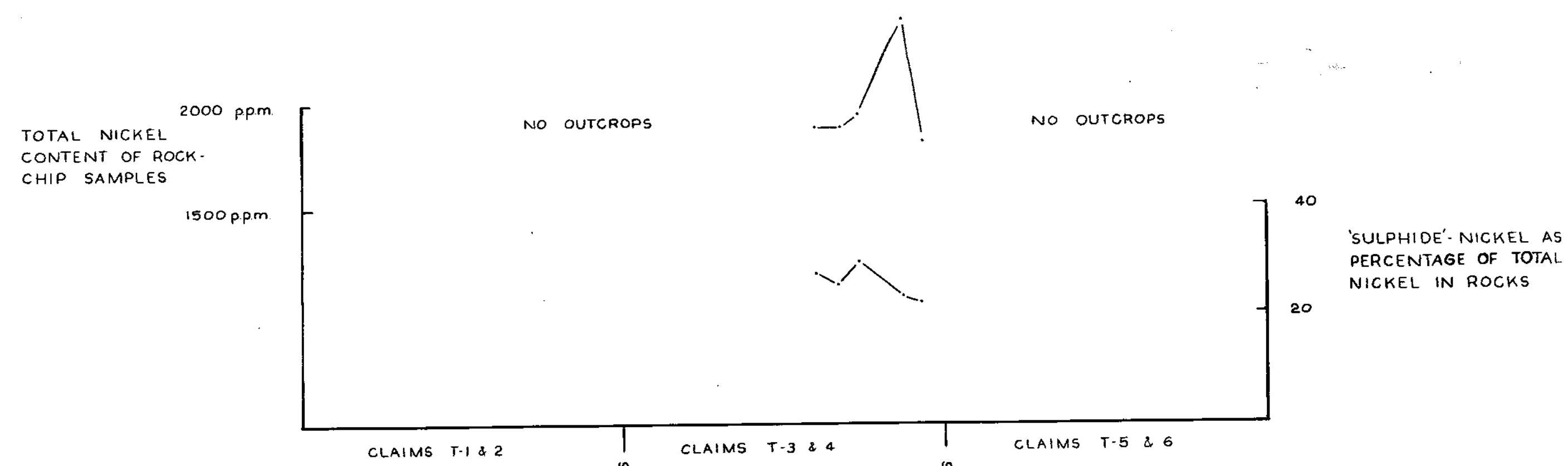
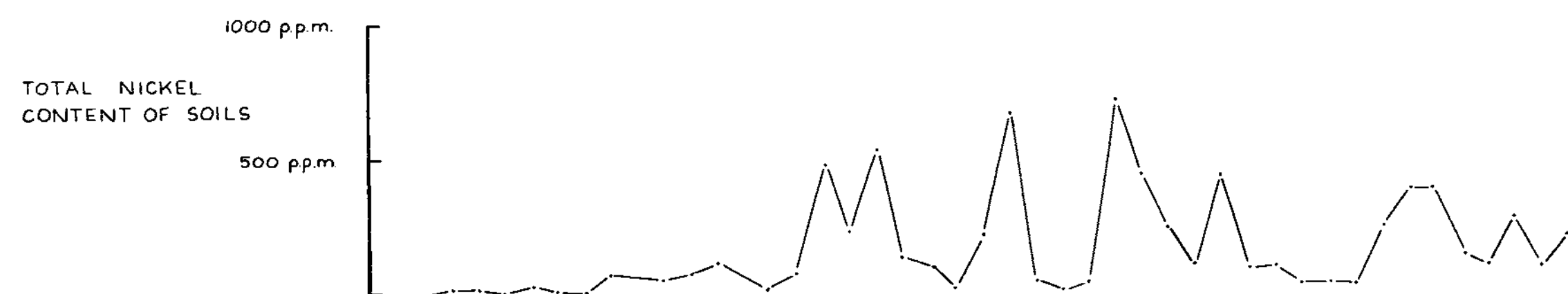
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0	100	58	38.67	38.67
100	200	28	18.67	57.33
200	300	19	12.67	70.00
300	400	9	6.00	76.00
400	500	9	6.00	82.00
500	600	7	4.67	86.67
600	700	3	2.00	88.67
700	800	5	3.33	92.00
800	900	2	1.33	93.33
900	1880	10	6.67	100.00

