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CONSULTING GEOLOGICAL & MINING ENGINEERS  
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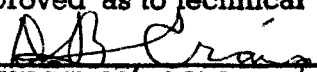
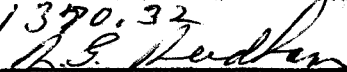



**Esansee Explorations Limited (N.P.L.)**

**Summary Report**

**MAY GROUP CLAIMS**  
**Carmacks, Yukon Territory**

April 15, 1969.

This report has been examined by  
the Geological Evaluation Unit.  
Approved as to technical worth by:  
  
RESIDENT GEOLOGIST  
Approved as to cost in the amount  
of: \$ 1370.32  
  
RESIDENT MINING ENGINEER  
Accepted as representation work  
under Section 53(4) Yukon Quartz  
Mining Act.  
  
COMMISSIONER OF YUKON

Douglas D. Campbell  
F. Guardia

Dolmage-Campbell & Associates Ltd. Vancouver, Canada.

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## INTRODUCTION

Electromagnetic and geochemical surveys conducted on a part of the May Group of claims in the Mount Nansen area of Yukon Territory in 1968 resulted in a number of well-defined linear anomalies that indicated the presence of mineralized vein structures. An earlier bulldozer trench had uncovered one such vein and a character sample gave encouraging assays for gold and silver.

Additional trenching on the property was conducted in March, 1969, to further evaluate the results of the surveys and to determine the best method for future exploration. On the instruction of Esanssee Explorations Limited (N.P.L.), owners of the claims, Mr. F. Guardia of Dolmage-Campbell & Associates Ltd. visited the property on March 21-24 to map and sample the exposed vein structures in the trenches and to evaluate the property. Dr. Campbell of Dolmage-Campbell & Associates Ltd. had examined the area in 1966.

In reporting on the property the writers have had access to all previous documents relating to the claims. In addition Dr. Campbell is most familiar with the geology and mineral occurrences in the area, through close association with the exploration and development of the nearby Mount Nansen Mines.

This report is intended to outline results of work to date and make recommendations for future exploration.

LOCATION AND ACCESS: The property is situated at  $62^{\circ} 07' N$  and  $137^{\circ} 15' W$ . on the northeast shoulder of Mount Nansen, which is 33 miles west of Carmacks on the Whitehorse-Dawson Highway.

Access to the property is by an all-weather gravel road, 30 miles long, from Carmacks to the mill at Mount Nansen Mines Ltd. and thence 5 miles north over a bulldozed track. The latter requires 4-wheel drive vehicles.

Freight may be moved through Whitehorse via the Alaska Highway or the narrow gauge railway to deep-sea facilities at Skagway in Alaska.

**HISTORY:** In the late 1930's high grade silver-lead float was found on the present area of the claims but for long the source of the mineralization was not known.

In 1967 Mr. Jack Smith of Whitehorse took random soil samples on the property which gave high assays for lead and silver. He subsequently cut a bulldozer trench but failed to reveal mineralization.

In June, 1968, Ace Parker & Associates conducted a reconnaissance electromagnetic and soil sampling survey in the vicinity of the earlier trenching, which resulted in definition of three subparallel anomalies. A preliminary bulldozer trench on the better defined of the anomalies is reported to have revealed a 20 foot wide fissure vein from which a sample of galena assayed 1 oz. gold and 60 oz. silver per ton.

Four bulldozer cuts were made on the indicated vein zones in March, 1969, and each exposed vein material with some mineralization. This work was inspected and mapped by Mr. F. Guardia of Dolmage-Campbell & Associates Ltd. and forms the basis for the present report.

**PROPERTY:** The property consists of sixty-nine (69) contiguous and granted mineral claims as follows:

<u>Claim Name</u>	<u>Grant Number</u>
MAY 1 to 8 incl.	Y21016 - Y20123
MAY 11 to 16 incl.	Y23901 - Y23906
MAY 17 to 22 incl.	Y23907 - Y23912
GALENA FR's 1 - 3 incl.	Y24985 - Y24987
SAFETY FACTOR 1 - 5 incl.	Y24988 - Y24992
SAFETY FACTOR 6 - 13 incl.	Y24993 - Y25000
SAFETY FACTOR 14 - 45 incl.	Y25406 - Y25437
SUE 3	Y20651

The SUE 3 claim is held under option from J. Wheeler of Carmacks.

The claims are recorded in the Office of the Mining Recorder, Whitehorse and appear on Claim Sheet 115 - 1 - 3.

## SUMMARY AND RECOMMENDATIONS

High grade lead-silver float was found on the northeast slope of Mount Nansen in Yukon Territory in the late 1930's. The source of the mineralization remained undetected until geochemical and geophysical surveys in 1968 indicated a number of northwesterly striking linear anomalies. In March, 1969, Esanssee Explorations Ltd., owners of the May Group claims that cover the prospect, undertook a preliminary trenching program to investigate the anomalies. The trenches were mapped and sampled by Dolmage-Campbell & Associates Ltd.

