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A Geological Report  
on the  
LODESTAR CLAIM  
for  
RUSH ENERGY CORPORATION

Alberni Mining Division

Vancouver Island, B.C.

by

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September 28, 1982

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## SUMMARY

The Lodestar property of Rush Energy Corporation consists of 16 claim units situated on the eastern slopes of Porter Mountain west of Port Alberni in Vancouver Island.

Basaltic rocks of Triassic karmutzen volcanics underlie almost the entire property, except in few places where quartz diorite and granodiorite intrusives of possible Jurassic age punctured the overlying basic volcanics.

All exploratory work done so far, involving reconnaissance mapping, geochemical soil sampling and limited VLF-EM survey suggest the possible existence of northwest trending mineralized structures in the area. These geological trends are the main targets of the recommended work programme of this report.

## INTRODUCTION

The work programme on the Lodestar property was done on the request of Rush Energy Corporation. Surface geological mapping, geochemical soil sampling and limited VLF-EM survey was carried out in the property from July 12 to July 22, 1982.

This report presents the results of the geological, geochemical and geophysical work done in the property and the recommended program to investigate further its economic potential.

## THE PROPERTY

The Rush Energy Corporation owns and controls the Lodestar property consisting of 16 units. Relevant data on the mineral

property are as follow:

<u>CLAIM NAME</u>	<u>L.C.P. NO.</u>	<u>NO. OF UNITS</u>	<u>EXPIRY DATE</u>
Lodestar	85200	16	July 9, 1983

#### LOCATION AND ACCESS

The Lodestar property is situated on the eastern slopes of Porter Mountain which forms the divide between Sproat Lake on the south and Great Central Lake on the north. Its approximate geographical co-ordinates are: 49°17'N Latitude, 125°05'W Longitude (Fig. 1).

Access to the property from Port Alberni is by way of Highway No. 4 for about 15 km westward, thence about 10 km northeastward through a network of logging roads.

#### PHYSIOGRAPHY AND VEGETATION

The mineral property overlooks both Sproat Lake and Great Central Lake at the highest point of 840 m. The topography is typically rugged. The gorge towards the Great Central Lake is virtually impassable. The slope grade towards Sproat Lake is gentler but deeply incised by Clutesi Creek and Bookhort Creek.

Ample water supply is available at all seasons from the southerly flowing streams that drain the area into Sproat Lake.

Commercial logging of coniferous trees is going on at present in the area. More than half of the forest in the mineral property has been clear-out.

## HISTORY

The Lodestar mineral property of 16 claim units was part of the H.M. Claim Group of 55 claim units which were staked in 1967. The Lodestar property overlaps the eastern part of the original H.M. property.

Stibnite - cinnabar mineralization was the first discovery in the H.M. claims. Copper mineralization was later reported to occur east of the stibnite - cinnabar showings (Mark, 1971).

In 1971, Great Central Mines Ltd. conducted a reconnaissance geochemical soil sampling programme in the eastern portion of the H.M. property. Higher than background concentrations of copper were located to warrant continuing investigation. Encouraging results were also obtained from a limited VLF-EM survey carried out in the northern part of the area.

The present work which partly overlapped the area surveyed in 1971 was done in a more detailed fashion specifically to delineate the previously reported copper anomaly and to assess the geological potential of the claims.

## GEOLOGY AND MINERALIZATION

The Lodestar mineral property is underlain mainly by basic karamutzen volcanics of Triassic age, punctured in places by outcropping granodiorite and quartz-diorite intrusives of possible Jurassic age. It is conceded that a co-magmatic relationship exist between the volcanics and the intrusives. Structures such as pillows in the volcanics is characteristic of submarine volcanism. Uplift

and long period of erosion left only a relatively thin crust of residual volcanics over parts of great masses of underlying intrusives.

Results of all exploratory work in the area suggest possible occurrence of copper mineralization below the surface. The geological and physiographical setting in the area may give rise to a possible development to the type of deposit related to mineralized shear, lode or vein system.

#### GEOCHEMICAL SURVEY

##### (1) TECHNICAL SPECIFICATIONS

A part reconnaissance - part detailed geochemical soil sampling was carried out in the Lodestar property. Rectangular grid pattern of 25 x 100 m was used in the locality which was considered anomalous in earlier reports. Elsewhere, sampling was done in 50 x 100 m, 50 x 200 m and 50 x 250 m grid pattern. The results however showed that optimum information can be obtained from 50 x 100 m grid pattern. (For clarity, the minimum spacing plotted on maps Plate 1 and 2 is 50 x 100 m).

Soil samples were collected, on the average, about 20 cm below the surface, underneath the organic layer. In most sample localities true soil was lacking; consequently, partially decomposed bedrock or fragmental soil constituted the geochemical sample.

