

A GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE KIWI CLAIM GROUP



Dawson Mining District

Yukon Territory

N.T.S. 116-B-10

Latitude: 64°45' N

Longitude: 138°45' W





By:

L. McLennan

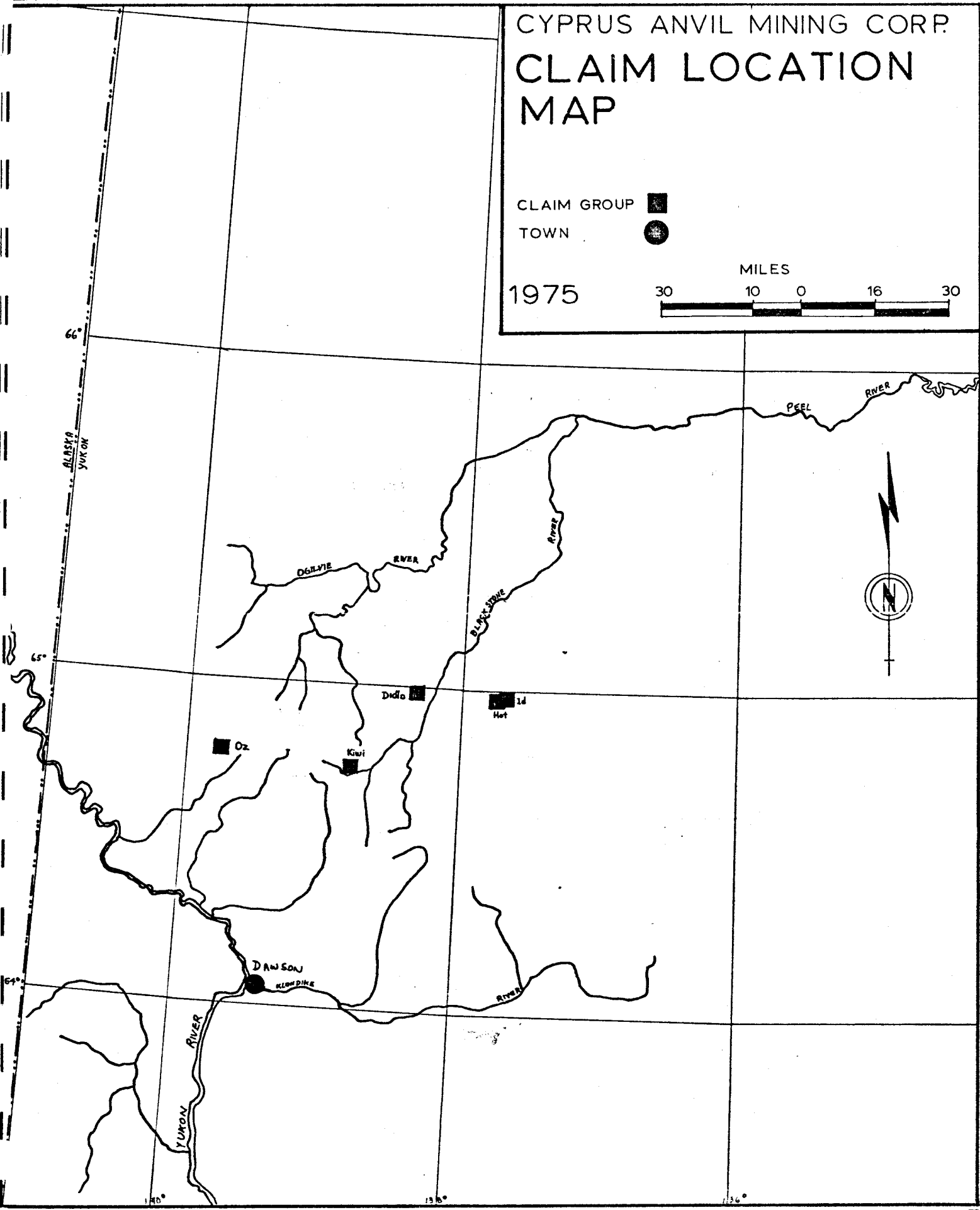
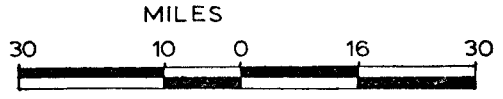
CYPRUS ANVIL MINING CORPORATION

