WELCOME NORTH MINES LTD. (N.P.L.)
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PRELIMINARY INVESTIGATION

OF THE MAXI ZINC-LEAD OCCURRENCES

AND SURROUNDING REGION

MAXI, MIDI, A.K., PARK AND BARK MINERAL CLAIMS

N.T.S. 105H-11

WATSON LAKE MINING DIVISION

YUKON TERRITORY

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Dec. 1, 1977

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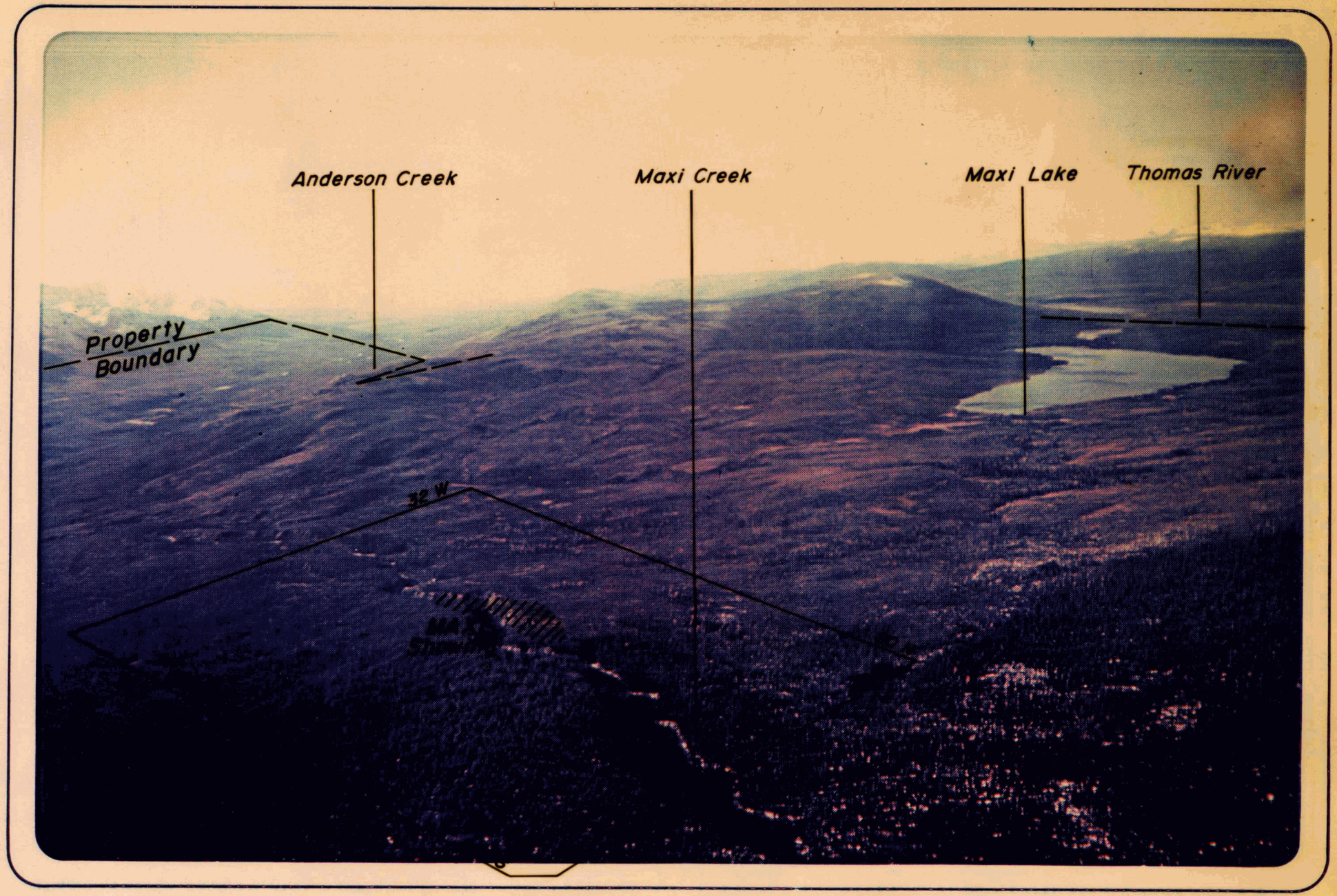

View of MAXI PROPERTY looking southwest

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SUMMARY

The Maxi stratiform zinc-lead occurrences were discovered in late August, 1977 by Welcome North prospectors in the course of an on-going regional program. Zinc and lead sulphides occur within what have tentatively been identified as metamorphosed Road River shales stratigraphically equivalent to those which host the Howard's Pass deposit at Summit Lake. To date, mineralization has been discovered at six locations on the Maxi property which encompasses the postulated confines of a sedimentary sub-basin or embayment within the Selwyn Basin. The claim block lies 25 miles east of the Robert Campbell all-weather highway.

Approximately $160,000 has been spent on the Maxi by Welcome North, which program has included acquisition of 878 mineral claims, regional prospecting and stream sediment sampling. More detailed work included grid-controlled soil sampling and geophysics, geological mapping, and sampling of several mineralized outcrops.

Exposure in the area of the principal Maxi Showing is confined to the walls of a steep-sided canyon which offers one limited, cross-sectional cut through the sedimentary section of interest. The surrounding area is overburden-covered. Although the precipitous canyon walls are only locally accessible, six separate zones, each containing anomalous quantities of sphalerite and galena, have been discovered in the 600 feet of section exposed by the canyon. Each of these zones appears to form a continuous and uniform entity along both its strike and dip projections.

Results of the Welcome North exploration program indicate approximately 420 accumulative feet-percent of lead-zinc mineralization in the main Maxi showing. This significant concentration of mineralization occurring within sedimentary rocks which characteristically imply substantial lateral continuity, reflects favourably upon the exploration potential of the property. Further support to the tonnage potential of known mineralization is provided by a large related area of anomalous geophysical and geochemical response.

Based on results obtained to date, an extensive diamond drill program is warranted in 1978 to test zones of known mineralization and coincident geophysical-geochemical anomalies. Additional detailed geological mapping and follow-up of other related areas of zinc-lead mineralization is also recommended. Welcome North through the provision of an option agreement will endeavour to interest prospective participants in carrying out further exploration and development in this regard.

The Maxi is considered to be one of the more important base metal finds recently made within the southeast Yukon. Its discovery reconfirms the overall potential of the Selwyn Basin as one of the world's largest zinc-lead provinces and emphasizes the fact that basic prospecting of geologically favourable areas in this region remains rewarding.


N
ALASKA
YUKON
TERRITORY
NORTHWEST
TERRITORIES
BRITISH
COLUMBIA
PACIFIC OCEAN
MAXI
DAWSON
WHITEHORSE
SKAGWAY
ROSS RIVER
Robert Campbell Highway
Anvil Mining Corporation
HESS AREA
SHELDON AREA
OGILVIE MOUNTAINS
WERNECKE MTNS
SELWYN MOUNTAINS
MACKENZIE MOUNTAINS
RICHARDSON MOUNTAINS
HESS MTNS
KLUANE RANGES
ST. ELIAS MTNS
BRITISH MTNS
Old Crow
Inuvik
Aklavik
Fort McPherson
Arctic Red River
Fort Good Hope
Norman Wells
Fort Norman
Great Bear Lake
Eagle
Clinton Creek
Boundary
Stewart River
Stewart Crossing
Mayo
Elsa
Keno Hill
Beaver Creek
Snag
Pelly Crossing
Minto
Carmacks
Montague
Canyon City
Burwash Landing
Destruction Bay
Haines Jct.
Champagne
Carcross
Tagish
Bennett
Atlin
Haines
Yakutat
Johnsons Crossing
Teslin
Swift River
Rancheria
Watson Lake
Lower Post
Cassiar
Cantung
Coal River
Smith River
Faro
Frances L.
Simpson L.
Quiet L.
Lake Laberge
Mackenzie
Peel
Pelly
Macmillan
Liard
FIGURE 1 LOCATION MAP

LOCATION AND ACCESS

The Maxi property, comprised of the MAXI, MIDI, A.K., PARK and BARK mineral claims, is located at 69°41' north latitude and 129°12' west longitude (Fig. 1). The claims are within the Watson Lake Mining District, N.T.S. 105H-11, in Yukon Territory.

Topographic relief within the confines of the property is gentle and within the immediate outside area is moderate and typical of the Selwyn Basin and central Yukon Plateau (Frontispiece). Elevations above sea level range from 3000 feet in the Anderson Creek Valley to over 6000 feet on the surrounding mountains of the Logan Range to the north, east and south of the claims (Fig. 2). Treeline is at approximately 5000 feet, below which exposed outcrop is less than 10 percent and is limited to occasional resistant knolls and ridges and deeply incised drainages. Vegetation consists of thick stands of spruce, most of which were burned by a forest fire within the last decade. The area has been glaciated, the direction of ice movement being from east to west, and varying thicknesses of till were deposited over the western and northern portions of the property. Water supply is good; Maxi Lake is a large natural reservoir (Frontispiece) and the Anderson River is a year-round major drainage system.

Present access is by float-equipped fixed-wing aircraft to Maxi Lake from either Watson Lake, 110 miles to the south, or Ross River, 110 miles to the northwest. The property is within 23 air miles of the Robert Campbell Highway (Fig. 1), an all-weather major road that links Watson Lake and Ross River. Ground access would readily be gained, initially by construction of a winter road from the Robert Campbell Highway (Fig. 2).

Hydro-electric requirements could easily be provided from the proposed Frances Lake power site or alternately, the proposed Pelly River-Hoole Canyon site[1].

[1] Sigma Report January 1975; "Development of Power in the Yukon".

MAXI PROPERTY
PROPOSED ROAD ACCESS

Figure 2

HISTORY OF PREVIOUS WORK

The earliest reported work in the area of the Maxi property was probably by Gordon, who headed an American financed prospecting syndicate between Frances Lake and Pelly Banks in 1889[1]. Remnants of a trail and campsite discovered on the claims are probably attributable to Gordon.

In the 1960's Mount Billings Syndicate and Norquest Syndicate prospected the Frances Lake area. It was during one of these expeditions that Pete Risby, now Welcome North's Chief Prospector, located mineralized lead and zinc float after "white-out" weather conditions forced his helicopter pilot to land in what at the time was thought to be Thomas Creek. A subsequent reconstruction of events led Risby to believe they were indeed forced down in Maxi Creek.

Spartan Exploration silt sampled to within a few thousand feet of the Maxi showings in 1968 during the course of a large moly-tungsten regional program conducted to the east of the Logan Batholith. Atlas Explorations in 1966 and 1967 worked as far south as Tillei Lake.

Work around the Matt Berry property on Frances Lake in 1970 reportedly saw Metallgesellschaft crews working north of Frances Lake near the Anderson River.

The Maxi property has no previous history of recorded claims.

MINERAL CLAIMS STATUS

To date a total of 878 full-sized mineral claims have been staked over the Maxi showings (Plate 1). As of this date grant numbers have not been issued. All claims will be recorded in the Watson Lake Mining Division of Yukon in the name of Welcome North Mines Ltd. (N.P.L.)

[1] The Liard Trail to the Klondyke, A.E. Lee private diary, 1897-1898.

The claims within a 2-mile radius of Post No. 1 of the MIDI No. 1 mineral claim are subject to a prospector's agreement between Arthur John, discoverer of the Maxi showing, and Welcome North Mines whereby John will receive cash payments totalling $10,000 during the currency of his agreement. The claims are not encumbered by any royalties in production proceeds or overriding interests.

CLAIMS	DATE STAKED	DATE RECORDED	TAG NO.
MIDI 1-120	Sept. 3-Sept. 7, 1977		
MAXI 1-140	Sept. 25-Sept. 30, 1977		
MAXI 141-351	Oct. 8-Oct. 10, 1977		
AK 1-104	Sept. 25-Sept. 30, 1977		
AK 105-227	Oct. 7-Oct. 11, 1977		
BARK 1-115	Oct. 15, 1977		
PARK 1- 68	Oct. 10-Oct. 11, 1977		

During the month of October a considerable amount of competitor staking has taken place adjacent to the Maxi property. The location of those immediately adjacent mineral claims are shown on Plate 1. At this time of writing approximately 800 "tie-on" mineral claims are reported to have been staked by others.

GEOLOGY

Regional Geology

The Frances Lake map sheet (N.T.S. 105H) was mapped at a scale of 1:250,000 in 1966 by the Geological Survey of Canada. Much of that mapping is misleading and in need of revision in light of more recent investigation by the Geological Survey as well as the results of extensive exploration work in the Paleozoic shales of the Selwyn Basin by the mining industry since 1972.

The Selwyn Basin is included within the Eastern Marginal tectonic belt of the Canadian Cordillera. It is bounded to the southwest by the Yukon Crystalline Terraine or Pelly-Cassiar Platform part of the Omineca Crystalline Belt and the Tintina Trench, a major northwest trending zone of transcurrent faulting. To the northeast is the crestal region of the Redstone Arch (Fig. 3). The Selwyn Basin can be geologically extended to the southeast into the Ketchika Trough of northern British Columbia. The northern limit of the Basin is geologically defined by the northwest-striking axis of the Mackenzie Arch, Bonnet Plume High, and east-west striking axis of the Ogilvie Arch (Fig. 3).

