1989 Summary Report

on the Indata Project
for
Eastfield Resources Ltd.
and
Imperial Metals Corporation
by
Mincord Exploration Consultants Ltd.

NTS: 93N/6W
Latitude: 55 degrees
23 minutes North
Longitude: 125 degrees
19 minutes West
Omineca Mining Division, B.C.

D.G. Bailey, Ph.D., FGAC
G.L. Garratt, FGAC
J.W. Morton, M.Sc., FGAC

November, 1989

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1. Introduction

The Indata property comprises fourteen mineral claims, totalling two hundred and thirty-one units. The property is located approximately 130 kilometers northwest of Ft. St. James, B.C., in the Omineca Mining Division, at latitude 55 degrees 23 minutes north and longitude 125 degrees 19 minutes west on NTS map 93N/6. The property is held in joint ownership between Eastfield Resources Ltd. (82%) and Imperial Metals Corporation (18%).

The 1989 exploration program was carried out by Mincord Exploration Consultants during the period May 23 through August 10. A follow-up program was undertaken between September 7 and 22, 1989. The following endeavors were completed:

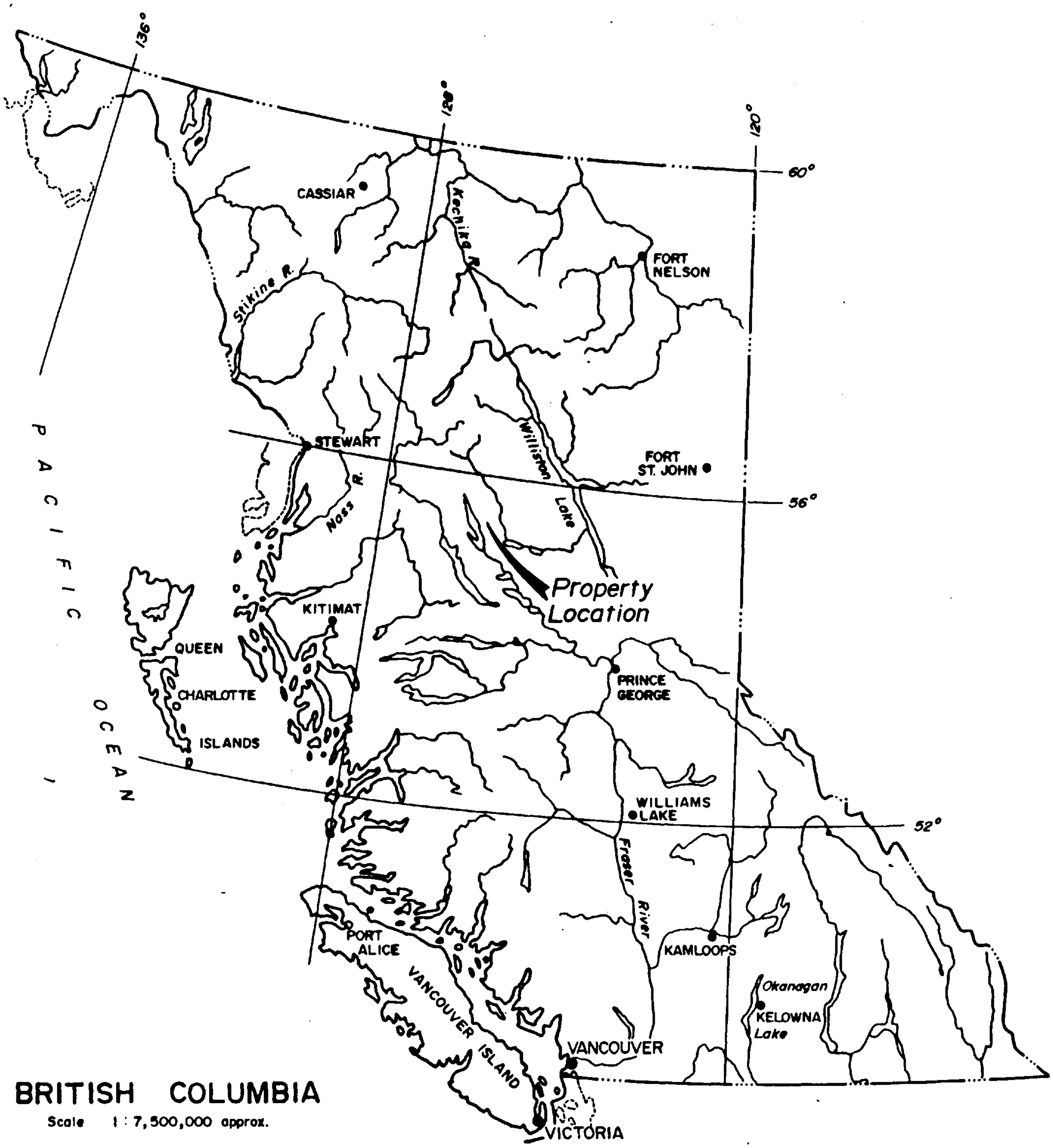
1. geological mapping - approximately six square kilometers at a scale of1:2000;
2. soil geochemical sampling 1273 samples;
3. backhoe trenching - 42 trenches cumulating 2211 linear meters with 247 chip and grab rock samples;
4. 13 diamond drill holes totalling 5963 feet (1818 m) resulting in 998 core samples;
5. 10.4 line kilometers of Induced Polarization surveying;
6. 8.0 kilometers of all terrain vehicle access trails;
7. a small water and lake sediment sampling program to establish a preliminary environmental base line.

Approximately $500,000.00 was expended on the program.

The majority of the work undertaken in this program focused in the central portion of the A Grid (map sheet 2). Trenching and diamond drilling in and around the main zone resulted in the discovery of two new precious metal bearing vein-sulphide systems and further delineated the main zone, extending its known strike length to 800 meters.

A new quartz-sulphide vein system was discovered by trenching some 450 meters northwest of the main zone. Rock and core sampling has resulted in numerous significant gold and silver intercepts though these appear, at present, to be sporadic. Geologic mapping and review of the analytical data suggests that more consistent mineralization occurs in the northern portion of the zone and may correlate with a higher level of exposure of the system.

Extensions of the soil sampling grid resulted in further definition of an 800 meter long geochemical anomaly on the southern grid area (map sheet 1) and in the discovery of a 1300 meter long anomaly in the northern portion of the grid (map sheets 3 and 4). Follow-up on the latter anomaly resulted in the location of copper-gold mineralization associated with silicification and quartz veining. Geochemical soil sampling also extended the copper anomaly which lies between the main zone and Albert Lake. This zone now extends 800 meters by 400 meters and follow-up rock sampling indicates a broad area of significant copper (gold) mineralization. The copper zone may be as large as 1500 meters in length.



EASTFIELD RESOURCES LTD.

INDATA PROJECT

OMINECA M.D., B.C.

LOCATION MAP

MINCORD EXPLORATION CONSULTANTS LIMITED

Date Oct 1989	N.T.S. 93N/6	
Scale see above	Figure	
By		

Mineralization has now been traced, discontinuously, for approximately five kilometers of strike length through the A Grid. The mineralization appears to conform to a mesothermal, perhaps intrusive related, structurally controlled quartz-sulphide vein model that is analogous to deposits in the Motherlode belt in California, occurrences in the Atlin district of northern B.C. and the Bralorne deposit in southwestern, B.C. A relationship between the precious metal bearing vein systems and the broad copper anomaly is believed to conform to a porphyry copper model as well. The potential for discovering economic precious and base metal deposits remains high.

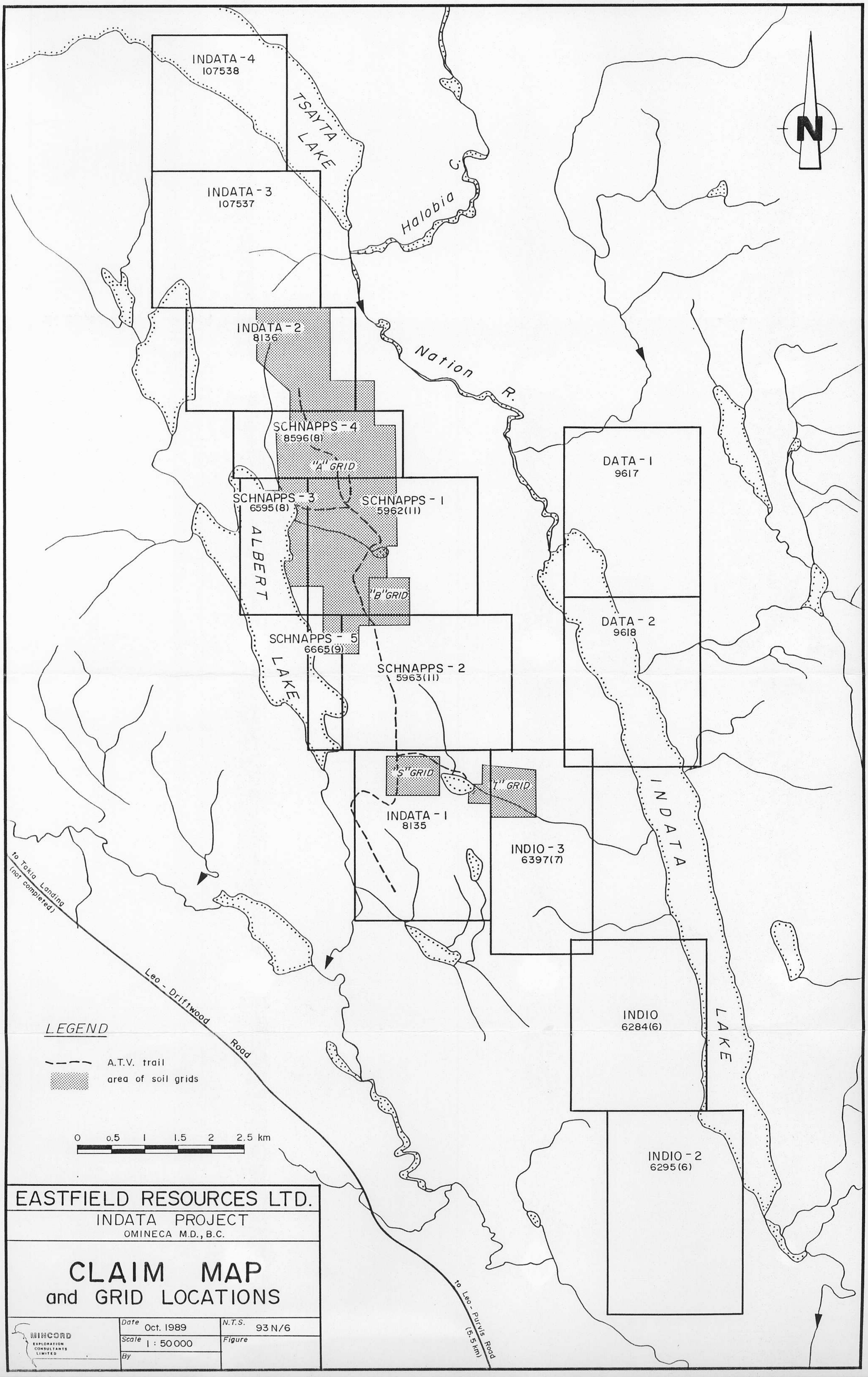
A two phase exploration program has been recommended to further explore the Indata property. Phase 1, comprising geochemical, geological, geophysical and trenching work, is estimated to cost $362,512.00 Phase 2 would entail further trenching, diamond drilling and bulk sampling and is estimated to cost $377,737.00

2. Location, Access and Physiography

The Indata property is located approximately 130 kilometers northwest of Ft. St. James, B.C. on NTS map sheet 93N/6 at latitude 55 degrees 23 minutes North and longitude 125 degrees 19 minutes West. Access to the property is by a mainline logging haul road from Ft. St. James to the north end of Tchentlo Lake at the Southern border of the claims. Access from Tchentlo Lake is achieved by float plane to Albert Lake or by helicopter. A summer season helicopter base was located at Takla Rainbow Lodge on Takla Lake during the 1989 season, and float plane service was available from either Tsayta Lake, Ft. St. James, or Vanderhoof. A D-3 Caterpillar bulldozer/backhoe accessed the property via a new logging road which has reached a point approximately 3 kilometers west of the west central boundary of the claims. The timber cover and terrain is such that the bulldozer had no difficulty in traversing the area without need of roads. Approximately 8.0 kilometers of bulldozer/all terrain vehicle trails access the grid areas on the property. It is estimated that 4 to 5 kilometers of road building would be needed to permanently access the trails on the property from the new Leo-Fleetwood road; upgrading and widening of the trails would be necessary to allow passage of four-wheel drive vehicles.