November, 1975

# CYPRUS ANVIL MINING CORP. CLAIM LOCATION MAP

CLAIM GROUP   
TOWN 

1975



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LIST OF CLAIMS

KIWI CLAIM GROUP



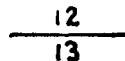

<u>Claim</u>	<u>Grant Numbers</u>	<u>Recording Dates</u>
1 - 48	Y82919 - Y82966	July 12, 1974
49 - 80	Y90196 - Y90227	October 1, 1974

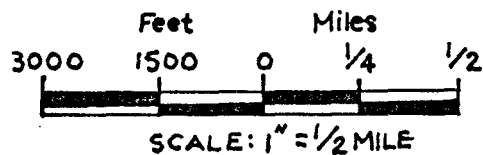
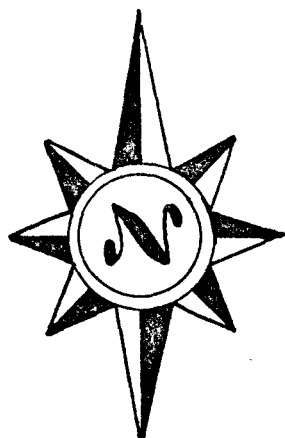
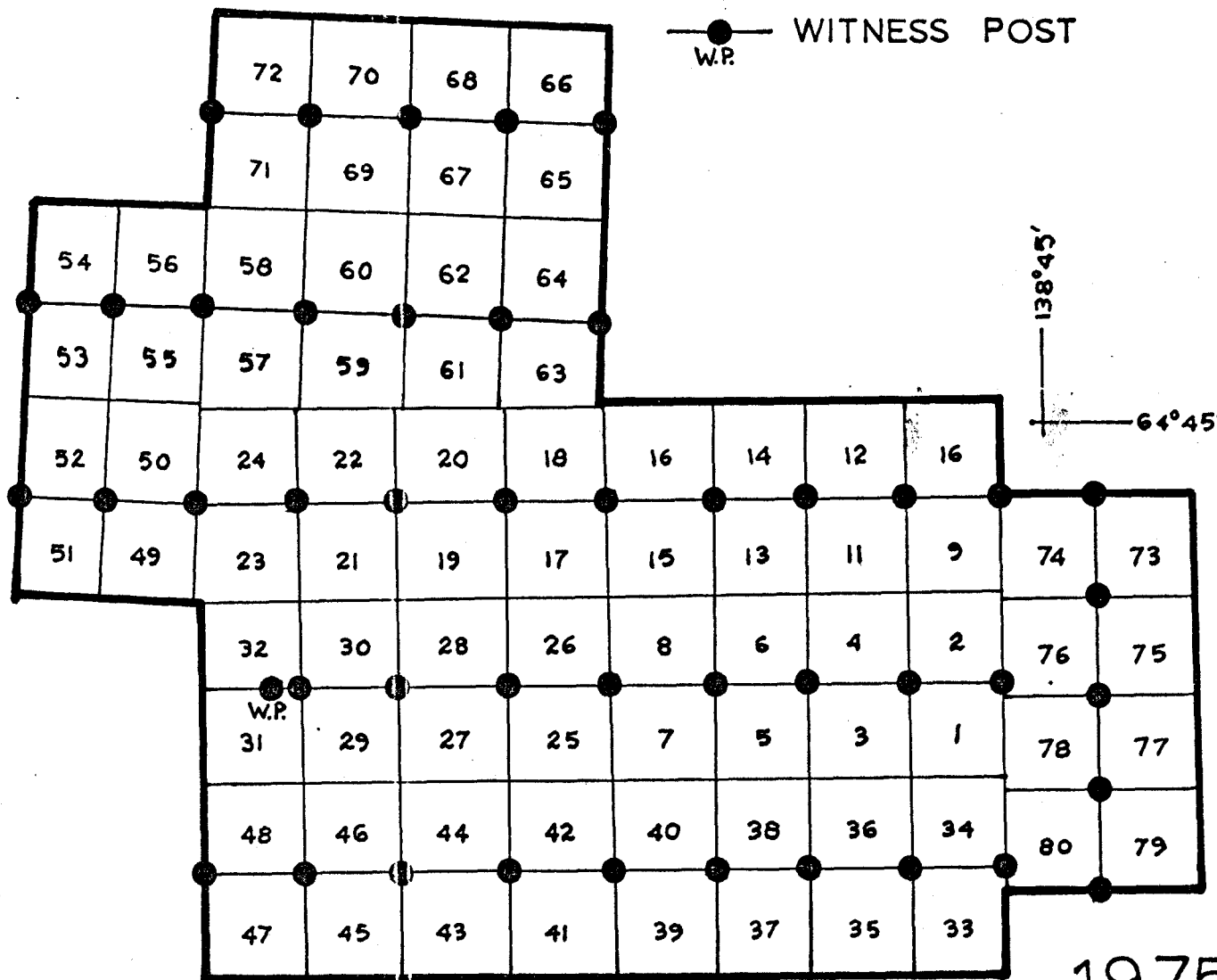
# CYPRUS ANVIL MINING CORP