The entire region is underlain by shallow-water clastic and carbonate sediments of the Helikian Purcell sequence[1]. At the close of Purcell times this miogeoclinal sedimentation west of the Archean Craton was deformed during the Racklan orogeny, resulting in the uplift of the Mackenzie Arch.

Hadrynian deposition on the platform west of the Mackenzie Arch included conglomerates, mudstones and chert-iron formation of the Rapitan Formation. Further to the west, in the Selwyn Basin, a great volume of Windermere 'grits' was deposited in a westward thickening accumulation.

[1] Gabrielse, H., 1967, Teconic Evolution of the Northern Canadian Cordillera; Can. Jour. Earth Sci., vol. 4, p. 271-298.

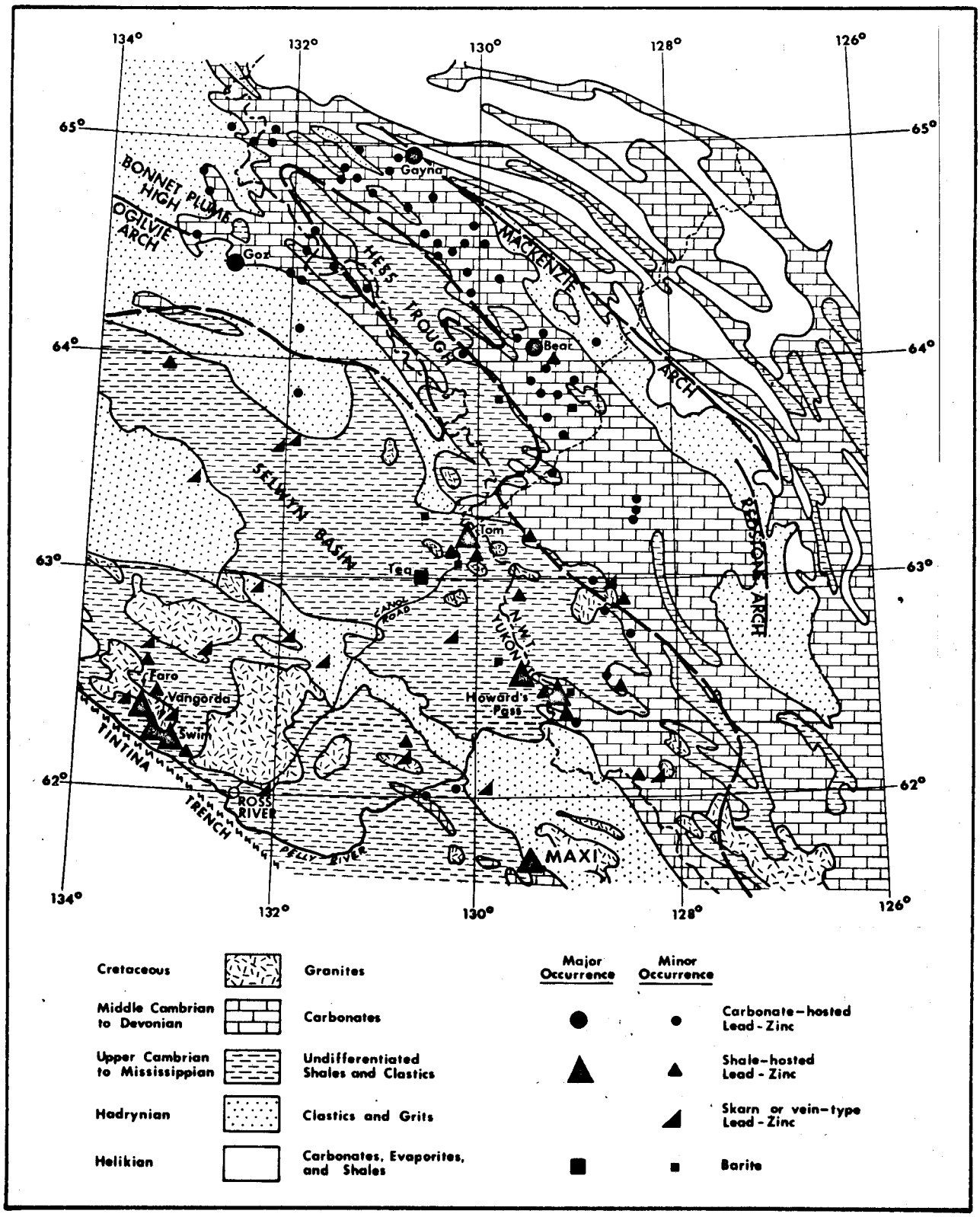


Figure 3: Geology and lead-zinc-barite deposits Selwyn Basin and Mackenzie Foldbelt (After Blusson, Norris, Aitken, and Brock 1974)

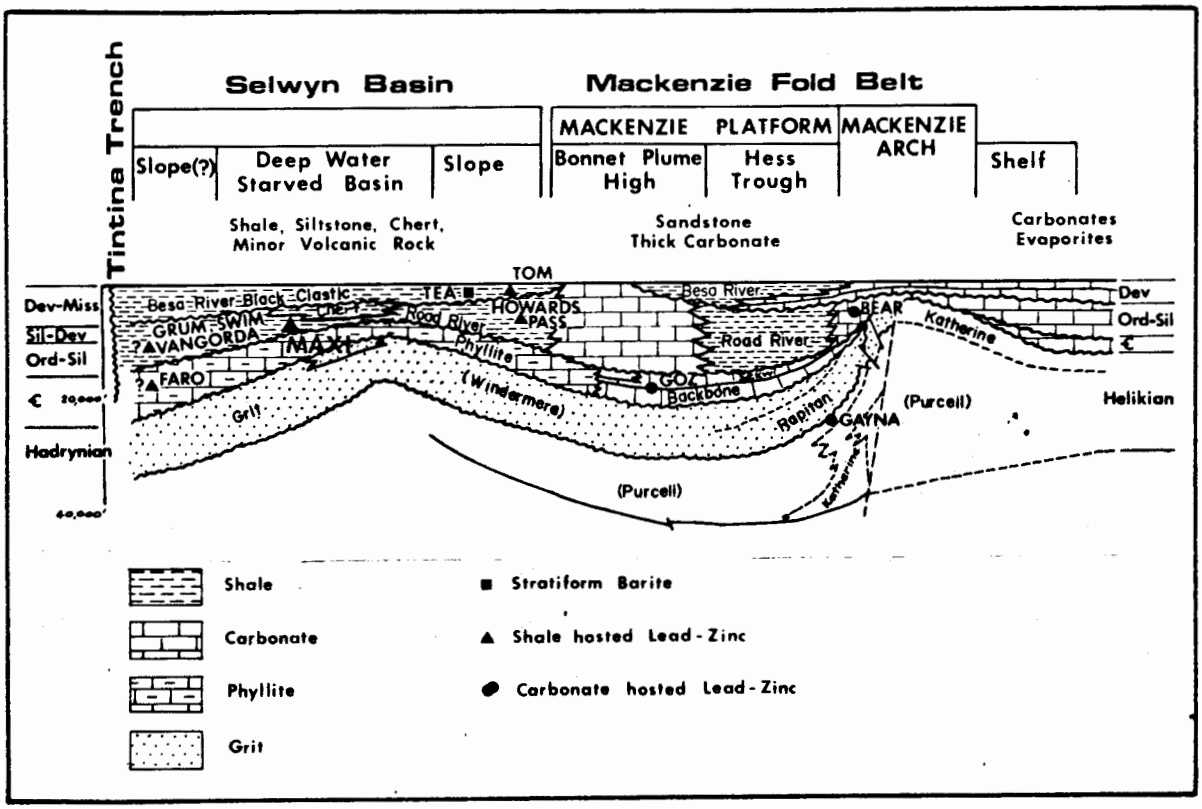


Figure 4: Diagramatically restored cross-section Mackenzie Arch to Tintina Trench (after Blusson 1974)

Sekwi and Backbone Formations as well as other overlying transitional units characterize the transgressive outer to inner detrital, and shaley to calcareous nature of sedimentation during the Cambrian and Ordovician west of the Mackenzie Arch. These units thicken and change facies westward into correlative "Swiss-cheese limestone", "wavy-banded limestone" and shales of the Selwyn Basin. Local intermittent volcanism as evidenced by "greenstones" was widespread during the Lower to Middle Paleozoic.

During Ordovician to Middle Devonian, thick sections of chert and shale of the Road River Formation were deposited throughout the Selwyn Basin while shallow-water platformal carbonates were accumulating on the

Mackenzie Platform and Bonnet Plume High (Figure 4). The facies boundaries between Ordovician to Middle Devonian shales and carbonates migrated widely across the Mackenzie Platform resulting in the intercolation of shales and carbonates as far eastward as the crestal regions of the Arch. Blusson[1] describes the Selwyn Basin as a trough where in the central region the east and west flanking shales change facies to cherts of presumed deep water origin.

In the Devono-Mississippian there was a deepening of the depositional environment on the Mackenzie Platform and an influx of clastics and chert pebble conglomerate from the west and southwest (Besa River Formation). Similarly on the Pelly-Cassiar Platform which was a region of shallow water deposition until Besa River time, there was a deepening of the basin during the Devono-Mississippian. Thrust over the rocks of the Pelly-Cassiar Platform is an allochthonous package of rocks which includes greenstones, serpentinized ultramafics and schist.

During the Cretaceous, granite plutons uplifted and intruded the shale and clastic units of the Selwyn Basin; the eastern limit of Cretaceous plutonism marks the geological boundary between the Selwyn Basin and Mackenzie Fold Belt.

There are two phases of metamorphism within the region. Along the centre of the Selwyn Basin is an axis of regional metamorphism. The effect of this dynamothermal metamorphism is most noted in the Precambrian "grit" unit which is upgraded from siltstones and shales (Unit 1, Plate 2) to biotite schist and quartzite (Unit 2, Plate 2). The shales which host the mineralization at the Maxi property have also been affected by this metamorphic event and are locally phyllitic and apparently upgraded to more schistose rocks to the east. Associated with this phase of metamorphism is the development of folds and a pronounced foliation in the shales. Cretaceous granitic intrusions are common throughout the Frances Lake map sheet and have caused a second more local

[1] Blusson, S.L., 1976, Selwyn Basin, Yukon and District of Mackenzie; Geol. Surv. Can., Paper 76-1A.

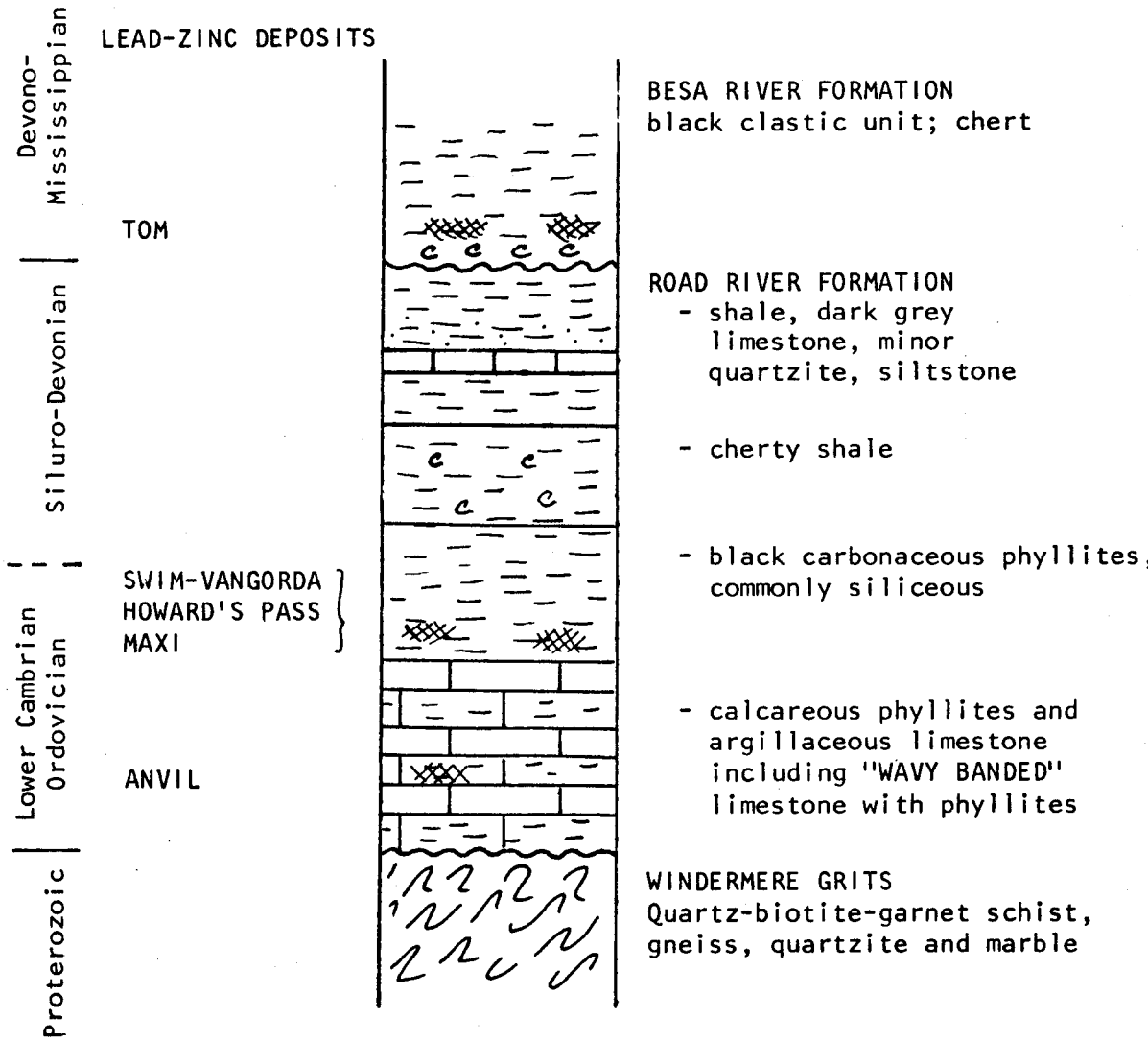


Figure 5: Schematic stratigraphic column, Maxi Group

phase of metamorphism as seen by the development of zones of hornfels and calc-silicate skarn peripheral to the Logan Batholith and related stocks.