Three of the four trenches cut are on the strongest of the linear anomalies and reveal a wide zone of shearing and alteration, in which occurs irregular and discontinuous vein material and traces of sulphide mineralization. The sulphides recognized included galena, pyrite, and arsenopyrite but oxidation has produced abundant staining by limonite, cerussite and anglesite. A trench at the northwesterly end of the principal vein cuts an irregular pod of mineralization and two minor veins with good values in gold and silver. The best section assayed 0.44 oz. gold and 14.1 oz. silver per ton over a width of 6 ft.

### RECOMMENDATIONS:

In view of the encouraging results obtained in the preliminary trenches and a general geological similarity to the veins of the nearby and currently producing Mount Nansen Mine, it is recommended that the exploration techniques used to date be applied to the rest of the May Group claims.

Exploration should be undertaken in two phases:

<u>Phase 1:</u>	Geochemical and electromagnetic surveys followed by bulldozer trenches on anomalous zones	\$128,000.
<u>Phase 2:</u>	6,000 ft. of diamond drilling @ \$12./ft.	\$ 72,000.
	<u>TOTAL:-</u>	<u>\$200,000.</u>

The foregoing program will provide sufficient meaningful information to indicate if the Esensee property has the potential to be a profitable producer of gold-silver ore.

## GEOLOGICAL SETTING

The oldest rocks that crop out in the Mount Nansen area belong to the Yukon Group, a thick series of sedimentary and volcanic rocks now largely metamorphosed to schists and gneisses. The Yukon Group is at least in part Precambrian but a Palaeozoic age is considered likely for the upper strata.

Unconformably overlying the Yukon Group are the basalts, andesites, dacites and related pyroclastic rocks of the Mesozoic Mount Nansen Group. Several bodies of intrusive rock of types allied to those of the Mount Nansen Group are considered to be approximately similar in age.

Intruding the Yukon and Mount Nansen Groups are large batholiths of granitic aspect which include diorites, syenites, granodiorites and granites. Whereas the bulk of these rocks are considered to be Jurassic-Cretaceous in age, some of the granitic members may be Tertiary.

In the Mount Nansen area all of the formations previously mentioned are invaded by many small bodies of acid intrusive rocks, including quartz-porphry, granophyre and rhyolite.

Mineralization is largely confined to complex fault structures that may show wide and intense shearing, usually accompanied by widespread alteration. Many of these structures are known to persist for several thousand feet in strike and to depths in excess of 500 ft. In almost all cases the veins have a north-westerly strike and are vertical or steeply dipping to the southwest. The property of Mount Nansen Mines Ltd., 5 miles south of the May claims is currently producing gold and silver from such veins.

PROPERTY GEOLOGY: Perma-frost conditions pertain on the property which lies on a grass-covered hillside above timberline. This is a non-glaciated area with a mantle of soil, rock soil and frost-heaved rock between 1 and 6 feet thick covering bedrock. Occasional resistant knobs of frost-shattered rock outcrop on the hillside.

In the area of the showings the principal rock type underlying the area examined is a medium-grained granite with variable proportions of hornblende and biotite; however, snow cover did not permit detailed study of outcrops. A dark grey-green porphyritic andesite dyke with northerly strike was uncovered in one of the trenches.

A wide zone of alteration and shearing in the granite has been partially explored by trenching. Within this zone are bands of bleached and kaolinized material in which are irregular lenses of mineralization containing values for gold, silver, lead, zinc and minor copper. The bleached and mineralized bands have a strong northwesterly strike and may vary from vertical to moderately dipping to the southwest. Throughout the altered shear zones in the granite oxidation is intense and only traces of the original sulphide minerals remain in the veins. This type of vein material is typical of the productive portions of the Mt. Nansen veins.

MINERALIZATION: Four trenches were cut with a D-8 bulldozer equipped with a ripper. Three of the trenches cut into a strong linear zone of coincident geochemical and electromagnetic anomalies while a fourth was cut on a similar but weaker zone parallel to and northeast of the principal one. (Fig. 2). All mineralized material encountered was sampled and sent to Vancouver for assaying. Results of the trench mapping and assaying are presented in Figures 3 and 4.

Trench 1 was cut at the location of an earlier trench which is reported to have produced a sample of vein material assaying 1.0 oz. Au/ton and 60.0 oz. Ag/ton. Although a conductor was indicated at this point the surface geochemical results were low. Three zones of bleached and kaolinized granite were found in an area of well fractured, altered and oxidized granite. In two of the bleached zones local silicification is accompanied by minor sulphide mineralization. In the more easterly zone a 3 inches wide discontinuous stringer of galena is partly altered to a dense chalky grey secondary product, (the lead sulphate anglesite), and gave an assay of 10.6 oz. Ag/ton over 1.8 feet. The westerly zone shows a mineralized vein 1 foot wide with remnants of galena and arsenopyrite in a soft mass of limonite, anglesite and yellow cerussite. A sample from this vein assayed 0.09 oz. Au/ton and 2.9 oz. Ag/ton over 1 foot.