The samples were placed in properly labeled craft paper sample bags and were submitted to Acme Analytical Laboratories Ltd. in

Vancouver, B.C. Quantitative determinations of copper and nickel content were done on the minus 80-mesh fraction by the atomic absorption method after digestion of the sample with hot dilute aqua-regia.

(2) DISTRIBUTION OF COPPER IN SOIL

The copper content of the soil ranges from 2 to 370 ppm (Plate I). A regional background of 25 ppm is indicated on the western part of the property increasing relatively towards the east. This increase may be indicative of a higher local background related either to bedrock mineralization or to a normal variations in the metal content of successive basaltic lava flows.

A northwest linear anomalous trend, represented by the 100-ppm isopleth occurs in the eastern half of the property (Fig. 2 and Plate 1). The anomalous trend is about one kilometer long but may extend further to the southeast as indicated by the presence of a string of 100+ copper values in Line 5S. Isolated peaks with a maximum value of 320 ppm occur within the 100-ppm zone.

Another geochemical trend is recognizable west of and sub-parallel to the prominent one. This is probably related to fractures subsidiary to the major fault.

Other less prominent and isolated peaks occur in the eastern half of the property. Most notable of these is the 370-ppm point anomaly near the baseline on Line 6S.

(3) DISTRIBUTION OF NICKEL IN SOIL

The range of distribution of nickel in soil, unlike that of copper, is narrow - from 4 to 76 ppm. There is, however, a

comparative background concentration between the two elements.

The general areal distribution of nickel in soil in the property does not indicate the presence of any geochemical anomaly (Plate 2).

#### GEOPHYSICAL SURVEY: VLF-EM

##### (1) TECHNICAL SPECIFICATIONS

Ground VLF-EM surveys have been proven effective in locating conductive zones, notably massive sulfide deposits, and also disclosing the presence of shallow geological structures such as fault and fracture zones.

The VLF-EM work done in the Lodestar property was carried out with the use of Sabre Instrument Model 27. The transmitter in Seattle Washington, with a frequency of 24.8 khz, provide the most suitable primary field source.

Both dip angle and field strength readings were recorded in each station. Variations in dip angle can be affected by both topographical and geological features, whereas field strength is unaffected by topography. The field strength data therefore may assist in interpreting changes in dip angle.

##### (2) VLF-EM RESULTS

The limited VLF-EM data obtained from five survey lines indicate the presence of a conductive zone in the northern part of the property (Plate 3). The observed conductor appear to coincide with the delineated geochemical trend.



CONCLUSION AND RECOMMENDATIONS

Results of preliminary exploratory work in the Lodestar property indicate the possible existence of sub-parallel mineralized shear zones trending northwesterly.

To probe the economic significance of these structural features, the following work programme is recommended.

- (1) Detailed geological and structural mapping in eastern half of the property.
- (2) Extend the 50 x 100 sampling grid to the south from Line 4S to verify the extension of the geochemical trend.
- (3) Complete the VLF-EM survey on a 50 x 100 m grid pattern to coincide with all the geochemical sampling grid.
- (4) Trenching and sampling across positively identified shear zone.
- (5) Diamond drilling.

COST OF RECOMMENDED PROGRAMME

PHASE I (10 to 12 days)

Detailed geological and structural mapping	\$ 3,600
Geochemical soil survey (including analytical cost)	3,500
VLF-EM survey	2,000
Logistics	<u>3,000</u>
Total	\$ 12,100

PHASE II

Trenching	4,000
Diamond drilling (300 m @ 100.00)	30,000
Road construction	3,000
Mobilization and demobilization	1,000
Food and Lodging	3,500
Engineering and Supervision	<u>3,000</u>
	44,500
Total of Phases I & II	56,100
Contingency 10%	5,600
GRAND TOTAL	<u>\$ 61,700</u>



D.M. Basco, G.A.C.

REFERENCES

- Mark, D.G.      Geochemical Report on Soil Sample Survey, Great Central  
Mines Ltd. (N.P.L.) H.M. Claim Group, 1971 B.C.D.P.M.R.,  
Assessment File No. 3651.
- Muller, J.E.    Geology of Vancouver Island: O.F. 463, 1977.

STATEMENT OF QUALIFICATIONS

Name: BASCO, Daniel M.  
Profession: Geologist  
Education: B.Sc. Geology, University of the Philippines, 1935.

Took post-graduate courses in Economic Geology, University of the Philippines, 1936-1940.

Made studies and observations of basemetal mining and exploration projects in Japan, under the auspices of Mitsui Mining & Smelting Co., 1957.

Professional

Associations: Registered Geologist, Philippines Board of Examiners Fellow, Geological Association of Canada Member, Mineralogical Association of Canada Member, Canadian Institute of Mining and Metallurgy.