## REEF PROJECT

# KIWI GROUP

## LEGEND

-  CLAIM OUTLINE
-  CLAIM POST
-  CLAIM LINE, NUMBER
-  WITNESS POST



1975

Cyprus Anvil Mining Corporation

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A GEOLOGICAL AND GEOCHEMICAL REPORT  
ON THE KIWI CLAIM GROUP

INTRODUCTION

The Kiwi group was staked in July and September of 1974 to cover lead and zinc mineralization and associated geochemical anomalies discovered during a reconnaissance program in the 1974 season. Hand trenching, prospecting and soil sampling in 1974 indicated potentially economic lead-zinc mineralization. During the 1975 season, a detailed grid was established accompanied by soil sampling, trenching and geological mapping. Results to date indicate three well-mineralized and highly-oxidized fault zones with an abundance of smithsonite and minor galena exposed in surface outcrops.

LOCATION AND ACCESS (Figure 1)

The Kiwi group is located on the north side of Seela Pass, 13 miles west of the Blackstone River, latitude  $64^{\circ}45'$  N and longitude  $138^{\circ}45'$  W, approximately sixty miles northeast of Dawson, Yukon.

Access to the property is by helicopter with vehicle support from the Dempster Highway, 13 miles to the east. Chapman Lake, 14 miles northeast of the Kiwi group, is suitable for large, float-equipped aircraft. A servicable, all-weather airstrip is located on Mile 76 on the Dempster Highway, 16 miles northeast of the Kiwi group.

... 2

**CYPRUS ANVIL**

GENERAL GEOLOGY

The Kiwi group is located on the eastern end of the Coal Creek Dome, an uplifted elliptical dome of Helikian shales and carbonates unconformably overlain by Ordovician and younger sediments. The rocks of the Kiwi group, as mapped by the G.S.C. (Map 1284A, Dawson Map Sheet), comprise three major lithologies:

Unit 8 - Thick bedded, grey weathering, porous sugary dolomite.

Ordovician to Silurian age.

Thickness: 3 - 5,000'.

- Unconformable contact.

Unit 2c - Thick bedded to massive, light grey weathering dolomite.

Helikian age.

Thickness: 2,000 - 5,000'.

- Unconformable contact.

Unit 2b - Buff to orange weathering fine-grained dolomite; dark weathering black shales and interbedded quartzite and light orange weathering, interbedded dolomite and shale.

Helikian age.

Thickness: 2,000 - 7,000'.

- Conformable contact.

In the general Kiwi area, bedding in the older Helikian sediments

(Units 1 and 2b, G.S.C. Map 1284A) strikes roughly east-west and dips steeply ( $50 - 85^{\circ}$ ) to the south. This, in turn, is unconformably overlain by light grey weathering dolomites (Unit 2c), also trending roughly east-west but dipping  $10 - 20^{\circ}$  to the south. In the northern area, Unit 1 is unconformably overlain by light grey dolomite (Unit 8) trending southeast and dipping  $10 - 30^{\circ}$  to the northeast. In areas of faulting and mineralization, bedding in Unit 2c trends approximately southeast and dips easterly.

GEOLOGY (Figure 3)

The main rock type in the grid area is light grey weathering, massive bedded dolomite (Unit 2c) which contains the lead-zinc mineralization. The mineralized zone extends about three thousand feet from the north-central part to the southeastern area of the grid. In three areas of this mineralized zone, local enrichment of lead and zinc occurs in possible fault or breccia zones. Geochemistry also indicates a marked decline in grade of the mineralization between these three enriched areas. The largest and apparently most important of these enriched zones is the main showing in the southeast part of the grid. Trenching in this area has exposed an extremely oxidized zone containing a high proportion of smithsonite and anglesite with minor unoxidized galena in a breccia zone. This easterly trending oxidized zone appears to be about 25 feet across and apparently lies in a fault zone paralleling the main Seela Pass fault to the south. Massive dolomite adjacent to this zone contains smithsonite on fracture and joint surfaces. A second occurrence of

lead-zinc mineralization occurs a few hundred feet to the north. Pieces of brecciated float indicate that this zone is also of the breccia type. Pits dug in the area uncovered massive boulders of coarsely crystalline galena but permafrost conditions prevented bed-rock being uncovered. It is possible that this mineralization may also be localized within a fault but surface fault traces are absent.

