

*Prospectus
June 23, 1980.*

REPORT ON THE
BUD AND DAGO CLAIMS
KATHLEEN LAKES AREA
MAYO MINING DISTRICT
YUKON TERRITORY

062009

for

PAN ACHERON RESOURCES LTD.

by

G.A. NOEL, P.Eng.

March 28, 1980

G. A. NOEL AND ASSOCIATES
CONSULTING GEOLOGISTS
VANCOUVER, B. C.

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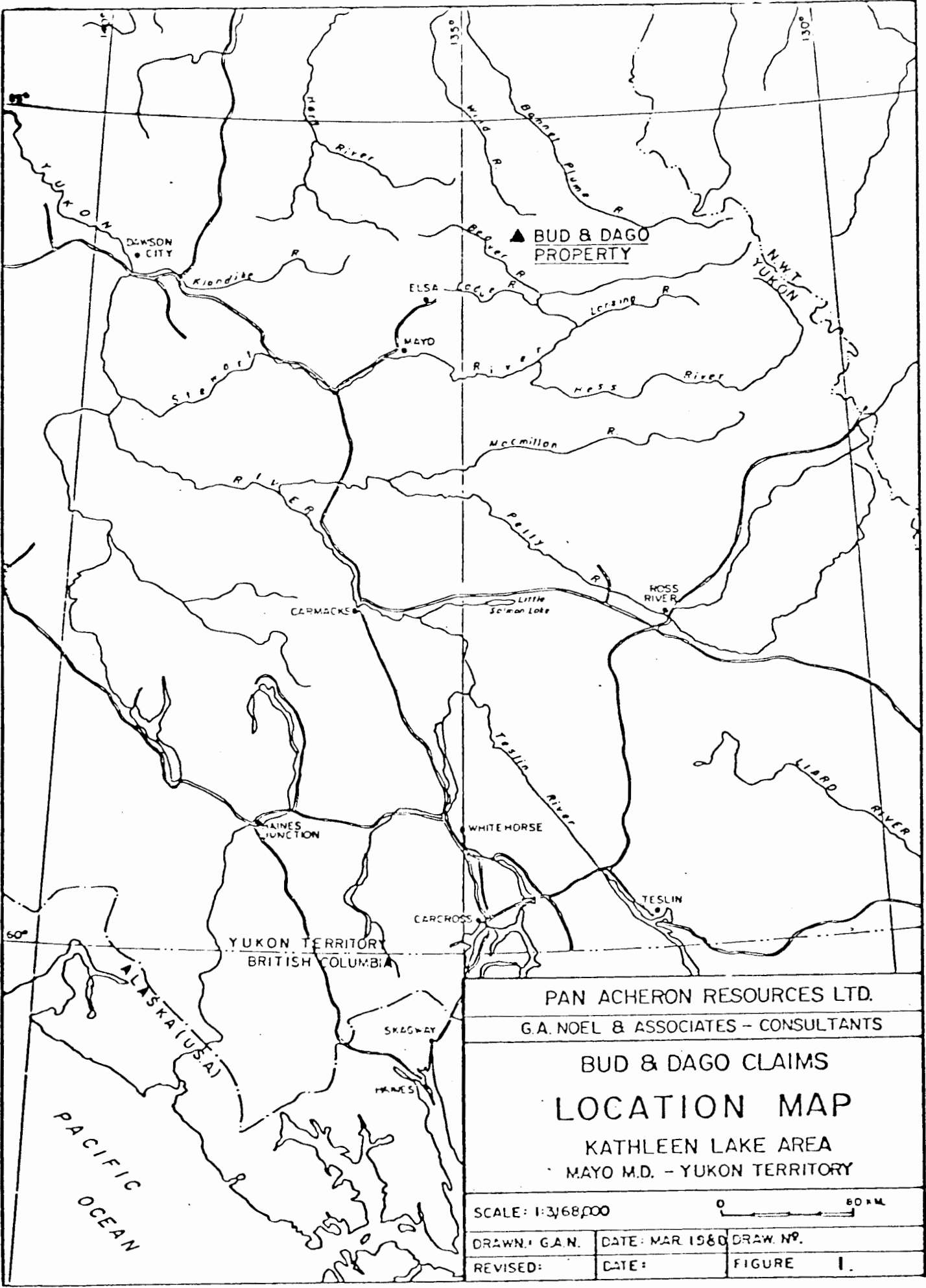
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SUMMARY

The Bud and Dago property located 115 kilometres northeast of Mayo, Y.T. consists of 42 claims currently under option to Pan Acheron Resources Ltd. Zinc with minor lead and silver values occurs in breccia zones in orange-weathering dolomite which underlies grey-weathering limestone in an asymmetric southeast-plunging synclinal structure. The mineralized zone has been traced along a N60°E trend for over 1100 metres by drilling, trenching, geology and geochemistry. This zone is at least 100 metres wide and varies from 5 to over 50 metres in thickness. It shows an average grade of 3 to 5% zinc, 0.2 to 0.5% lead and 0.5 oz/ton silver. Drilling indicates that the mineralized breccia occurs in shallow folds which show good continuity along strike but extreme variability in thickness. The geochemical results suggest that the mineralization extends southeasterly into the southern limb of the major synclinal fold. It is recommended that the geological mapping and geochemical surveys be extended to the south and east to explore the southern limb of the synclinal structure. The estimated total cost of this program is \$35,000. Depending on favourable results, diamond drilling is recommended as a follow-up program at an estimated total cost of \$190,000.



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BUD & DAGO CLAIMS
LOCATION MAP
 KATHLEEN LAKE AREA
 MAYO M.D. - YUKON TERRITORY

SCALE: 1:3168000 0 50 KM

DRAWN: G.A.N.	DATE: MAR 1980	DRAW. NO.
REVISED:	DATE:	FIGURE 1.

INTRODUCTION

This report on the Bud and Dago claims in the Kathleen Lakes area of Yukon Territory has been prepared at the request of Pan Acheron Resources Ltd. It is based on the results of geological and geochemical surveys performed on the Bud and Dago claims in 1977 and 1978 and on the results of 1559 metres of diamond drilling completed on the property in 1978. The 1977 and 1978 fieldwork were supervised by G.A. Noel and Associates, Inc. for Pan Acheron Resources Ltd.