STATEMENT OF QUALIFICATIONS

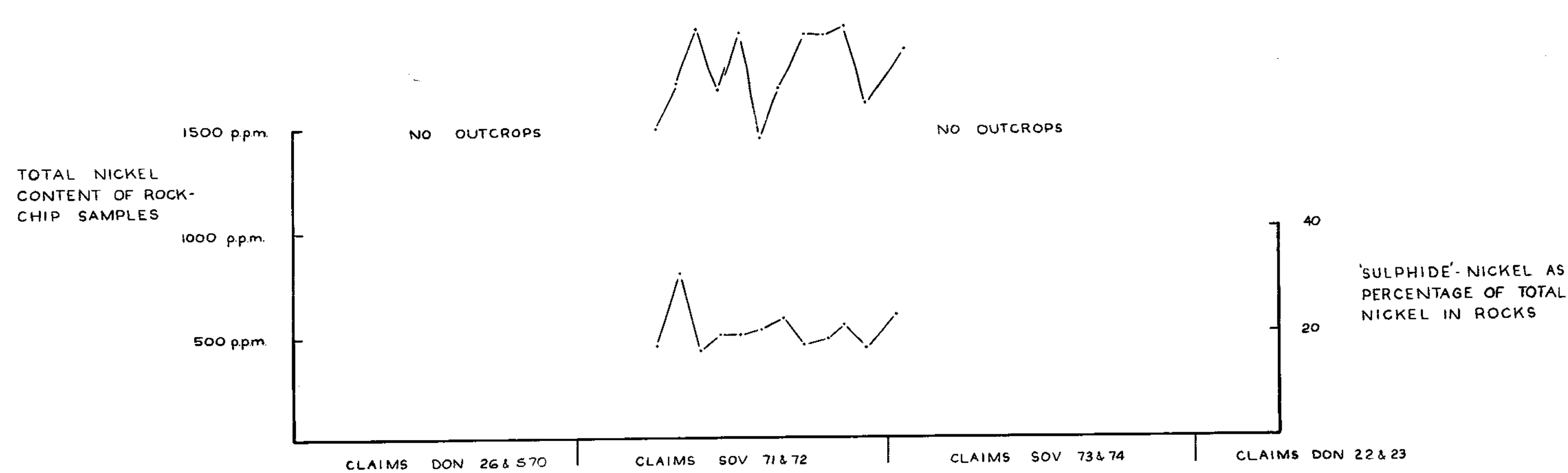
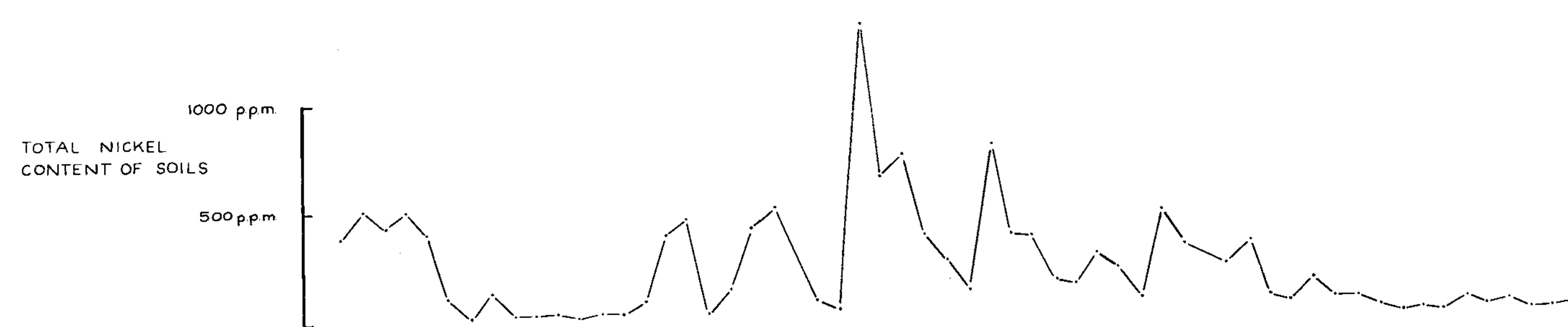
I, Iain G.L. Sinclair of 217 Brimorton Drive, Scarborough, Ontario, state that :

1. I graduated with an honours degree in geology from the University of Edinburgh in 1956.
2. I graduated with a Ph.D. degree from the University of St. Andrews in 1964. The thesis I presented for this degree was concerned with the results of petrological and geochemical research.
3. I am a Fellow of the Geological Society of London.
4. I am a Fellow of the Geological Society of Canada.
5. I am a member of the Society of Exploration Geochemists.
6. I am a member of the Canadian Institute of Mining and Metallurgy.
7. I have published several papers on geological and geochemical aspects of mineral exploration.