Property Geology

The Maxi Property lies west of the Windermere Grits within what is thought to be either an estuary of the Selwyn Basin or a local "mini-basin". The host to known sulphide mineralization is probably Upper Cambrian or Lower Ordovician shales of the Road River Formation (Figure 3 and Figure 4).

Rocks exposed on the Maxi Property are a complexly deformed sequence of phyllites and limestones which are currently thought to be equivalent to strata at the Howard's Pass property of Placer Development. At the Maxi showing (Plates 2, 3) the uppermost unit is a sequence of limestone, interbedded limestone and argillite (wavy-banded limestone) and limy phyllite (Unit 10A). This dominantly calcareous unit is underlain by black carbonaceous phyllites with quartzose limonitic laminations which host the A, B and C sulphide horizons. If the rocks at Maxi do correlate with those at Howard's Pass the carbonate unit at Maxi would be equated to the "wavy-banded limestone" which underlies the ore zone at Howard's Pass. One would therefore conclude that the section exposed in the upper part of the canyon at Maxi Creek is overturned.

Under the mineralized phyllites is a zone of black, pyrite phyllite which contains approximately 20 percent quartz in bands and boudins. This siliceous zone forms a central core which is flanked by mineralized horizons and may possibly be a different stratigraphic unit in the axis of a fold. Below the quartz-banded phyllites is a second mineralized unit of black, papery-weathering carbonaceous phyllites. The carbonaceous and quartz-banded phyllites are mapped together as Unit 10B.

All these units are strongly foliated and original bedding is rarely discernible. A major foliation strikes generally east-west and

dips 30° to 40° northward in the vicinity of the Maxi showing but flattens to near horizontal downstream.

Since exposure is less than 10 percent and the structure is complicated it is difficult to trace the stratigraphic horizons outward from Maxi Creek. To the east, toward the AK showing (Plate 2), it appears that the metamorphic grade increases due to both regional and contact metamorphism. Above an elevation of 5000 feet there is a sequence of interbedded limestones, phyllites, schists and calc-silicates. This geology can be explained in several ways:

a) older Precambrian rocks (Unit 2) which have been regionally metamorphosed,
b) Road River shales and carbonates (Unit 10) which are infolded with Unit 2 schists,
c) metamorphosed equivalents of Road River shales and carbonates.

Since the phyllites which outcrop above the AK showing are virtually identical in hand specimen to those in Maxi Creek the first explanation is not considered likely. Infolding of the two units is feasible, however the interbedding of phyllites and schists seen in the area would require a complex series of tight folds to be explained. A simpler explanation is that the various shales in the Road River have reacted differently under metamorphic processes and carbonaceous shales have retained much of their original character while coarser siltstones or more pelitic beds have been upgraded to quartz-biotite-garnet schists. This last explanation suggests that the mineralization at the AK showing is at the same stratigraphic horizon as that of the main MAXI showing.

To the west of Maxi Creek (Plate 2) more cherty phyllites are encountered which are considered to be a younger unit within the Road River Formation. Also to the west limestone becomes a more prominent rock type. On the ridge northeast of the confluence of the Thomas River and Anderson Creek, there is a fossiliferous limestone with brachiopods

tentatively dated as Silurian. These intercalated carbonates imply a westward shoaling of the basin towards the Pelly-Cassiar Platform.

South of Anderson Creek the rocks exposed are dominantly tan-weathering limy phyllites. Bedding is still distinguishable and the unit is characterized by the alternation of 1 inch beds of brown siltstone and grey limestone. This unit is possibly equivalent to the calcareous phyllites and limestones exposed on Maxi Creek (Unit 10A) but since geological information is at this point limited it has been mapped as a separate unit (Unit 10A'). Unit 10A has been intruded by Cretaceous granites which have formed a wide zone of calc-silicate skarn and hornfels.

Structural Geology

The region is dominated by northwest-trending, overturned, isoclinal folds. Associated with these structures is a well-developed, penetrative axial plane cleavage, F1, which strikes at 130° and generally dips to the northeast. There are later northeast-striking structures which have warped the first phase of foliation in the vicinity of Maxi Creek, changing the strike from northwest to northeast and east (Plate 2). Second phase structures, F2, mapped on Maxi Creek include lineations on the D-Zone and minor folds on the A-Zone which plunge 25° to the northeast (Plate 3). Northeast-trending folds are also suggested through interpretation of both the ground magnetometer and soil geochemistry data obtained on the Maxi grid (Plate 12).

The first phase foliation has further been crenulated and folded by northwest-trending structures. In Maxi Creek many minor folds and quartz rods are mapped which strike 130° and plunge 20° to 30° to the northwest. Other folds of this phase, F3 ?, are mapped on the spur west of the AK showing.

A final brittle fourth phase of deformation has produced a pronounced north-trending joint set in the outcrops along Maxi Creek. Fine-grained

biotite-feldspar and feldspar porphyry dykes have been intruded along this structural trend. Elsewhere on the property granitic dykes trending east-west are likely also intruded along a structural weakness. This final phase of deformation may be associated with either Cretaceous intrusive activity or younger Tertiary volcanism.

Mineralization

On the Maxi property, siliceous, carbonaceous, black phyllites are host to stratiform lead-zinc-silver mineralization. To date three main areas of sulphide mineralization have been found, the Maxi, AK, and Midi showings (Plate 2). Hydrozincite stained phyllites have been found in outcrop between the three showings as well as to the west of the Maxi showing (Plate 2). The suggested length of the mineralized horizon within the central eastern portion of the claim block is at least seven miles. Other occurrences of pyrrhotite and pyrite as well as minor sphalerite have been found on the PARK and BARK claims (Plate 2).

To date on the Maxi showing five zones of mineralized phyllite have been delineated (Plate 3, 4). The A, B and C zones cluster at the northeastern end of the canyon just below the limestone unit and may represent three stratigraphic horizons or beds which are in part laterally equivalent. The D-Zone, located 700 feet downstream is of similar character (Figure 6). Red-brown sphalerite is the dominant sulphide with lesser galena and minor pyrite, pyrrhotite and chalcopyrite. In polished section fine banding of these sulphides is evident. On the A-Zone the sulphides are contorted and somewhat thickened due to minor folding, F2.

Downstream, the E and F zones are more galena-rich than the A, B, C and D Zones (Figure 6). As at the upper showings, sulphides occur in quartzose laminations and bands up to 2 inches thick; unlike the other zones, there are also massive sulphide bands up to several feet in thickness. These thicker bands appear to pinch and swell along strike in boudinage-like

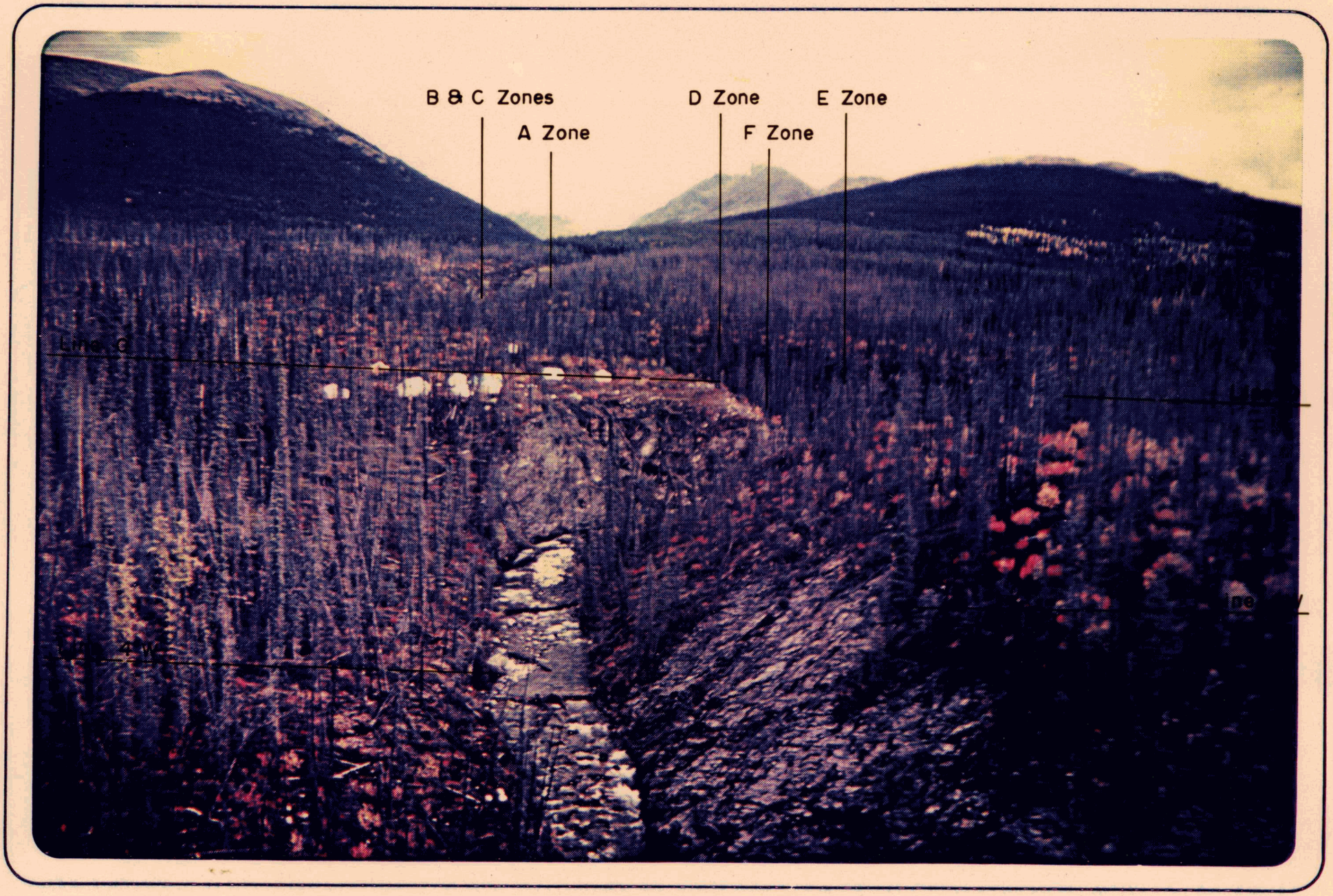


FIGURE 6

View of MAXI CREEK looking northeast

structures as a result of the F_2 deformation and transposition of bedding. The mineralogy of the E-F Zones varies in that as well as sphalerite, argentiferous galena is abundant and magnetite is common. A polished slab of mineralization shows fragments of magnetite in a sulphide matrix suggesting that magnetite once formed a primary band but has since been cataclastically deformed. Approximately 3,000 feet downstream from the F Zone numerous boulders of galena mineralization were found in float as well as pyritic stream sediments at a location where a stream silt sample ran 425 ppm lead (Plate 2).

The AK showing (Plate 2) is an occurrence of galena and sphalerite in schistose phyllite and banded calc-silicate skarn located approximately 4 miles east of the Maxi showing. The mineralized horizon is only exposed in a small outcrop on a dip slope, however, both stream silt and soil geochemistry in the area suggest that the sulphide zone may be of some extent (Plate 5). Rocks which outcrop in the vicinity are interbedded schist, limestone and phyllite and, as discussed earlier, it is not known whether they are Precambrian or Cambro-Ordovician in age. It is probable that they are metamorphosed equivalents of strata at the Maxi showing.

The Midi occurrence, located on the creek draining Maxi Lake (Plate 2), was found late in the season and has not been examined geologically but has been reported to contain an exposed five-foot zone of thin banded sphalerite in phyllitic rocks similar to those found at the Maxi showing. The sulphides occur in phyllites adjacent to wavy-banded limestone, as at the A and B zones of the Maxi showing.

Other mineral occurrences that have not been thoroughly examined include several massive bands of pyrrhotite of up to 10 feet in thickness on the PARK mineral claims (Plate 2) as well as pyritic shales on the BARK and AK mineral claims.

EXPLORATION RESULTS

Sampling

Initial chip sampling of the mineralized zones on the Maxi showing was conducted by conventional chip-channel rib methods normal to foliation. Hammer and moil and occasionally geological pick were used to collect approximately two pounds of rock per stratigraphic foot sampled. All faces were scaled of loose weathered material prior to sampling.