Trench 2 was cut on the strongest geochemical anomaly encountered and revealed a similar wide zone of altered and oxidized granite in which three mineralized veins were found. The widest vein zone consists of 17 feet of crumbly, bleached and sheared granitic material on the southern side of the trench, which contains an irregular pod of mineralization 6 feet wide comprised of minor quartz, pyrite and anglesite, locally heavily crusted with limonite and cerussite. Across the 20 foot width of the trench this entire zone is reduced to a width of 4 feet and the pyrite-limonite pod is reduced to 1 foot wide. A sample taken over 6 feet on the thicker part of the mineralized zone assayed 0.44 oz. Au/ton and 14.1 oz. Ag/ton. Earlier grab samples of the pyrite and anglesite are reported to have assayed 52.66 and 72.38 oz. Ag/ton respectively.

Two minor veins were also found in Trench 2 with mineralogy essentially similar to those in Trench 1. One was sampled over 3 feet and assayed 0.52 oz. Au/ton and 61.2 oz. Ag/ton.

In contrast to all other exposures in the main vein zone, which gave dips from vertical to  $75^{\circ}$  to the southwest, those in Trench 2 show moderate dips of  $60^{\circ}$  -  $45^{\circ}$  to the southwest.

Trench 3 was cut at the southeast end of the main vein zone and although it encountered several bands of bleached material in a wide zone of fracturing and alteration, mineralization is generally sparse. The main band of shearing and bleaching is some 40 feet wide, locally heavily oxidized and at two localities shows minor discontinuous strings of galena coated with anglesite. Yellow staining by cerussite is prominent throughout the band. All assays of samples from this trench are below ore grade.

Trench 4 was the only one cut on the parallel, weaker zone to the northeast of the main vein. It has been cut obliquely down a dyke of porphyritic andesite intruded into fresh biotite granite. Two veins with minor mineralization and widths of 12 inches and 4 inches, dipping  $45^{\circ}$  to the southwest, are to be seen in a 17 foot wide zone of fracturing and oxidation in the dyke. It was not apparent whether this alteration and veining continued into the granite, and this trench cannot be said to adequately test this vein zone.

## CONCLUSIONS

A limited program of bulldozer trenching on the May Group Claims has indicated veins, bearing gold, silver and lead, in strong shear zones in granite. That the mineralization found in the trenches correlates closely with earlier geochemical and geophysical anomalies proves the efficacy of the methods used in this particular environment. The methods should be applied to all ground held by Esansee Explorations Ltd.

Of three trenches cut on the principal anomalous zone, which is still open at either end, only one revealed ore grade mineralization, and that at a point where the highest geochemical soil values were found. However, soil sampling in this part of the grid was conducted on lines 400 feet apart, and it is quite possible that similar values lie elsewhere along strike.

Although no direct predictions may be made on the dimensions of ore exposed in Trench 2, it should be borne in mind that the structural and general mineralogical similarities of the May Group veins with those of the Mount Nansen Mines property, suggest the possibility of considerable extension in strike and to depth. The value of ore found in Trench 2 indicates that the possibility should be thoroughly investigated.

RECOMMENDATIONS: The property should be further explored in two phases:

### PHASE I:

- A) Extension of geochemical and geophysical surveys to all claims held and hitherto unexplored.
- B) Further trenching on the anomalous zones already established, with a view to obtaining maximum orientation data on the anomalies and to further evaluate the ore found in Trench 2.
- C) Trenching of significant anomalous zones established by A above.

### PHASE II:

Diamond drilling of mineralized structures established in Phase I.

An important first step is acquisition of the remainder of the SUE group of claims, as the principal vein established is open to the southeast where these claims lie.

COSTS:

PHASE I:

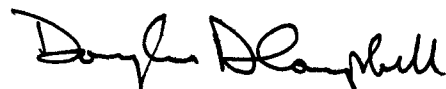
<u>Item</u>	<u>Cost</u>
1. Geochemical Survey (lead and arsenic) including picketing and geological mapping. (Samples 50 ft. centres, assays at 100 ft. centres) - 70 line miles @ \$350./line mile	\$ 24,500.
2. Ground Electromagnetic Survey 70 line miles @ \$150./line mile	10,500.
3. Trenching, Road Building (D8 with ripper) 50,000 yds. at \$1.00/yd.	50,000.
4. Assays	4,000.
5. Engineering and Supervision	5,000.
6. Transport, Communications, Camp	20,000.
7. Consulting	4,000.
8. Contingency	10,000.
SUB-TOTAL:	<u>\$128,000.</u>

PHASE II:

Diamond Drilling (BQ wireline) - 6000 ft. @ \$12./ft. \$ 72,000.

TOTAL:- \$200,000.

Respectfully submitted,



Douglas D. Campbell, P.Eng., Ph.D.