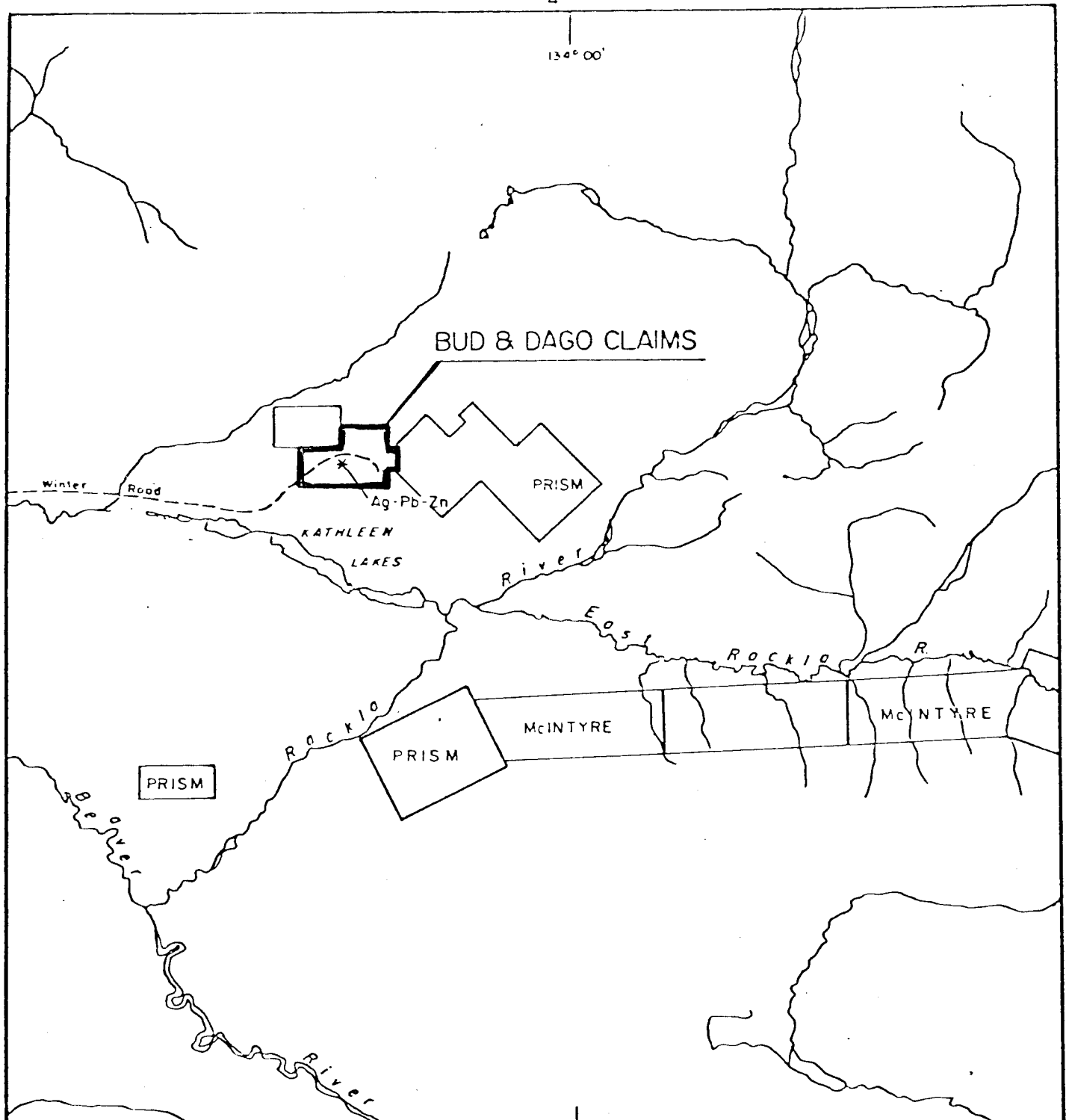
The property is located 115 kilometres northeast of Mayo, Y.T. and five kilometres north of Kathleen Lakes. It is on the Rackla River drainage at 1000 to 1500 metres elevation. Access to the claims is provided by float aircraft from Mayo to Kathleen Lake followed by five kilometres of trail northeast to the showings. An all-weather road extends 64 kilometres northeast of Mayo to McQuesten Lake. A winter cat-road roughly 70 kilometres long runs east and northeast from McQuesten Lake to Beaver River and easterly to the property.

PROPERTY AND TITLE

The property consists of 42 Bud and Dago claims recorded in the Mayo Mining District, Y.T., which are more particularly described in the following table.

134° 00'

BUD & DAGO CLAIMS



64° 00'

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BUD & DAGO CLAIMS

CLAIM MAP

KATHLEEN LAKE AREA - MAYO M.D. - YUKON TERRITORY

SCALE 1:250,000



DRAWN: G A N.	DATE: MAR./80	DRAW. N ^o .
REVISED:	DATE:	FIGURE 2

<u>Name</u>	<u>Grant Number</u>	<u>Expiry Date</u>
Dago 3 & 5	80341 & 80353	July 13, 1984
Bud 1	Y14382	March 8, 1983
Bud 2	Y14383	March 8, 1984
Bud 3	Y14384	March 8, 1983
Bud 4	Y14385	March 8, 1984
Bud 5	Y14386	March 8, 1983
Bud 6	Y14387	March 8, 1984
Bud 7	Y14388	March 8, 1983
Bud 8-16	Y14389-14397	March 8, 1984
Bud 17-24	Y14348-14405	March 8, 1983
Bud 25-28	YA37104-37107	July 24, 1982
Bud 33-40	Y14406-14413	March 8, 1983
Bud 41-48	Y14414-14421	March 8, 1984

The claims are owned by Gordon Dickson of Whitehorse, Y.T., and are currently under option to Pan Acheron Resources Ltd. of Vancouver, B.C.

HISTORY

The showings were first staked by Gordon Dickson in September 1951 and subsequently explored by Leitch Gold Mines Ltd. in 1953. Prospectors Airways Ltd. optioned the property in 1954 and did considerable hand trenching and sampling, geological mapping and some soil sampling. The claims lapsed and were restaked by G. Dickson in 1959 as the Dago claims, which were optioned to Atlas Explorations Ltd. in 1966. In 1968, Rackla River Mines Ltd. was formed to develop the property and geological mapping and bulldozer trenching were done in 1968 and 1969. Casino Silver Mines Ltd. optioned the property in 1969 and did an induced polarization survey, followed in 1970 by 500 metres of diamond drilling. Rackla River Mines did extensive soil surveys and some packsack diamond drilling in 1972. In 1974, the property was optioned by Anvil Mining Corporation and further geochemical soil surveys, a magnetometer survey and geological mapping were completed over selected areas followed by the diamond drilling of two holes.

In 1977, Pan Acheron Resources Ltd. optioned the property and did a limited geochemical soil survey and cleaned out and sampled a number of the old trenches. Because of encouraging results, this company undertook much more extensive geological and geochemical surveys as well as a fairly substantial diamond drilling program.