The Indata property lies within a region of low relief with elevations on the claims ranging from 1190 to 1260 meters. Vegetation is dominantly pine and spruce forest with minor, low undergrowth. Although bears and moose have been known to traverse the region, their presence has only rarely been observed on the claims during the summer and fall seasons. The climate is moderate, experiencing one to two meters of snowfall and relatively dry summers.

The B.C. Rail line along the eastern shore of Takla Lake is presently being prepared for reactivation by logging companies. The railroad is accessible from the property along the Leo Creek-Purvis road from Tchentlo Lake, a distance of approximately 25 kilometers. The rail line joins the existing, active line at Ft. St. James. A power line presently reaches Takla Landing,



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INDATA PROJECT

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CLAIM MAP and GRID LOCATIONS

Date Oct. 1989	N.T.S. 93 N/6
Scale 1 : 50 000	Figure
By	

to the northwest of the property. The new logging road to the west of the property is planned to continue through to Takla Landing, offering access to power as well as the rail line.

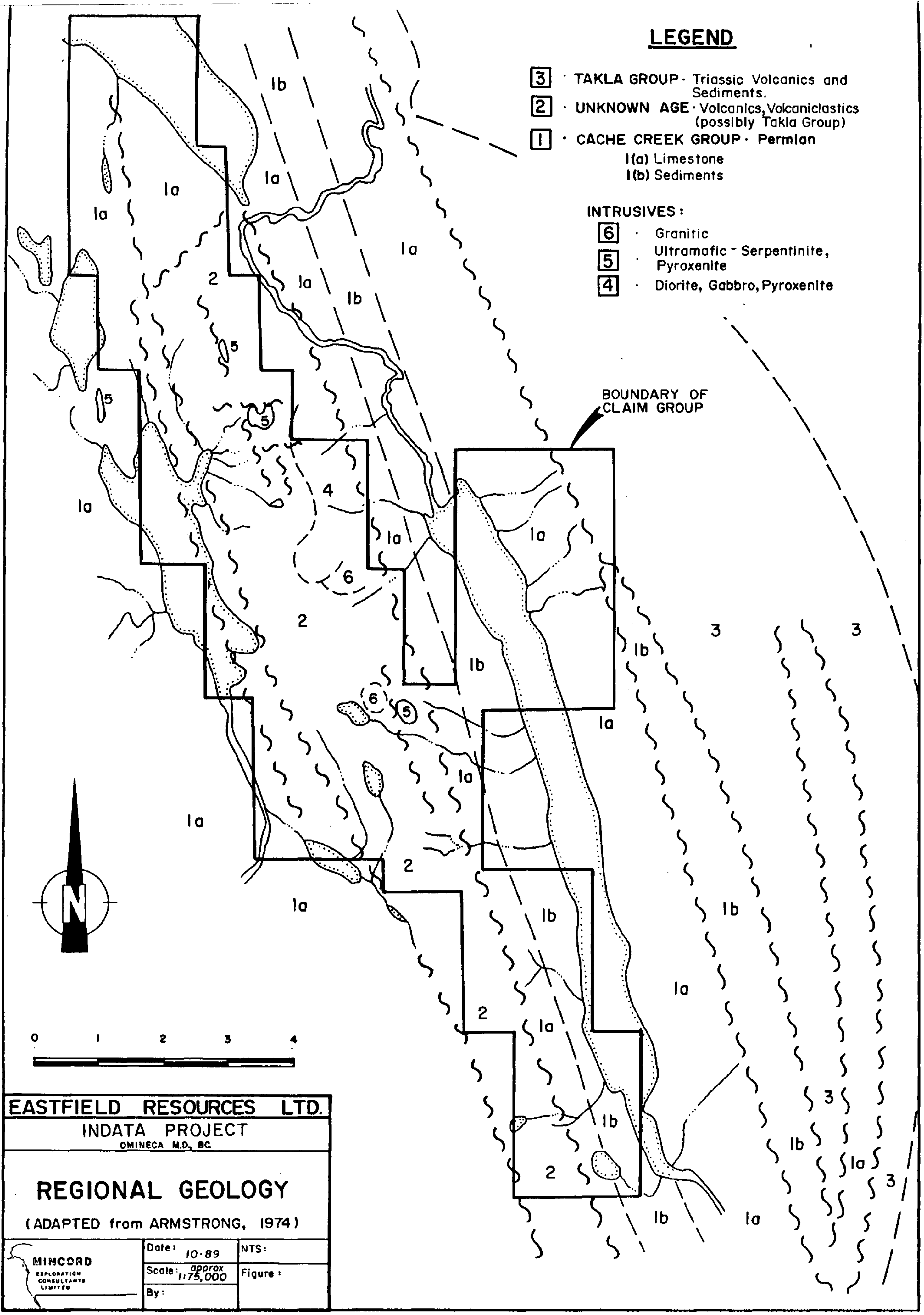
3. Ownership

The Indata Project is operated under a joint venture agreement between Eastfield Resources Ltd. and Imperial Metals Corporation. The presently held interests, respectively, are approximately 82% and 18%. The property is comprised of 14 claims, totalling 231 units. The claim information is as follows:

Group	Claims	No. of Units	Record No.	Date of Record	Date of expiry
Indata	Schnapps 1	20	5962	11/14/83	11/14/95
	Schnapps 3	8	6595	08/20/84	08/20/95
	Schnapps 4	10	6596	08/20/84	08/20/95
	Indata 2	15	8136	02/03/87	02/03/95
	Indata 3	20	9960	10/22/88	10/22/95
	Indata 4	16	9961	10/25/88	10/22/95
		89			
Schnapps	Schnapps 5	4	6665	09/13/84	09/13/95
	Schnapps 2	20	5963	11/14/83	11/14/95
	Indata 1	20	8135	02/03/82	02/03/95
		44			
Indio	Data 1	20	9617	07/22/88	07/22/92
	Data 2	20	9618	07/22/88	07/22/92
	Indio	20	6294	06/22/84	06/22/93
	Indio 2	20	9619	07/22/88	07/22/92
	Indio 3	18	6397	07/17/84	07/17/93
		98			

4. History

The Schnapps 1 and 2 claims were staked in November 1983 by Imperial Metals Corporation during a regional exploration program along the Pinchi Fault. Additional claims were staked in 1984 following the release of the government geochemical sheet for the area which indicated a highly anomalous silt sample from the outflow of Radio Lake. In 1984 Imperial Metals completed a preliminary geochemical soil survey and outlined a very strong soil copper anomaly north and east of Albert Lake as well as anomalous arsenic values on the eastern edges of their soil survey. In 1985 Imperial Metals Corporation completed additional geochemical soil sampling, preliminary geological mapping, 6 km of induced polarization survey and 4 diamond drill holes totalling 231 meters. Eastfield acquired title to the Indata property in 1986 and in 1987 expanded the geochemical and geophysical grids before completing limited hand trenching and a 6 hole diamond drill program (306 meters). A quartz sulphide



EASTFIELD RESOURCES LTD.

INDATA PROJECT

OMINECA M.D., BC

REGIONAL GEOLOGY

(ADAPTED from ARMSTRONG, 1974)

MINCORD EXPLORATION CONSULTANTS LIMITED	Date: 10·89	NTS:
	Scale: approx 1:75,000	Figure:
	By:	

zone varying from 5 to 7 meters in width was exposed in hand trenches and confirmed in 5 of 6 drill holes. In 1988 Eastfield Resources completed additional geochemical and geophysical surveys and an additional 23 drill core holes (2112 m). Total exploration expenditures on the Indata Property at the end of 1988 were as follows:

Period			
1984-1985	Imperial Metals Corp.	100%	$109,244.00
1987-1988	Imperial Metals Corp.	30%	
	Eastfield Resources	70%	772,900.00
	Total		$882,144.00

5. Regional Geology

The Indata region is underlain by two major terranes, Quesnellia to the east and the Cache Creek Terrane to the west. The two terranes are separated by the Pinchi Fault, a major structural feature which can be traced for over 600 kilometers along the western margin of Quesnellia. This fault, especially in the region between Fort St. James and the Omineca River, has controlled the location of numerous mercury showings of which some have been worked in the past.

The region was initially mapped by Armstrong (1947) who considered that the terrane west of the Pinchi Fault was underlain entirely by metasedimentary rocks and carbonate of the Cache Creek Group, intruded by granodioritic plugs and stocks related to the Topley and Omineca intrusive suites. Recent work, however, has shown that while Permian Cache Creek limestone is the dominant lithology of the Indata region, volcanic rocks underlie a considerable part of the region, especially between Tsayta Lake in the north and Takatoot Lake in the south (Figure 2).

6. Property Geology

6.1 Lithologies

The Indata project area is underlain by two main groups of stratified rocks, 1) limestone of the Cache Creek Group and 2) volcanic rocks of unknown affinity but which are possibly related to the Triassic Takla Group to the east. These rocks have been intruded by intermediate to felsic plutons (diorite and granite) and by ultramafic bodies (see Geology Plan, Attachments).

Cache Creek Group. The Cache Creek Group in the project area comprises massive to well bedded, light grey to blue-grey limestone (Unit 1) cropping out as prominent hills and bluffs in the northern, western and southern parts of the area. Bedding in places is defined by thin shaley partings and also by intraformational limestone conglomerate. Breccias formed by carbonate dissolution are displayed within a karst topography developed in the southwestern part of the project area.

The age of Cache Creek Group limestone has been shown to be Permian by the presence of Verbookoed fusilinacea collected from stratigraphically correlative limestone to the north of the project area (Monger, 1981).

Volcanic Rocks. Most of the northern part of the project area is underlain by mafic to intermediate volcanic rocks which can be subdivided into two broad units. One unit is characterized by the presence of pillow lava, pillow breccia and coarse tuff breccia, but with interbedded fine-grained crystal lithic tuff (Unit 2A). Pillow lavas have characteristic chilled selvages and are commonly highly amygdaloidal. Pillowform shapes are well developed. The pillows occur as isolated piles surrounded by breccias and finer-grained, sometimes bedded, tuff. The volcanic breccias comprise both brecciated pillows, recognized by their amygdaloidal character, and angular to subrounded tuff breccia, in a fine-grained volcaniclastic matrix.

The second major volcanic unit is composed of massive to poorly bedded volcanic tuff, generally with phenoclasts of hornblende (Unit 2B). The bedded nature of this unit is generally recognized by grading and by variation in phenoclast size and abundance although, in a few places, bedding planes can be recognized. In general, this unit appears to become finer-grained towards the south although phenoclast content is highly variable throughout the property.

The volcanic rocks are considered to be mainly of hornblende andesite composition although it is not yet clear how much of the hornblende is primary and how much has been formed by uralitization of clinopyroxene. In drill core clinopyroxene crystal shapes have been observed suggesting that the hornblende is pseudomorphic after clinopyroxene.

Intrusive Rocks. Oldest intrusive rocks of the project area comprise hornblende diorite which occurs as a pluton extending along much of the eastern side of the northern part of the area and as dykes intrusive into the volcanic rocks. The diorite can be subdivided into porphyritic and nonporphyritic phases, related to cooling rates, Marginal phases (Unit 3A) of the pluton are commonly porphyritic with appearance similar to the porphyritic andesite tuff which it intrudes. The bulk of the pluton has a medium to fine-grained hypidiomorphic granular texture with dark green hornblende grains, acicular in places, surrounded by plagioclase and minor (?) orthoclase (Unit 3B). Quartz, although not common, is present in amounts up to about 10% in places.