F.J.L. Guardia

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CONSULTING GEOLOGICAL & MINING ENGINEERS  
808 BANK OF CANADA BUILDING  
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CERTIFICATE

I, Douglas D. Campbell, with business and residential addresses in Vancouver, British Columbia, do hereby certify that:

1. I am a consulting geological engineer.
2. I am a graduate of the University of British Columbia, (B.A. Sc., Geological Engineering, 1946), and of the California Institute of Technology, (Ph.D., Economic Geology and Geophysics, 1955).
3. I am a registered Professional Engineer of the Province of British Columbia and Yukon Territory.
4. From 1946 until 1957 I was engaged in mining and mineral exploration in Canada and the United States as geologist for a number of companies. I was chief geologist for Eldorado Mining and Refining Co. Ltd. when I retired in 1957 to begin private practice as a consulting geologist.
5. For the compilation of this report I have examined all available government and private reports, records and other data and have employed the examination of the property by my associate, Mr. F.J.L. Guardia. In addition I examined the property of Esansee Explorations Ltd. in 1966, prior to the recent trenching.
6. I have not received, nor do I expect to receive, any interest, directly or indirectly, in the properties or securities of Esansee Explorations Ltd. (N.P.L.), or of any companies associated with it.

Respectfully submitted,



Douglas D. Campbell, p.Eng., Ph.D.



*Douglas Campbell*

### INDEX MAP

SCALE: 1" = 50 miles



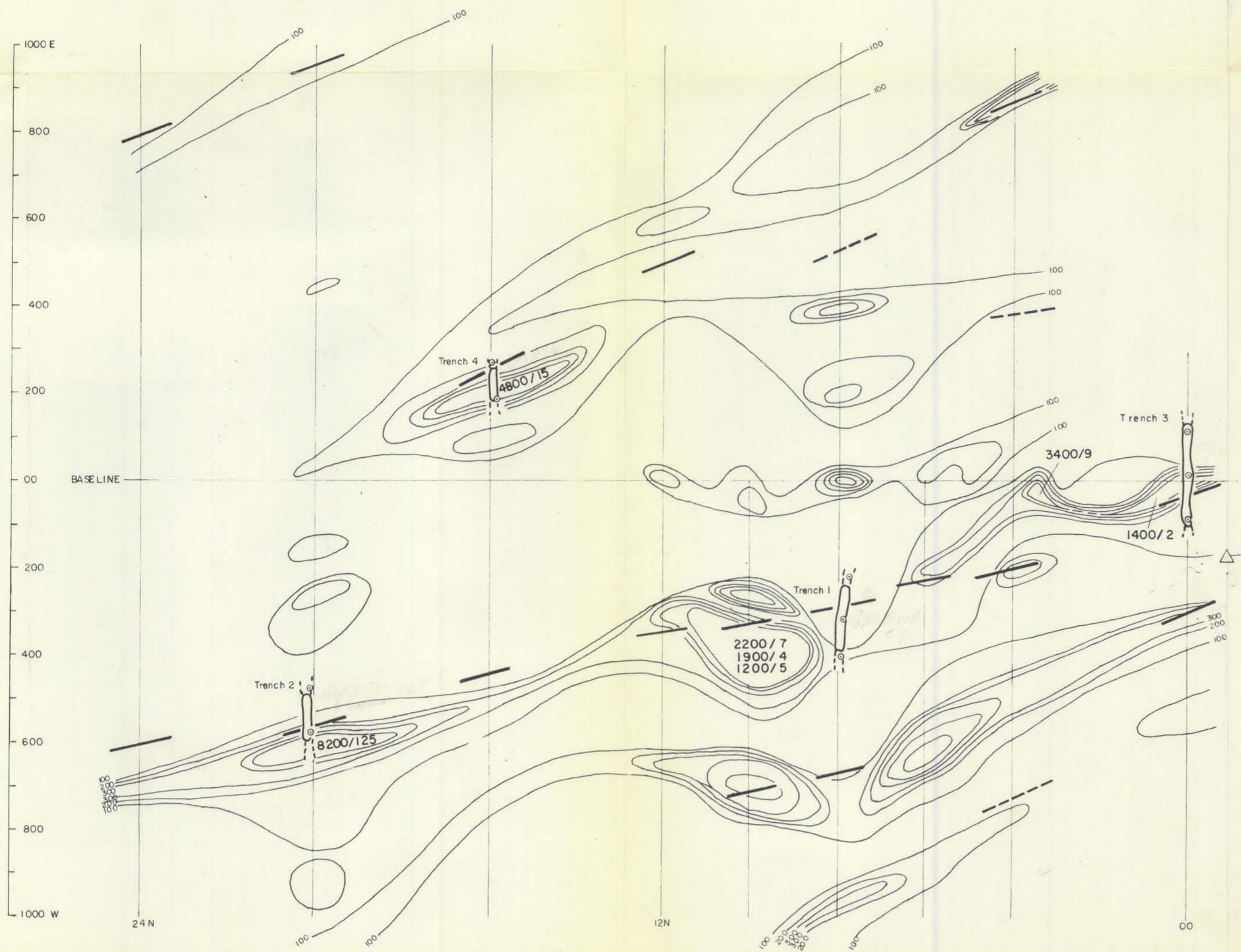
DOLMAGE CAMPBELL & ASSOCIATES CONSULTANTS  
VANCOUVER, CANADA

ESANSEE EXPLORATIONS LTD. (N.P.L.)  
VANCOUVER, CANADA

MAY GROUP CLAIMS

## LOCATION of CLAIMS and SURVEYS

SCALE: 1" = 1/2 mile      APRIL 9, 1969      FIG. 1



# LEGEND

- GEOCHEMICAL LEAD VALUES CONTOURED AT INTERVALS OF 100ppm. PEAK VALUES FOR LEAD AND SILVER SHOWN AS ppm.
- INDICATED CONDUCTOR (RONKA EM-16)
- INFERRED CONDUCTOR
- TRENCH MAPPING STATION