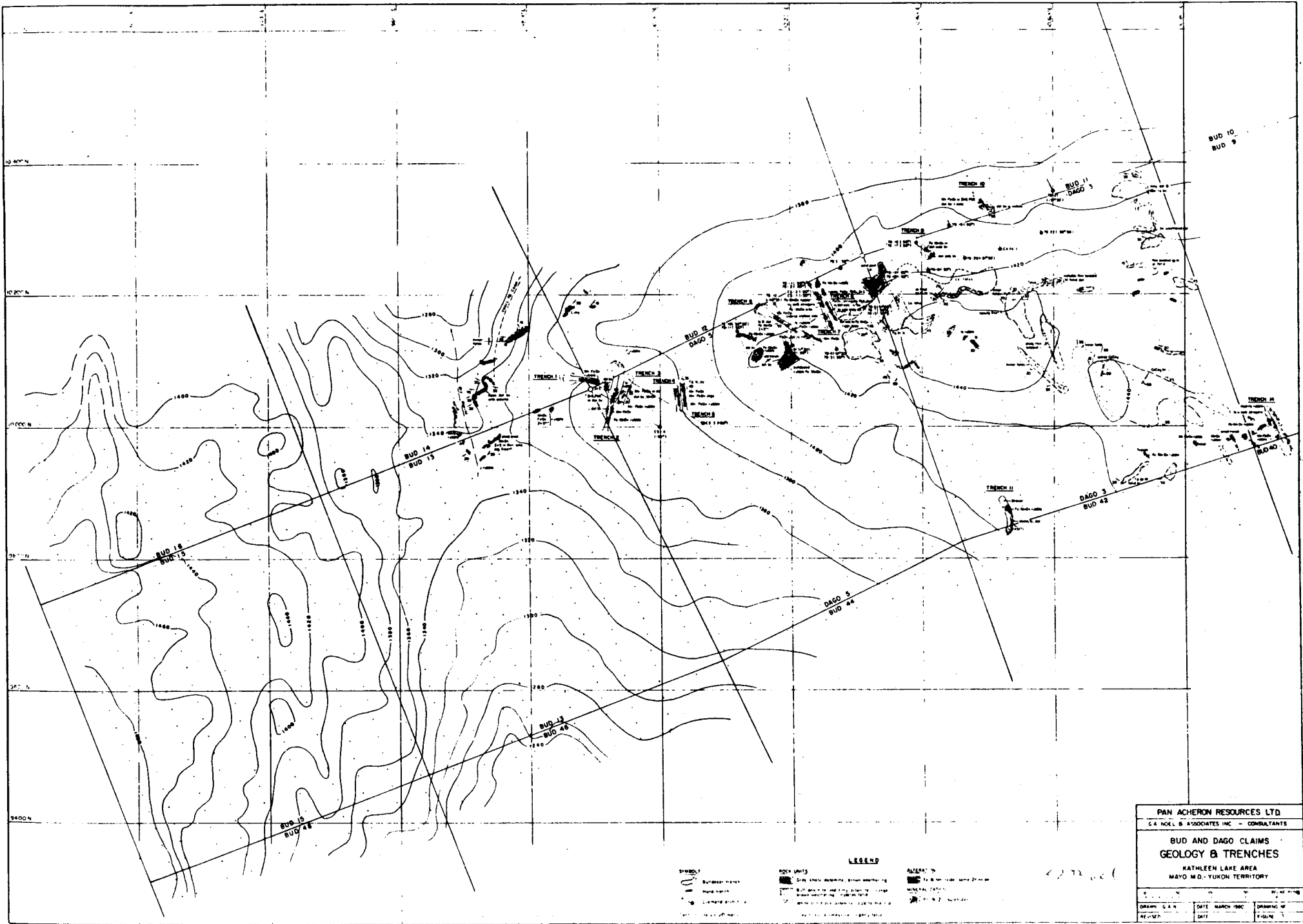
GEOLOGY

General

North of Kathleen Lakes, Proterozoic (Hadrynian) clastic marine sediments have been thrust over Ordovician and Silurian euxinic marine sediments. The Proterozoic assemblage includes dark weathering shale, argillite and quartzite overlain by limestone and a distinctive orange-weathering platy grey dolomite. The Ordovician-Silurian section includes grey-weathering shale, black shale and chert of the Road River Formation.

The major structural feature is a profound west-northwest trending thrust fault, the Dawson Fault, extending westerly along Beaver River valley and easterly along the East Rackla River and across Nadaleen River. Thrusting across this fault has resulted in close folding along west-northwest axes as well as some local over-turning of both Proterozoic and Paleozoic assemblages. As a result, the general structure north of Kathleen Lakes is south-dipping with Paleozoic units apparently overlying the Proterozoic.

Lead-zinc-silver mineralization has been found along the Dawson Fault for at least 150 kilometres, extending from the Nadaleen River showings on the east to the Silver Hill showings on the west. The mineralization is reported as occurring in both the Proterozoic dolomite hanging wall and the Paleozoic shale-



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**BUD AND DAGO CLAIMS
 GEOLOGY & TRENCHES**

KATHLEEN LAKE AREA
 MAYO M.D., YUKON TERRITORY

SCALE: 1:50,000
 DATE: MARCH 1962
 DRAWING NO.: 10/100

limestone footwall. The main showings on the Craig claims of McIntyre Mines Ltd., 45 kilometres east-southeast of the Bud and Dago claims, are in Hadrynian dolomite. The Kathleen Lakes and Silver Hill occurrences are also in the dolomite, but probably near the Paleozoic interface.

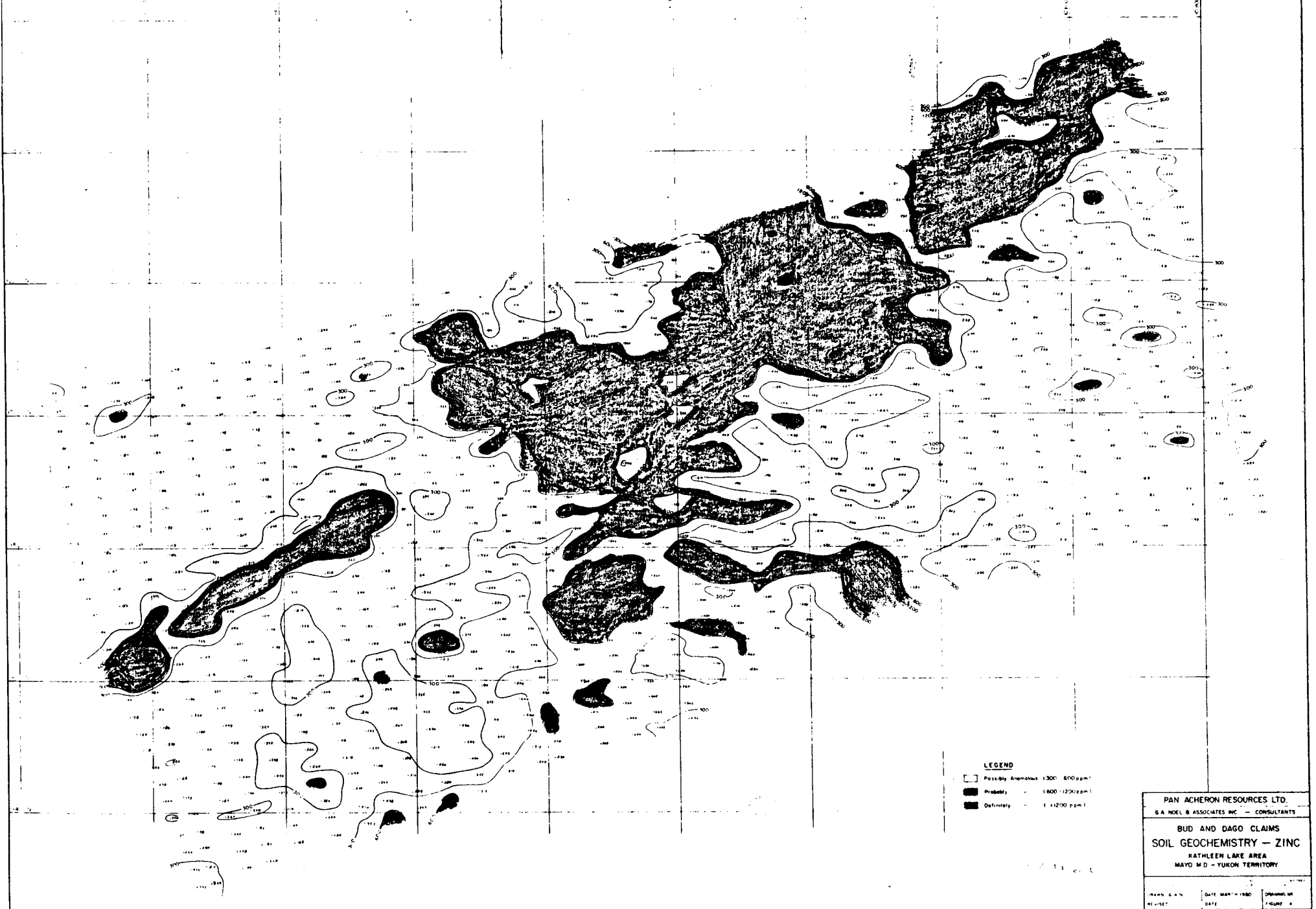
Property

On the Bud and Dago claims, orange-weathering buff to grey dolomite, shaly dolomite and dolomitic limestone underlie grey to black fine grained limestone in an asymmetric southeast-southeast-plunging synclinal fold. The dolomitic member is in turn underlain by fine grained grey limestone. Associated with the dolomite are irregular masses of creamy white to black dolomite-calcite breccia.