A third showing occurs on the ridge top at station - on the baseline. This showing consists of a mineralized zone of up to ten feet wide trending in an easterly direction, also paralleling the trend of the Seela Pass valley. As in the main showing, smithsonite fills joints and fractures in the surrounding massive grey dolomite.

As outlined by the geochemical response, some mineralization appears to continue along the hillside between the fault zones. Although no sedimentary-type mineralization has been found in the talus, the bed could easily be covered by the abundance of massive dolomite scree.

#### Description of Trenches

Nine trenches and several pits were dug in the mineralized breccia zones. Problems encountered were abundance, size, and looseness of talus and also frozen ground. Assay results of samples taken in trenches are shown in Table I. Trench locations are noted on the accompanying geology map.

Trench A - 35 feet long, directed north-south across the zone, encountered a very highly-oxidized zone with relict boxwork structure and galena in place. The

southern nine feet of the trench consists of barren-looking grey dolomite. The trench ended when frozen ground was encountered.

Trench B - 20 feet long, directed east-west across bedding, with mostly barren dolomite and limonite (smithsonite?) on fractures. The trench was stopped because of caving problems and the fact that much talus had to be removed in order to expose very little outcrop.

Trench C - 12 feet long, east-west across bedding. No outcrop was encountered and permafrost forced the digging to end. However, some large pieces of lead-zinc float were uncovered, similar in appearance to those found at the main showing. A pit dug 100 feet above Trench C encountered the same caving and freezing problems.

Trench D - 15 feet long, running east-west across bedding, contained massive grey dolomite with minor smithsonite on fractures. Some of the rock is very siliceous. The trench was stopped in permafrost.

Trench E - 50 feet long, runs east-west across bedding. The rock is a massive grey dolomite with some secondary calcite and smithsonite on fractures and along north trending joints. Two feet of massive smithsonite occur at the upslope end of the trench.

Trench F - 25 feet long, running north-south along bedding, encountered shattered bedrock material. The rock is a highly-oxidized breccia apparently following bedding, but no attitude was observed because of the broken nature of the rock. No galena was observed in this trench.

Trench G - 25 feet long, running east-west and upslope from the north end of Trench F. The uppermost 5 feet of the trench contains barren-looking grey dolomite, the bottom 20 feet consists of massive grey dolomite with iron oxide and smithsonite on joint surfaces and fractures.

Trench H - 20 feet long, running north-south and situated in the main showing area upslope and south of Trench A. The outcrop is massive grey dolomite with fairly abundant smithsonite and traces of galena in open spaces.

Trench I - 30 feet long, running east-west across bedding. The outcrop is massive grey dolomite with possible smithsonite in fractures. In places, the smithsonite appears to be more massive. The overall grade, however, is low.

TABLE I

Table of Assay Values from Trenches

<u>Trench</u>	<u>Sample</u>	<u>Ag Oz/Ton</u>	<u>% Pb</u>	<u>% Zn</u>	<u>% Cu</u>	<u>Sample Type</u>	<u>Description</u>
A	4354	3.41	16.26	19.75	0.05	Channel	Length of Trench A - 35 feet.
	4355	2.62	11.38	21.65	0.03	"	" " " " - 35 feet.
	4356	0.18	1.50	0.90	0.01	Grab	Barren-looking dolomite of south 9 feet of trench.
B	4357	0.03	0.04	3.06	0.01	Chip	Length of Trench B - 20 feet.
	4358	0.03	0.08	6.60	0.01	"	" " " " - 20 feet.
D	4359	Tr.	0.01	0.08	--	Chip	Length of Trench D - 15 feet.
Line 16W 9-10S	4360	Tr.	0.01	0.43	--	Chip	Across 100' of mineralized outcrop along Line 16W.
	4361	0.06	0.03	0.67	--	"	
E	4362	0.03	0.01	1.26	--	Chip	Length of Trench E - 50 feet.
	4363	Tr.	0.03	2.70	--	"	" " " " - 50 feet.
F	4364	0.06	0.03	7.86	--	Chip	Length of Trench F - 25 feet.
	4365	0.03	0.15	7.53	--	"	" " " " - 25 feet.
G	4366	Tr.	0.03	0.45	--	Chip	Length of Trench G - 25 feet.
H	4367	0.03	0.35	3.30	--	Chip	Length of Trench H - 20 feet.
Creek	4368	Tr.	0.05	0.13	--	Discontinuous Chip	Length a few feet along bedding in outcrop in creek near claim posts Kiwi #1,2,3,4,.
	4369	0.06	0.05	0.06	--		As above, perpendicular to bedding.
I	4370	0.06	0.13	0.30	--	Chip	Length of Trench I - 30 feet.
	4371	0.03	0.08	0.56	--	"	" " " " - 30 feet.