Attempts were made to obtain one continuous sample cut through the stratigraphic thickness of each of the A, B, C, D, E, and F zones (Plate 3, 4). Due to access limitations certain of the sample cuts were not line-continuous but rather staggered from one sample to the next but still retaining stratigraphic continuity. The cuts were divided into sample intervals ranging from 2 to 19 feet. Mineralization, of interest, is believed to occur on the A, C, D and E zones beyond the limits of present access or sampling. Sample locations were chosen on the basis of accessibility and due to time limitations no attempt was made to obtain more than one sample cut on any one of the zones. Limited time also largely restricted sampling and detailed prospecting to the northwest side of Maxi Creek.

For reference purposes, areas of concentrated lead-zinc banding have been termed 'zones'. The margins of these zones, which appear relatively continuous along both strike and dip projections, are gradational and rather arbitrary. True zones limits will probably only be defined by assay walls.

After results were obtained from Bondar-Clegg Company Ltd. for the initial sampling, it was observed that certain of the assays appeared high relative to the visually estimated grades of the faces sampled. Check samples over C5 and C6 channels which represented the most glaring

FIGURE 7

VIEW OF 'A' ZONE LOOKING EAST

discrepancies were taken with the following assay results:

	INITIAL SAMPLING		CHECK SAMPLING	
	% Pb	% Zn	% Pb	% Zn
C5	9.60	10.20	1.01	1.55
C6	4.90	10.70	1.25	1.20

In addition, representatives of major companies in the course of property examinations of the Maxi showing took spot checks of the Welcome North initial sampling. The results of this sampling also returned widely variant assays, generally markedly lower than the initial Welcome North results.

At this point all the initial Welcome North sample results were subject to question and it was decided to completely resample the showings at the same points as sampled initially. This resampling, in conjunction with a program of trenching and limited bulk sampling, was conducted in October, 1977 (Table 1).

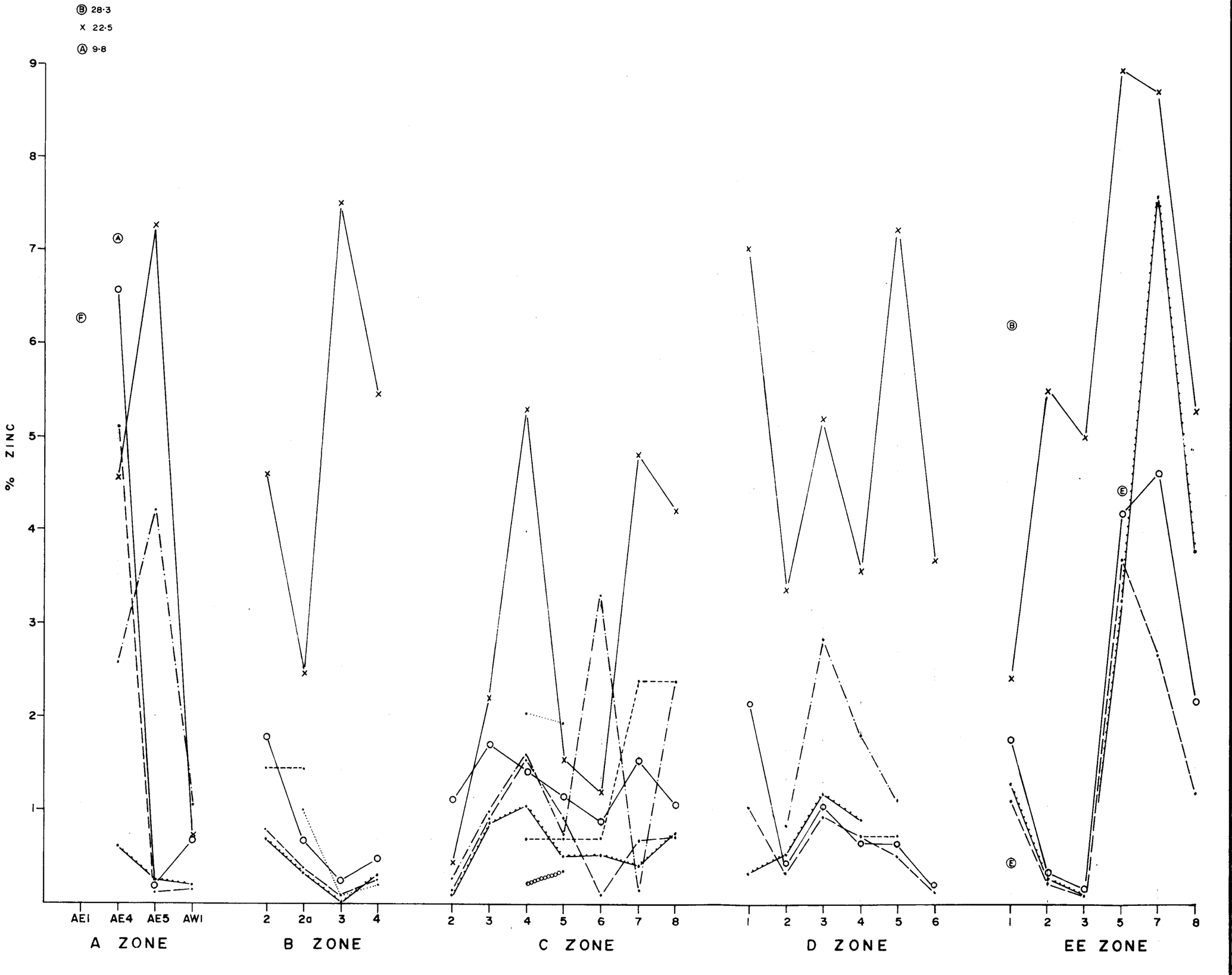
Coincident with this resampling, check assaying by Chemex Labs Ltd. of selected rejects from the initial assay batch took place together with separate analysis for sulphide and non-sulphide lead and zinc. The latter was conducted to determine whether the deeper channel samples cut by Welcome North had encountered disproportionate amounts of either fresh sulphides or secondary material in comparison to other samples. The results of the check assaying, which are tabulated on Table 1 indicated good correlation of assay results and the presence of only small proportions of non-sulphide lead and zinc in the samples.

The results of Welcome North check sampling as assayed by Whitehorse Assay Office Ltd. are also presented on Table 1. These assay results fall into a medium to low range among the results obtained at equivalent points by the various property examiners. Although there are exceptional highs and lows in the comparison, in general they are inexplicably

TABLE I

	INITIAL SAMPLING PROGRAM — Assays by Bondar-Clegg & Co. Ltd.					CHECK ASSAYS — Chemex Labs Ltd.					CHECK SAMPLING PROGRAM — Assays by Whitehorse Assay Office Ltd.				
									Non-sulphide						
	Sample No.	Width ft.	Ag —	Pb —	Zn —	Ag —	Pb —	Zn —	Pb —	Zn —	Sample No.	Width ft.	Pb	Zn	
A ZONE															
AE 1	7858	3.4	0.39	0.18	22.50	0.12	0.01	21.70	0.01	0.96	--	-	-	-	
AE 2	7859	7.6	0.06	Tr	3.30	0.06	0.01	3.65	0.01	1.00	--	-	-	-	
AE 3	7860	5.0	0.12	Tr	0.74	0.01	0.01	0.71	-	-	8326	3.0	0.01	0.16	
AE 4	7861	5.0	0.22	0.15	4.53	0.27	0.15	4.70	-	-	8327	4.0	0.08	6.57	
AE 5	7862	4.0	0.07	0.01	7.25	0.08	0.01	4.99	-	-	8328	4.0	Tr	0.16	
AE 6	7863	3.0	0.83	0.45	26.80	0.66	0.45	29.20	-	-	--	-	-	-	
AE 7	7864	1.5	0.26	0.16	7.75	0.18	0.16	7.56	-	-	8329	1.5	0.01	0.08	
AE 8	--	-	-	-	-	-	-	-	-	-	8330	2.0	0.10	0.69	
AW 1	7865	5.0	0.06	0.05	0.66	0.12	0.03	0.62	-	-	8331	5.0	0.01	0.70	
AW 2	7866	5.0	Tr	0.01	0.46	-	-	-	-	-	8332	5.0	0.03	0.19	
AW 3	7848	3.0	Tr	0.17	0.12	-	-	-	-	-	--	-	-	-	
AW 4	7849	3.5	Tr	0.13	0.43	-	-	-	-	-	--	-	-	-	
B ZONE															
BW 1	7871	5.0	0.06	0.03	0.50	-	-	-	-	-	8333	5.0	Tr	0.26	
BW 2	7867	5.0	0.12	0.26	4.60	-	-	-	-	-	8334	5.0	0.11	1.79	
BW 2a	7872	5.0	0.23	0.36	2.45	-	-	-	-	-	8335	5.0	0.26	0.68	
BW 3	7868	5.0	0.80	0.59	7.50	-	-	-	-	-	8336	5.0	0.01	0.24	
BW 4	7869	5.0	0.76	0.50	5.45	-	-	-	-	-	8337	5.0	0.60	0.49	
BW 5	7870	5.0	0.13	0.09	0.89	-	-	-	-	-	8338	5.0	Tr	0.37	
C ZONE															
C 1	7873	6.0	Tr	0.03	0.34	-	-	-	-	-	8339	6.0	0.01	0.11	
C 2	7874	6.0	0.06	0.01	0.44	-	-	-	-	-	8340	6.0	0.14	1.11	
C 3	7875	6.5	0.07	0.03	2.23	-	-	-	-	-	8341	8.0	0.03	1.71	
C 4	7778	9.0	0.58	1.14	5.30	0.56	1.19	5.22	2.27 ?	0.65	8342	8.0	0.13	1.42	
C 4 B	--	-	-	-	-	-	-	-	-	-	8343	8.0	0.20	2.30	
C 5	7779	7.5	0.35	9.60 1.01*	10.20 1.55*	2.96	10.10	10.70	1.07	0.51	8344	6.0	0.14	1.15	
C 5 B	--	-	-	-	-	-	-	-	-	-	8345	6.0	0.18	0.49	
C 6	7780	6.5	0.37	4.90 1.25 *	10.70 1.20*	1.75	4.92	10.70	0.70	0.47	8346	7.0	Tr	0.89	
C 6 B	--	-	-	-	-	-	-	-	-	-	8347	7.0	0.02	0.44	
C 7	7781	8.0	1.72	2.70	4.80	0.94	2.61	4.60	-	-	8348	8.0	0.05	1.54	
C 7a	7782	3.0	0.18	1.13	3.85	0.10	1.12	3.97	-	-	--	-	-	-	
C 7 B	--	-	-	-	-	-	-	-	-	-	8349	8.0	0.08	1.12	
C 8	7783	10.5	0.16	0.20	4.20	0.08	0.21	4.43	-	-	8350	8.0	0.06	1.08	
D ZONE															
D 1	7784	3.5	3.07	6.50	7.05	2.62	6.57	7.30	-	-	8351	3.0	1.78	2.14	
D 2	7785	7.0	0.32	0.65	3.35	0.24	0.64	3.42	-	-	8352	7.0	0.02	0.43	
D 3	7786	5.0	0.15	0.12	5.20	0.08	0.14	5.14	-	-	8353	5.0	0.03	1.06	
D 4	7787	8.0	0.70	1.23	3.55	0.45	1.22	3.58	-	-	8354	6.0	0.03	0.70	
D 4 B	--	-	-	-	-	-	-	-	-	-	8364	6.0	0.01	0.72	
D 5	7788	8.0	0.55	1.29	7.22	0.55	1.31	7.05	-	-	8355	8.0	0.04	0.67	
D 5 B	--	-	-	-	-	-	-	-	-	-	8363	8.0	0.04	0.69	
D 6	7819	19.0	1.15	3.73	3.65	-	-	-	-	-	8356	20.0	0.01	0.18	
E ZONE															
E 1	7791	6.0	0.05	0.06	1.88	-	-	-	-	-					
E 2	7792	6.0	Tr	0.04	0.22	-	-	-	-	-					
E 3	7793	5.0	Tr	0.02	0.73	-	-	-	-	-					
E 4	7794	5.0	1.10	4.09	2.80	1.00	4.04	2.66	-	-					
E 5	7795	7.0	0.12	0.39	0.93	0.14	0.40	0.90	-	-	E ZONE NOT RESAMPLED				
E 6	7796	6.0	Tr	0.03	0.11	0.05	0.04	0.09	-	-					
E 7	7797	6.0	2.10	9.75	6.25	1.92	9.84	6.01	-	-					
E 8	7809	6.5	Tr	Tr	0.07	-	-	-	-	-					
E 9	7810	6.5	Tr	0.01	0.05	-	-	-	-	-					
E 10	7811	9.0	Tr	Tr	0.02	-	-	-	-	-					
E 11	7812	6.0	Tr	0.03	0.08	-	-	-	-	-					
EE ZONE															
EE 1	7798	6.0	2.60	9.45	2.44	2.49	9.06	2.39	1.91	0.20	8365 EE12	7.0	1.74	1.77	EE1 approx.
EE 2	7799	6.0	2.85	11.40	5.50	2.68	10.90	5.22	2.49	0.15	8366 EE12B	7.0	2.58	2.32	equiv.
EE 3	7800	6.0	2.26	8.60	5.00	2.43	8.40	4.70	-	-	8367 EE13	8.0	0.06	0.34	EE2
EE 4	7801	2.0	2.16	10.00	4.45	1.92	9.59	4.26	-	-	8368 EE13B	8.0	0.05	0.33	
EE 5	7802	6.0	4.85	16.60	8.95	2.98	16.00	8.86	-	-	8369 EE14	14.0	Tr	0.17	EE3
EE 6	7803	7.0	Tr	0.07	0.25	0.01	0.06	0.19	-	-	8370 EE14B	14.0	0.01	0.19	
EE 7	7804	1.5	3.14	16.60	8.75	1.42	10.80	8.52	-	-	8371 EE15	2.0	3.18	4.62	EE7
EE 8	7805	5.5	0.31	1.70	5.28	-	-	-	-	-	8372 EE16	2.5	18.59	10.66	
EE 9	7806	6.5	0.05	0.17	0.58	-	-	-	-	-	8373 EE17	4.0	0.40	0.21	EE5
EE 10	7807	3.0	0.07	0.03	0.11	-	-	-	-	-	8374 EE17B	4.0	0.02	0.18	
EE 11	7808	4.0	Tr	0.04	0.17	-	-	-	-	-	8375 EE18	6.0	0.28	1.22	EE8
											8376 EE18B	6.0	0.65	2.18	
F ZONE															
F 1	7813	6.0	Tr	0.06	0.08	-	-	-	-	-	8357 F1	6.0	0.01	0.06	
F 2	7814	6.0	5.18	9.15	0.81	-	-	-	-	-	8358 F2	6.0	2.08	0.40	
F 3	7815	5.0	1.83	4.13	2.25	-	-	-	-	-	8359 F3	5.0	1.78	1.96	
F 4	7816	8.0	0.29	0.73	0.48	-	-	-	-	-	8360 F4	8.0	0.01	0.07	
F 5	7822	5.5	Tr	0.07	0.08	-	-	-	-	-	8361 F5	6.0	0.01	0.04	
F 6	7823	9.0	Tr	0.03	0.06	-	-	-	-	-	8362 F6	8.0	0.01	0.05	
MAXI SHOWING SELECTED SPECIMENS															
ZONE															
A	7976		9.74	37.50	14.80										
A	7977		1.09	0.68	39.80										
A	7978		0.62	1.03	27.00										
A	7979		0.82	1.60	19.50										
EE	7980		7.38	41.20	17.60										
A	7981		1.09	4.10	14.40										
EE	7982		7.97	28.80	32.00										
EE	7983		15.50	59.50	11.90										
AK	7991		4.12	17.10	0.22										
AK	7992		0.15	0.51	0.28										