The overall synclinal structure is complicated by considerable minor folding along east-west and northwest-trending axes. In addition, the entire section is cut by northeast and northwest trending conjugate joints (Figure 3).

Sphalerite with minor galena occurs in dolomitic breccia in a zone trending N60°E along the northern boundary of the Dago 3 and 5 claims. This zone has been traced by drilling and trenching for over 1000 metres. It is marked at the surface by fairly extensive manganese and limonite gossans. As indicated in the 1978 drilling, the breccias are irregular antiforms and synforms probably produced by folding of near-surface rock. The breccia mineralization is largely light to dark brown sphalerite with a little associated galena and generally low silver values. The zinc content in the breccia varies from 1% to over 10% across widths of 5 to 35 metres.

Lead and silver mineralization occur in the main mineralized zone along fairly narrow vein-like structures. Several of these were outlined in the bulldozer trenching and were sampled



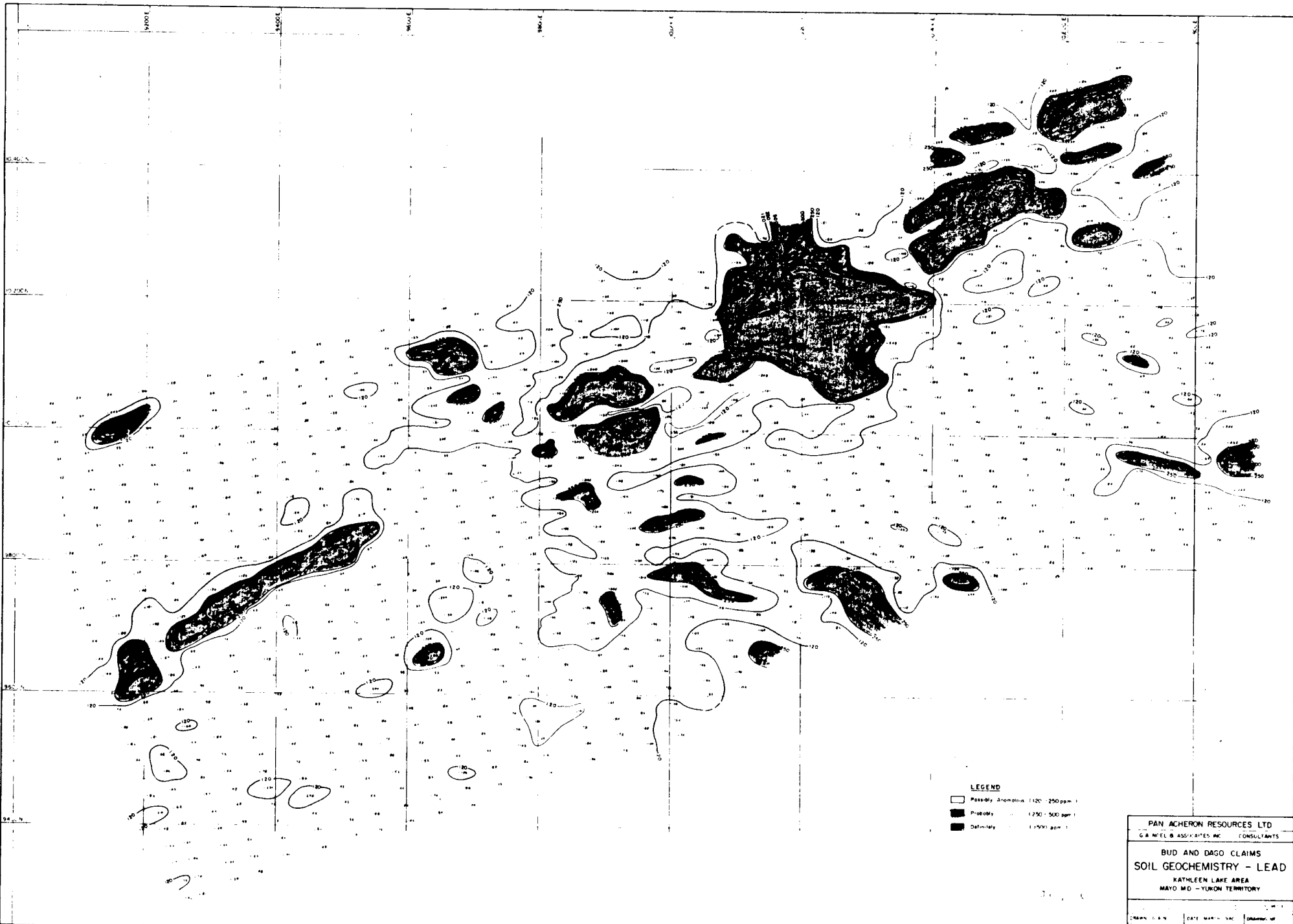
LEGEND

- Possibly Anomalous (300-600 ppm)
- ▨ Probably (600-1200 ppm)
- Definitely (1200 ppm+)

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BUD AND DAGO CLAIMS
SOIL GEOCHEMISTRY - ZINC
 KATHLEEN LAKE AREA
 MAYO M.D. - YUKON TERRITORY