TABLE II

Table of Formations

Ordovician	Unit 8	Light grey weathering medium grey, massive to thick bedded dolomite.
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- - - Unconformable contact - - -

Proterozoic	Unit 2c	Light grey to buff weathering medium grey dolomite, siliceous and cherty, often oolitic. Massive to thick bedded.
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- - - Unconformable contact - - -

Proterozoic	Unit 2a	Mainly buff to orange weathering green to grey laminated dolomite, interbeds of dolomite cemented sandstone and conglomerate.
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GEOCHEMISTRY (Figures 4 and 5)

A total of 611 soil samples were collected on the Kiwi grid during the 1975 field season. These samples were analysed for copper, lead and zinc by Acme Analytical Laboratories at Dawson City, Y.T. (head office at 6455 Laurel Street, Burnaby, B.C.).

Samples were dried and then screened. The minus 80 mesh fraction was retained for analysis. Sample digestion was in hot nitric-perchloric acid and analysis was by atomic absorption methods.

Cumulative frequency tabulations were made of all lead and zinc soil results. Lognormal probability plots based on these tabulations are shown in Figures 6 and 7 on the following pages.

The lognormal probability plot for zinc soils shows a background population with a threshold of 200 ppm zinc. This value was ignored as it would encompass too many sample sites to be meaningful. Rather, values of 500, 1,000, 3,000 and 6,000 ppm zinc were used for contouring. Lead contour values used were 150, 500, 1,000, 2,500, 5,000 and 10,000 ppm lead.

Both probability plots show sharp "breaks" in the 95 percent area of the lognormal probability plots. The values in ppm for lead and zinc at these breaks are 1,250 ppm and 3,000 ppm respectively. This distinct high population is probably caused by high grade mineralization noted in the three fault zones.