B Bulk sample
* Check sample



WELCOME NORTH MINES

Initial samples. . . . . ×——×

Check samples. . . . . O——O

COMPANY A . . . .

COMPANY B . . . . . ----------

COMPANY C . . . . . — — — —

COMPANY D . . . . . —·—·—·—

COMPANY E . . . . . ooooooooooooo

COMPANY F . . . . . ·—·—·—·—·

Graph comparing initial and check assay results (Welcome North Mines) to assay results at equivalent points by various other companies.

WELCOME NORTH MINES LTD.

MAXI PROJECT

MAXI SHOWING

COMPARATIVE ASSAY RESULTS

Scale	Date OCT. 1977	NTS 105H/11
Revised	By J. G.	Fig 8

lower than the initial results over the same sections.

A comparison of the zinc values obtained by Welcome North in their initial and check sampling programs together with the results from other samplers, where the sample sites are comparable, are presented graphically on Figure 8.

The graph illustrates the general disproportionately higher values obtained in the Welcome North initial sampling. Disregarding erratic highs and lows however, the pattern of sample results appears to indicate that the initial results do to a large degree reflect relative values from sample to sample and have for as yet unknown reasons been proportionately upgraded. As there appears, to date, to be no reasonable explanation for the discrepancy of assays, the results of the whole initial sampling program have been rejected as unreliable. This has been done with the proviso that possibly a compromise grade, indicated, in part, by the results obtained by Company "D" (Figure 8), may indeed reflect the most acceptable values.

Additional studies are in progress in an attempt to resolve the sampling and assay problem. In this regard spot checks of assays provided by Whitehorse Assay Office Ltd. will be carried out by Chemex Labs Ltd. as well as a microscopic analysis of sample rejects from the initial sampling.

Geochemistry

Regional Geochemistry

After discovery of the Maxi and AK showings by conventional prospecting techniques the exploration program was modified to include some emphasis on regional geochemistry. This approach was taken in order to obtain additional information that would assist in the prospecting of overburden covered areas as well as to determine the ultimate size of the potentially mineralized "mini-basin" and accordingly the size of the area

to be acquired by staking of mineral claims. Due to time constraints imposed by poor weather and the limited availability of field assistants a restricted area was surveyed within the immediate region of geological interest.

Anomalous values for both soil and silt samples were arbitrarily determined as greater than 50 ppm lead and greater than 150 ppm zinc. Values are plotted on Plate 5.

Of immediate interest is the confirming nature of anomalous silts in Maxi Creek in the vicinity of the main Maxi Showing. Anomalous values are present for some two miles downstream below the F showing to which point Maxi Creek reaches its confluence with the Anderson River.

Anomalous silts are obtained in drainages over a mile to the west of the AK Showing, indicating a strong possibility of lateral extent of mineralization in this direction. Regional soil sample lines "G" and "H" located between the AK Showing area and the Maxi Grid (Plate 2, Table 2) yield lead and zinc values that suggest along-strike continuity of zinc and lead sulphides between these two areas of known mineralization. Similar projections of continuity have been made to the west and north of the Maxi on the basis of the presence of anomalous values of lead and zinc in the vicinity of the Midi showing and east of Maxi Lake.

Other areas of interest are found south of the Anderson River where anomalous zinc and lead has been obtained in silts taken in the vicinity of pyritic shales. Of particular note are values on the PARK Claims at the extreme southwest margin of the property. This area is on-strike with the Matt Berry lead-zinc occurrence located about 8 miles to the south on Frances Lake's east shore (Figure 2).

Follow-up of other than the anomalous values derived from areas of mineralization found prior to or during the course of the regional geochemical survey was not carried out due to termination of the program by inclement weather.

TABLE 2

RECONNAISSANCE SOIL SAMPLE DATA FOR LINES G AND H, PLATE 5

SAMPLE NO.	ppm Pb	ppm Zn	SAMPLE NO.	ppm Pb	ppm Zn
H 1000	16	40	H 1034	20	65
1001	16	60	1035	16	50
1002	8	52	1036	10	30
1003	9	135	1037	11	33
1004	11	170	1038	6	20
1005	7	38	1039	15	65
1006	13	235	1040	NS	NS
1007	8	55	1041	18	65
1008	7	52	1042	10	25
1009	8	65	1043	10	40
1010	NS	NS	1044	12	10
1011	16	120	1045	6	12
1012	16	98	1046	10	23
1013	5	30	1047	13	30
1014	18	115	1048	11	17
1015	21	78	1049	NS	NS
1016	21	130	1050	NS	NS
1017	11	40	1051	4	7
1018	12	78	1052	3	13
1019	27	68	1053	12	38
1020	22	130	1054	9	8
1021	11	22	1055	12	28
1022	44	90	1056	14	28
1023	12	75	1057	12	37
1024	18	60	1058	8	15
1025	14	42	1059	2	2
1026	12	50	1060	20	35
1027	21	68	1061	12	48
1028	12	72	1062	NS	NS
1029	10	50	1063	NS	NS
1030	10	32	1064	NS	NS
1031	15	32	1065	19	53
1032	7	45	1066	NS	NS
1033	NS	NS			

TABLE 2(cont.)

RECONNAISSANCE SOIL SAMPLE DATA FOR LINES G AND H, PLATE

SAMPLE NO.	ppm Pb	ppm Zn	SAMPLE NO.	ppm Pb	ppm Zn
G 1	5	31	G 36	9	40
2	9	100	37	10	50
3	3	31	38	17	70
4	6	48	39	7	20
5	7	40	40	5	10
6	8	115	41	5	30
7	10	145	42	ND	ND
8	8	110	43	5	10
9	9	140	44	5	8
10	10	160	45	3	5
11	22	1200	46	55	575
12	7	105	47	7	29
13	9	190	48	14	60
14	9	160	49	9	50
15	9	190	50	13	110
16	10	170	51	7	20
17	10	190	52	9	30
18	8	150	53	5	30
19	11	150	54	8	20
20	9	110	55	4	15
21	14	140	56	NS	NS
22	12	130	57	19	40
23	5	50	58	19	25
24	11	180	59	5	10
25	6	120	60	2	5
26	9	170	61	7	10
27	3	10	62	24	100
28	3	4	63	6	13
29	4	15	64	14	40
30	2	5	65	12	20
31	2	ND	66	3	5
32	8	30	67	9	28
33	6	30	68	7	10
34	5	10	69	8	30
35	8	20	70	10	30

Soils Survey

A soil sampling survey was conducted over a 7600 foot by 4800 foot picket line grid centered on the Maxi Showing. Soil samples were taken with a prospectors grub hoe at 100-foot station intervals on lines of 400-foot spacing.

Soils from approximately one-half of the grid area are generally well developed. Below the organic layer of 1 to 6 inches depth is a 1 to 3 inch volcanic ash layer under which is usually red-brown B horizon. Parental material, C horizon, consisting of phyllite chips, is also common. The northwestern and southeastern portions of the grid were generally poorly drained and swampy, accordingly good soil samples were not available. To the northeast, glacial alluvium consisting principally of granite boulders has covered and inhibited the development a good soil profile.

Soil samples were analyzed for lead and zinc by Bondar-Clegg and Company of Whitehorse; a hot acid total extraction method of analysis was used. A limited number of cold extractions were also done. Soil sample analytical data is presented in Plates 6, 7 and 8.

Zinc results were not subjected to statistical analysis, an arbitrary "threshold" has been determined at 100 ppm. Distinctly anomalous values occur in excess of 300 ppm (Plate 7). Cold extraction analytical techniques were employed to determine comparative zinc values in soils for several anomalous areas. Good correlation between total and partial extractions is evident (Figure 9).

Zinc values in excess of 100 ppm conform with a broad, 4000-foot wide zone, the host phyllitic argillite. The eastern boundary of the 100 ppm contour correlates well with the wavy-banded limestone contact and its northwesterly projected strike. Within the confines of the host unit, zinc values in excess of 300 ppm reflect 'S' and 'Z' shaped structures (Plate 7).

It is interesting to note that while zinc values from soils immediately overlying the Maxi showings are only 4 times background,

values elsewhere on the grid from soils in overburden-covered areas are as much as 20 times background (exceeding 2000 ppm).

Lead results were not subjected to statistical analysis; an arbitrary "threshold" has been determined at 25 ppm. Distinctly anomalous values occur in excess of 50 ppm (Plate 8).

Lead values in excess of 50 ppm, 2 times background, were obtained from soils directly overlying the Maxi showings (Plate 8). Values elsewhere on the overburden-covered grid exceed 100 ppm or 4 times background.

Anomalous lead values over the southern half of the grid area lie within the interpreted host phyllite margin and are partially coincident with anomalous zinc values. Contoured lead values also reflect sinuous 'S' and 'Z' shaped structures as do zinc values (Plate 8). The northern part of the grid is largely devoid of anomalous lead except for the extreme northwestern corner, which anomaly is considered 'open' to the north. Anomalous lead values obtained in the southern part of the grid are 'open' to the south.

Anomalous zinc and lead content in soils is interpreted to reflect underlying overburden-covered areas of mineralization related to extension of the Maxi showings. As the areas of known mineralization are reflected by second order anomalies, other first order anomalous areas likely reflect zones of greater concentration of higher grade mineralization. Further details concerning the interpretation of geochemical results are found within the next section of this report.

Rock Geochemistry

Small samples of sulphide deficient phyllite were collected approximately every 50 stratigraphic feet along the canyon walls of the Maxi Showing area. These were analyzed by atomic absorption methods for silver, copper, lead, zinc, molybdenum, vanadium and manganese in order to determine the characteristics of trace elements related to zones of known mineralization.

Table 3 is a comparison of the trace element geochemistry of shales in the vicinity of the Maxi showing with the average black shale. Vine and Tourtelot defined their average black shale using data from 779 samples of 20 different black shales in the United States. The comparison of medium values shows the Maxi shales to be higher than average in lead, manganese and vanadium. Manganese is generally associated with the carbonate fraction in the shales but likely has an original volcanic source. Vanadium, on the other hand, is commonly associated with the organic fraction. This suggests that both volcanic and organic processes were active at the time of deposition of the shales on the Maxi property.

TABLE 3

GEOCHEMISTRY OF BLACK SHALES

	AVERAGE BLACK SHALE[1]		MAXI SHALES	
	Median	95th percentile	Median	95th percentile
Ag	<1 ppm	2 ppm	N.D.	1 ppm
Cu	70 ppm	150 ppm	25 ppm	80 ppm
Pb	20 ppm	50 ppm	53 ppm	270 ppm
Zn	<300 ppm	500 ppm	480 ppm	1000 ppm
Mo	10 ppm	50 ppm	6 ppm	17 ppm
Mn	150 ppm	500 ppm	790 ppm	3000 ppm
V	150 ppm	500 ppm	370 ppm	1000 ppm

[1] Vine and Tourtelot; Economic Geology, vol. 63, 1970, pp 253-292.