Claim post  
 No 1 POST "SUE" 4 Y 20652  
 No 1 POST "SUE" 5 Y 20653  
 No 1 POST "SUE" 3 Y 20651  
 No 2 POST "GALENA" Y 24986  
 FR 2

*Don D. Campbell*

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 VANCOUVER, CANADA

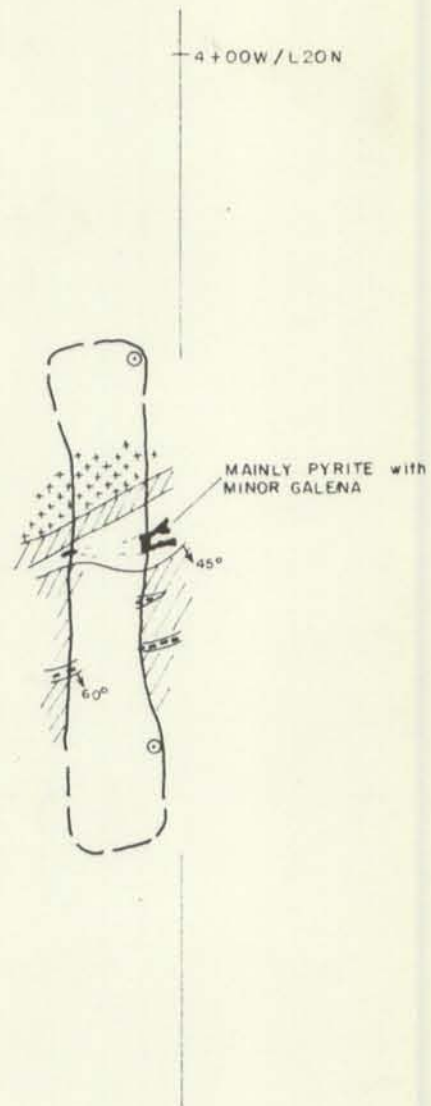
MAY GROUP CLAIMS  
**GEOCHEMICAL - GEOPHYSICAL  
 SURVEYS AND  
 LOCATIONS OF TRENCHES**

SCALE: 1" = 200'      APRIL 9, 1969      FIG. 2

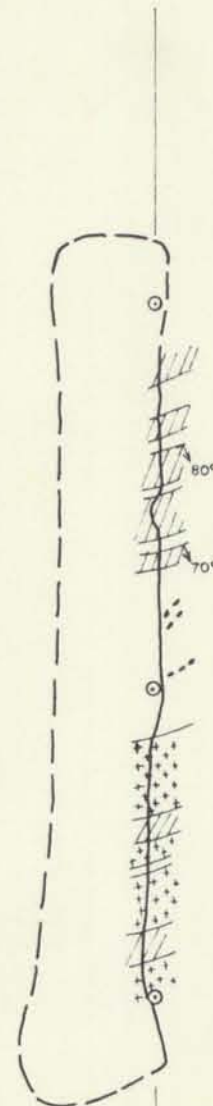
TRENCH 1



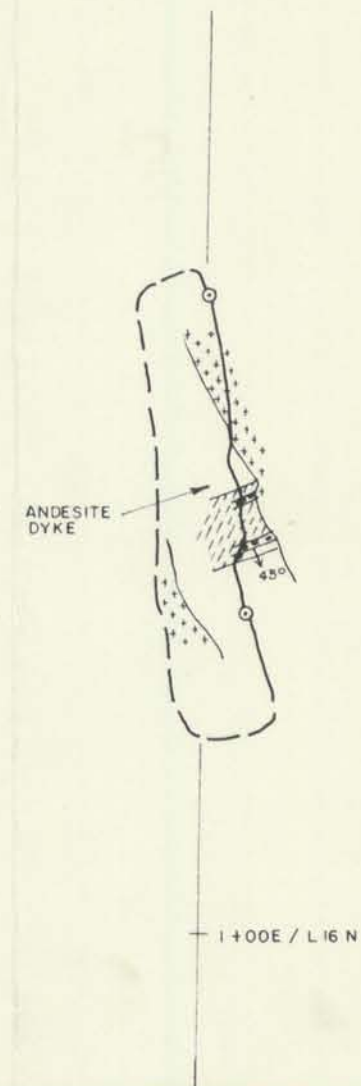
TRENCH 2








TRENCH 3



TRENCH 4



LEGEND

-  BIOTITE - HORNBLENDE GRANITE
-  WELL FRACTURED, LOCALLY SHEARED GRANITE, USUALLY HEAVILY LIMONITE - STAINED
-  ALTERED AND LIMONITE-STAINED ANDESITE
-  VEIN ZONE - BLEACHED AND KAOLINISED GRANITE WITH ZONES OF SILICIFICATION, VEIN QUARTZ AND SULPHIDES (SOLID BLACK SYMBOL)
-  SURVEY POINT