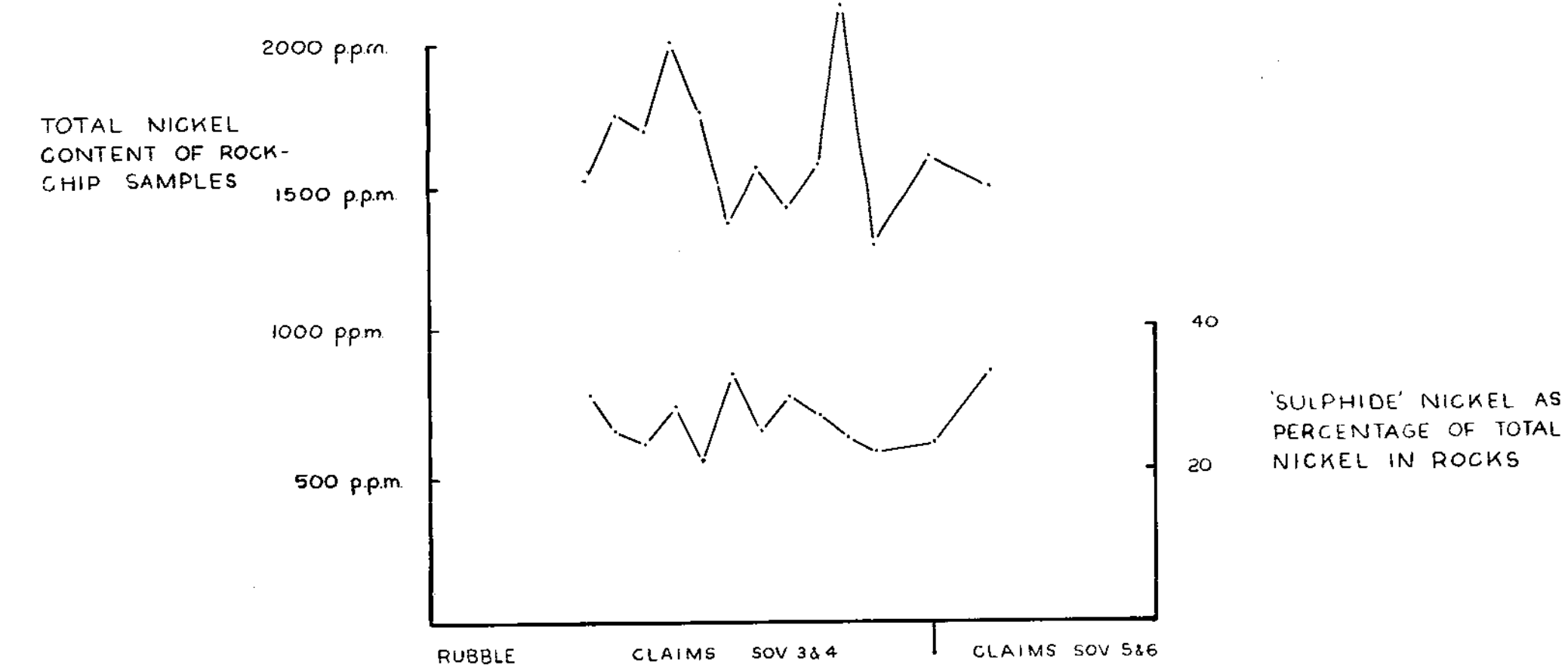
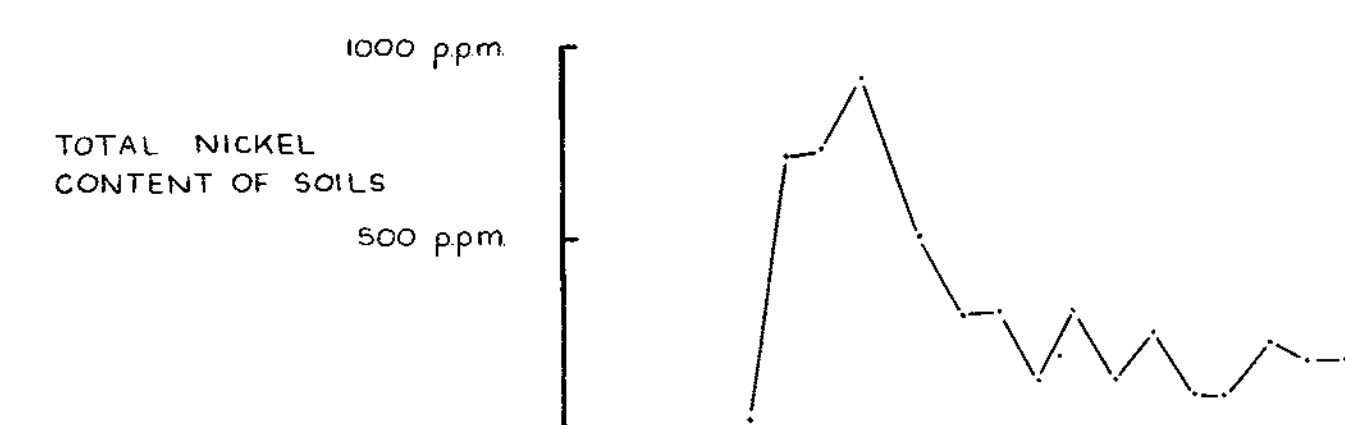