While diorite dykes are common in volcanic rocks adjacent to the diorite pluton, these dykes have not been seen intruding any other rock type. It is possible that the diorite is comagmatic with the voloanic rocks and, thus, may be of similar age to the volcanics.

Intruding both volcanic rocks and diorite are ultramafic bodies and, in the central eastern part of the project area, gabbro. The most common ultramafic rock type is serpentinite differentiated into various types but which is probably mainly metaperidotite. This rock type (Unit 4) is mainly fine-grained, dark green to black serpentinite with occasional cross fibre chrysotile veins and veinlets. In drill core this unit can be subdivided into fine-grained undifferentiated serpentinite and medium to coarse-grained serpentinized pyroxenite but normally this distinction cannot be made in outcrop.

To the south of Radio Lake a differentiated ultramafic-mafic intrusion has been mapped, ranging in composition from coarse-grained clinopyroxenite (Unit 4A), through medium to fine grained peridotite (Unit 4B), to medium to coarse grained hornblende (+/- clinopyroxene(?)) gabbro. This pluton is concentrically zoned with a pyroxenite core, surrounded by peridotite, in turn surrounded to the north and west by gabbro. Because of lack of outcrop to the east the distribution of the various intrusive phases has not been defined.

The youngest intrusive rocks of the project area consist of coarse-grained light grey to reddish grey, biotite quartz monzonite to granite (Unit 5). Whereas older intrusive rocks have been mapped only within the volcanic terrain of the project area, this unit has intruded Cache Creek limestone as well as all other rock types of the project area.

Overlying much of the bedrock of the project area is a cover of Pleistocene glacial and fluvioglacial deposits (Unit 6). Where trenching has exposed these deposits in topographically high areas a blue-grey boulder clay lodgement till is observed. On the other hand, in topographically lower areas, the till appears to have been reworked by fluvial processes.

The few transport direction indicators recognized suggest that movement of ice was to the south and south southeast.

6.2 Structure and Metamorphism

Rocks of the project area can be separated into two structural domains, 1) the rocks of the Cache Creek Group which are characterized by concentric folds accompanied by, in fine-grained clastic units, a penetrative fabric, and 2), the volcanic terrane in which folding and regional penetrative deformation has not been recognized but in which deformation is manifested mainly as normal faults.

Cache Creek limestone is generally recrystallized with the common development of sparry calcite while the chloritic nature of clastic sedimentary rocks occurring as interbeds in the limestone stratigraphy suggests greenschist facies of regional metamorphism had been attained.

On the other hand, metamorphic chlorite in the volcanic rocks has not been recognized which, along with the lack of other greenschist facies indicators, plus the common presence of zeolites in amygdaloidal pillows, indicate subgreenschist, or zeolite, facies of regional metamorphism.

At least two periods of faulting has affected the volcanic terrane of the project area. An early set of mainly north-striking faults, now commonly manifested as easterly-dipping shears, has been cut by mainly east-striking, steeply-dipping normal faults. The shallowly-dipping shears host most of the vein-type mineralization (see below) discovered to date and, thus, pre-date the mineralizing events. The east-striking faults, on the other hand, have displaced the mineralized veins and, thus, latest movement post-dates mineralization. However, significant silver mineralization within one of these east-striking fault zones intersected in drill hole 89-6 may indicate that these faults may not entirely post-date mineralization.

Latest movement along north-striking shear zones has been later than sulphide mineralization because sulphides occur as fault breccia and in gouge within these shear zones.

Fracture systems in volcanic rocks which host copper mineralization in the northern part of the project area may be related to deformation accompanying diorite intrusion or to as yet unidentified faults in this part of the area.

Movement along east-striking faults has rotated the stratigraphy to the west so that in general the volcanic rocks dip to the west, generally at 50 - 60 degrees and strike roughly north. The few younging directions obtained indicate that the stratigraphy is right way up. The distribution of the various rock types in the project area also suggests that rocks in the northern part of the project area are structurally higher than those in the south. This is also supported in part by silver/gold ratios in veins sampled in the central part of the area (see below).

External structural relationships have not been defined because of lack of outcrop. The contrasting styles of deformation and metamorphism of the Cache Creek Group and the volcanic terrane suggest that the volcanic and associated rock package was tectonically emplaced against the Cache Creek Group after regional deformation of the Cache Creek Group. The contact between the two groups of rocks may be either a trust or a splay of the Pinchi Fault.

6.3 Mineralization and Wallrock Alteration

The Indata project area is host to two main types of mineralization:

1. arsenopyrite - pyrrhotite - chalcopyrite - pyrite (+/- stibnite +\- galena) with silver and gold, as discrete veins;
2. chalcopyrite-pyrite (gold) as veinlets and disseminations.

To date, almost all exploration has been concentrated on the first type above.

Polymetallic Vein Mineralization. Vein mineralization of type (1) above, occurs within generally shallowly-dipping, north-striking shear zones and have been traced by prospecting, trenching and drilling for over 1.5 kms., from line 7+00S to line 9+00N. The veins are characterized by zonally distributed massive arsenopyrite with associated pyrrhotite, chalcopyrite and pyrite and, in some areas, with stibnite and galena, in a quartz or quartz-carbonate gangue. Widths of individual veins range from a few centimeters to several meters. While most zones have a single quartz-sulphide vein, some areas such as the Camp zone, have up to three quartz-sulphide veins within a zone of intense alteration up to several meters wide. Gold and silver associated with sulphide mineralization occur in variable amounts. In general, those veins in the south contain high silver with respect to gold with silver/gold ratios decreasing northwards. In the north zone gold amounts up to 0.92 oz/ton have been intersected in drill hole but with little concomitant silver mineralization.

Wallrock alteration associated with polymetallic vein mineralization varies according to host rock composition. In volcanic rocks wallrock alteration is characterized by silicification, the presence of calcite, and, in footwall rocks of the Camp zone, by fuchsite. In ultramafic rocks of the north zone wallrock alteration is characterized by little, or no, quartz, but is dominated by talc and magnesite. Chlorite does not appear to be a common alteration mineral of veins in either volcanic or ultramafic rocks.

The thickness of alteration zones is a function of mechanical and chemical behavior of the host rocks which, in turn, is a function of lithology. Volcanic rocks, because of their relatively competent nature, have narrow alteration zones around discrete fractures hosting sulphide mineralization. Ultramafic rocks generally tend to have wider zones of alteration around mineralized veins. In the North zone drilling has shown that wallrock alteration increases in width down dip and to the east from less than one meter in volcanic rocks at the surface to over 75 meters in ultramafic rocks intersected in the easternmost 1989 drill hole 89-I-9.

The history of fault, or shear, development, wallrock alteration and mineralization of polymetallic sulphide veins is complex. It is suggested here that initial faulting was extensional and probably subvertical forming a "plumbing" system for the influx of hydrothermal solutions from which sulphide mineralization with silver and gold was zonally deposited and early pervasive wallrock alteration developed. Subsequent fault movement, or perhaps, hydrothermal fracturing, allowed the development of a second veinlet system and the deposition of sulphides, crosscutting early alteration zones. Postmineralization movement along the shears brecciated pre-existing sulphide mineralization, in places forming gouge zones. Later, more oxidizing hydrothermal fluids permeating through the fractured and altered shear zones may have contributed to the formation of hematite whioh is common as a late alteration mineral in deeper parts of the shear zone of the North zone where it cuts ultramafic rocks.

The development of easterly-striking faults probably postdated the main period of mineralization. Movement on these faults is thought to have rotated the northerly striking mineralized shear from an essentially vertical attitude to its present position,dipping shallowly to the east.

Veinlet and Disseminated Sulphide Mineralization. Chalcopyrite - pyrite mineralization has been recognized 1) in volcanic rocks along the shore of the northeastern part of Albert Lake, 2) in drill holes 85-1 and 85-2, 3) in outcrop to the north of here, 4) east of the baseline from about line 15+00N to about 21+00N, and 5) in diorite and gabbro east of the baseline of "E" grid southeast of Radio Lake. The distribution of this type mineralization is shown on the accompanying geological map.

Where fresh samples could be obtained, chalcopyrite +/- pyrite commonly occurs as disseminations within propylitically altered wallrock and as fracture coatings. In the northern part of the survey area the wallrock is silicified and sulphides occur within quartz veinlets as well as disseminations. In general, however, copper mineralization is manifested as malachite and azurite coatings on fracture planes and rock surfaces. Samples of copper mineralization have been collected containing up to 3.5% copper and anomalous gold values. Results of sampling are shown on the geochemistry map sheets.

Wallrock alteration associated with copper mineralization is commonly propylitic, characterized by the intense development of chlorite along with, in places, epidote, calcite and (?) albite. Chloritic alteration is also well developed in a zone extending from the northeast end of Albert Lake to south of Radio Lake, corresponding to a zone of anomalous soil copper geochemistry (see Section 8). Widespread, pervasive actinolite alteration has also been noted and in thin section, the presence of fluorite was observed suggesting proximity to a heat source.

In the northern part of the prospect wallrock alteration associated with copper mineralization includes silicification and, as suggested by the presence of a pink feldspar, possibly the development of secondary orthoclase.

7. Grid Placement, Line cutting, Surveying

Approximately 35 line kilometers of grid lines were placed in 1989. All but 3.125 kilometers were on the A Grid (Sheets 1 through 4) and are distinguished on the maps by their double lines. Stations were placed at 25 meter intervals along the lines. All lines and stations were marked by flagging tape and were compass and hip chain traverses. Tie lines were put in to determine variations in the line spacing in the eastern portion of the grid area. Approximately 10.4 kilometers of line were cut to accommodate geophysical surveys. A small orientation soil grid was laid out 3.5 kilometers south of Radio Lake and comprised approximately 3.125 km with 200 meter line spacing.

A survey was undertaken on the A Grid utilizing a Ushikata Telescopic Compass and stadia rod. The Base Line was surveyed from line 6+50S to 16+00N. Line 6+50S was surveyed from the base line to Radio Lake and line 1+50S was surveyed from the base line to Albert Lake to establish east-west control as well as elevation control.

A survey traverse from Radio Lake to drill holes 88-7, 8 and thence to holes: 89-7, 8; 88-I-9, 10, 11; and 89-I-1, 12, 13 was also completed.

Where topographic control (ie. recognizable features on the base maps) was feasible, grid lines were plotted accordingly and station spacings adjusted along the line plots to fit the apparent true distance; grid lines were not otherwise adjusted to accommodate slope corrections.

The survey is recognized as not being acceptable for legal purposes and, in this regard, was undertaken by E. Pacholuk whose training was the recent completion of a B.C.I.T. first level surveying course. An example of error is the closure error of the drill hole surveying of 0.066 meters. The Base line survey could not be closed.

8. Geochemical Sampling Program

A total of 31.825 line kilometers of new grid lines were added to the main A Grid, resulting in the collection of 1164 soil samples. New lines are marked on the maps with a double line. Follow-up prospecting on soil geochemical anomalies resulted in the collection of approximately 20 grab rock samples. Four soil lines were placed some two kilometers south of the A Grid and are numbered S-1, 3, 5 and 7. A total of 3125 meters of line and the collection of 109 samples were completed. The soil and rock samples were submitted to Acme Analytical Laboratories in Vancouver for analyses. The samples were analyzed for a thirty element suite by I.C.P. methods and gold analyses were added by utilizing a fire assay preparation of the sample followed by atomic absorption detection. The methodology of the analyses are further outlined on the analytical certificates in Appendix 16.6

Results of the sampling have been plotted in two parts on the four base maps at a scale of 1:2000. Copper and antimony were plotted with contour levels of 100 ppm and 20 ppm respectively; gold and arsenic were plotted on the second set of maps with a contour level of 75 ppm for arsenic. A threshold value of 100 ppm arsenic had previously been used but field verification has shown that a 75 ppm contour level more appropriately outlines anomalous conditions. Other thresholds were chosen on the basis of contourability and visual examination of the data set and have been found to adequately reflect mineralization where follow-up work has been completed. Gold thresholds and values are too low and sporadic to allow contouring, though spot highs and local concentrations of samples with values in the plus 10 ppb range are considered significant, especially where they coincide with anomalies defined by other metals. The metals chosen for presentation reflect the metal associations observed in mineralization encountered in the drilling and trenching programs. These elements also appear to show greater mobility than other mineralization associated elements (eg. bismuth) and, therefore, are more useful in outlining geochemical trends. It has been found that values exceeding 1000 ppm for arsenic and copper generally lead to the discovery of near surface or sub-cropping mineralization.