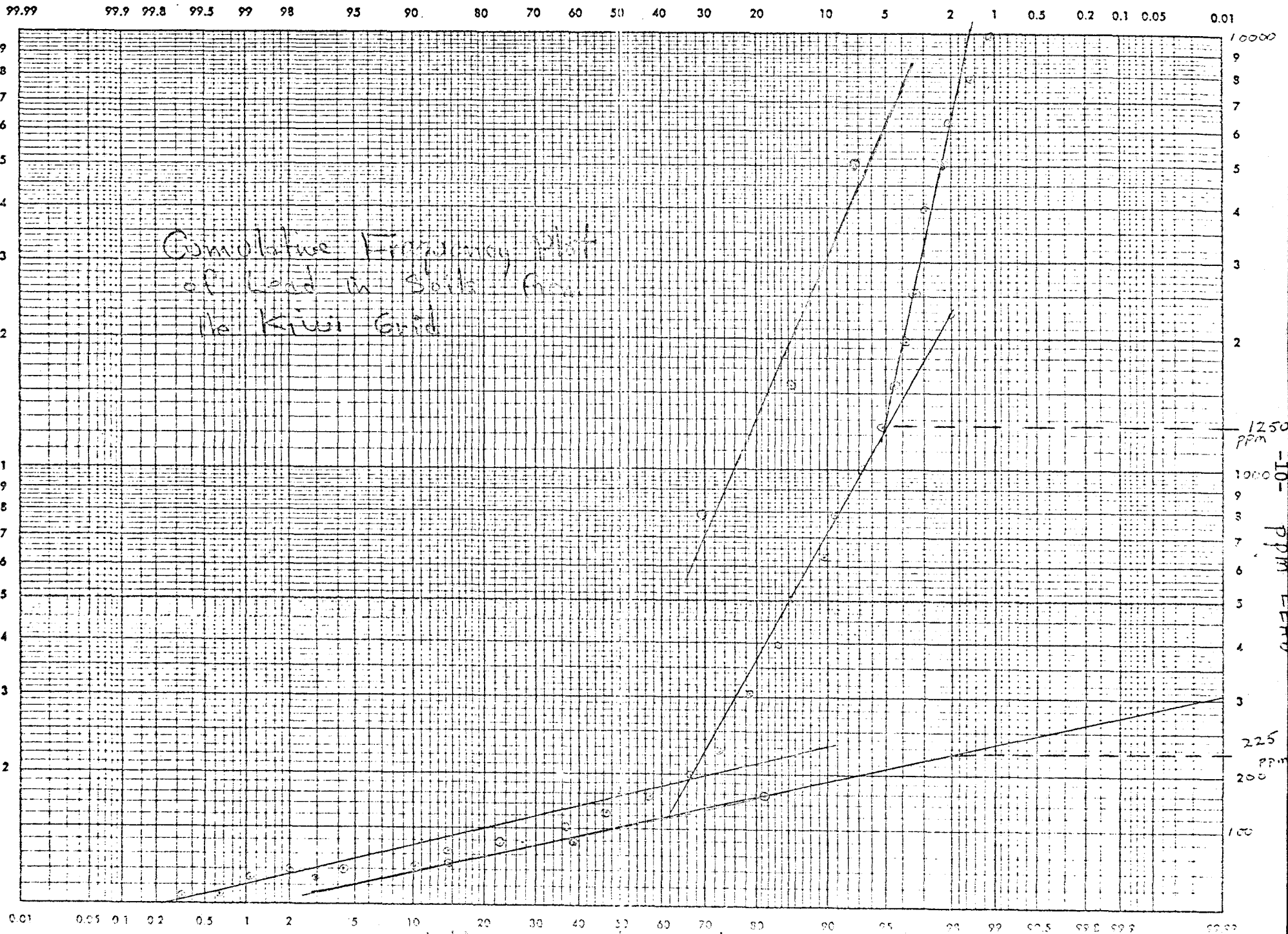


FIGURE 6

1250 ppm  
 1000 ppm  
 225 ppm  
 200 ppm

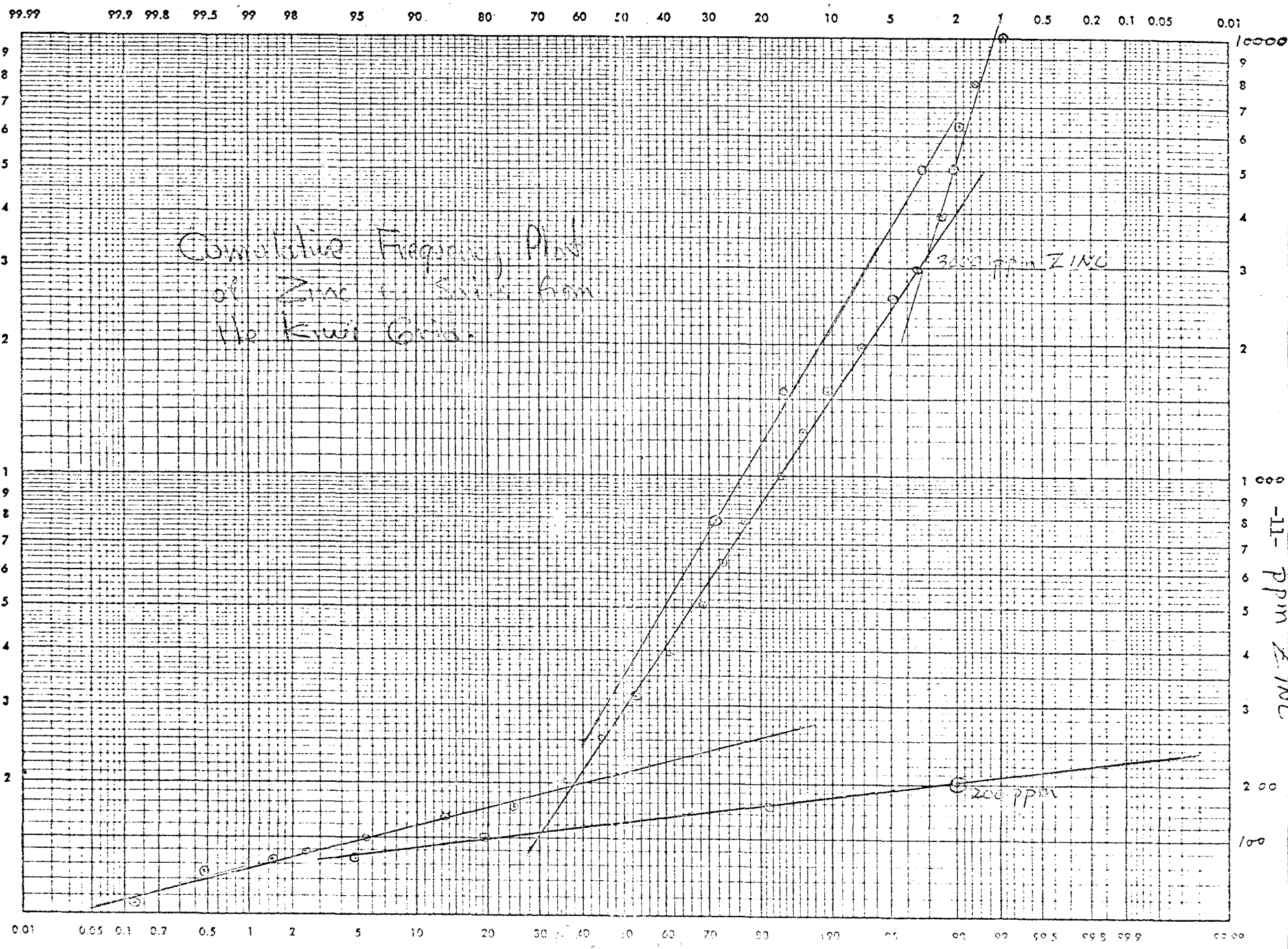


FIGURE 7

-II- ppm ZINC

SUMMARY AND CONCLUSIONS

A mineralized zone extends for roughly 3,000' on the Kiwi claims. Three areas of brecciation (probably from an east-west trending series of faults) within this zone contain high-grade smithsonite and minor galena on surface. Thickness and grade of mineralization between the high grade zones remains to be tested.

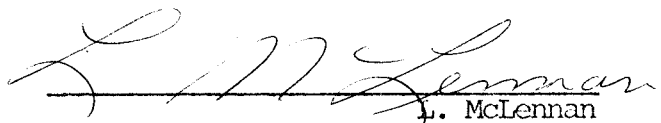
The best mineralization found to date occurs in the main showing where Trench A exposed 35 feet of 35% combined lead and zinc with over 3 ounces per ton of silver.

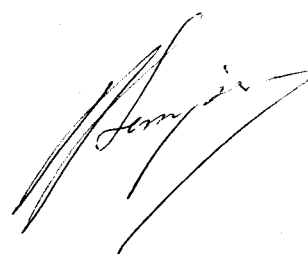
Geochemistry is an excellent indicator of mineralization in this area.

Due to easy access by construction of an 8-mile road, the possible presence of high grade lead-zinc mineralization in a relatively small deposit may be worth further investigation.

It is recommended that further work should comprise additional trenching and sampling of the main showings and possibly diamond drilling if a high grade surface zone is outlined.

Respectfully submitted,

  
J. McLennan



UNIT 2b

UNIT 2c

UNIT 2b

ASSAY RESULTS

TRENCH	Ag oz/ton	Pb %	Zn %			
A	341	1626	1974		G	tr 03 45
	262	1138	2165			03 35 330
	18	150	tr			tr 05 13
B	03	04	30		I	06 05 06
D	tr	01	08			06 13 30
E	tr	01	43			03 08 56
	06	03	67			
F	03	01	126			
	tr	03	270			
F	06	03	786			
	03	15	753			