Philippines

Experience: Eleven years teaching geology as Asst. Professor, University of the Philippines.

Four years Government Geologist for Philippines Bureau of Mines.

Fifteen years diversified experience in the practice of geology having been connected as Field, Mining, Exploratoion and Chief geologist for different mining and exploration companies, such as Mitsui Mining & Smelting Co., Marsman & Co., Elizalde & Co., Island Oil & Industrial Corporation and Marinduque Mining & Industrial Corporation.

Canadian

Experience: Eighteen years geological experience as Mines, Exploration and Consulting Geologist, at one time or another, for Western Mines Ltd., Kerr Addison Mines Ltd., Columbia River Mines Ltd., Exploram Minerals Ltd., etc.

Vancouver, B.C.  
September 28, 1982

  
DANIEL M. BASCO

CERTIFICATION

I, Daniel M. Basco, of the City of Vancouver, in the Province of British Columbia, hereby certify:

1. That I am a Consulting Geologist with office and residence at 1203-1740 Comox Street, Vancouver, B.C.
2. That I am a graduate of the University of the Philippines with a Bachelor of Science degree in Geology. Took postgraduate courses in Economic Geology in same university during 1936-1940; made studies and observations of basemetal mining and exploration projects in Japan under the auspices of Mitsui Mining & Smelting Co. in 1957.
3. That I have practiced my profession continuously for the past 30 years in the Philippines, United States, and Canada as mine, exploration and consulting geologist.
4. That I am a Fellow of the Geological Association of Canada, a registered Professional Geologist in the Philippines, and a member of the Canadian Institute of Mining and Metallurgy.
5. That I have no interest directly or indirectly in the property or Rush Energy Corp. nor do expect to acquire or receive any.
6. That I hereby give my consent to Rush Energy Corporation to reproduce this report or any part thereof for financing purposes; provided, however, that no portion may be used out of context in such a manner as to convey a meaning which differs from that set out in the whole.