The areas with new geochemical data stand out. On the southern portion of the grid, a linear, northwest trending arsenic anomaly can be traced from 4+00S to 16+00S. Within this target several very high values have been obtained, most notably on lines 7+00S, 8+50S and 12+00S on the A Grid and 5+00S on the B Grid. Several smaller copper anomalies coincide with the arsenic anomaly and no antimony anomalies occur here. Adequate follow-up work has not been undertaken on this anomaly. Drill hole 88-16, drilled near 7+00S/1+85E, intersected a quartz-sulphide vein which was sampled over a 2.3 meter length and yielded peak values of 218 ppb gold and 2.05 oz/ton silver across 0.3 meters. Trench 89-41, at this same locality, exposed a metal-laden shear zone in excess of 20 meters. Six grab samples were taken from this trench;

sample one returned values of 0.074 oz/ton gold and 2.96 oz/ton silver. Soil values on this target range up to 6415 ppm arsenic and 210 ppb gold. Drill holes 88-17, 18 and 23 similarly intersected strong wide quartz-sulphide veins but yielded only anomalous gold values. A series of veins may be the source of this extensive geochemical anomaly. Two parallel copper anomalies, with smaller coincident arsenic anomalies, lie upslope and parallel to the above described arsenic anomaly. A source for these geochemical expressions has not been defined to date.

On map sheet three, several exceptionally large, linear antimony and copper anomalies have been defined. These anomalies are traceable from line 10+00N to 25+00N, a 1500 meter length. In the central portion of the map, a large antimony anomaly wraps around the north-trending ridge, suggesting a relationship to the topographic high lying in the non-anomalous central area. Coincidentally, the ultramafic-volcanic contact has been mapped parallel to the western leg of the antimony anomaly from line 15+00N to line 18+00N, east of the base line. On the eastern flank of the antimony anomaly, and partially overlapping, a copper anomaly has been defined from line 21+00N to line 11+00N and discontinuously to line 6+00N. Spot arsenic and gold anomalies appear to be associated with this trend. At the northern end of this copper expression, grab samples of quartz-veined to silicified volcanics have returned impressive values of copper (to 3.59%) associated with anomalous gold (to 575 ppb). Antimony values in these rock samples are very low, possibly suggesting separate sources for the antimony and copper geochemical anomalies. West of the base line, on map sheet three, a series of discontinuous, linear antimony-arsenic (copper) anomalies are outlined between lines 14+00N and 25+00N. One to three sample gold anomalies are associated with the other elements. The high continuous gold anomaly on line 23+00N gives the impression that contamination occurred in the analyses, implied by the lack of correlation to adjacent lines. An alternative explanation for the anomaly occurring on line 23+00W could be a mineralized east west structure or a local physiographic feature. These anomalies appear to cross the limestone-volcanic contaot without interruption, though this contact is interpreted to be a fault relationship.

A large irregular-shaped arsenic-antimony (copper) anomaly is outlined in the southwestern portion of map sheet three and has been referred to in the past as the northwestern anomaly, being northwest of the main zone. Lying roughly between lines 7+50N and 11+00N, this anomaly has a sharp, linear up-slope cut-off around 1+75W to 2+00W. Drill hole 88-20 was located to test an IP chargeability anomaly but may have been drilled too far west to adequately intersect the anomaly. Trenches 31, 32 and 33 were excavated in the 1989 program in an attempt to gain some definition of the source of the anomalies in this area. The results of this trenching indicate a broad at least twenty meter wide, northwesterly trending shear zone with quartz-sulphide veins cutting parallel to the shear as well as cross-cutting with easterly and northeasterly strikes. Trench 31 sampling returned

0.177 oz/ton gold across a true width of 0.7 meters. Individual samples within this quartz-sulphide vein returned up to -.382 oz/ton gold. High arsenic (to 9.95%), antimony (to 3.78%), and copper (to 0.47%) values from samples in trench 31 confirm the effectiveness of the soil geochemistry.

Several smaller copper, antimony and arsenic anomalies occur on map sheet three, the more notable of which lie in the eastern portion of the grid area. In particular, anomalies at lines 13+00N to 17+00N (5 to 6E), 18+00 to 20+00N (6+50-9E) and 8+00N to 9+00N (11+00N) (9 to 10E) warrant further examination.

Geochemical anomalies on map sheet two are dominated by the main zone anomaly which extends from line 1+50S to 6+00N. This anomaly is characterized by: a strong arsenic anomaly showing significant downslope dispersion; clustering of high gold values, particularly in the discovery area where mineralization sub-crops; isolated copper and antimony anomalies and; a sharp up-slope cut-off. The newly discovered camp zone is moderately well defined by soil geochemistry, as displayed by antimony, arsenic and copper anomalies which extend to 6+00S from 4+00S. Further extension southward may be indicated by a south trending arsenic anomaly to B-8+00N/0+75W.

A large, unexplained arsenic anomaly, with small associated copper and antimony anomalies, lies between 4+00S/12+00E and 2+50N/9+00E. Trench 23, on line 0+50S, cut a silicic zone in the volcanics and a grab sample yielded 1714 ppb gold and 42.0 ppm silver. More extensive trenching is required in this till covered area. Other small arsenic anomalies flank this zone.

Small arsenic and extensive discontinuous gold anomalies characterize the area in the northeastern portion of map sheet two. Significant strings of moderate to high gold values in soil on lines 6 A-N, 6N and 7N from about 6E to their eastern ends strongly suggests unidentified mineralization. A listwanite, quartz-mariposite, zone has been traced along the diorite-ultramafic contact from 4N to 6A-N but has not yielded significant results. The location of the ultramafic-volcanic and ultramafic-intrusive contact in this area may be important. While few well defined geochemical anomalies occur in this area, it is still believed to be of interest.

Of unique importance on map sheet two may be the further extension by the 1989 sampling of a large copper anomaly through the western portion of the map area. This anomaly extends from approximately 3+50N to 6+00S where it narrows and extends onto map sheet one to at least 12+00S. The low, often swampy terrain in this area may explain the several zones of below threshold samples. Copper values in soil are consistently high with several samples exceeding 1000 ppm; the highest copper value is 7771 ppm. Only a few rock samples have been found in the area and these have returned very encouraging values with three of five samples yielding 0.13 to 0.55% copper and up to 101 ppb gold. With dimensions of 200-300 meters by 1500 meters, this anomaly offers a good potential for the discovery of a bulk copper deposit. Overlapping arsenic anomalies in this area have not been explained. The largest of these occurs between 3+00S/2+00W and 1+50N/2+75W. Gold values in soil as high as 54 ppb occur within this area.

A small soil grid was established two kilometers south of the A Grid to test an exposure of pyritic, altered volcanics. Four lines totalling 3.125 kilometers and yielding 109 soil samples were placed. Line spacing was 200 meters with 25 meter station spacing. The results of this survey were negative and the data has not been plotted. The results for lines S-1, 3, 5 and 7 may be found in the analytical certificates in Appendix 16.7.

9. Geophysical Surveys

In 1989 10.4 kilometers of induced polarization survey was completed bringing total IP coverage to 41.2 kilometers. A total of 53 kilometers of magnetometer and VLF-EM survey were completed on the property in 1987 and 1988. Previous drilling has indicated that IP is successful in outlining sulphide rich vein systems as defined in the Main and Camp zones and porphyry style copper mineralization as has been indicated east of Albert Lake in hole 85-1. An interpreted geophysical plan (1:5000) is attached to the report. Many responses remain unexplained. Several untested trends have plausible explanations and are summarized as follows:

Responses Thought to be Caused by Vein Systems:

1. A trend of moderate to strong chargeability responses trends at 190 degrees from 4+00S/7+75E (trench 22) to station 10+50S/3+75E. This trend is open ended to the south and as presently outlined is 850 meters long. The geophysical response occurs upslope from a semi continuous arsenic-antimony soil anomaly and is validated by quartz-massive sulphides exposed in trench 22 (Camp Zone, Anomaly 9).

2. A trend of moderate to strong chargeability responses occurs from station 8+00N/1+50W to 11+00N/5+00W. This trend (290 degrees) is open ended to the north and as presently expressed is 500 meters long. The anomaly crosses trench 31 where several sulphide rich samples exceeded 10 grams/ton gold in the vicinity of 9+00N/2+85W. The sheared vein exposed in trench 31 occurs in a broad alteration zone where the high grade samples occur in a shear trending at 290 degrees. A conjugate response trending at 030 degrees from station 9+00N/3+00W to 10+50N/1+75W may also exist (Northwest Zone, Anomaly 16).

3. A deep chargeability response is open ended to the south and as presently expressed is approximately 200 meters long from station 0+50N/8+75E to 2+00N/7+50E. This response, trending

at 310 degrees, parallels a surficial linear and is supported by soil arsenic and gold responses (Anomaly 25).

Responses Thought to Reflect Porphyry Style Mineralization

1. Hole 85-1 and 85-2 intersected significant meterages of .1% to .2% Cu in altered mafic volcanic rocks. Hole 85-1 ends at 63 m in >0.25% Cu. Drill core in this hole is chloritized and contains pervassive actinolite and incidental fluorite. It is suspected to have been affected by a thermal event probably related to a buried intrusive. Hole 85-1 occurs in a zone of chargeability responses 300 meters square which is open to the south (Anomaly 5).

2. A series of IP responses gaining in intensity remain open to the west from 8+50S/BL to 2+50S/BL. Although IP coverage does not extend further to the west soil sampling has outlined a large area of anomalous soil copper. Outcrop is poor in this area and a buried intrusive is suspected (Anomaly 5).

Zones of IP Response of Unknown Origin

1. A zone of unexplained chargeability response averaging 200 meters in width extends from 1+50S/1+50E to 4+00N/1+50E. This area was partially tested by drill hole 85-3. Reviewing the 1985 profiles indicates that this hole was probably placed to far west to test the source of the anomaly (particularly if it is caused by an easterly dipping structure). The extent of this zone increases its significance (Anomaly 26).

2. Several strong chargeability responses occur in the vicinity 5+50N/9+50E to 7+00N/9+50E. These responses are suspected to be caused by altered ultramafic rocks. Why the chargeability response is suddenly so strong (>40 millivolt units) remains a mystery. Extensive gold in soil values up to 85 ppb also occur in this area (Anomaly 13).

3. A moderate to strong chargeability rasponse occurs on the "B" Grid on line 400N between 375 and 400E. (Approximately line 1150S 1325 - 1350E on the "A" Grid.) This area is underlain by peridotite and is beyond the limits of existing soil grids.

10. Trenching Program

A Caterpillar D-3 bulldozer with backhoe attachment was walked into the A grid and was utilized in the completion of 42 trenches totalling 2211 linear meters. Thirty-six of the trenches were reclaimed and seeded. Three trenches failed to reach bedrock. All but four trenches that reached bedrock were mapped and plans and sections were drawn showing the geology, sample locations and analytical results (Appendix 16.13). Descriptive logs for the trenches may be found in Appendix 16.12, and the full analytical results are in Appendix 16.7. The trench locations can be seen on the Geology maps, sheets 1, 2 and 3.