MAP: G.A.N. DATE: MAR 1980 DRAWING BY: []
 REVISED: [] DATE: [] FIGURE: 4



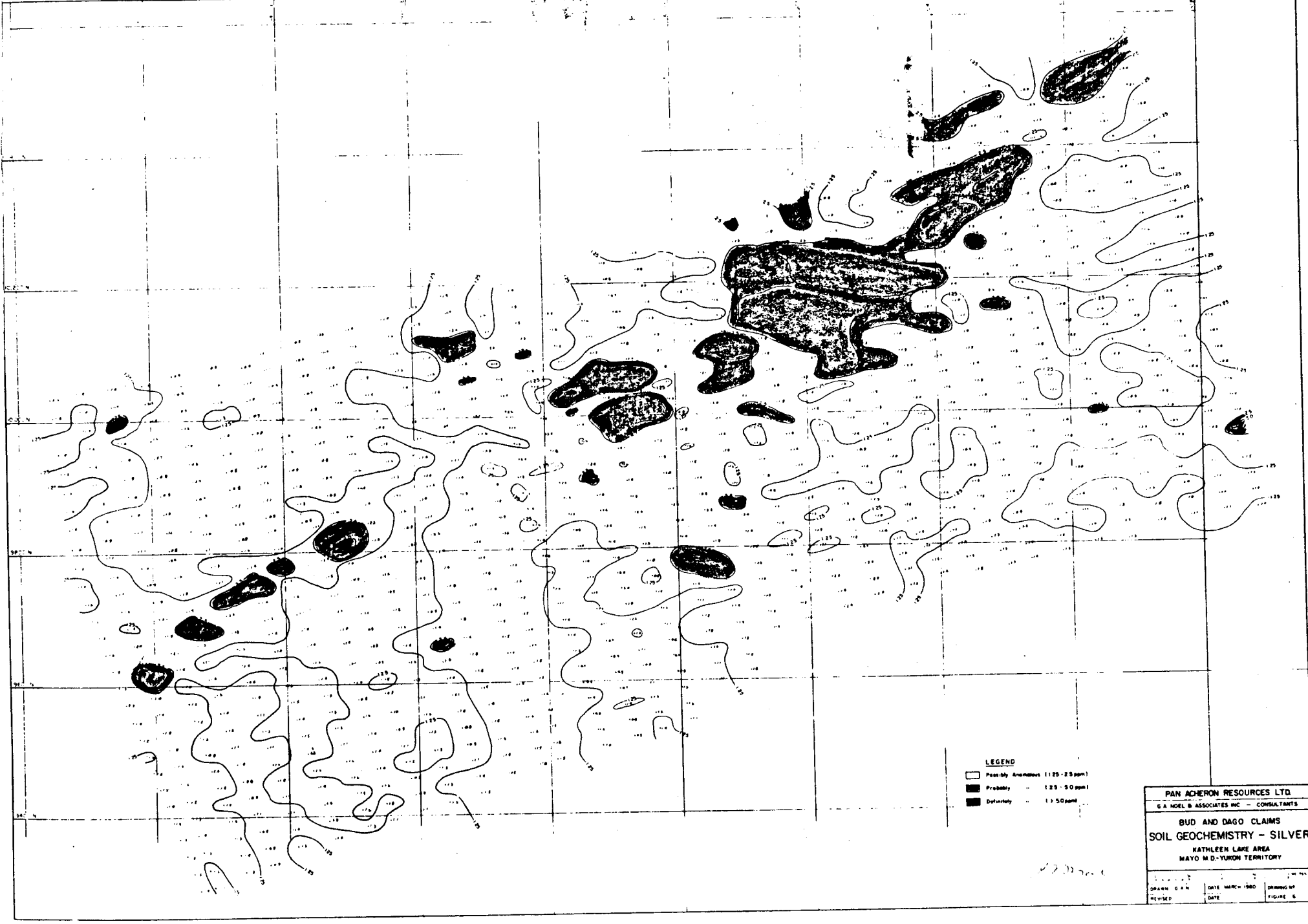
LEGEND

□ Possibly Anomalous (120 - 250 ppm)

◻ Probably (250 - 500 ppm)

◼ Definitely (>500 ppm)

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 G & MIEL & ASSOCIATES INC CONSULTANTS
 BUD AND DAGO CLAIMS
 SOIL GEOCHEMISTRY - LEAD
 KATHLEEN LAKE AREA
 MAYO MD - YUKON TERRITORY
 DRAWN: C.A.N. DATE: MAR 11, 1981
 REVISION: 1. DATE: MAR 11, 1981



LEGEND

- ☐ Possibly Anomalous (125-250 ppm)
- ▒ Probably (25-50 ppm)
- Definitely (> 50 ppm)

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G A NOEL & ASSOCIATES INC - CONSULTANTS		
BUD AND DAGO CLAIMS		
SOIL GEOCHEMISTRY - SILVER		
KATHLEEN LAKE AREA		
MAYO M.D. YUKON TERRITORY		
DRAWN C.A.H.	DATE MARCH 1960	DESCRIPTION
REVISED	DATE	FIGURE 6

in 1977. Typically the silver-lead zones assay 1 to 3% lead; 2-6% zinc and 3 to 6 oz/ton silver across widths of 2 to 7 metres. The best trench sample taken in 1977 assayed 32.7% lead, 11.8% zinc and 14.3 oz/ton silver across 9 metres.

RESULTS OF 1978 FIELDWORK

Geochemical Surveys

The 1978 geochemical soil survey results are shown on Figures 4, 5 and 6. In Figure 4, a very large zinc anomaly outlined by the 600 ppm contour extends for at least 1100 metres in a N60°E direction with a width of at least 200 metres. The anomaly is open to the northeast although it is narrower and less intense at this end. To the southwest, the zinc anomaly ends along a topographic break occupied by north and south flowing creeks. However, there is some indication of a swing to the southeast where the anomaly can be followed for about 500 metres along a S65°E trend and is still open in this direction. Southwest of the break in topography, the zinc anomaly is again evident as a rather narrow linear feature trending S60°W for about 500 metres with a width of about 50 metres.

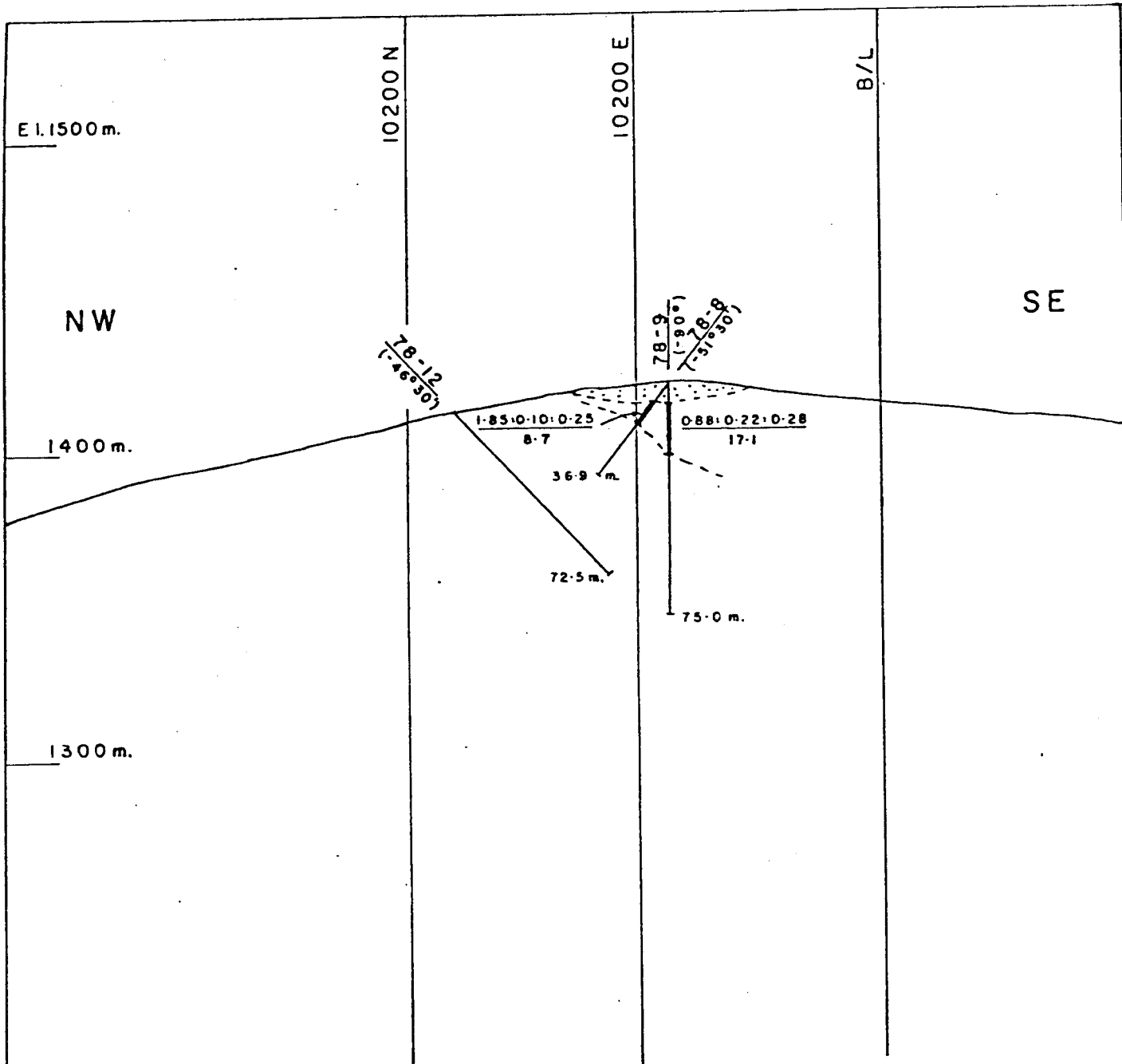
The plots of lead and silver in soils (Figures 5 & 6) show a similar pattern to the zinc plot although more subdued in each case.