*Douglas Campbell* 2+00W/L00

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ESANSEE EXPLORATIONS LTD. (N.P.L.)  
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MAY GROUP CLAIMS

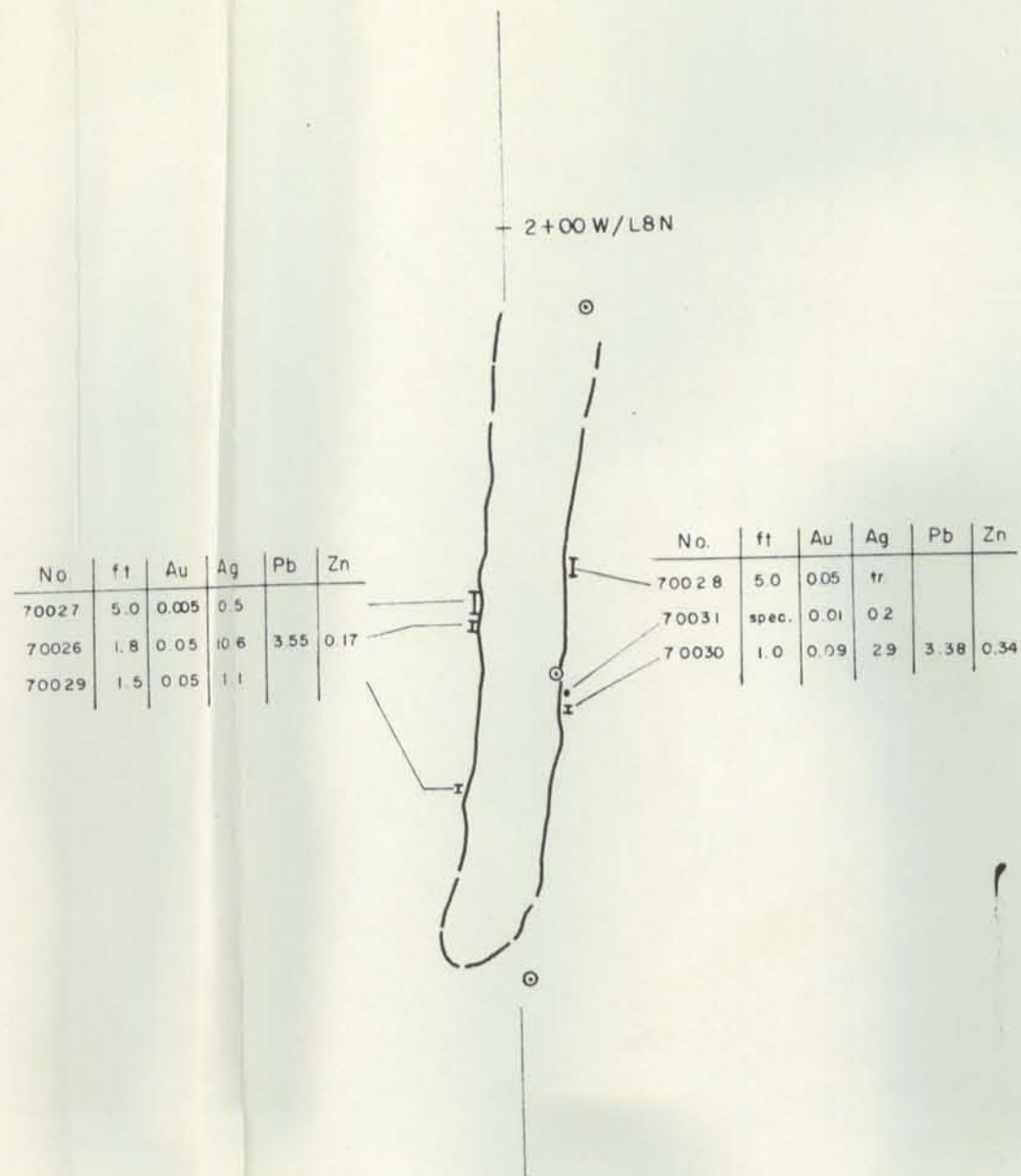
TRENCHES—GEOLOGY

SCALE: 1" = 50'