The trenching program was directed at gaining definition of geochemical and/or geophysical anomalies. Several vein occurrences were discovered and the trench data added significantly to the geologic understanding of the project. Highlights of the trench results are as follows:

Camp Zone (Anomaly 9) - Trenches 1, 2, 3, 4, 5, 20, 21, 22, 27, 28: A quartz-sulphide vein system was traced in trenches from 6+00S/6+75E to 3+50S/7+75E, and later drilled in holes 89-10, 11. The northern part of the vein dips at approximately 30 degrees to the east but, towards the south, the vein becomes horizontal and then, further south, dips to the west. The vein thickens to 6 meters in the northern exposures and thins to almost nothing at the south end where a zone of silicification several meters wide has been exposed. Intense to moderate silicification accompanies the vein in the hangingwall and footwall. A summary of the better results are:

Trench 1:
-5.5 meter true width of 0.027 opt (957.9 ppb) (avg. of samples 1,2, 4, 5, 14, 15, 16, 17).
-peak value: 0.3 m x 0.107 opt Au and 1.73 opt Ag.
-samples 3 and 11 parallel each other yet returned 7 and 258 ppb Au, respectively.

Trench 2:
-3.9 meter true width of 0.023 opt Au (791.9 ppb) (avg. of samples 1-8).
-peak values: 0.107 opt Au (3681 ppb) x 0.2 - 0.3 m; 3.75 opt Ag x 0.55 m.
-anomalous gold (182 ppb) in silicified, pyritized volcanic footwall.

Trench 3:
-1.0 m. of 0.026 opt (903) ppb open to east.
-abundant silicification in andesites carries anomalous gold.

Trench 21:
-0.30 m (?) x (2.768 opt) (94.93 ppm Ag) - (avg. of samples 9, 10, 11 across 3.0 m).
-0.30 m (?) x (0.037 opt) (1270.3 ppb Au)- (avg. of samples 9, 10, 11 across 3.0 m).

Trench 22:
-4.0 m true width of 6.69 opt Ag and 0.065 opt Au (avg. of samples 2-6, 10-14).
-peak values: 0.75 m x 13.69 opt Ag, 0.124 opt Au
0.40 m x 10.46 opt Ag, 0.116 opt Au
-anomalous gold, silver in pyritized, siliceous footwall.

Trench 27:
-0.95 m true width of 3.65 opt Ag, 0.087 opt Au.

Trench 28:
-1.0 m x 7.80 opt Ag, 0.099 opt Au.

Trench 7: (Anomaly 25) - Trench 6 is located east of trench 7 and while it lacked significant mineralization it did display zones of shearing and weak mineralization possibly indicating the potential for discovering more veins in this area. The west dipping vein/fault zone in Trench 7 was not sampled perpendicular to its strike (a width of 0.5 - 0.6 m) but yielded 0.046 opt Au in a 1.0 m chip sample. A 1.0 meter grab along a narrow gouge zone returned 0.152 opt Au. Soil geochemistry indicates that this, and possibly other veins at this locality, could extend northward for at least 200 meters.

Trenches 8, 23: (Anomaly 12) - Trench 8 lies in a geochemical low adjacent an anomaly in which mineralization was discovered in Trench 23. A narrow quartz-sulphide vein was exposed in Trench 8 and returned 833 ppb Au and 1.72 opt Ag x 0.04 m. Ultramafics were exposed in this trench making it the southernmost exposure of serpentinite. Trench 23 lies within a geochemical anomaly 250 meters south of Trench 8. Only one grab sample was taken from a silicified volcanic and this returned 1.22 opt Ag and 0.049 opt Au (1714 ppb Au). These two trenches indicate that further discoveries may be made around anomaly 12.

Trench 10: Although no samples were taken here, the observance of silicification and pyritization may indicate a northward extent of anomaly 25 (Trench 7).

Trenches 14, 14A: (Main zone) - The vein system of the main zone was found to be offset to the west in this area. The vein reaches a thickness of 1.05 meters and yielded the following results:

14-2: 0.7 m x 0.295 opt Au
14A-2: 0.75 m x 0.126 opt Au
14A-4: 1.05 m x 0.197 opt Au
14A-7:0.55 m x 0.138 opt Au
length average = 0.76 m x 0.191 opt Au.

Trenches 17, 18: These trenches were not located on geochemical anomalies but displayed zones of silicification and weak sulphides. No samples were taken.

Trenches 31, 32, 33: (Northwest Zone, Anomaly 16) - These trenches exposed a broad series of shear zones at least 20 meters in individual width. Quartz-sulphide veins have cut the zones parallel and at acute angles to the northwest trending shear. At least two and possibly three veins have been discovered. An anomalous zone of gold values was outlined in sheared, altered rock with no notable quartz in trench 32. Three samples across a 5.0 meter width averaged 292.4 ppb Au with a peak value of 498 ppb across 2.0 meters. The vein exposure in trench 31 averaged 0.177 opt from seven samples. Four samples taken obliquely within the vein returned 0.277 opt to 0.382 opt Au. The vein has a true width of 0.70 meters. The alteration zone in this area appears to be broader and stronger than observed in other volcanic hosted vein occurrences.

Trenches 40, 41: (Anomaly 1) - This enigmatic, large anomalous area continues to yield thick vein exposures, as seen in Trench

40, but with moderate results. Orientations on the vein systems have been difficult to obtain and the controls are yet undefined.

11. Drilling Program

11.1 Prior Drilling Programs

The first drill hole completed on the Indata property was finished September 24, 1985. Since that time, 46 drill holes totalling 4452 meters have been completed. A summary of drilling is as follows:

1985	230.7 m
1987	305.3 m
1988	2,098.6 m
1989	1,817.7 m
Total	4,452.3 m (14,607 feet)

In 1985 Imperial Metals Corporation, then operator of the Indata Property, completed 231 meters of drilling and outlined significant copper mineralization northeast of Albert Lake. In 1987 Eastfield Resources completed its first drill program and identified significant gold and silver values approximately 800 meters east of the copper discovery. This mineralization, occurring as quartz-carbonate-sulphide veins in volcanic rocks, was explored by further drilling in 1988. In 1988 the vein system was identified crossing into altered ultramafic rocks and vein and disseminated mineralization were identified. The results of the 1989 drill program are described in more detail.

11.2 1989 Drilling Program

11.2.1 Introduction

Following the intersection of 4.0 m of 47.3 grams/ton (1.38 oz/ton) gold in DDH 88-I-11 in talc - carbonate altered ultramafic rocks during the 1988 drilling program, diamond drilling in 1989 was concentrated in this area in order to determine:

1) the extent of high-grade gold mineralization;
2) the extent of the talc - magnesite alteration,

there being considered to be a relationship between this alteration facies and gold mineralization.

5.963 ft (1,818 m) were drilled in 13 holes, of which 11 were drilled to intersect gold mineralization associated with talc - magnesite alteration of the North zone and two to test the newly discovered Camp zone located approximately 1 km to the southeast.

11.2.2 Summary of Results

<u>North Zone.</u> Drilling of the North zone resulted in the discovery of an extensive zone of talc-magnesite alteration

in ultramafic rocks associated with a shear zone dipping at about 30 degrees to the east and striking to the north. This shear zone and accompanying alteration is the down dip expression of relatively narrow quartz - sulphide veins expressed at the surface in volcanic rocks. In ultramafic rocks down dip from mineralization in the volcanic rocks the alteration zone increases in width to the east. Sulphide mineralizetion within this zone occurs as discrete massive sulphide veins of arsenopyrite, pyrrhotite and chalcopyrite concordant with the attitude of the shear, and as disseminations, mainly of pyrrhotite but also including some chalcopyrite and arsenopyrite. Away from maesive sulphide veins sulphide disseminations are mainly pyrrhotite and, closer to the veins, arsenopyrite and chalcopyrite are more common.

Of the 11 holes drilled in the North zone, 10 intersected anomalous gold greater than 100 ppb, while five holes contain gold values greater than 1 gram/ton.

Camp zone. Two holes were drilled into the Camp Zone to test the down-dip extension of a sulphide-gold vein exposed in trenches. These two holes, 89-I-10 and 11, intersected the quartz-arsenopyrite vein at a depth of about 48 meters, below which is a zone of silica-calcite-fuchsite alteration. Although the quartz-arsenopyrite vein contained only low gold amount (0.4 and 0.14 grams/ton respectively), it contains higher silver values - 19.0 and 10.5 grams/ton respectively.

11.2.3 Interpretation of Results

The generally low gold values intersected in the North zone are probably reflected in the lack of identified silica in these holes, in contrast to the high gold intersected in 88-I-11. In this hole minute chalcedonic silica veinlets have been recognized in the dominantly talc-magnesite alteration zone containing high gold values, suggesting a relationship between gold and silica deposition. Silica veinlets, however, are difficult to recognize in uncut drill core in the zone of intense talc-magnesite alteration. This area stands out as being somewhat more anomalous than sections to the north and south, however, a zone of 2 to 6 meters thickness displays anomalous to ore grade mineralization through approximately 60 meters of dip length (Drill holes: 88-9, 10, 11; 89-12, 13).

Drill holes 89-I-2 and 3, drilled to intersect the down-dip extension of the North zone quartz-sulphide-gold vein mineralization, failed to do so because rotation on an east=-west fault had steepened the vein to near vertical. Consequently, although these holes failed to intersect significant mineralization, the vein probably still continues to the north but at a much steeper angle than it has to the south.

Summary of More Significant Drill Intercepts

Year	DDH	Depth (m)	Dip	Azimuth	Coordinates	Intersection (m) From	To	Length	Au ppb	Ag ppm	Cu ppm
1985	85-1	63.1	-45	060	350N/400W	1.9	7	6.2	-	-	1491
						21.1	27	6.9	-	-	1132
						37.0	46.3	9.3	-	-	1961
						48.5	50.3	1.8	-	-	1519
						57.5	63.1	5.6	-	-	2223
	85-2	76.8	-45	090	345N/350W	12.2	14.7	2.5	-	-	1000
						42.7	45.3	2.5	-	-	6201
	85-3	57.0	-45	090	050S/150E	no intersection					
	85-4	33.5	-45	090	047S/343E	no intersection					
1987	87-I-1	50.6	-45	295	075N/425E	18.9	20.7	0.8	1320	0.2	112
						23.8	26.2	2.4	1647	55.2	2778
						26.2	27.4	1.2	500	41.8	3085
						27.4	29.9	2.4	1805	114.4	4435
	87-I-2	46.6	-90	-	075N/425E	no intersection					
	87-I-3	52.7	-45	325	075N/425E	24.1	28.3	4.2	3245	126.6	3189
	87-I-4	53.6	-45	265	075N/425E	24.2	26.2	2.0	1496	124.4	3135
						27.7	28.3	0.6	950	51.3	1928
						29.9	31.1	1.2	9835	51.4	5137
	87-I-5	54.3	-45	295	050S/440E	42.5	44.5	2.0	1209	104.5	8533
						44.5	45.7	1.2	5000	56.2	3503
						45.7	46.6	0.9	510	48.1	2970
	87-I-6	47.5	-90	-	050S/440E	41.9	44.5	2.6	761	52.9	5095
1988	88-I-1	51.5	-45	270	025N/422E	31.7	33.2	1.5	309	69.9	2155
	88-I-2	54.6	-90	-	025N/425E	33.5	35.0	1.5	309	49.2	1242
	88-I-3	79.6	-45	270	100S/422E	no intersection					
	88-I-4	21.6	-90	-	100S/425E	no intersection					
	88-I-5	84.4	-65	270	100S/423E	37.0	38.0	1.0	443	21.0	1319
						40.0	41.0	1.0	524	0.1	152
	88-I-6	114.0	-45	270	150N/449E	no intersection					
	88-I-7	110.3	-56	260	350N/417E	48.5	49.0	0.5	1020	1.3	1444
	88-I-8	150.0	-75	260	350N/419E	41.5	42.0	0.5	3845	1.3	1100
	88-I-9	122.2	-46	270	400N/449E	44.8	45.3	0.5	320	1.5	559
						55.5	56.5	1.0	548	1.9	1582
						58.5	59.5	1.0	3922	1.7	1282
						59.5	60.5	1.0	347	1.6	1571
	88-I-10	128.6	-65	270	400N/450E	53.0	53.5	0.5	2605	2.8	611
						53.5	54.5	1.0	470	6.0	4291
						55.0	55.5	0.5	2875	1.1	833
						56.0	58.0	2.0	677	0.7	850
	88-I-11	103.0	-90	-	400N/451E	66.0	67.0	1.0	6150	4.0	2315
						76.0	80.0	4.0	47260	2.0	344
	88-I-12	85.3	-45	270	450N/431E	54.0	54.5	0.5	653	5.9	838
						61.1	61.6	0.5	462	1.9	1464
						64.3	65.0	0.7	372	1.7	1940
	88-I-13	81.4	-90	-	450N/436E	no intersection					
	88-I-14	91.7	-45	270	510N/495E	59.5	60.3	0.8	358	21.6	13209
	88-I-15	110.0	-45	270	550N/481E	20.4	21.4	1.0	494	0.9	546
						81.0	83.0	2.0	1355	2.9	1054
	88-I-16	119.2	-45	290	700S/200E	no intersection					
	88-I-17	61.3	-45	290	605S/269E	no intersection					
	88-I-18	60.4	-75	290	605S/270E	no intersection					
	88-I-19	76.5	-45	290	470S/395E	26.0	26.7	0.7	420	9.2	1680