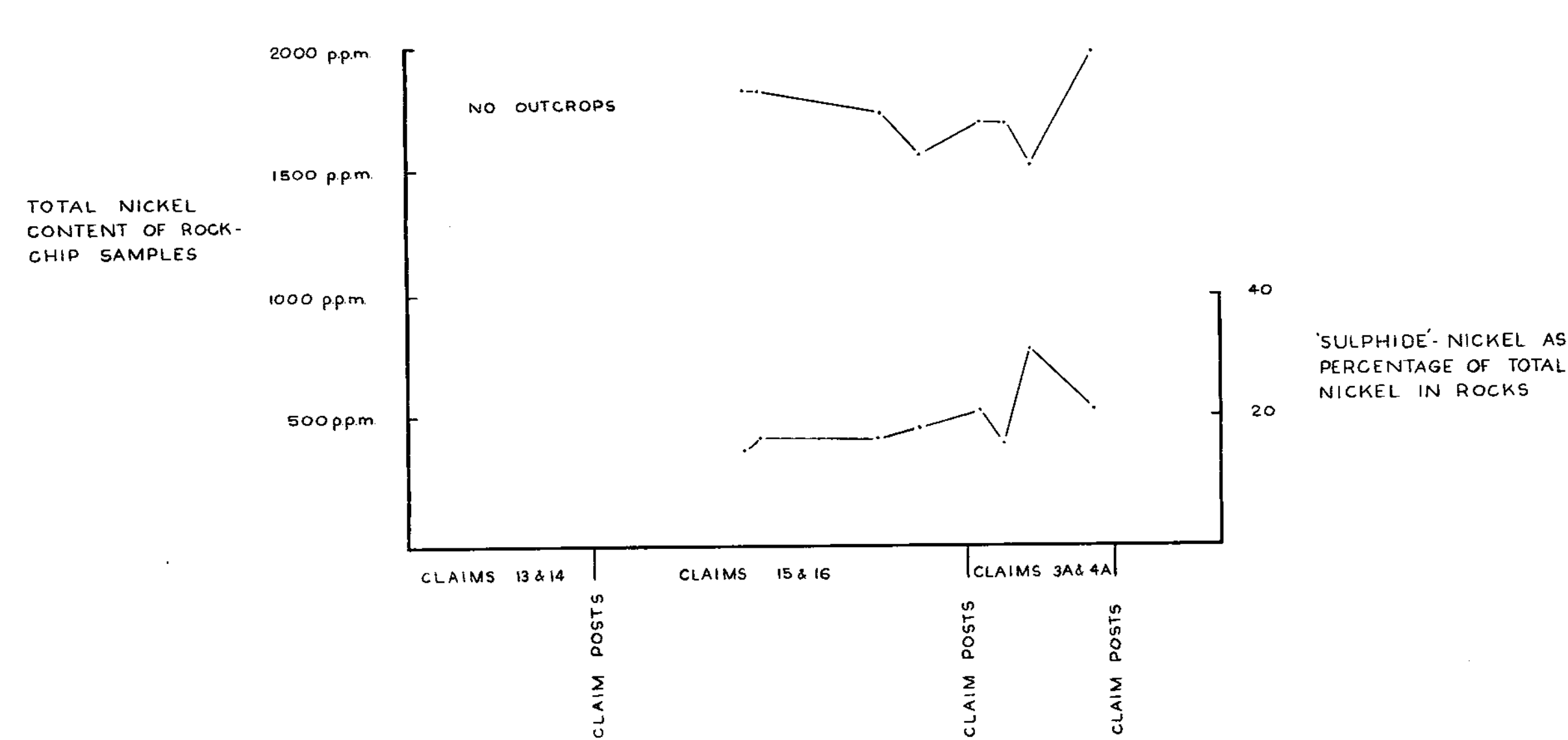
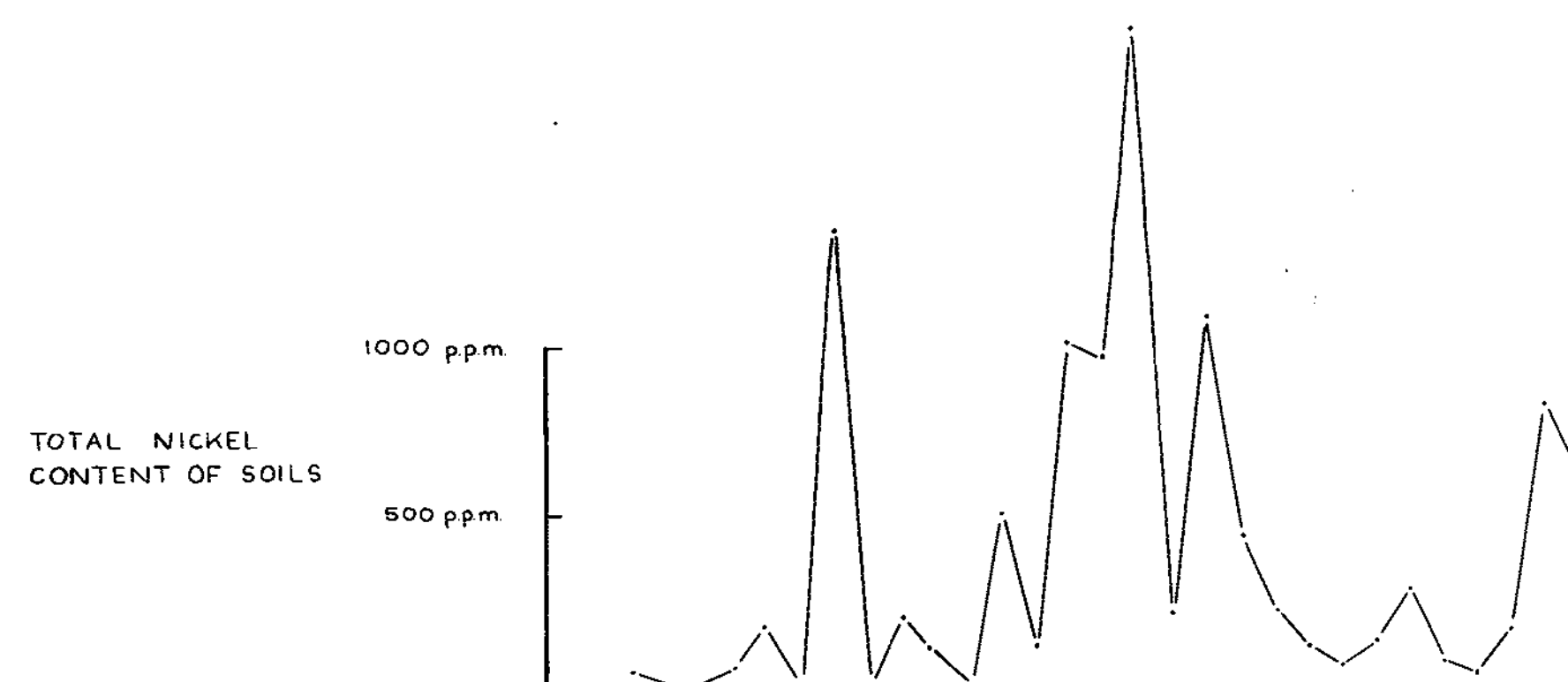