Drilling

A total of 1559 metres of BQ diamond drilling was completed from June 22 to August 18, 1978 for an average overall advance of 11.5 metres/shift. The usual problems were encountered with equipment breakdowns, freezing waterlines and coring difficulties most prevalent. Despite drilling problems, only two holes had to be abandoned before reaching their objectives. Drilling mud was used in the more difficult holes and although core recovery varied from 33 to 92%, the overall average was 72.4%. A summary of the 1978 drilling with significant assays is presented in the following table:

<u>Drill Hole</u>	<u>Bearing</u>	<u>Dip</u>	<u>Length (m)</u>	<u>Elevation (m)</u>	<u>Sample Interval (m)</u>	<u>Sample Length (m)</u>	<u>% Zinc</u>	<u>% Lead</u>	<u>oz/ton Silver</u>
78-1	S35°E	-50°	58.5	1410	40-50	10	1.86	0.14	0.14
78-2	S35°E	-60°	104.5	1410	55.5- 58.0	2.5	0.83	0.04	0.14
78-3	S25°E	-50°	97.5	1404	44.1- 46.0	1.9	2.28	0.32	0.58
78-4	N25°W	-51°30'	60.4	1430	20.6- 24.4	3.8	1.55	0.13	0.43
78-5	-	-90°	29.9	1430	12.8- 17.4	4.6	0.36	0.09	0.08
78-6	N27°W	-51°40'	42.7	1420	29.6- 42.1	12.5	5.52	0.12	0.44
78-7	-	-90°	61.0	1420	21.3- 55.0	33.7	3.54	0.15	0.44
78-8	N20°W	-51°30'	36.9	1422	7.6- 16.3	8.7	1.85	0.10	0.25
78-9	-	-90°	75.0	1422	6.1- 23.2	17.1	0.88	0.22	0.28
78-10	S26°E	-52°30'	61.0	1415	17.5- 28.5	11.0	1.74	0.45	0.79
78-11	-	-90°	53.3	1415					
78-12	S28°E	-46°30'	72.5	1410					
78-13	S25°E	-50°	82.9	1420	11.0- 22.9	11.9	2.64	0.38	0.82
					39.3- 50.0	10.7	1.46	0.30	0.16
78-14	-	-90°	49.1	1416	12.5- 19.8	7.3	10.80	0.69	3.41
78-15	S25°E	-50°	78.6	1416	31.5- 32.5	1.0	6.93	0.78	1.15
78-16	-	-90°	61.0	1415					
78-17	S25°E	-50°	76.8	1415	16.1- 22.2	6.1	3.40	0.05	0.45
					32.0- 34.1	2.1	1.05	0.24	0.24
78-18	S25°E	-50°	77.7	1420					

<u>Drill Hole</u>	<u>Bearing</u>	<u>Dip</u>	<u>Length (m)</u>	<u>Elevation (m)</u>	<u>Sample Interval (m)</u>	<u>Sample Length (m)</u>	<u>% Zinc</u>	<u>% Lead</u>	<u>oz/ton Silver</u>
78-19	-	-90°	62.2	1405	6.4- 7.6	1.2	1.12	0.01	Tr.
					16.8- 18.3	1.5	1.20	0.03	0.06
					32.0- 35.0	3.0	1.13	0.18	0.20
					49.9- 50.5	0.6	17.61	4.90	3.77
					53.3- 54.9	1.6	1.58	0.05	0.02
78-20	N23°W	-51°50'	100.6	1415	52.2- 52.7	0.5	1.70	0.28	0.15
					54.2- 55.8	1.6	1.75	0.13	0.21
					57.3- 60.4	3.1	1.40	0.40	0.29
78-21	N28°W	-51°30'	76.8	1395					
78-22	N25°W	-55°50'	140.2	1415					



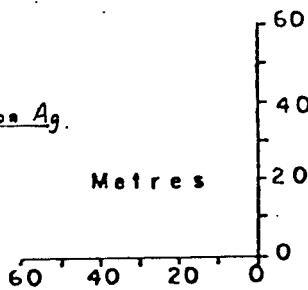
LEGEND



FeOx-MnOx rubble

$\frac{2.45 \cdot 0.37 \cdot 0.24}{5.6}$

$\frac{\%Zn : \%Pb : oz./ton Ag.}{metres}$

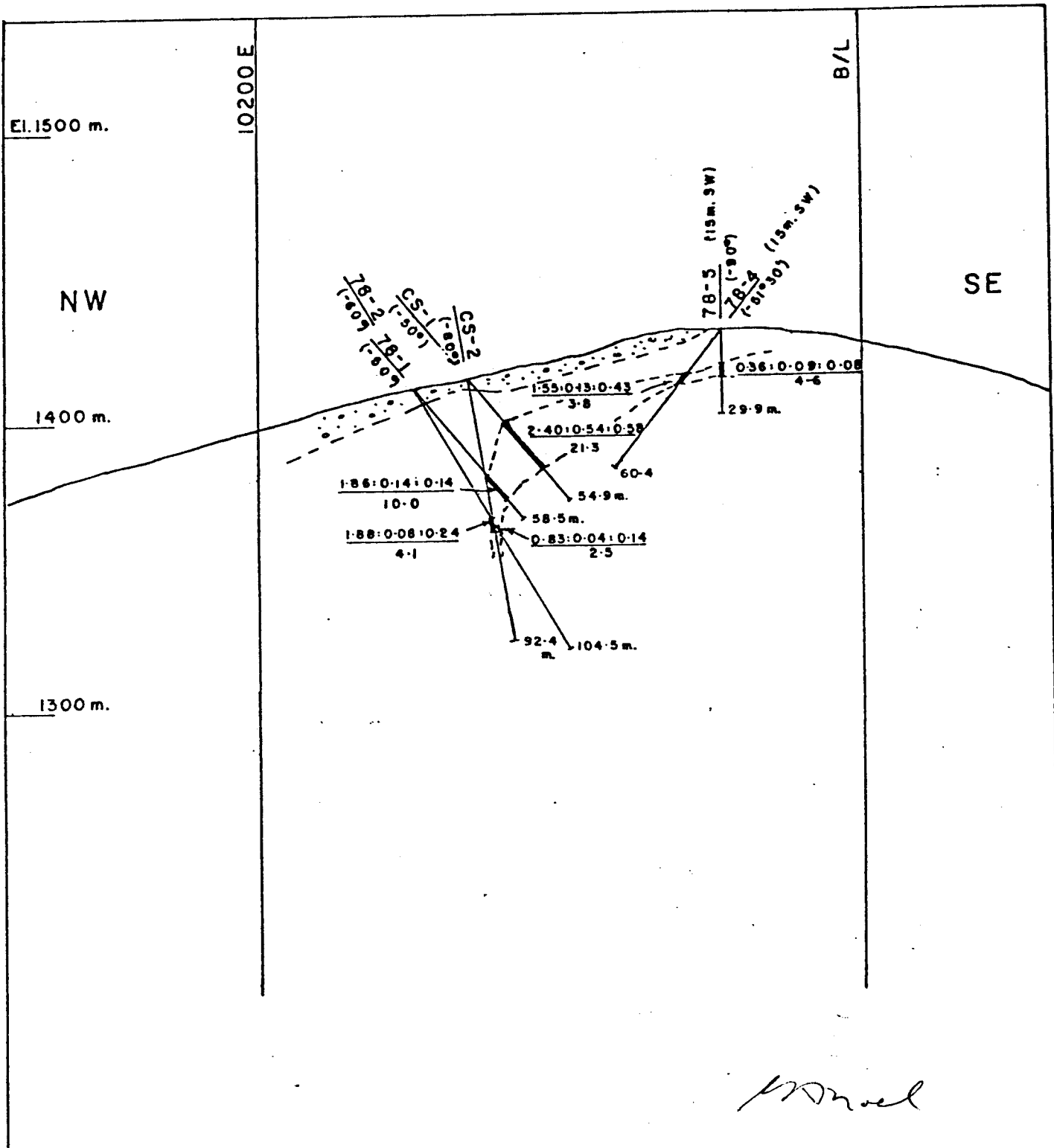


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G. A. NOEL & ASSOCIATES INC. Vancouver, B. C.