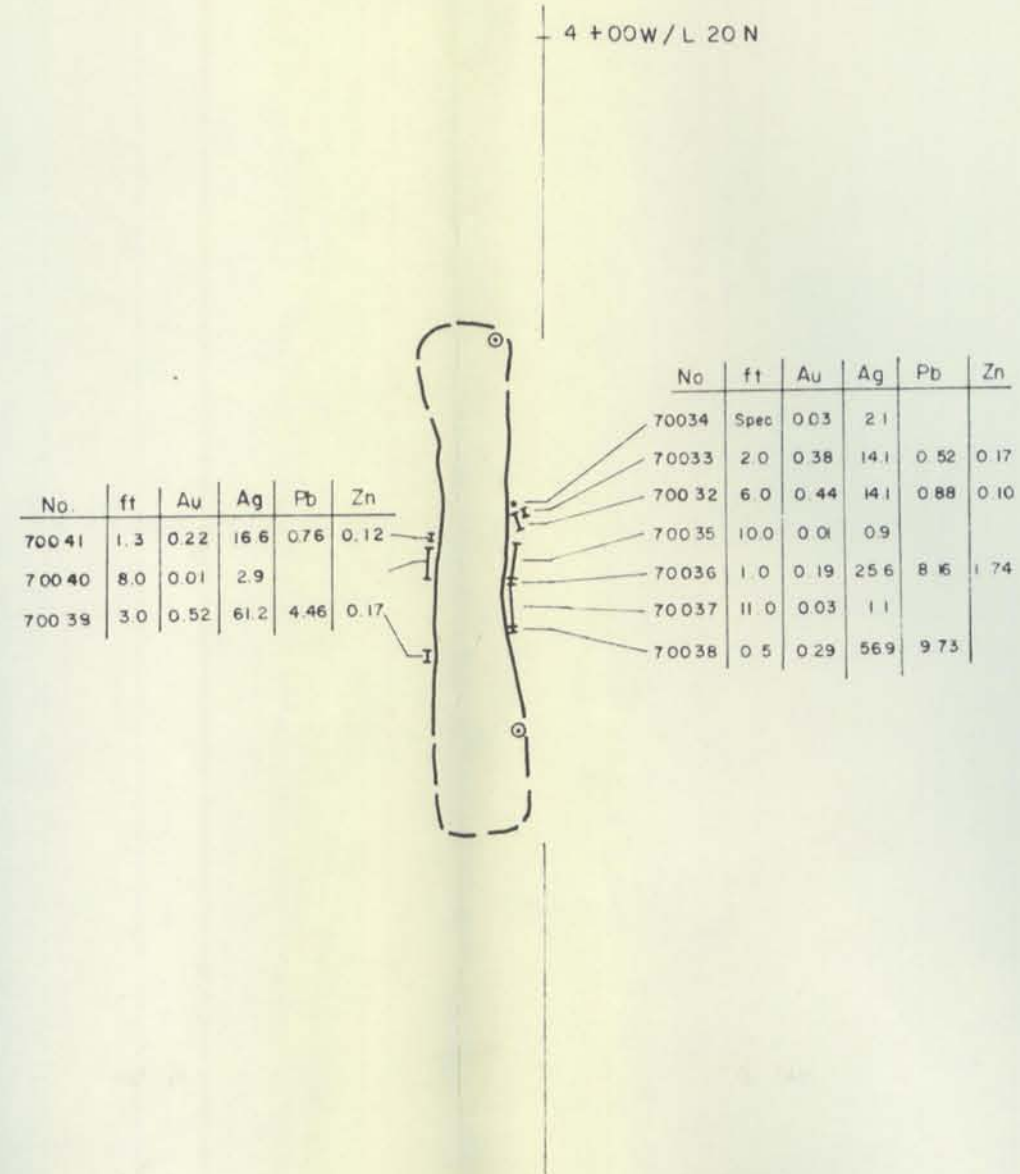
APRIL 9, 1969

FIG. 3

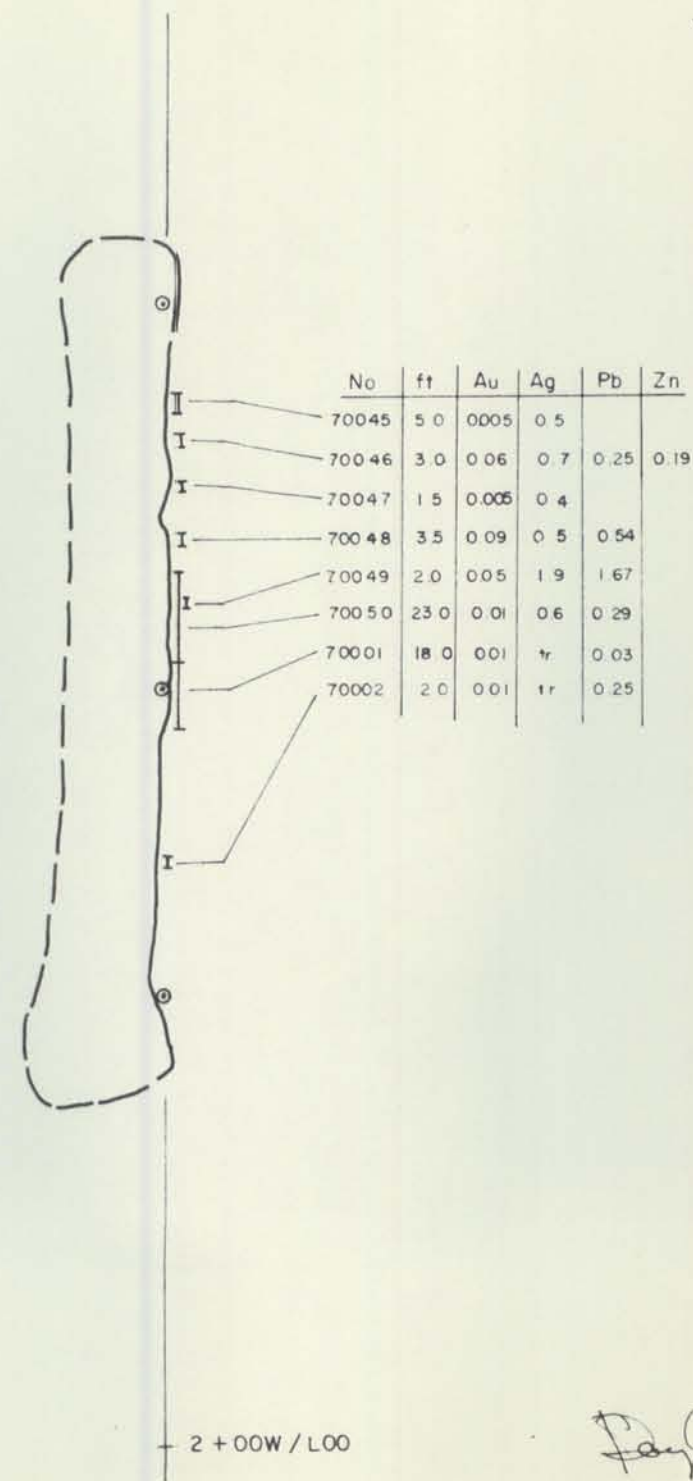
TRENCH 1



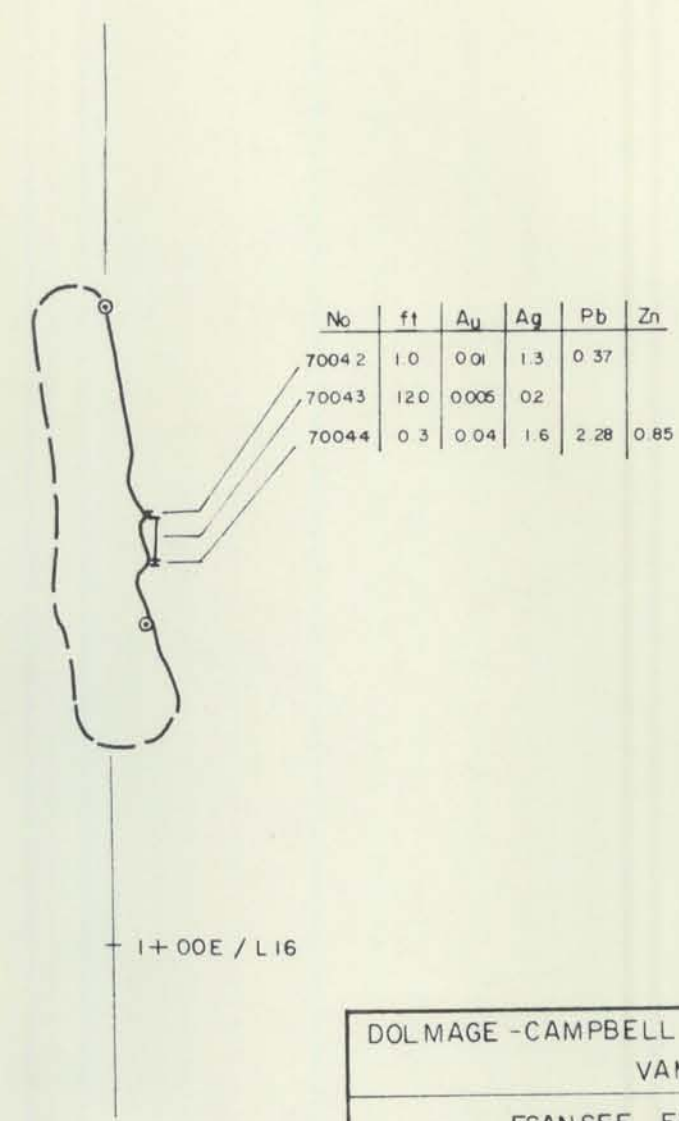
TRENCH 2



TRENCH 3



TRENCH 4



*Paul Campbell*

DOLMAGE - CAMPBELL & ASSOCIATES CONSULTANTS VANCOUVER, CANADA	
ESANSEE EXPLORATIONS LTD. (N.P.L.) VANCOUVER, CANADA	
MAY GROUP CLAIMS	
<b>TRENCHES — ASSAY PLAN</b>	
SCALE: 1" = 50'	APRIL 9, 1969 FIG. 4