Vancouver, B.C.  
September 28, 1982

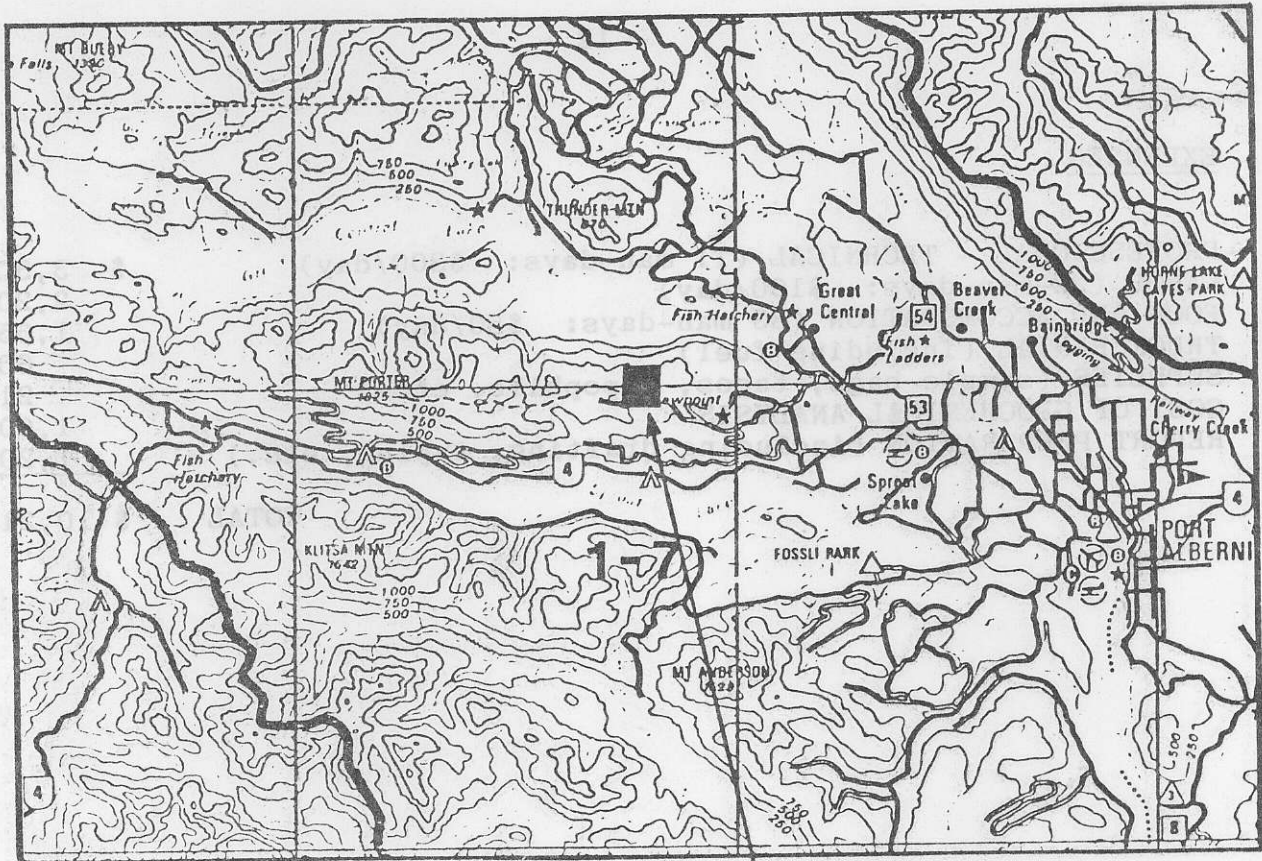
  
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DANIEL M. BASCO

EXPENSES

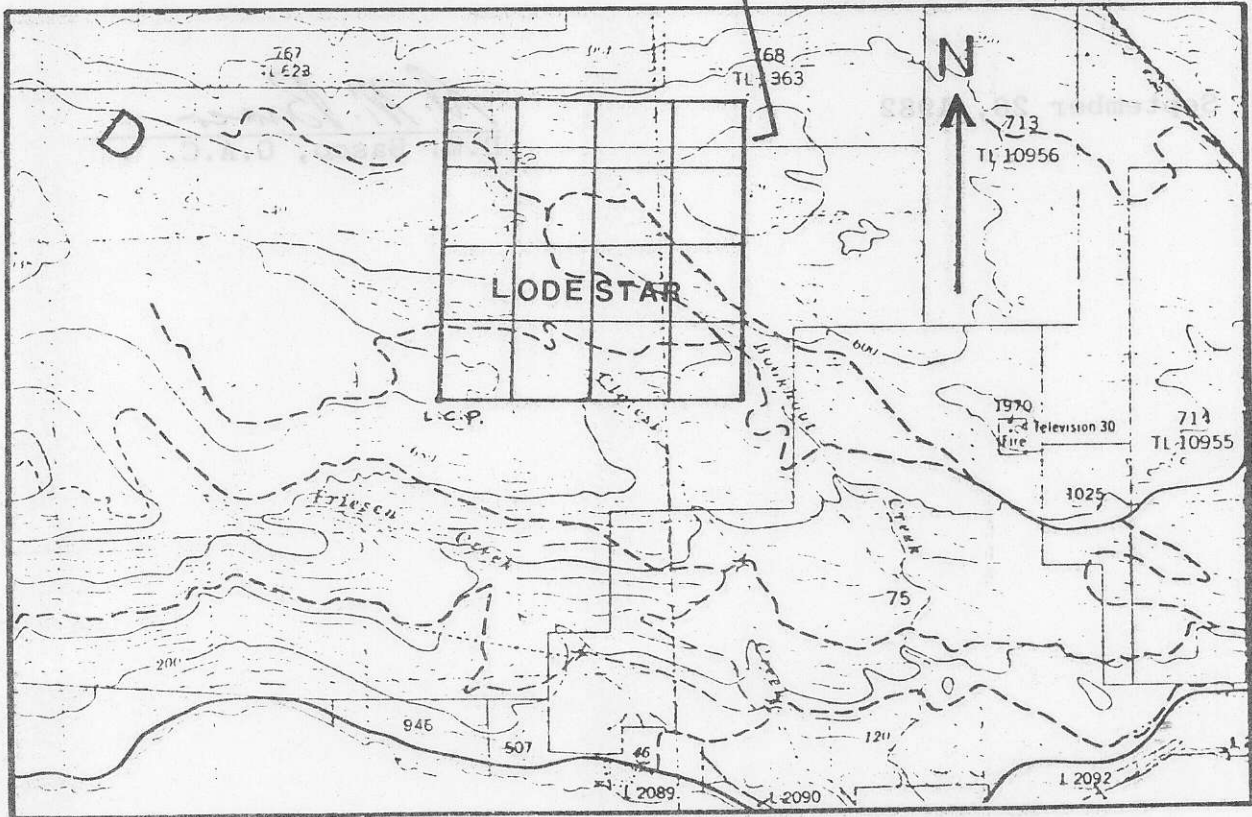
PROFESSIONAL - TECHNICAL (11 man-days: \$300/day)	\$ 3,300
LABOR (22-man-days: \$100/day)	2,200
FOOD AND ACCOMODATION (33 man-days: \$50/day)	1,650
TRUCK RENTAL (including fuel)	650
SUPPLIES (sample bags, tapes, topophile, etc.)	210
COST OF GEOCHEMICAL ANALYSIS	1,000
REPORT PREPARATION (including drafting, typing, etc.)	<u>1,200</u>
TOTAL	\$ 10,210

September 28, 1982

  
D.M. Basco, G.A.C.