It is necessary to note two factors when studying this data. Samples analyzed are surface samples and as such have been subject both to leaching and to enrichment processes. Secondly, it is indicated that during regional metamorphism a sizeable portion of practically all the trace metals is released from black shales, perhaps along with CO_2

and H_2O[1]. Since the shales at the Maxi property have been metamorphosed to green-schist grade, this second factor could be particularly important.

A graph of the element values is presented along with a longitudinal section of the Maxi Showing on Plate 9. Since sample spacing was not uniform, the graphs can only be interpreted generally. Provisionally, it appears that the limy phyllite and argillaceous limestone unit is low in all elements analyzed. This is also true of the section of quartz banded phyllite and phyllite which lies between the D and C zones. The black, thinly foliated, limonite-banded phyllite which hosts the known sulphide horizons is high in all elements analyzed, and in particular silver, manganese and molybdenum, which are likely indicator elements for the host phyllites. Silver, nondetectable in most samples, is as high as 1.6 ppm adjacent to mineralized zones; molybdenum rises from less than 10 ppm to as high as 30 ppm; and manganese is commonly greater than 1000 ppm in the host phyllites.

The data base developed to date is of a limited nature, however ratio analysis and comparative studies with other base metal deposits in the Selwyn Basin will be of interest to those who are modelling the metallogeny of the Selwyn Basin.

More detailed surface sampling as well as future drill-core rock geochemistry will modify this first analysis but it appears that rock geochemistry could be a useful tool in tracing the black carbonaceous phyllites throughout the overall claim group.

Geophysics

Aeromagnetics[2]

The main Maxi showing and related lead anomalies in soils over the northern portion of the Maxi Grid are coincident with an aeromagnetic 59,040 gamma contour closure (Plate 2,5). Aeromagnetic anomalies are

[1] Mookherjee, A.; 1976; Ores and Metamorphism: Temporal and Genetic Relationships; in Wolf, K.H. (ed.); Handbook of Stratabound and Stratiform Ore Deposits; Volume 4, pp. 203-260.

2 Geol. Surv. of Canada; Geophysics Paper No. 1386, 1963.

also coincident with the AK showing and related geochemical anomalies, the east Maxi Lake area and regional geochemical anomalies within the southwestern portion of the overall property. The Matt Berry property[1] (Figure 2) is also coincident with an aeromagnetic anomaly.

The presence of coincident aeromagnetic anomalies with known mineralization and geochemical anomalies is significant and important as the galena-rich mineralization of the MAXI D and E zones contain magnetite; the Matt Berry occurrences also contain magnetite.

Ground Magnetometer Survey

On the basis of the observations made above, a ground magnetometer survey was conducted over portions of the Maxi grid (Plate 10, 11).

The survey was carried out with a Scintrex MF2 fluxgate magnetometer which measures the vertical magnetic component and gives a direct readout in gammas. Magnetic drift and diurnal variations were controlled and corrected for by conventional methods.

Rock types of high susceptibility contrast such as greenstones or other units of volcanic components have not been found within the confines of the Maxi property. Zones of galena-magnetite and magnetic pyrrhotite have been found in place at the Maxi showing.

The southern portion of the grid area, within the confines of the host unit, is distinctly anomalous. Profiled survey lines (Plate 10) indicate a profusion of structurally complex zones of moderate to high susceptibility contrast. Magnetic gradients over more anomalous areas range from 500 to 700 gammas. The causative structures vary in thickness from 20 to 100 feet and dips are generally from 30 degrees east and west to near vertical.

The contoured gamma values map (Plate 11) shows numerous arcuate structures that reflect the complexly folded nature of the mineralized

[1] Geol. Surv. of Canada; Geophysics Paper No. 1381, 1963.

section of the host unit. A distinct linear anomaly occurs over the Maxi D and E zones. A correlation has been made between the general coincidence of anomalous lead geochemistry and zones of magnetic highs.

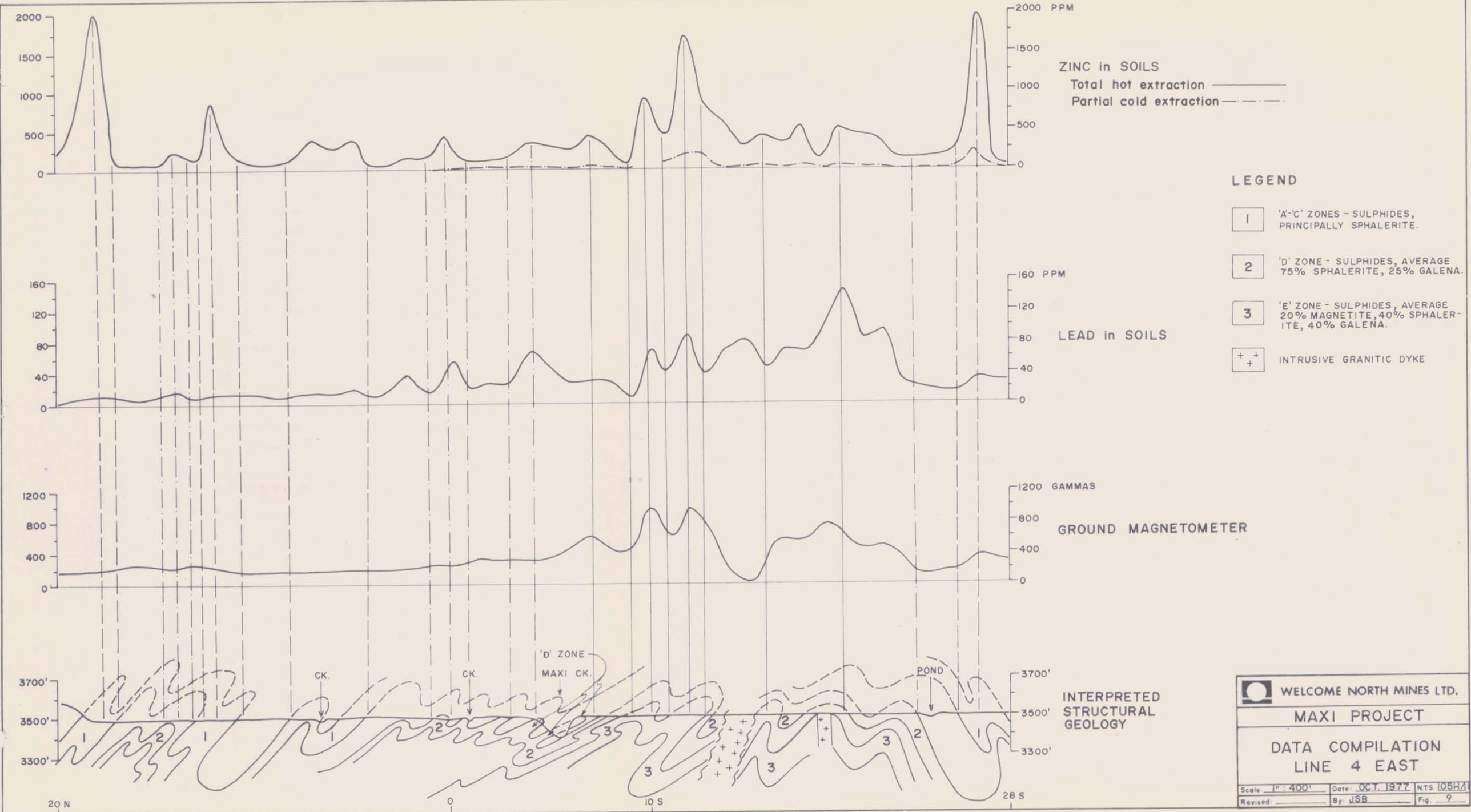
A well-defined northerly trending 'low' through the control portion of the overall magnetic anomaly is thought to reflect an underlying granitic dyke, the magnetic trend is coincident with a major set of joints as observed in outcrop as well as the strike direction of smaller dykes observed in outcrop.

Areas of higher susceptibility contrast are observed over overburden-covered areas away from the known mineralization, thereby indicating, as also in the case of the geochemical interpretation, that larger zones of higher grade sulphides are present within the grid area as surveyed to date.

Prospecting

The original Maxi discovery was made by basic prospecting, without the benefit of supportive geophysical or geochemical information. The AK showing was later discovered by prospecting of aeromagnetic anomalies published by the Geological Survey of Canada. Other than a few traverses made in the vicinity of Maxi Creek, the AK showing and over aeromagnetic anomalies south of the Anderson River, the overall property has not been prospected in detail.

On-going rock breaking of all outcrop and float occurrences is definitely warranted.


2000 PPM
1500
1000
500
0
ZINC in SOILS
Total hot extraction
Partial cold extraction
160 PPM
120
80
40
0
LEAD in SOILS
1200 GAMMAS
800
400
0
GROUND MAGNETOMETER
'D' ZONE
MAXI CK.
CK.
CK.
POND
3700'
3500'
3300'
INTERPRETED STRUCTURAL GEOLOGY
20 N
0
10 S
28 S
LEGEND
1 'A'-'C' ZONES - SULPHIDES, PRINCIPALLY SPHALERITE.
2 'D' ZONE - SULPHIDES, AVERAGE 75% SPHALERITE, 25% GALENA.
3 'E' ZONE - SULPHIDES, AVERAGE 20% MAGNETITE, 40% SPHALERITE, 40% GALENA.
INTRUSIVE GRANITIC DYKE
WELCOME NORTH MINES LTD.
MAXI PROJECT
DATA COMPILATION
LINE 4 EAST
Scale 1" : 400'
Date: OCT. 1977
N.T.S. 105H/1
Revised:
By: JSB
Fig. 9

EX 1-123

AX 1-36

DX 1-60

WX 1-24

BX 1-64

CX 1-40

ZX 1-30

XX 1-44

VX 1-24

GX 1-24

PX 1-54

TX 1-60

TUSTLES LAKE

BROTEN LAKE

THOMAS RIVER

EAST ARM FRANCES LAKE

0 .5 1 1.5 miles

WELCOME NORTH MINES LTD.

MAXI PROJECT

CLAIM MAP

Scale: _____ Date: Sept. 1977 NTS 105H/11

Revised: _____ By: A.L. Plate 1

TUSTLES LAKE

BROTEN LAKE

MAXI LAKE

MAXI CREEK

THOMAS RIVER

ANDERSON CREEK

EAST ARM

FRANCES LAKE

59,000 γ

59,100 γ

OUTLINE OF MAXI GRID

CAMP

MAXI SHOWING

MIDI SHOWING

AK SHOWING

GN float

chlorite-muscovite schist limonite quartzite

black phyllite

pyritic black phyllite

limy phyllite

wavy banded limestone

chert pebble conglomerate

carbonaceous phyllite

wavy banded limestone

pyritic shale

biotite schist

schist and micaceous quartzite

mica schist

micaceous quartzite

limonite banded phyllite

brown-grey limestone

tan calcareous phyllite

limonitic wacke

silty limestone

black limestone

black argillite

argillite

limy argillite

non-calcareous shale

quartz-limonite banded phyllite

wavy banded limestone

calc-silicate

siliceous shale

brown phyllite

argillaceous limestone

limy dark-grey shale

dark-grey banded limestone

A0 cherty phyllite

limy chert

black shale

brown shale

red green siltstone

LEGEND

Cretaceous

15 — Granitic intrusives

Devono-Mississippian and earlier

14 — Hornfels and biotite schist; metamorphosed Paleozoic shales undivided.

Silurian

12 — Sandy dolomite, dolomite and quartzite.

Silurian and earlier

10C — Cherty phyllite, minor green siltstone.

10B — Black, carbonaceous, siliceous, phyllitic shale and siltstone; minor quartzite.

10A — Limy phyllite, limestone and argillaceous limestone; 10A'= tan-weathering, banded, limy siltstone.

10 — Shale and limy shale undivided.

Precambrian

2 — Quartzite-biotite-garnet schist, feldspar-mica gneiss; micaceous quartzite; 2A = marble; metamorphosed equivalent of Unit 1.

1 — Brown, grey, maroon and green shale; grey to green slate and phyllite; quartzite, and pebble conglomerate.

Fossil ..... (F)
Chert C
Quartzite ..... ::::
Limestone ..... ||||
Outline of claim block .....
Fault .....
Mineral occurrence .....
Outcrop .....
Foliation - horiz., vert., inclined .....
Bedding - inclined .....
Geologic contact - approx., assumed .....
Zone of contact metamorphism .....
Aeromagnetic contour closure .....

Abbreviations:

CP.....chalcopyrite
GN.....galena
HZ.....hydrozincite
ML.....malachite
PO.....pyrrhotite
PY.....pyrite
SL.....sphalerite

0 5 10 15 miles

WELCOME NORTH MINES LTD.

MAXI PROJECT

LOCAL GEOLOGY

Scale: _____ Date: Sept. 1977 NTS. 105H/11

Revised: _____ By: G.& M. McA. Plate 2

N

LEGEND

Fine-grained grey-green biotite-feldspar and feldspar porphyry dykes.

10 B — Black carbonaceous phyllite, commonly has quartz-limonite laminations, host to mineralization, includes Unit 10 Ba; siliceous pyritic phyllite with abundant coarse quartz bands and boudins.