CYPRUS ANVIL MINING CORPORATION  
**KIWI CLAIM GROUP**  
 GEOLOGY

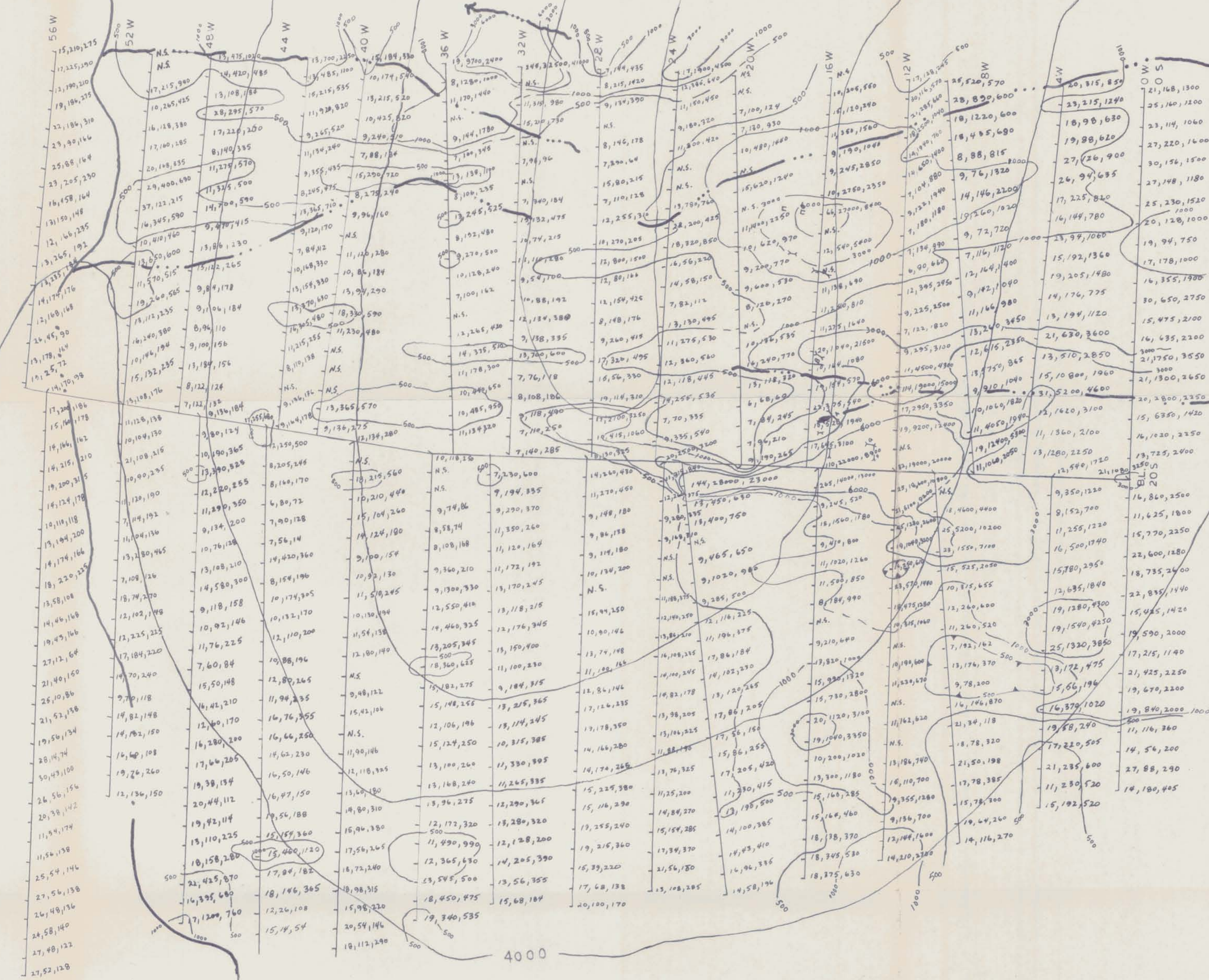
- PIT
- TRENCH
- BEDDING ATTITUDE
- JOINT ATTITUDE
- AXIAL PLANE CLEAVAGE
- POSSIBLE FAULT ZONE
- ▲ BRECCIA FLOAT
- ▲ BRECCIA BED
- MASSIVE GREY DOLOMITE
- MINERALIZED
- HIGH Pb-Zn GEOCHEM AREA
- MINERALIZED FLOAT

SCALE: 1"=400'



CYPRUS ANVIL MINING CORPORATION  
 KIWI CLAIM GROUP  
 GEOCHEM LEAD CONTOURS

- RESULTS (ppm) FOR Cu,Pb,Zn
- GEOCHEM GRID LINE & STATIONS
- GEOCHEM CONTOUR LINE
- CREEK
- BRAIDED CREEK
- 150 ppm Pb
- 500 ppm Pb
- 1000 ppm Pb
- 2500 ppm Pb
- 5000 ppm Pb
- 10000 ppm Pb
- PIT
- TRENCH



CYPRUS ANVIL MINING CORPORATION  
 KIWI CLAIM GROUP  
 GEOCHEM ZINC CONTOURS

- 10,000 RESULTS (ppm) FOR Cu, Pb, Zn  
 — GEOCHEM GRID LINE & STATIONS  
 — GEOCHEM CONTOUR LINE  
 ~ CREEK  
 ~ BRAIDED RIVER  
 ○ PIT  
 / TRENCH
- 500 500 ppm Zn  
 1000 1000 ppm Zn  
 3000 3000 ppm Zn  
 6000 6000 ppm Zn