SCALE 1:300,000



SCALE 1:50,000

Fig. 1 Location Maps

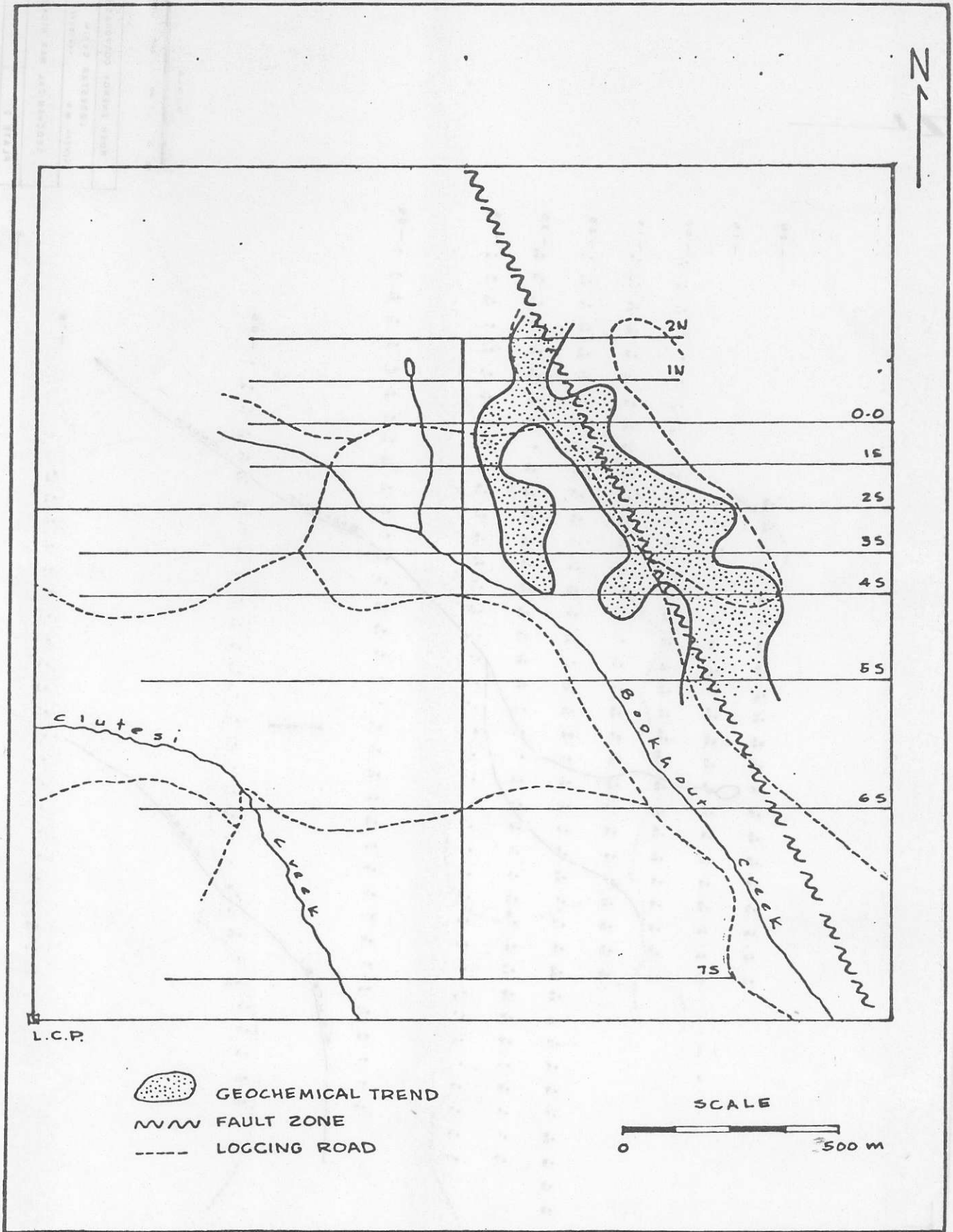
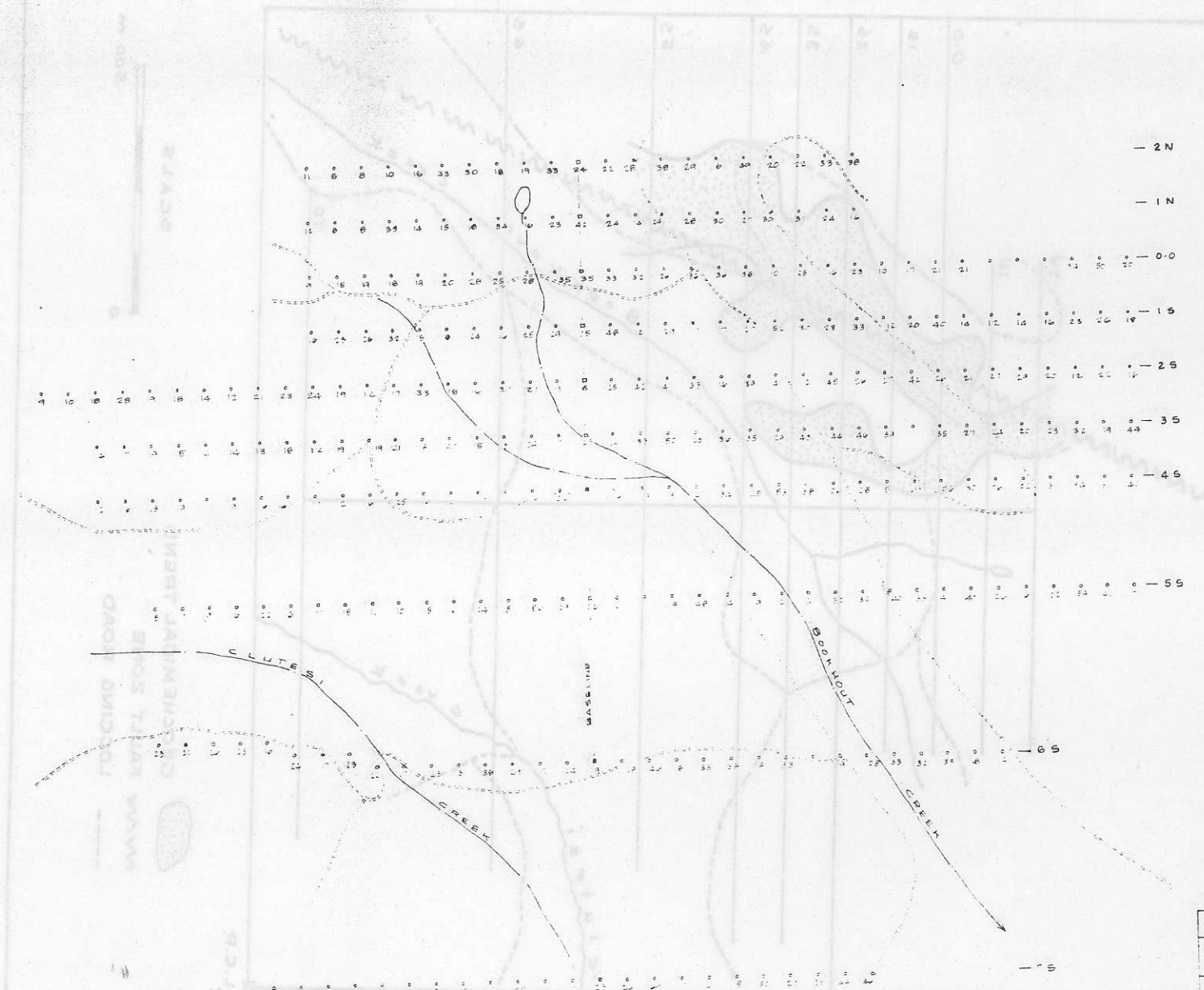