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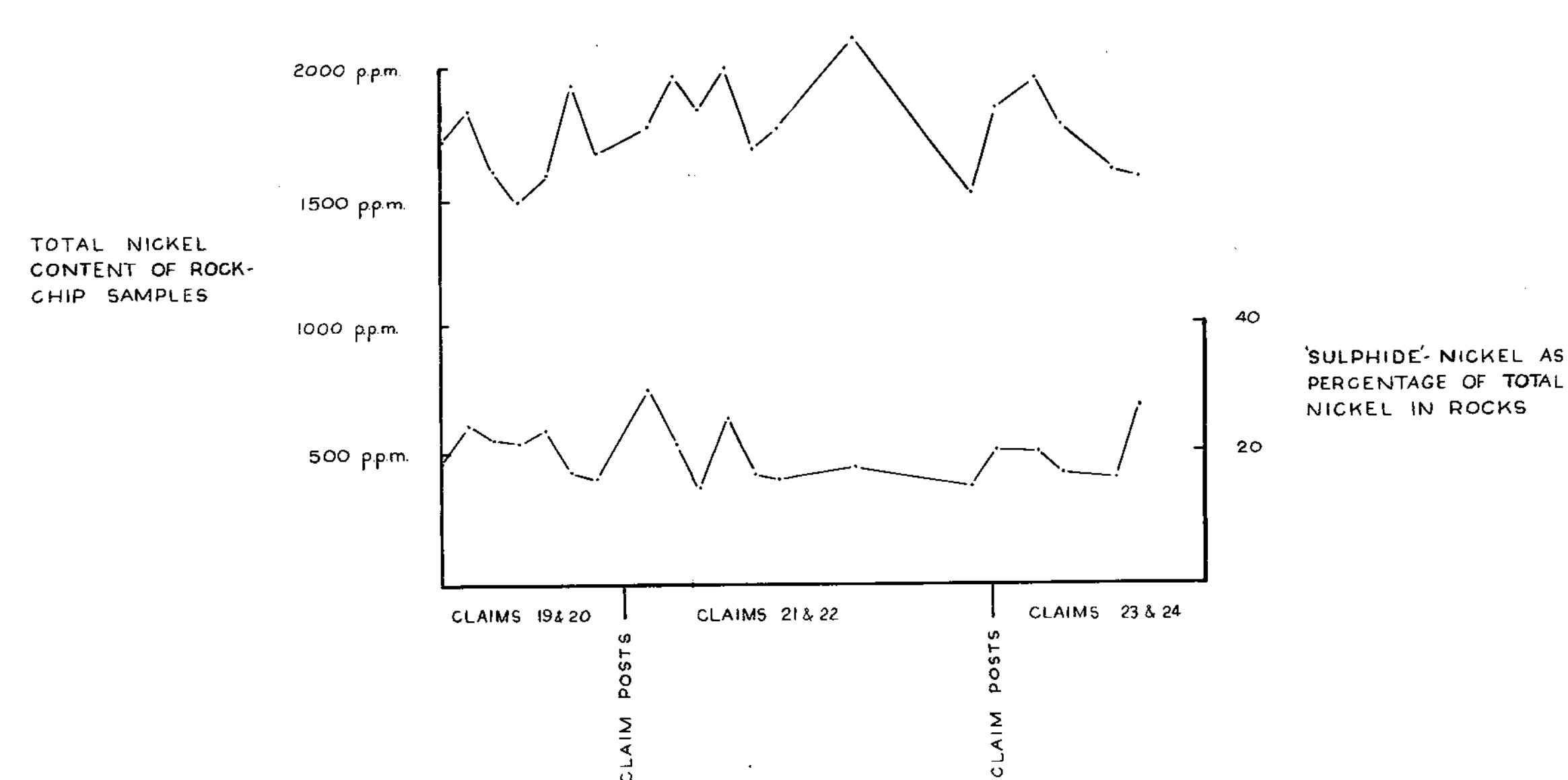