VERTICAL SECTION AZ. 335°
DDH 78-8, -9, & -12
(LOOKING NORTHEAST)

BUD & DAGO CLAIMS
KATHLEEN LAKES AREA MAYO, Y.T.

SCALE: 1:2000 MAR. 1980 FIGURE 7



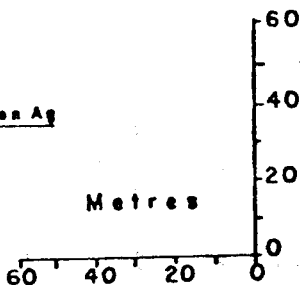
LEGEND



Overburden

$\frac{2.45:6.37:0.24}{5.6}$

$\frac{\%Zn: \%Pb:oz./ton Ag}{metres}$



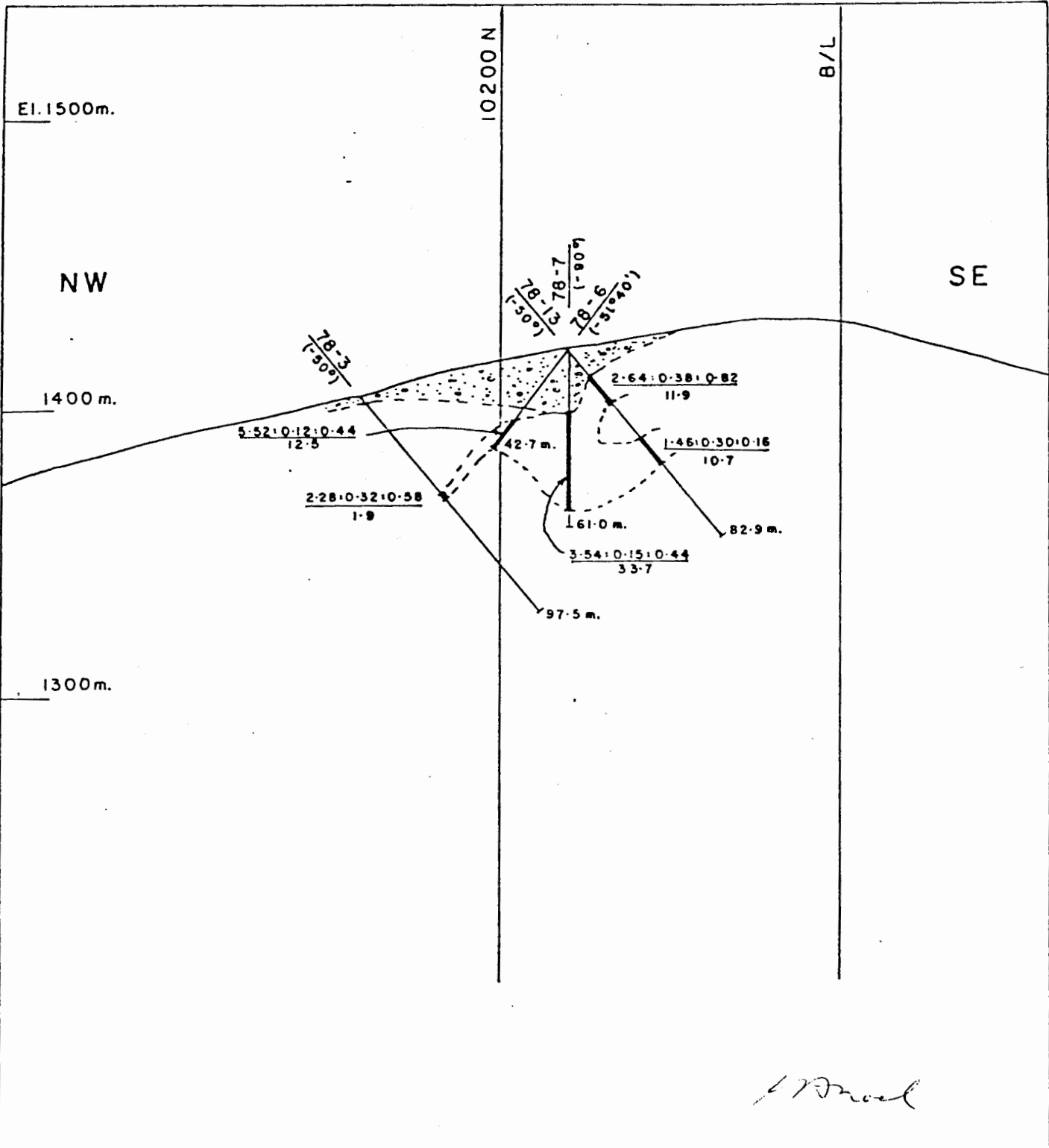
PAN ACHERON RESOURCES LTD.
 G.A. NOEL & ASSOCIATES INC, VAN., B.C.

VERTICAL SECTION AZ. 330°
 DDH. CS-1 & 2; 78-1, -2, -4 & 5
 (LOOKING NORTHEAST)

BUD & DAGO CLAIMS

KATHLEEN LAKES AREA - MAYO, Y. T.