Year	DDH	Depth (m)	Dip	Azimuth	Coordinates	Intersection (m) From	To	Length	Au ppb	Ag ppm	Cu ppm
	88-I-20	67.4	-45	240	808N/247E	no intersection					
	88-I-21	111.6	-45	270	150N/525E	81.8	82.3	0.5	270	34.3	1011
	88-I-22	137.5	-55	265	062N/485E	57.7	59.1	1.4	1229	42.9	2541
	88-I-23	76.5	-45	290	620S/307E	32.7	33.1	0.4	585	4.1	354
1989	89-I-1	122.2	-90	-	402S/503E	33.9	34.1	0.3	2157	15.5	7780
						106.0	107.0	1.0	576	1.4	119
	89-I-2	103.9	-60	270	600N/480E	93.8	95.0	1.2	559	1.6	137
	89-I-3	110.0	-90	-	600N/480E	no intersection					
	89-I-4	152.7	-90	-	404N/553E	no intersection					
	89-I-5	154.2	-90	-	468N/580E	no intersection					
	89-I-6	140.5	-60	270	468N/580E	19.6	22.8	3.2	10	354.1	1160
	89-I-7	183.2	-90	-	417N/350E	110.4	112.4	2.0	1335	1.7	1239
						138.8	139.4	0.6	988	7.5	9770
	89-I-8	138.6	-60	270	417N/349E	106.1	107.0	0.9	653	1.1	646
						125.1	126.1	1.0	872	0.2	70
	89-I-9	209.1	-90	-	290N/550E	133.9	134.2	0.3	429	1.3	1147
						159.4	160.1	0.7	1903	7.2	1075
						161.6	162.4	0.8	4837	3.1	2261
						172.2	172.7	0.5	7209	6.7	6655
	89-I-10	83.2	-60	295	505S/322E	188.0	200.8	12.8	269	0.2	70
	89-I-11	91.7	-98	-	505S/322E	48.8	49.8	1.0	138	10.5	237
	89-I-12	175.6	-60	270	402N/503E	98.0	99.0	1.0	331	28.4	164
						102.7	104.4	1.7	1825	23.3	406
	89-I-13	152.7	-62	230	398N/505E	92.7	93.7	1.0	261	0.5	585
						108.2	109.3	1.1	5162	1.3	64

Holes drilled to test the Camp zone resulted in the discovery of listwanitic alteration beneath the quartz-sulphide vein, suggesting that an ultramafic body occurs at a shallow depth beneath the volcanic rocks which here host the quartz-sulphide vein.

11.2.4 Significant Intercepts

A complete summary of significant drill intercepts follows while complete lists of drill hole sampling and complete drill logs appear in the appendix.

12. Environmental Study

A contract was given to Norecol Environmental Consultants Ltd. to undertake a preliminary water and lake sediment sampling program. Mr. Bruce Ott, Ph.D., carried out the sampling and reviewed the analytical results; a copy of his report is in Appendix 16.5. Two lake sediment and four water quality sample sites were located. Dr. Ott concluded that the metal values in the sediment and water samples were consistently low, and that the moderately hard water in the area is typical of clean unpolluted waters in the interior of British Columbia.

This sampling program was a limited orientation and was designed to offer a basis for future more comprehensive monitoring as the project progresses to more advanced levels.

13. Discussion

13.1 Metal Distribution

A zonal distribution of metals is evident, both at the property scale and at the scale of individual veins. Within the veins, from south to north, there is a general decrease in silver/gold ratios from 30-50 in veins in the south to less than 10 in the North zone veins and those veins exposed by trenching on lines 8+50 and 9+00N west of the baseline. While copper is anomalous in all mineralized veins, lead and antimony are only high in the south. In veins in the north these metals are usually only at background levels. Soil geochemistry, however, suggests that regionally, antimony increases in general abundance northward while arsenic diminishes, though less dramatically than antimony. This relationship became more evident after sampling north of the main zone was completed. This area has not been followed up and therefore data from vein systems is not yet available.

Individual veins are commonly zoned with arsenopyrite - rich bands and chalcopyrite +/- pyrrhotite bands. In trench 14A, for example, where mineral zoning is especially evident because of the unweathered nature of the sulphide vein, chalcopyrite occurs as disseminations in talc-rich altered rocks of the hangingwall and in massive pyrrhotite bands which cut earlier arsenopyrite-rich zones.

Chalcopyrite invariably is associated with gold in anomalous amounts and a strong copper-gold correlation is evident both in trench samples and from drill holes. There is also a strong gold-arsenic assooiation in arsenopyrite-rich veins and although high arsenic values do not necessarily have associated high gold values, gold is always present.

In two drill holes, 88-I-11 and 89-I-9, gold in anomalous to high values was intersected where only low amounts of copper and virtually no arsenic occur. Thus, there appears to have been at least three periods of gold mineralization, 1) in early-formed arsenopyrite veins, 2) with copper deposited as chalcopyrite in veins and as disseminations, after arsenopyrite deposition and, 3) with no arsenic and little copper, possibly associated with pyrrhotite and, in drill hole 88-I-11, with bismuth tellurides.

Silver shows a similar qualitative distribution as gold in that anomalous gold is generally accompanied by anomalous silver. However, in drill hole 89-I-6, high silver encountered near the top of the hole where it intersected an easterly-striking fault has no attendant gold or base metals excepting copper, suggesting that at least one phase of hydrothermal activity resulted in the deposition of silver-copper.

Copper, apart from its appearance as chalcopyrite in vein mineralization, also oocurs as disseminations and fracture - fillings in volcanic rocks near the eastern and northeastern parts of Albert Lake and east of the baseline between about 18+00N and 24+00N. Copper mineralization near Albert Lake occurs as chslcopyrite with abundant pyrite (pyrrhotite) in generally intensely propylitized volcanic rocks. Grab samples containing up to 3% copper have been taken from chlorite-altered basalt breccia while up to 1% copper has been determined in epidote-chlorite altered volcanics sampled along the eastern shore of Albert Lake.

The northern copper zone, in contrast to copper mineralizstion of the Albert Lake area, occurs in bleached and silicified volcanic rocks rather than in intensely propylitized rocks. Also, in the northern zone the association of pyrite with chalcopyrite is not nearly as marked as it is, for example, in holes drilled by Imperial Metals in 1985 near the northeastern part of Albert Lake. This alteration and mineral zoning is similar to the zonation of porphyry - type copper-gold deposits discussed below.

13.2 The Significance of Silver/Gold Ratios

As described above, silver/gold ratios vary from south to north within the polymetallic veins of the South, Camp, North (Main) and Northwest zones. Silver decreases markedly from south to north while gold values increase slightly. Comparisons with models of mesothermal-epithermal precious metal deposits snggest that the vein mineralization in the south was deposited at deeper structural levels and from higher temperature solutions than that in the north. This, in turn, suggests that block faulting has exposed deeper levels in the south than in the north. Thus, in plain view the present disposition of the Indata vein syatem may be interpreted as an oblique section along the vein and representing increasingly shallow depths of precious metal deposition from south to north. One would expect that if the veins continued to the north then gold-only mineralization may be anticipated.

However, it must be noted that at least two, possibly three, stages of hydrothermal mineralization have occurred along the shear-controlled vein system. Superimposition of mineralizing phases may have occurred at different structural levels because of possible fault movement between mineralizing events. The final precious metal mineralizing phase, although deposited at higher structural levels than earlier base metal mineralization, nevertheless may have been superimposed on early mineral deposits because of block uplift between hydrothermal events. In most cases zones of base metal mineralization appear to be spatially indistinct from zones of precious metal mineralization, probably because the same plumbing system was utilized throughout the hydrothermal history of the area. Several notable exceptions have been recognized such as gold-only mineralization well below earlier deposited base metal arsenic veins in hole 88-I-11 and 89-I-9, and silver-only mineralization near the top of hole 89-I-6.

13.3 The Relationship Between Polymetallic vein Mineralization and Porphyry Copper Mineralization.

Hydrothermal solutions which gave rise to vein mineralization were probably initially dominated by chloride species, transporting iron, copper, arsenic, antimony, silver, gold and minor amounts of other metals such as zinc. Metal deposition in the mesothermal regime ie mainly caused by changes in temperature and solution chemistry which, to a large degree, is influenced by wallrock composition. Alteration in such a regime is dominated by hydrogen metasomatism with the composition of wallrock being altered strongly influencing the metasomatic mineral assemblages being formed. The various metasomatic facies, however, are largely a function of temperature which, in igneous dominated systems, in turn is a function of the geothermal gradient. Thus, ascending solutions derived from a magmatic source become cool both as lithostatic pressure decreases and mixing with meteoric waters becomes a factor.

In porphyry copper systems it is generally accepted that the inner alteration zones and the metals associated with these zones (mainly copper) are magmatically derived in that the waters from which the alteration and metal assemblages were deposited have a large magmatic component. On the other hand, solutions which formed outer alteration zones such as the propylitic zone are dominated by meteoric water. Many porphyry copper deposits have associated vein mineralization peripheral to, and at higher structural levels than, the porphyry copper mineralization itself. Because of their higher metal concentrations theses veins were commonly worked before the advent of large scale mining techniques which allowad porphyry mineralization to be economically extracted. Vein mineralization generally comprises sulphides stable at relatively low temperatures as well as precious metals and are characterized by their polymetallic nature, in contrast to the underlying porphyry mineralization which is characterized by relatively few sulphide species.

Examples of porphyry systems with associated vein mineralization include many of the southwest U.S. porphyry deposits and, in Canada, such deposits as Mt. Nansen in the Yukon. In silica-rich porphyry systems high temperature assemblages include minerals of copper, tungsten and molybdenum and are commonly deficient in precious metals while in silica-poor porphyry systems, such as those of the alkalic and subalkalic stocks of south central British Columbia, and examples such as Mt. Milligan, copper hes e strong gold association and are deficient in molybdenum and tungsten.