10 A — Calcareous phyllite, argillaceous limestone and "wavy-banded limestone".

Outcrop
Creek bank
Top of canyon
Contact; defined, approx.
Fault
Minor fold
Chip sample
Silt sample with ppm lead, zinc
Rock geochemistry sample
Mineralized float
Zone of mineralization
Sulphide band
Foliation
Jointing
Strike and dip of contact
Syncline
Anticline, overturned
Lineation

Abbreviations

BI....biotite	PO....pyrrhotite
FS....feldspar	PY....pyrite
GN....galena	SL....sphalerite
HZ....hydrozincite	SS....unknown sulfosalt
MG....magnetite	TH....tetrahedrite

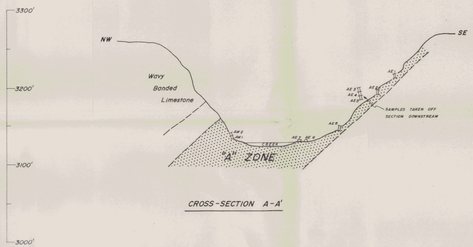
0 50 100 150 feet

WELCOME NORTH MINES LTD.

MAXI PROJECT

DETAILED GEOLOGY
MAXI SHOWING

Scale:	Date: Sept. 1977	NTS 105H/11
Revised:	By: G. & M. McA.	Plate 3



CROSS-SECTION A-A'

CHIP SAMPLE ASSAYS

"F" ZONE

Sample No.	Width	Ag oz/Ton	Pb %	Zn %
F1 7813	6.0'	Tr.	0.06	0.08
F2 7814	6.0'	5.18	9.15	0.81
F3 7815	5.0'	1.83	4.13	2.25
F4 7816	8.0'	0.29	0.73	0.49
F5 7822	5.5'	Tr.	0.07	0.08
F6 7823	9.0'	N.D.	0.03	0.06

Initial Sampling Results

Selected Average Grade: 11.0' at 8.3% Pb/Zn

F1 8357	6.0'		0.01	0.06
F2 8358	6.0'		2.08	0.40
F3 8359	5.0'		1.78	1.96
F4 8360	8.0'		0.01	0.07
F5 8361	6.0'		0.01	0.04
F6 8362	8.0		0.01	0.05

Check Sampling Results

"E" ZONE

Sample No.	Width	Ag oz/Ton	Pb %	Zn %
E1 7791	6.0'	0.05	0.06	1.68
E2 7792	6.0'	Tr.	0.04	0.22
E3 7793	5.0'	Tr.	0.02	0.73
E4 7794	5.0'	1.10	4.09	2.80
E5 7795	7.0'	0.12	0.39	0.93
E6 7796	6.0'	Tr.	0.03	0.11
E7 7797	6.0'	2.10	9.75	6.25
E8 7809	6.5'	Tr.	Tr.	0.07
E9 7810	6.5'	Tr.	0.01	0.05
E10 7811	9.0'	Tr.	Tr.	0.12
E11 7812	6.0'	Tr.	0.03	0.08

Selected Average Grade: no average

"E" ZONE, EAST WALL

Sample No.	Width	Ag oz/Ton	Pb %	Zn %
EE1 7798	6.0'	2.60	9.45	2.44
EE2 7799	6.0'	2.85	11.40	5.50
EE3 7800	6.0'	2.26	8.60	5.00
EE4 7801	2.0'	2.16	10.00	4.45
EE5 7802	5.0'	4.85	16.60	8.95
EE6 7803	2.0'	Tr.	0.07	0.25
EE7 7804	1.5'	3.14	16.60	8.75
EE8 7805	5.5'	0.31	1.70	5.29
EE9 7806	6.5'	0.05	0.17	0.58
EE10 7807	3.0'	0.07	0.03	0.11
EE11 7808	4.0'	Tr.	0.04	0.17

Selected Average Grade: 18.0' at 14.0% Pb/Zn and 22.0' at 11.8% Pb/Zn

EE12 8365	7.0'		1.74	1.77
EE12*8366	7.0'		2.58	2.32
EE13 8367	9.0'		0.06	0.34
EE13*8368	9.0'		0.05	0.33
EE14 8369	14.0'		Tr.	0.17
EE14*8370	14.0'		0.01	0.19
EE15 8371	20.0'		3.18	4.62
EE16 8372	25.'		18.59	10.66
EE17 8373	4.0'		0.40	0.21
EE17*8374	4.0'		0.02	0.18
EE18 8375	6.0'		0.28	1.22
EE18*8376	6.0'		0.65	2.18

Check Sampling Results

Selected Average Grade: 17.5' at 5.9% Pb/Zn and 7.0' at 4.2% Pb/Zn

"D" ZONE

Sample No.	Width	Ag oz/Ton	Pb %	Zn %
D1 7784	3.5'	3.07		7.05
D2 7785	7.0'	0.32	0.65	3.35
D3 7786	5.0'	0.15	0.12	5.20
D4 7787	8.0'	0.70	1.23	3.55
D5 7788	8.0'	0.55	1.29	7.22
D6 7819	19.0'	1.15	3.73	3.65

Selected Average Grade: 50.5' at 6.9% Pb/Zn

D1 8351	3.0'		1.78	2.14
D2 8352	7.0'		0.02	0.43
D3 8353	5.0'		0.03	1.06
D4 8354	6.0'		0.03	0.70
D4*8364	6.0'		0.01	0.72
D5 8355	8.0'		0.04	0.67
D5*8363	8.0'		0.04	0.69
D6 8356	20.0'		0.01	0.18

Check Sampling Results

Selected Average Grade: 3.0' at 3.9% Pb/Zn and 19.0' at 0.8% Pb/Zn

"C" ZONE

Sample No.	Width	Ag oz/Ton	Pb %	Zn %
C1 7873	6.0'	Tr.	0.03	0.34
C2 7874	6.0'	0.06	0.01	0.44
C3 7875	6.5'	0.07	0.03	2.23
C4 7776	9.0'	0.58	1.14	5.30
C5 7820	7.5'	0.35	1.01	1.55
C6 7821	6.5'	0.37	1.25	1.20
C7 7781	8.0'	1.72	2.70	4.80
C7a 7782	3.0'	0.18	1.13	3.85
C8 7783	10.5'	0.16	0.20	4.20

Selected Average Grade: 48.0' at 4.4% Pb/Zn

C1 8339	6.0'		0.01	0.11
C2 8340	6.0'		0.14	1.11
C3 8341	9.0'		0.03	1.71
C4 8342	9.0'		0.13	1.42
C4*8343	9.0'		0.20	2.30
C5 8344	6.0'		0.14	1.15
C5*8345	6.0'		0.18	0.49
C6 8346	7.0'		Tr.	0.89
C6*8347	7.0'		0.02	0.44
C7 8348	9.0'		0.05	1.54
C7*8349	9.0'		0.08	1.12
C8 8350	9.0'		0.06	1.08

Check Sampling Results

Selected Average Grade: 51.0' at 1.4% Pb/Zn

"B" ZONE

Sample No.	Width	Ag oz/Ton	Pb %	Zn %
B1 7871	5.0'	0.06	0.03	0.50
B2 7867	5.0'	0.12	0.26	4.60
B2a 7972	5.0'	0.23	0.36	2.45
B3 7868	5.0'	0.80	0.59	7.50
B4 7869	5.0'	0.76	0.50	5.45
B5 7870	5.0'	0.13	0.09	0.89

Selected Average Grade: 20.0' at 5.4% Pb/Zn

B1 8333	5.0'		Tr.	0.26
B2 8334	5.0'		0.11	1.79
B2a 8335	5.0'		0.26	0.68
B3 8336	5.0'		0.01	0.24
B4 8337	5.0'		0.60	0.49
B5 8338	5.0'		Tr.	0.37

Check Sampling Results

Selected Average Grade: 10.0' at 1.4% Pb/Zn

"A" ZONE

Sample No.	Width	Ag oz/Ton	Pb %	Zn %
AE1 7858	3.4'	0.39	0.18	22.50
AE2 7859	7.6'	0.06	Tr.	3.30
AE3 7860	5.0'	0.18	Tr.	0.74
AE4 7861	5.0'	0.22	0.15	4.53
AE5 7862	4.0'	0.07	0.01	7.25
AE6 7863	3.0'	0.83	0.45	26.60
AE7 7864	1.5'	0.26	0.46	7.75
AW1 7865	5.0'	0.06	0.05	0.66
AW2 7866	5.0'	Tr.	0.01	0.46
AW37848	3.0'	Tr.	0.17	0.12
AW47849	3.5'	Tr.	0.13	0.43

Selected Average Grade: 20.0' at 7.7% Pb/Zn

AE3 8326	3.0'		0.01	0.16
AE4 8327	4.0'		0.08	6.57
AE5 8328	4.0'		Tr.	0.16
AE7 8329	1.5'		0.01	0.08
AE8 8330	2.0'		0.10	0.69
AW1 8331	5.0'		0.01	0.70
AW2 8332	5.0'		0.03	0.19

Check Sampling Results

Selected Average Grade: 20.0' at 6.8% Pb/Zn

Note Tr. < 0.05 oz/Ton Ag
< 0.01 % Pb

Chip sample site .....
Bulk sample .....

0 50 100 150 Feet

WELCOME NORTH MINES LTD.

MAXI PROJECT

LONGITUDINAL SECTION OF MAXI SHOWING WITH SAMPLE LOCATIONS & ASSAYS

Scale		Date Sept. 1977	NTS 105N(1)
Revised		By W.D.	Plate 4

TUSTLES LAKE

BROTEN LAKE

MAXI LAKE

MAXI CREEK

RIVER

THOMAS

ANDERSON CREEK

EAST ARM

FRANCES LAKE

MAXI SHOWING

MIDI SHOWING

CAMP

OUTLINE OF MAXI GRID

Line 'G'

Line 'H'

For detail, see Table 2

4K SHOWING

59,000 γ

59,100 γ

59,080 γ

59,060 γ

59,200 γ

59,000 γ

N

LEGEND

Cretaceous

15 — Granitic intrusives

Devono-Mississippian and earlier

14 — Hornfels and biotite schist; metamorphosed Paleozoic shales undivided.

Silurian

12 — Sandy dolomite, dolomite and quartzite.

Silurian and earlier

10C — Cherty phyllite, minor green siltstone.

10B — Black, carbonaceous, siliceous, phyllitic shale and siltstone; minor quartzite.

10A — Limy phyllite, limestone and argillaceous limestone; 10A' = tan-weathering, banded, limy siltstone.

10 — Shale and limy shale undivided.

Precambrian

2 — Quartzite-biotite-garnet schist, feldspar-mica gneiss; micaceous quartzite; 2A = marble; metamorphosed equivalent of Unit 1.

1 — Brown, grey, maroon and green shale; grey to green slate and phyllite; quartzite, and pebble conglomerate.

Fossil ..... F
Chert C
Quartzite
Limestone
Outline of claim block
Fault
Mineral occurrence
Outcrop
Foliation - horiz., vert., inclined
Bedding - inclined
Geologic contact - approx., assumed ——?——?
Zone of contact metamorphism
Soil sample site with ppm Pb, Zn
Silt sample site with ppm Pb, Zn
Rock chip sample site with ppm Pb, Zn
Aeromagnetic contour closure

Abbreviations:

CP ... chalcopyrite — PO ... pyrrhotite
GN ... galena — PY ... pyrite
HZ ... hydrozincite — SL ... sphalerite
ML ... malachite

Pb >50 ppm
Zn >150 ppm
Combined, Pb >50 ppm, Zn >150 ppm

Pb >50 ppm
Zn >150 ppm
Combined, Pb >50 ppm, Zn >150 ppm

0 .5 1 1·5 miles

WELCOME NORTH MINES LTD.

MAXI PROJECT

LOCAL GEOLOGY & GEOCHEMISTRY

Scale	Date Sept. 1977	NTS 105H/11
Revised	By G.B M. McA.	Plate 5

L-32W L-28W L-24W L-20W L-16W L-12W L-8W L-4W L-0 L-4E L-8E L-12E L-16E L-20E L-24E L-28E L-32E L-36E L-40E L-44E

20N

10N

BL-0

BASE LINE 0

5S

BL-10S

10S

20S

28S

MAXI

CREEK

Comp Creek

CAMP

LEGEND

- CREEK
- CLAIM POST
- SWAMP
- BREAK IN SLOPE
- Pb ppm / Zn ppm

NOTE : READINGS ARE IN ppm.

WELCOME NORTH MINES LTD.

MAXI

SOIL GEOCHEMISTRY

DATA

LEAD - ZINC VALUES

Scale: 1" = 400 FEET	Date: OCTOBER 1977	N.T.S. 105 H/11
Revised:	By:	Plate 6

L-32W L-28W L-24W L-20W L-16W L-12W L-8W L-4W L-0 L-4E L-8E L-12E L-16E L-20E L-24E L-28E L-32E L-36E L-40E L-44E

20N 10N BL-0 10S 20S 28S

BASE LINE 0 5S BL-10S

Camp Creek

MAXI CREEK

CAMP

A B C D E E

LEGEND

- CREEK
- CLAIM POST
- SWAMP
- BREAK IN SLOPE
- MINERALIZED ZONE

NOTE : READINGS ARE IN ppm .

CONTOUR INTERVAL IS

- < 100 ppm
- 100 - 200 ppm
- 200 - 300 ppm
- 300 - 500 ppm
- 500 - 1000 ppm
- > 1000 ppm

WELCOME NORTH MINES LTD.