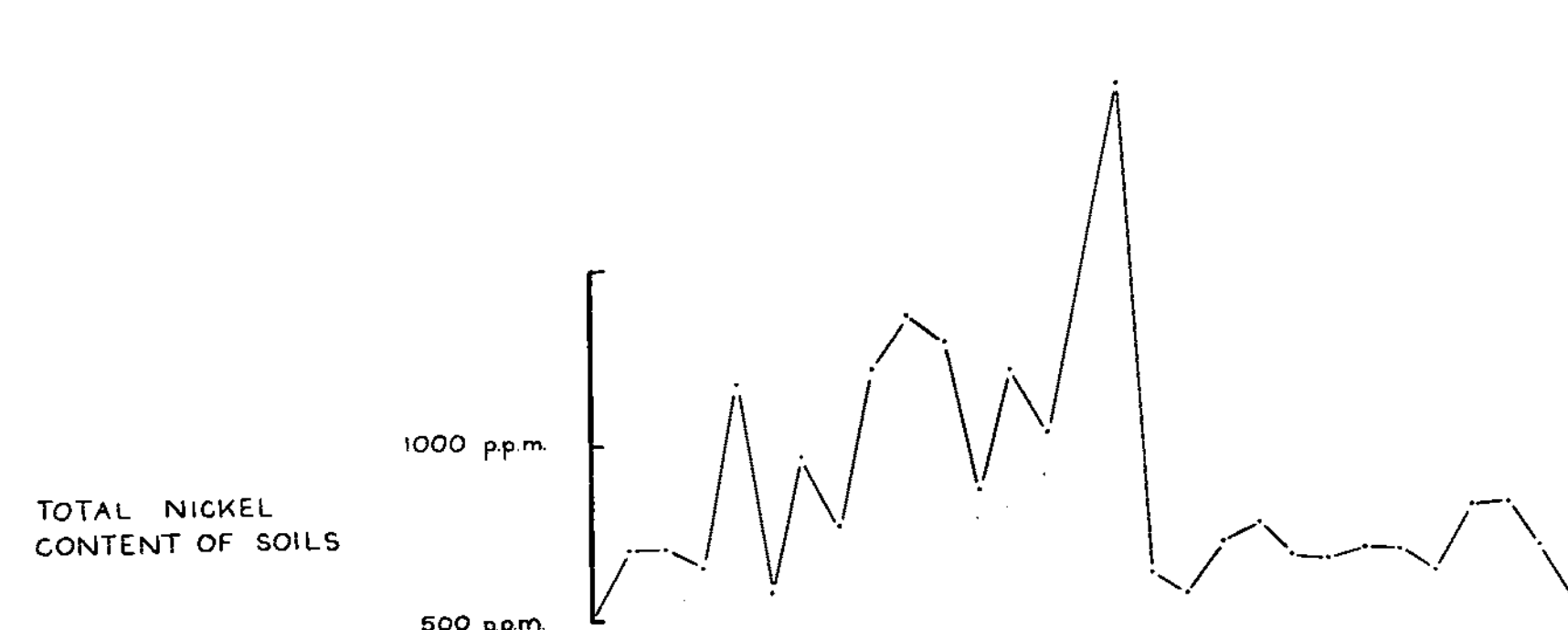
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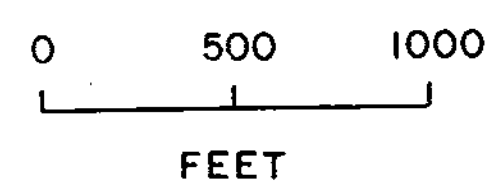
LINE 3