Although it is possible that the disseminated chalcopyrite mineralizetion within altered volcanic rocks and polymetallic vein mineralization represent two periods of unrelated mineralization, it is, perhaps, more plausible to consider the two types of mineralization ee being both genetically and spatially related. Thus, it may he considered that the hydrothermal system which gave rise to chalcopyrite-pyrite porphyry-style mineralization at depth is manifested at higher levels by polymetallic vein mineralization. It does not necessarily follow that the two styles of mineralization were formed contemporaneously. Geological evidence suggests that porphyry-style mineralization was formed before the vein mineralization and thet block faulting occurred during and between the two events. Thus, while veins in the southern part of the prospect are well above the zone of porphyry mineralization, in the north the vein mineralization and porphyry mineralization are adjacent to each other. Magmatism and hydrothermal activity may have been intermittent over a relatively long period of time. For example, at Cariboo-Bell in south central British Columbia new radiometric data suggest that plutonism, volcanism and hydrothermal activity may have continued over a period of at least ten million years, a sufficiently long period to allow time for considerable fault block adjustment and the uplift of deeper minaralized zones to shallow structural levels.

13.4 Sampling Problems in Vein Mineralization

Attaining reliable estimates of grade from core or trench samples in precious metal bearing vein systems has long been a problem for explorationists. While it has not been determined that severe nuggeting problems occur in the Indata mineralization, a review of the factors for which information is available and which might impact analytical or sampling reliability seems warranted.

It has been determined, by thin-section study (Harris, 1988), that gold occurs, at least in part, as free grains up to at least 50 microns diameter. It is possible, but not known, that gold might also occur as inclusions in the lattices of pyrite and chalcopyrite grains. The character, in general, (modal size and distribution) of the occurrence of gold particles is not known. Sampling to date has indicated that ore-grade, or near ore-grade, intersections generally occur in narrow intervals commonly associated with broader intervals of anomalous character; these intercepts range from 0.1 to 2.52 oz/ton gold. Ore grade gold intercepts over broader widths have also been encountered, though with less frequency. Most of the significant mineralized intervals are within thicker vein-sulphide intervals which range from 0.5 to 7.0 meters but are commonly in excess of 1 to 2 meters thick and appear to show significant strike and dip extent. Individual samples in a trenched vein may show great range (eg Trench 31: 0.034 to 0.382 oz/ton Au) but if enough samples are taken to gain an average, ore grades or near ore grades are achieved (Trench 31: 0.177 oz/ton Au).

The above observations give an indication that sampling to date may not adequately reflect the true grades of the vein systems that have been tested. A split from an NQ diameter core which is subsequently split and then sub-sampled can not be expected to be representative. Similarly, a single, narrow chip sample in a trench offers the same problem. The appearance that gold is erratically distributed might be a reflection of nuggeting and/or limited sampling and analytical techniques. To resolve this problem will eventually require bulk sampling. This might be achieved two ways: by exposing a large section of a near earfece vein system or; by drifting on a section of the vein. Recent estimates indicate that 300 feet (91.4 m) of drift may be accomplished for approximately $25,000.00 This avenue should be pursued in the event that the Phase 1 recommended program be successful. The Phase 1 program, in the interim, should place priority on panel as well as channel sampling in trenches, and to the submittal of several larger samples to a metallurgical process for total extraction of gold. Additionally, consideration should be given to multiple (10 to 15) sub-sample analyses using metallic screen techniques on individual samples where problems are suspected.

13.5 Exploration Potential

13.5.1 Vein Mineralization

Exploration in 1989 confirmed previous exploration results and also resulted in the discovery of additional precious metal-bearing veins, notably the Camp zone veins, veins to the north east of the Camp zone, and also to the northwest of known mineralization of the North (Main) zone. this latter discovery is especially significant in that at least two veins were discovered within a highly altered shear zone which, bacause of its size, must be a reasonably large structure expected to continue for some distance to the northwest and southeast. Obviously the potential for the discovery of additional veins within this structure is good and should be a priority target for further exploration.

Anomalous gold values to the north and northeast of the North (Main) zone strongly suggests that precious metal mineralization continues in this direction in an area covered by Pleistocene deposits and which has received little exploration attention to date. This area is underlain by a fault block which is interpreted to have been down-dropped relative to the fault block to the south and any vein mineralization in this block is likely to be structurally higher than to the south. If the trends established to the south with respect to silver and gold values continue to the north, these veins, if present, would be expected to contain relatively high gold and possibly a decrease in the higher temperature sulphide mineral assemblages. By analogy with the Atlin terrane in northwestern British Columbia, gold mineralization associated with quartz-oarbonate alteration zones near the contact of ultramafic and volcanic rocks presents a first order target which may be easily defined because of the magnetic contrast between the two rock assemblages. Anomalies in this northern area on map sheet 4 continue to show this proximal relationship that has been important in the main zone.

Elsewhere within the prospect area soil geochemistry has resulted in the definition of several anomalous zones which have yet to be sampled by drilling or trenching. Most of these zones are in poorly exposed areas, some covered by glacial till. Even diffuse low order soil anomalies in these areas may represent significant mineralization in the bedrock beneath the till cover and cannot be ignored because of their low contrast (see Anomaly Definition Table, Appendix 16.10). Work to date has been concentrated in areas of thin or no cover and where strong geophysical and geochemical anomalies have been defined. Zones of silicification containing gold and silver but little sulphide mineralization, beneath a thick till cover, present much subtler geophysical and geochemical anomalies but high order exploration targets. As has been demonstrated in the Camp zone the potential for this type of mineralizetion in the prospect area is good.

13.5.2 Copper-Gold Porphyry Mineralization

The copper-gold porphyry potential in the Indata prospect area has yet to be tested but is clearly very good. Porphyry-style copper mineralization with an anomalous gold associaticn has been recognized in verious places in a zone extending from the northeastern side of Albert Lake at about

Line 1+00N to Line 24+00N, a distance of over two kilometers, and perhaps to as far south as Line 16+00S. In the south, copper mineralization is near lake level while in the north mineralization is over 100 meters higher on the northeast side of a ridge of volcanic rocks. Although only minor amounts of copper mineralization have been noted on this

ridge, a model may be suggested in which a copper zone extends from Albert Lake, under the volcanics of the ridge, to reappear on the northeastern side of the ridge. Drill hole I-85-1 offers an example of the extent of copper mineralization which can occur in hydrothermally metamorphosed volcanics.

It is possible that the diorite stock exposed to the east extends westward under the volcanics and is the source of the copper in the Albert Lake area. However, its is more likely that a later felsic intrusion, as yet unexposed, or possibly related to the coarse-grained granite of Unit 5, was the cause of the porphyry mineralization (and the polymetallic veins) of the Indata prospect.

Soil geochemistry strongly suggests that copper mineralization continues to the south in a zone extending down the east side of Albert Lake under a largely till-covered area. In the north, soil geochemistry has outlined an additional zone of anomalous copper, also in an area of little bedrock exposure. Thus, there is potential for the discovery of copper mineralization with associated gold in an area of at least three kilometers long by several hundred meters wide, presenting a target of sufficient size to host an potential economic orebody.

In addition to the above, copper mineralization associated with diorite and gabbro occurs in the eastern part of the "B" grid, southeast of Radio Lake. While this mineralization may be of porphyry type, no work has been done in this area and the mineralized zone disappears under cover to the east, only a few hundred meters from mineralized outcrop.

14. Conclusions

While the level of exploration on the Indata Property remains in an early stage, the drawing of conclusions with regard to geology, mineralization and genetic modeling must, obviously, remain somewhat speculative. The following points are a brief review of the conclusions drawn from exploration work undertaken to date:

1. The Indata property geology is characterized by an anomalous block of relatively undeformed volcanic and volcaniclastic rocks and attendant intrusive rocks which is presumably fault bound within a terrane comprised dominantly of the metamorphosed Permian Cache Creek Group. This structural-lithologic anomaly may be put into perspective by the presence, to the east, of the Pinchi Fault.

2. In the area being explored to date, the geology is dominantly comprised of andesitic to basaltic volcanics and volcaniclastics which are commonly strongly propylitically altered and are intruded by a diorite-gabbro-pyroxenite-peridotite zoned intrusion, a series of serpentinite-peridotite bodies and, granitic bodies.

3. The structural framework is dominated by northwesterly trending faults and sheared fault zones which are the predominant host for the quartz-sulphide vein systems explored to date. East-west trending faults cross these structures and have resulted in rotation and apparent lateral and vertical offsets between blocks. These displacements appear to have resulted in higher levels of exposure in the section in a northward trend.

4. Three or more hydrothermal events have resulted in the deposition of metals in two primary modes:

   1) Quartz-sulphide vein systems; fault controlled, with related quartz stockwork and pervasively silicified, sulphide bearing zones.
   2) Fracture controlled to disseminated copper-gold.

5. The quartz-sulphide vein systems can be traced, individually, for distances of at least 800 meters; soil geochemistry indicates that this system occupies at least five kilometers of strike and is likely more regionally extensive than is presently known. The veins pinch and swell from less than one meter to several meters in thickness.

6. The quartz vein-sulphide systems are characterized by arsenopyrite, chalcopyrite, pyrite, pyrrhotite, gold and silver, with lesser to minor amounts of tetrahedrite, galena, sphalerite, pentlandite, scheelite, bismuthinite, bismuth-telluride and stibnite.

7. A relationship appears to exist between the presence of serpentinized bodies and the larger, more continuous structures and associated vein occurrences.

8. Alteration haloes around the fault-vein systems comprise talc-magnesite zones up to tens of meters wide in ultramafic rocks and zones of silicification and sulphidization to several meters wide in the volcanics.

9. All the vein systems explored to date carry anomalous to ore grade gold intercepts; the apparently erratic nature of the gold may, in part, be explained by metal zoning in the syatem and possibly by the limited sampling (Panel or bulk sampling may be required).

10. Metal zoning, particularly silver-gold ratios, indicates a zoning that matches the block faulting with an increase in silver-gold ratios, a general decrease in arsenic and

an increase in antimony to the north; this complies with the geology to suggest the exposures of higher levels of the system northward with the attendant possibility of higher more consietent gold values in this direction.

11. At least twenty-five geochemical/geophysical targets have been outlined, only two of which have received moderate levels of testing (Main Zone, Camp Zone). Additional targets have been outlined by geologic interpretation; the I Grid area presents yet another target. Individual targets range up to 1500 meters in length and do not acoount for targets which may display more subtle expressions of mineralization such as areas of silicification beneath till where geophysical surveys have not been completed.

12. Most of the exploration targets in the grid area are believed to represent quartz vein-sulphide and sulphide-silicification styles of mineralization. At least one, and possibly three areas however, represent bulk tonnage copper-gold targets.

13. A large copper in soil geochemical anomaly lies between the main zone and Albert lake. Peripheral and partly onlapping geophysical coverage, limited rock sampling and diamond drilling support the conclusion that a large copper mineralized area, at least 800 meters by 200 meters and possibly 1500 meters in length, remains untested and displays a good potential for the discovery of a bulk tonnage deposit.

14. A model for the relationship between the precious-base metal vein occurrences and the disseminated copper (gold) occurrences follows the traditional concepts of porphyry copper deposits. The comparisons of the vein occurrences to "Mother-lode" or Atlin deposits persist however, and results in the integration of known and applicable models rather than simplistic classification to one or another stricter deposit models.

15. A good to excellent opportunity remains on the Indata property for the discovery of high grade vein deposits and porphyry copper grade, bulk tonnage copper-gold deposits.

15. Recommendations

A three month program to further test the precious metal vein targets and to further define and test the bulk tonnage targets is recommended. The project should advance in stages allowing a first phase of ground work to better establish a second phase of drill testing. A one month hiatus between stages is suggested. The recommended program outline and budget estimates are as follows:

Phase 1 Program:

-completion of IP and magnetic survey coverage on the grid.
-completion of soil sampling on the A Grid and extension of the I Grid.
-backhoe trenching on all available targets with priorities to the copper-gold bulk tonnage (by Albert Lake) and more extensive vein targets to the north.
-geologic mapping to the east of the grid to further delimit known areas of alteration and the limits and relationships of the intrusives.
-possible completion of road access to the property (dependent upon cost analyses).

Phase 2 Program:

-additional trenching and road building as required.
-diamond drill tests of selected targets (6,000 ft.)
-bulk sampling of vein style mineralization if determined by the Phase 1 program to be useful.