MAXI

SOIL GEOCHEMISTRY
CONTOURS — ZINC

Scale: 1" = 400 FEET	Date: OCTOBER 1977	N.T.S. 105 H/11
Revised:	By:	Plate 7

L-32W L-28W L-24W L-20W L-16W L-12W L-8W L-4W L-0 L-4E L-8E L-12E L-16E L-20E L-24E L-28E L-32E L-36E L-40E L-44E

20N 10N BL-0 BL-10S 20S 28S

20N 10N BASE LINE 0 5S BL-10S 20S 28S

MAXI CREEK

Camp Creek

CAMP

A B C D E F

LEGEND

- CREEK
- CLAIM POST
- SWAMP
- BREAK IN SLOPE
- MINERALIZED ZONE

NOTE : READINGS ARE IN ppm.

CONTOUR INTERVAL IS

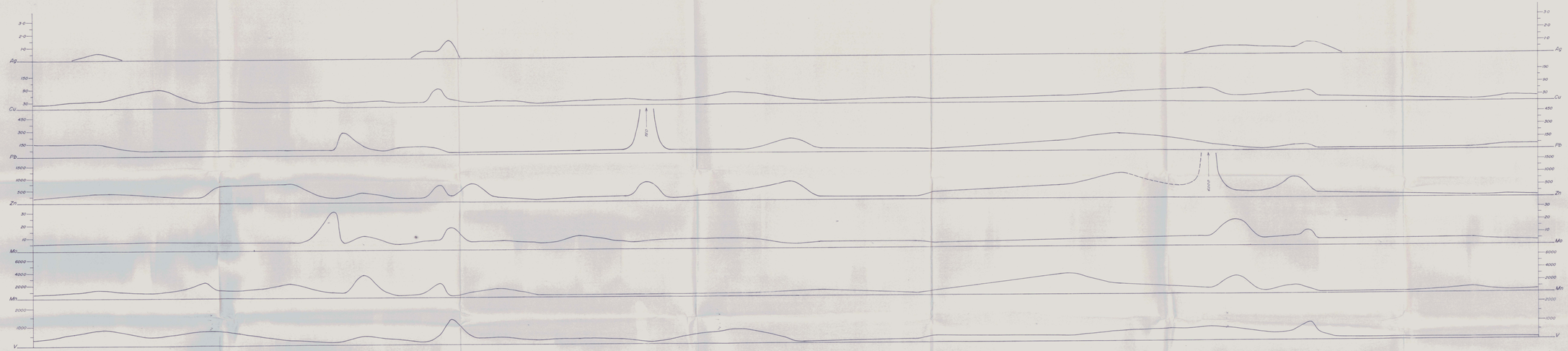
- > 100 ppm
- 50–100 ppm
- 35–50 ppm
- 25–35 ppm

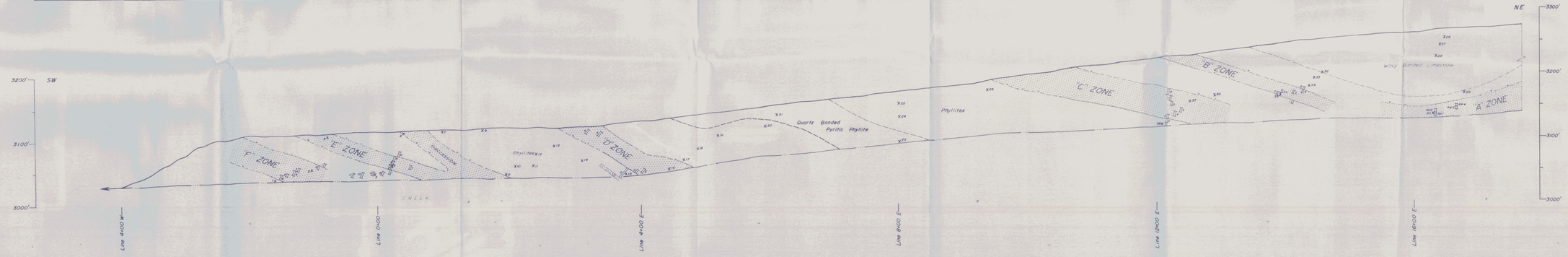
WELCOME NORTH MINES LTD.

MAXI

SOIL GEOCHEMISTRY
CONTOURS–LEAD

Scale: 1" = 400 FEET	Date: OCTOBER 1977	N.T.S. 105 H/11
Revised:	By:	Plate 8





X ... Rock geochemistry sample site

... Channel sample site

NOTE

Data has been projected stratigraphically onto 3200' elevation for profiles, values in parts per million.

0 50 100 150 feet

WELCOME NORTH MINES LTD.

MAXI PROJECT

LONGITUDINAL SECTION OF MAXI SHOWING WITH ROCK GEOCHEMISTRY PROFILES

Scale	Date Sept 1977	NTS 105 N/11
Revised	By M. McA., J.G.	Plate 4

L-32W L-28W L-24W L-20W L-16W L-12W L-8W L-4W L-0 L-4E L-8E L-12E L-16E L-20E L-24E L-28E L-32E L-36E L-40E L-44E

20N

10N

BL-0

BL-10S

MAXI CREEK

Camp Creek

CAMP

20N

10N

BASE LINE 0

5S

BL-10S

20S

28S

LEGEND

- CREEK
- CLAIM POST
- SWAMP
- BREAK IN SLOPE

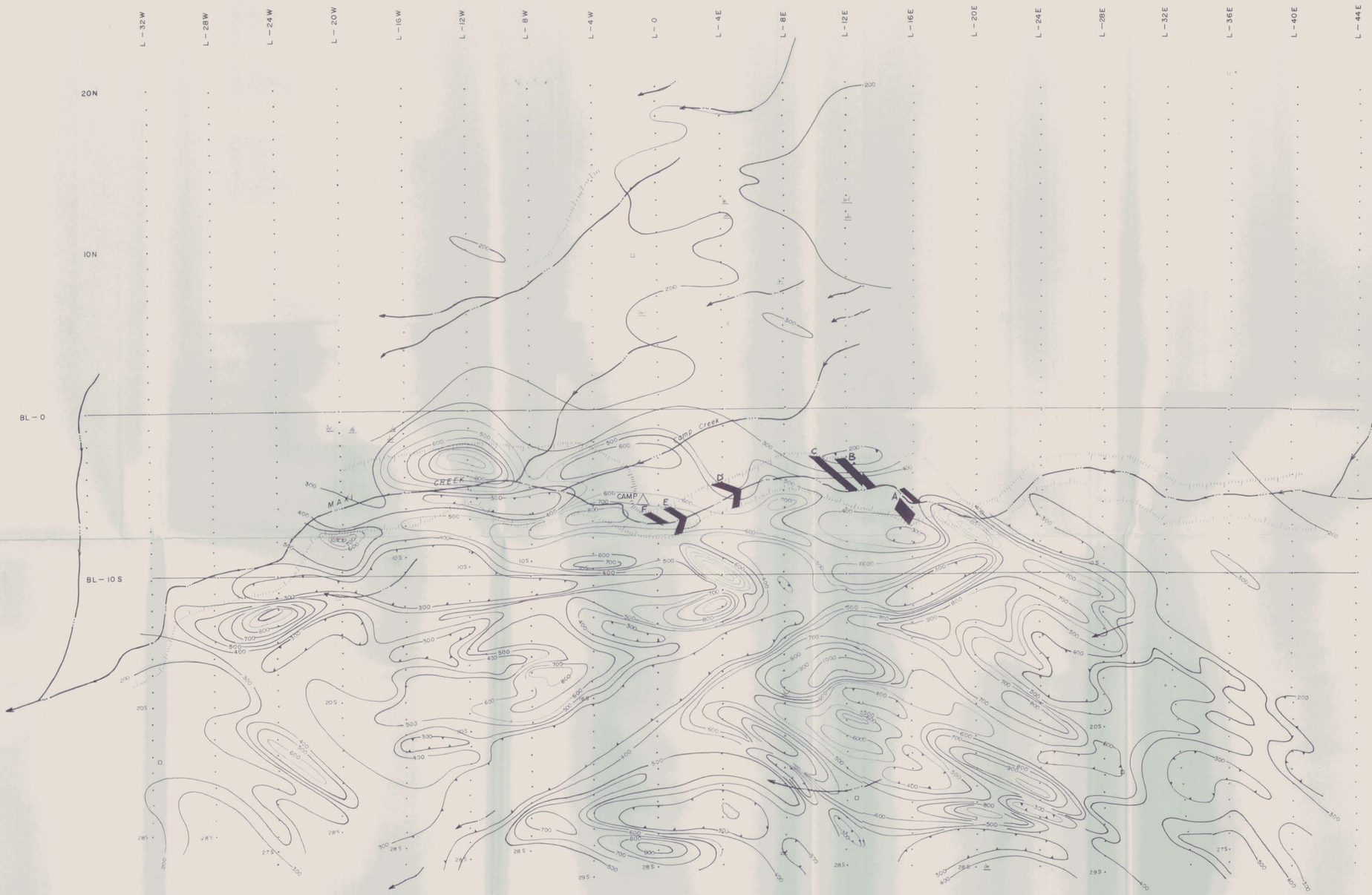
NOTE : READINGS ARE IN GAMMAS.

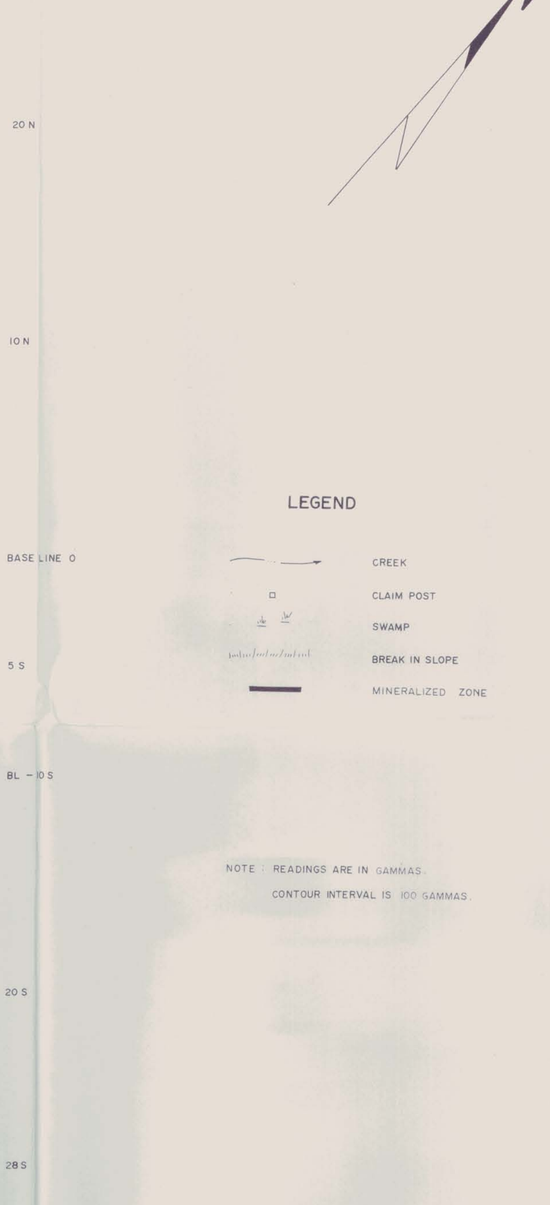
WELCOME NORTH MINES LTD.

MAXI

MAGNETOMETER SURVEY
DATA & PROFILES

Scale: 1" = 400 FEET	Date: OCTOBER 1977	N.T.S. 105 H/11
Revised:	By:	Plate 10





LEGEND

- CREEK
- CLAIM POST
- SWAMP
- BREAK IN SLOPE
- MINERALIZED ZONE

NOTE : READINGS ARE IN GAMMAS.

CONTOUR INTERVAL IS 100 GAMMAS.

WELCOME NORTH MINES LTD.

MAXI

MAGNETOMETER SURVEY

CONTOURS

Scale: 1" = 400 FEET	Date: OCTOBER 1977	N.T.S. 105 H/11
Revised:	By:	Plate 11

L-32W L-28W L-24W L-20W L-16W L-12W L-8W L-4W L-0 L-4E L-8E L-12E L-16E L-20E L-24E L-28E L-32E L-36E L-40E L-44E

20N 10N BL-0 BL-10S 20S 28S

20N 10N BASE LINE 0 5S BL-10S 20S 28S

LEGEND

- CREEK
- CLAIM POST
- SWAMP
- BREAK IN SLOPE
- MINERALIZED ZONE
- FOLIATION
- OUTCROP
- F^1 FOLIATION
- F^2 FOLIATION
- 4 ANOMALOUS ZINC IN SOILS
- 3 ANOMALOUS LEAD IN SOILS
- 2 ANOMALOUS COMBINED LEAD-ZINC
- 100 ppm ZINC CONTOUR
- 800 ISOMAGNETIC CONTOUR

10B BLACK, CARBONACEOUS, SILICEOUS, PHYLLITIC SHALE AND SILTSTONE; MINOR QUARTZITE.

10A LIMY PHYLLITE, LIMESTONE AND ARGILLACEOUS LIMESTONE.

INTRUSIVE GRANITIC DYKE.

WELCOME NORTH MINES LTD.

MAXI

INTERPRETIVE COMPILATION

Scale 1" = 400 FEET	Date OCTOBER 1977	NTS 105 H/11
Revised	By JSB	Plate 12