Fig. 2 Relationship Between Geochemical Trend and Fault Zone



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CP 4046

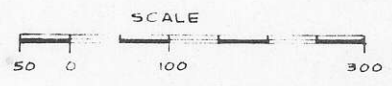
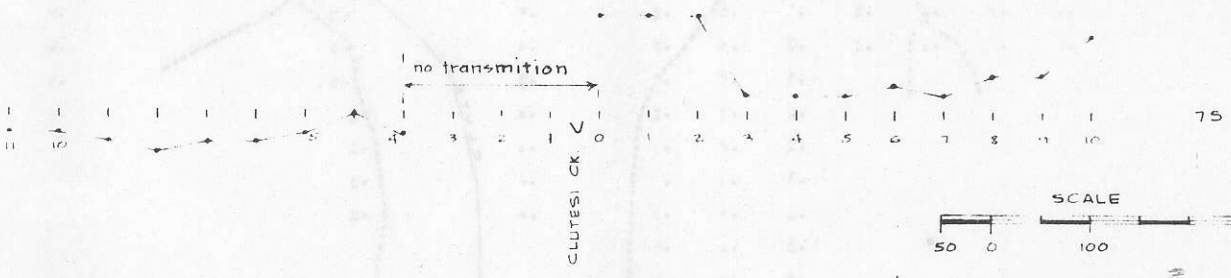
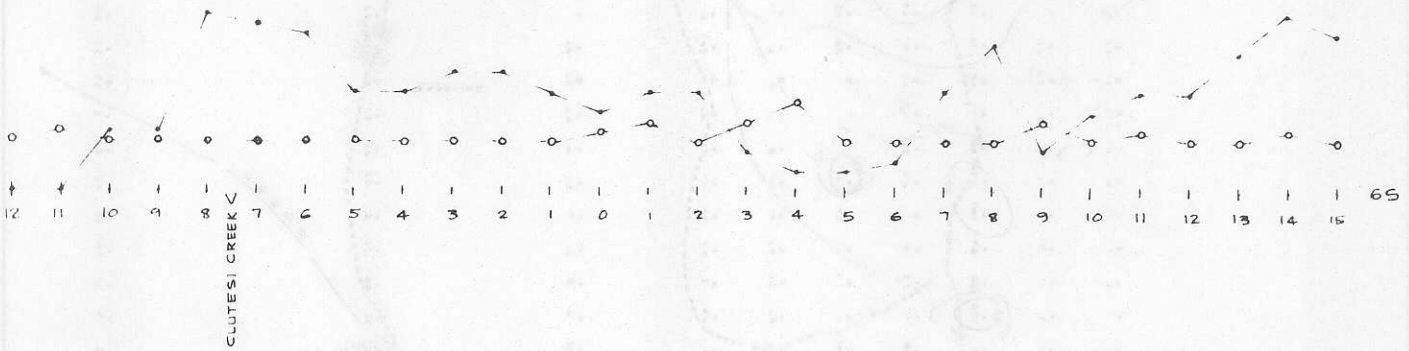
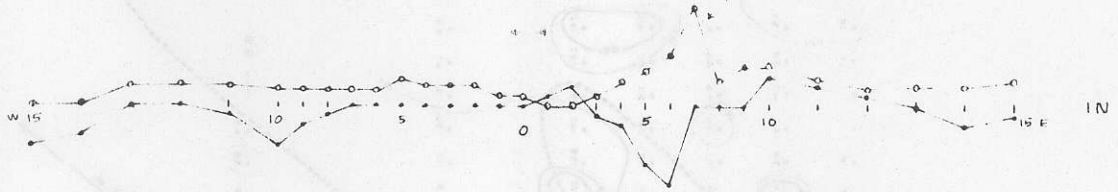
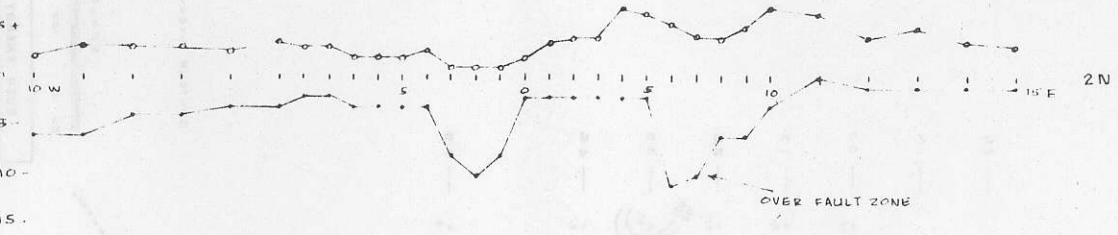
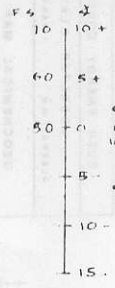