LINE 8



LINE 9

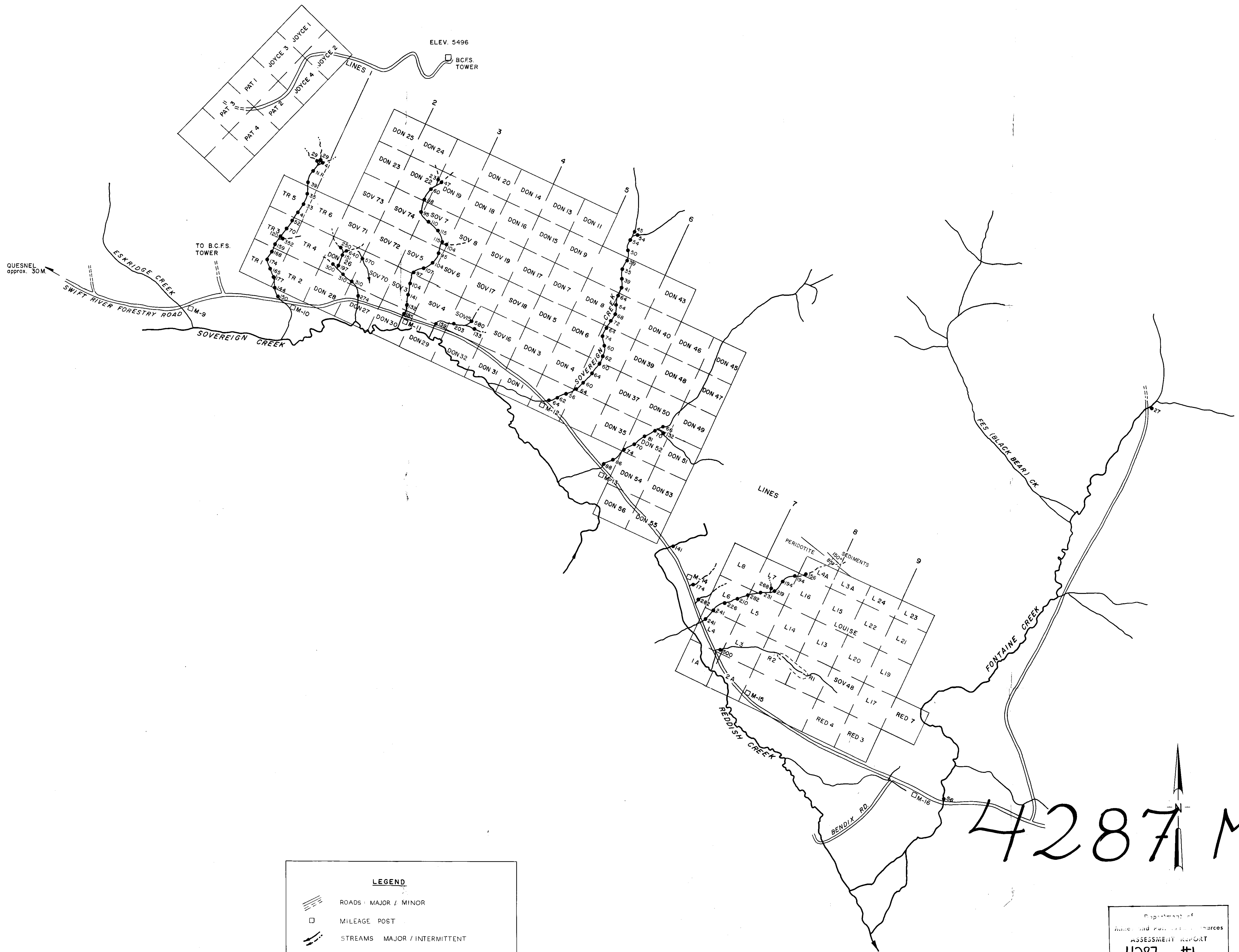


Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4287 MAP #2

SELCO MINING CORPORATION
(EXPLORATION DIVISION) LIMITED

SOVEREIGN OPTION
DISTRIBUTION OF NICKEL
IN SOIL AND ROCK

DRAWN BY: G.I.S. DATE: SEPT. '72
TRACED BY: C.N. DATE: OCT. '72
PLAN NO. SM. 896



4287 M-1

LEGEND

- ROADS - MAJOR / MINOR
- MILEAGE POST
- STREAMS MAJOR / INTERMITTENT
- STREAM SEDIMENT SAMPLE (TOTAL NICKEL IN PPM) - 500 FOOT INTERVALS (WHERE POSSIBLE)

Department of
 Mines and Technical Surveys
 ASSESSMENT REPORT
 NO. 4287 MAP #1

SELCO MINING CORPORATION
 (EXPLORATION DIVISION) LIMITED

SOVEREIGN OPTION
 GEOCHEMICAL STREAM SEDIMENT SURVEY

DRAWN BY G.P. P.W. DATE JULY '72 PLAN NO. SM. 895
 TRACED BY C.N. DATE OCT. '72

0 1500 3000
 FEET