SCALE: 1:2000 | MAR. 1980 | FIGURE 8



G. Noel

LEGEND

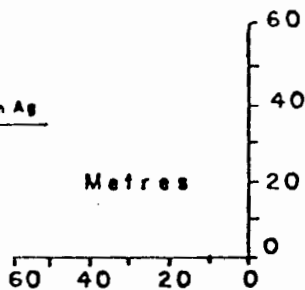


Overburden

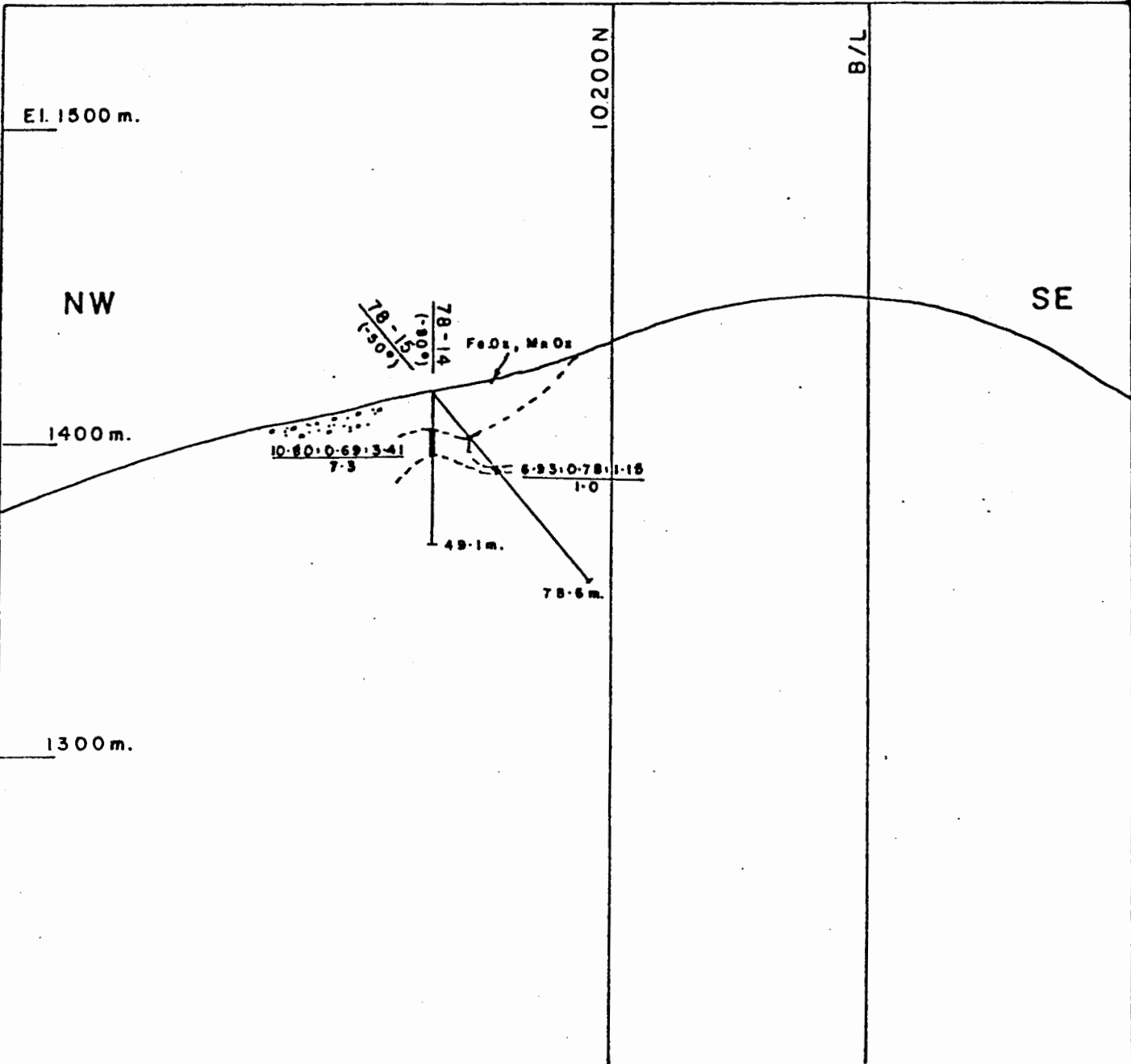
$\frac{2.45:0.37:0.24}{5.6}$

$\frac{\% Zn: \% Pb: oz./ton Ag}{metres}$

Metres



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VERTICAL SECTION AZ. 335°		
DDH 78-3, -6, -7 & -13		
(LOOKING NORTHEAST)		
BUD & DAGO CLAIMS		
KATHLEEN LAKES AREA MAYO, Y.T.		
SCALE: 1:2000	MAR. 1980	FIGURE 9



LEGEND

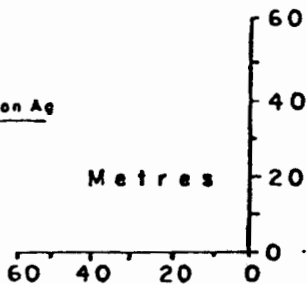


Overburden

$\frac{2.45:0.37:0.24}{5.6}$

$\frac{\% Zn: \% Pb: oz/100 Ag}{metres}$

Metres



PAN ACHERON RESOURCES LTD.		
G.A. NOEL & ASSOCIATES INC. Vancouver, B.C.		
VERTICAL SECTION AZ. 335°		
DDH 78-14 & -15		
(LOOKING NORTHEAST)		
BUD & DAGO CLAIMS		
KATHLEEN LAKES, MAYO M.D., Y.T.		
SCALE: 1:2000	MAR. 1980	FIGURE 10

The drilling results show that the mineralization is confined to the upper part of the orange-weathering dolomite probably near its contact with the overlying limestone. The mineralization is largely confined to brecciated sections in this unit and assumes anticlinal and synclinal forms suggesting that the brecciation may result from close folding of the limestone and dolomite (see Figures 7-10). The mineralized breccia may be at least 50 metres thick (Figure 9) since the overlying material to the surface largely consists of heavily weathered and oxidized breccia. This capping appears as an iron and manganese oxide sinter, which will assay 1-5% zinc with proportionate values in lead and silver. Unfortunately, this material could not be cored for assaying.

The drill sections included in this report cover about 175 metres along strike in the central part of the mineralized zone. Drill holes 14 and 15 (Figure 10) are at the northeast end and drill holes 8, 9 & 12 (Figure 7) are at the southwest end. The sections indicate that the mineralized breccia zone should continue across the main synclinal fold to the southeast. The zone is generally closer to the surface at the southwest end and deeper to the northeast, probably reflecting the gentle southeast plunge of the synclinal structure. From the drilling at the northeast end of the zone (NE of Figure 10), the mineralization seems to swing slightly to the north. Certainly the interpretation of the section through holes 14 and 15 (Figure 10) suggests that the mineralized breccia extends further to the northwest. The sections also indicate that the shallow fold structures would probably be most effectively tested by vertical drilling.

CONCLUSIONS

The 1978 geochemical surveys and drilling on the Bud and Dago claims indicate that zinc mineralization, with minor lead and

silver values, occurs in breccia zones along a stratigraphic horizon in a major fold structure. The breccia zones follow shallow minor folds and show fairly good continuity but extreme variation in thickness. The mineralization can be traced geochemically for at least 1100 metres along a N60°E trend with a width of at least 100 metres. Drilling indicates the thickness of the mineralized breccia zones varies from 5 to over 50 metres with an average grade of 3 to 5% zinc, 0.2-0.5% lead and 0.5 oz/ton silver. Several narrow vein-like structures in the mineralized zone show higher lead and silver values. The geochemical results suggest that the mineralization may extend for some distance into the major synclinal structure. The northern limb has been fairly well explored by trenching and drilling but the southern limb is virtually untested. The results to date are considered sufficiently encouraging to warrant further exploration of this mineralization.

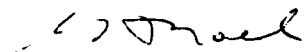
RECOMMENDATIONS

The southern limb of the synclinal structure should be explored by geological mapping and prospecting and a geochemical soil survey. The 1978 geological and geochemical surveys should be extended to the north, east and southeast. The results of this program should indicate whether further drilling is required. The estimated total cost of this program is \$35,000 as indicated for Phase 1 in the attached cost estimate. Some allowance has been made for bulldozer or backhoe trenching in case such equipment may be available in the area. If not, hand trenching will be satisfactory initially.

If the results of this program are sufficiently encouraging, a follow-up program of diamond drilling is recommended. This

program consisting of 1000 metres of BQ diamond drilling has been shown in the attached cost estimate as Phase II at estimated total cost of \$190,000.

Vancouver, B.C.
March 28, 1980


G.A. NOEL, P.Eng.

COST ESTIMATE

Phase I

Wages and salaries	\$14,000.00
Camp & commissary	4,000.00
Assaying (including geochemical analyses)	2,000.00
Freight and transportation mobilization, demobilization and camp servicing by fixed wing aircraft	3,000.00
Bulldozer trenching	4,500.00
Radio rental	1,000.00
Travel expenses	2,000.00
Contingencies (15%)	<u>4,500.00</u>
TOTAL	<u>\$35,000.00</u>

Phase II (Contingent)

Diamond drilling - 1000 m. @ \$150/m.	\$150,000.00
Engineering and supervision	15,000.00
Contingencies (15%)	<u>25,000.00</u>
TOTAL	<u>\$190,000.00</u>

M. J. Noel

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