RUSH ENERGY CORPORATION	
LODESTAR CLAIM	
ALBERNA M.D.	VANCOUVER IS.
GEOCHEMICAL MAP NICKEL	
PLATE 2	

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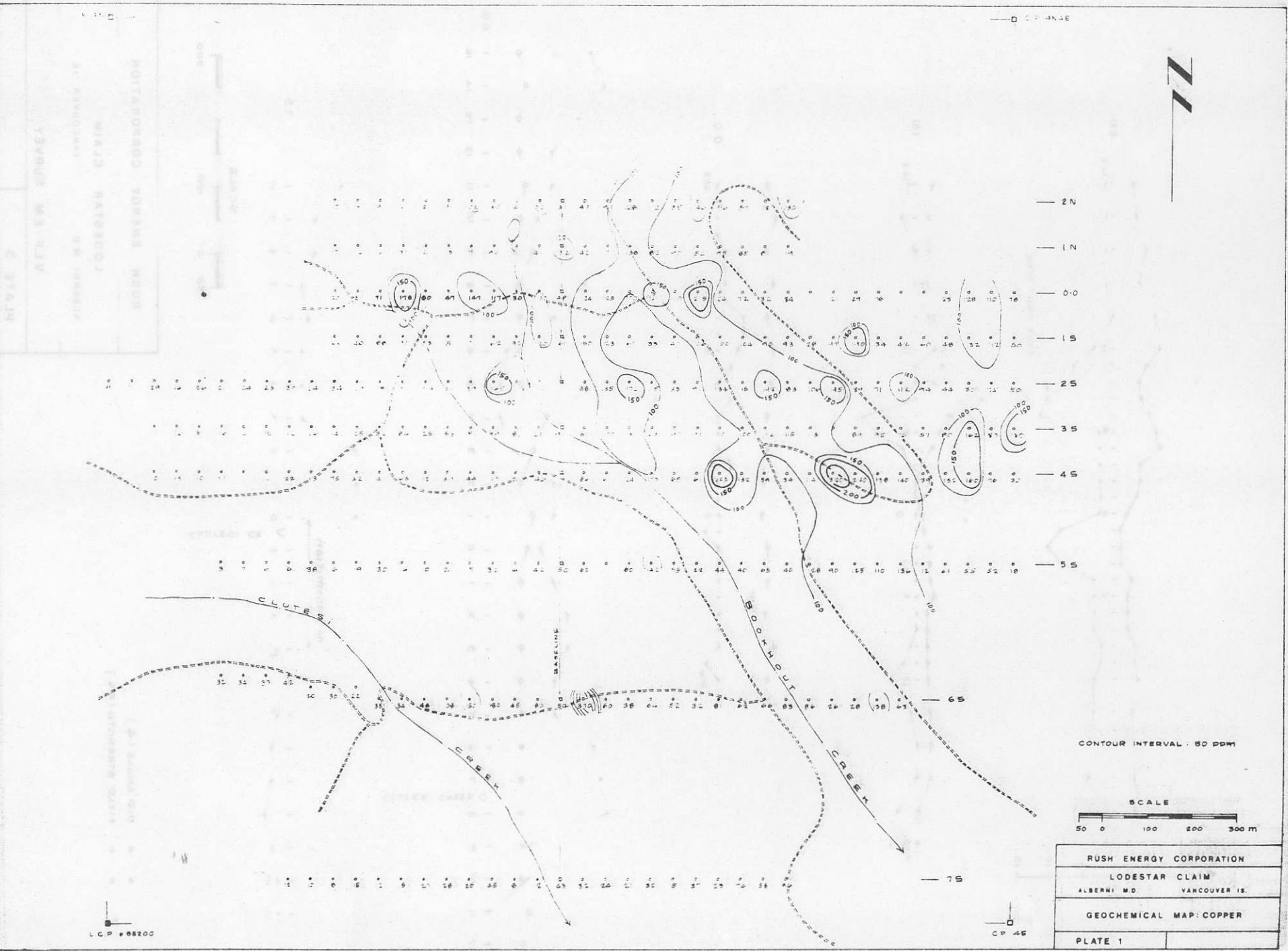
LOCATING POINT  
WAVE LENGTH SCALE  
GEOCHEMICAL LIBRARY

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- — δ DIP ANGLE (δ)
- — FS FIELD STRENGTH (FS)

RUSH ENERGY CORPORATION	
LODESTAR CLAIM	
ALBERNI M D	VANCOUVER IS.
VLF-EM SURVEY	
PLATE 3	



RUSH ENERGY CORPORATION  
 LODESTAR CLAIM  
 ALBERNI M.D. VANCOUVER IS.  
 GEOCHEMICAL MAP: COPPER  
 PLATE 1

CONTOUR INTERVAL: 50 PPM



RUSH ENERGY CORPORATION	
LODESTAR CLAIM	
ALBERNI M.D.	VANCOUVER IS.
GEOCHEMICAL MAP: COPPER	
PLATE 1	

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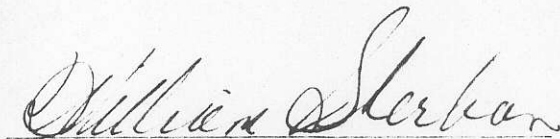
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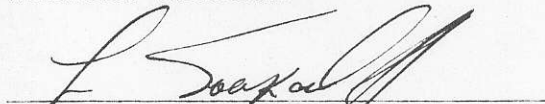
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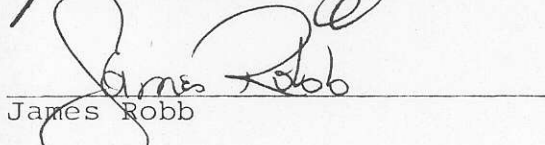
The foregoing constitutes full, true and plain disclosure of all material facts relating to the securities being offered by this prospectus as required by Part VII of the Securities Act and the regulations thereunder.

DATED the 14th day of February, 1983.

at the City of Vancouver, in the Province of British Columbia.

  
\_\_\_\_\_  
William Sherban

  
\_\_\_\_\_  
Lawrence Sookochoff

  
\_\_\_\_\_  
James Robb