Phase 1 Budget Estimate:

Personnel:

Project Supervision/geologist - 75 days x $350/day	$26,250.00
2 assistant geologists - 70 days x 2 man x $250/day	35,000.00
Supervision - 15 days x $300/day	4,500.00
4 field assistants - 60 days x 4 man x $200/day	48.000.00
cook - 60 days x $200/d.	12,000.00
Rentals: Camp, generator, ATV's, vehicle, field tools - 60 days x $325/day	19,500.00
Food: 560 man/days x $18/man/day	10,000.00
Fuel:	8,000.00
Freight:	3,000.00
Expediting:	6,000.00
Transportation: commercial and charter aircraft and helicopter	15,000.00
Field and Camp Equipment (expendables)	6,000.00
Travel Expenses:	2,000.00
Communication: Field and VHF radios	5,000.00
Geophysical Surveys: (IP & Mag) 15 km x $1,200/km	18,000.00
Backhoe: 2.5 months x $20,000/mo.	50,000.00
road building (6 km) (rough estimate)	20,000.00
Analyses: 3000 samples x $16/sample	48,000.00
Map Reproduction and Report Preparation:	8,000.00
Secretarial:	1,000.00
Sub Total	345,250.00
5% (govt. fees, overhead, etc.)	17,262.00
Phase 1 total expenditure estimate:	$362,512.00

Phase 2 Budget Estimate:

Personnel:

Project Supervisor/Geologist - 50 days x $350/day	$ 17,500.00
Assistant Geologist - 45 days x $250/day	11,250.00
3 Field Assistants - 40 days x $200/day	24,000.00
Cook - 40 days x $200/day	8,000.00
Rentals: 40 days x $325/day	13,000.00
Food: 440 man/days x $18/man/day	8,000.00
Fuel:	6,000.00
Freight:	2,500.00
Expediting:	4,000.00
Transportation: (assuming little helicopter time)	10,000.00
Field and Camp Equipment (expendable)	2,000.00
Travel Expenses:	2,000.00
Communication:	3,500.00
Backhoe: 0.5 months	10,000.00
Diamond Drilling: 6,000 feet x $25/ft.	150,000.00
Bulk sampling (optional)	50,000.00
Analyses: 2,000 samples x $16/sample	32,000.00
Map and Report Preparation:	5,000.00
Secretarial:	1,000.00
Sub Total	359,750.00
5% (fees, overhead, etc.)	17,987.00
Phase 2 total expenditure estimate	$377,737.00

Appendix 16.1

Statements of Qualification

STATEMENT OF QUALIFICATIONS

I, David Gerard Bailey, of 4668 Skyline Drive, North Vancouver, British Columbia do hereby state that:

1. I am a Consultant geologist and Principal of Bailey Geological Consultants (Canada) Ltd. of 308 - 409 Granville Street, Vancouver, British Columbia.

2. I am a Fellow of the Geological Association of Canada;

3. I hold the degrees of Bachelor of Science (Honours) in Geology from the University of Wellington, New Zealand (1972) and Doctor of Philosophy in Geology from Queen's University, Kingston, Ontario (1978);

4. That I have been engaged in regional geological surveying and mineral exploration for eighteen (18) years of which seven (7) have been in Yukon Territory and British Columbia;

5. That I personally supervised exploration carried out in 1989 on the Indata property of Eastfield Resources Ltd., and which is described in this report.

David G. Bailey
Ph.D., F.G.A.C.

Dated at Vancouver, British Columbia, this 31st day of October, 1989.

STATEMENT OF QUALIFICATIONS

I, Glen L. Garratt, of 110 - 325 Howe Street, in the City of Vancouver, British Columbia do hereby state that:

1. I am a practising geologist and have been since 1972 after completing the requirements for a B.Sc. (Geology) at the University of British Columbia.

2. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta and a Fellow of the Geological Association of Canada.

3. The work reported herein was carried out under my supervision; the conclusions and discussions of the data are a consensus of the authors' opinions.

4. I consent to the use of this report by Eastfield Resources Ltd. to fulfill the requirements of regulatory agencies. Excerpts or quotations or summaries from this report may only be used with my consent.

GEOLOGICAL ASSOCIATION OF CANADA · FELLOW · G. L. GARRATT

G. L. Garratt
P. Geol. F.G.A.C.

Dated at Vancouver, British Columbia, this 31st day of October, 1989.

STATEMENT OF QUALIFICATIONS

I, James William Morton, of 2750 Alma Street, Vancouver, British Columbia, do hereby certify:

1. I graduated from Carleton University, Ottawa, in 1971 with a Bachelor of Science on Geology.
2. I graduated from the University of British Columbia, Vancouver, in 1976 with a Master of Science in Soil Science.
3. I am a fellow of the Geological Association of Canada.
4. I supervised the work described in this report.

J. W. Morton
M. Sc., F.G.A.C.

Dated at Vancouver, British Columbia, this 31st of October, 1989.

Appendix 16.2

References

Appendix 16.2: References

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Scott, A. - Aug. 1985 - Induced Polarization and Resistivity Survey, Schnapps Property, Takla Area, B.C. for Imperial Metals Corp.

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Garratt, G.L.; Morton, J.W. - Jan. 1988 - Summary Report on the Indata Project; Eastfield Resources Ltd.

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Armstrong, V.E. - 1947 - Fort St. James Map-Area, Cassiar and Coast Districts, British Columbia, GSC Memoir 252.

Garnett, J.A. - 1978 - Geology and Mineral Occurrences of the Southern Hogem Batholith, BCMMPR Bulletin 70.

Appendix 16.3

Expenditure Statement

1989 Expenditure Statement
(current to October 31, 1989)

Professional Fees:		
G.L. Garratt	26 days @ $300/day	$ 7,800.00
J.W. Morton	17 days @ $300/day	5,100.00
Field Personnel Fees:		
Doug Oicle	97 days @ $250/day	24,250.00
Ian Hayton	70.5 days @ $200/day	14,100.00
Carol Fagan	91 days @ $200/day	18,200.00
Frank Sivertz	91.5 days @ $200/day	18,300.00
Aaron Fahlman	86 days @ $200/day	17,200.00
Ernie Pacholuk	57.5 days @ $200/day	11,500.00
Camp Rental:	95 days @ $150/day	14,250.00
ATV Rental:	95 days @ $50/day	4,750.00
Radio Rental:	5 handhelds @ $37.50 ea/wk	2,518.00
Generator Rental:		2,035.20
Telescopic Compass:	July 7 - August 18	180.00
Auto Tel Rental:		476.74
Truck Rental:	19 days @ $60/day	1,140.00
Core Splitter Rental:	July 13 - August 24	143.43
Transportation:		
Helicopter	77.6 hrs @ $509.26/hr	39,518.40
Fixed Wing-Charter		19,926.50
Scheduled Flights		8,977.90
Fuel:		7,150.81
Travel Expenses:		2,376.98
Field Equipment:		10,057.82
Analyses:		
Assay	2641 samples @ $14.56/sample	38,453.28
Petrographic		1,334.89
Sub Contractors:		
Geophysical		14,255.55
Geological	84.67 days @ $330.91/day	28,017.75
Drilling		120,346.01
Trenching		21,000.00
Expediting		1,526.00
Communication:		
Telphone		4,017.54
Courier (Fax)		34.65
Government Fees:		8,600.10
Freight:		12,690.81
Reproduction:		
Maps		1,797.21
Reports		118.50
Drafting		10,129.55
Food:		19,388.60
Miscellaneous:		2,533.73
	Total	**$514,195.95**

Appendix 16.4

Geophysical Survey Report

Scott Geophysics

LOGISTICAL REPORT

INDUCED POLARIZATION/RESISTIVITY SURVEYS

INDATA PROPERTY, TAKLA AREA, B.C.

on behalf of

EASTFIELD RESOURCES LTD.
110 - 325 Howe Street
Vancouver, B.C. V6C 1Z7

Field work completed: June 9 to 16, 1989

by

Alan Scott, Geophysicist
SCOTT GEOPHYSICS LTD.
4013 West 14th Avenue
Vancouver, B.C. V6R 2X3

July 20, 1988

TABLE OF CONTENTS

1. INTRODUCTION

Induced polarization and resistivity surveys were conducted over portions of the Indata Property, Takla Area, B.C., within the period June 9 to 16, 1989. The work was conducted by Scott Geophysics Ltd. on behalf of Eastfield Resources Ltd.

The pole dipole electrode array was used on the induced polarization survey, with an "a" spacing of 25 meters and "n" separations of 1 to 5. The current electrode was to the west of the receiving electrodes on all survey lines.

2. SURVEY LOCATION

The Indata Property is located between Indata and Albert Lakes, approximately 110 kms north northwest of Fort St. James, B.C. Access to the survey area was by helicopter operating out of the Tsayta Lake Lodge.

3. SURVEY GRID AND SURVEY COVERAGE

A total of 10.4 line kilometers of induced polarization survey were completed on the Indata Property. Details of lines surveyed are given in the production reports.

4. PERSONNEL

Dominique Berube, geophysicist, was the party chief on the survey and operated the IPR11 receiver. Dave Bailey, geologist, was the Eastfield Resources' representative on site for the duration of the survey.

5. INSTRUMENTATION AND PROCEDURES

A Scintrex IPR11 time domain microprocessor based receiver and a Scintrex IPC7 2.5 kilowatt transmitter were used for the induced polarization survey. Readings were taken using a 2 second on/2 second off alternating square wave. The chargeability for the eighth slice (690 to 1050 milliseconds after shutoff; midpoint at 870 milliseconds) is tho value that has been plotted on the accompanying plans and pseudosections.

The survey data was archived, processed, and plotted using a Sharp PC7000 microcomputer ronning Scintrex Soft II and proprietory software. All chargeability values were analyzed for their spectral characteristics using a curve matching procedure (Soft II).

6. RECOMMENDATIONS

A preliminary examination of the results of the induced polarization survey indicatee the presence of moderate to strong chargeability highs that merit further work.

A detailed interpretation of the results of this survey, and correlation to geological and geochemical information, is recommended.

Respectfully Submitted,

Alan Scott, Geophysicist

Appendix 16.5

Environmental Water Sampling Report

Norecol Environmental Consultants

Norecol

Environmental
Consultants Ltd.

Suite 700
1090 West Pender Street
Vancouver, B.C.
Canada V6E 2N7
Telephone: (604) 682-2291
Fax: (604) 682-8323

September 7, 1989
File: 1-201-01.01

Eastfield Resources Ltd.
110 - 325 Howe Street
Vancouver, British Columbia
V6C 1Z7

Attention: Mr. Glen Garratt, P.Geol.
Vice President

Dear Glen;

RE: ATTACHED WATER AND SEDIMENT ANALYSES FOR INDATA LAKE

The attached tables list the water and sediment analyses for Indata Lake which we have just recently received. The accompanying figure shows sample locations.

Sediments

The sediment data were collected in triplicate, that is, three samples from each location. Samples were analysed separately (listed as A, B, C) resulting in three assay results for each sample. Because of the variability in mercury results, the laboratory ran each sample three times and averaged the result.

Mercury results are consistently low. The same can be said of arsenic, lead and zinc. Copper levels are somewhat elevated at Radio Lake and at Albert Lake. A trend in all data, except mercury, is higher concentrations in Albert Lake than Radio Lake. This is probably due to Albert Lake being topographically below the mineralization on the property.

Water

All values are in ug/L, or ppb, unless indicated. "Blk" is the filter blank run. The assays were obtained by means of a ICP-Mass Spectrophotometer. Values shown for many metals are near the detection limit and occasionally this leads to dissolved metals being reported higher than total metals.

Norecol

The water is of moderately high alkalinity, and moderately hard and therefore has some buffering capacity for metals addition. The conductivities are relatively high indicating a significant amount of dissolved ions, principally sodium, potassium, calcium and magnesium.

None of the metals is high. Aluminums in the blank were higher than they should be and this makes all the aluminum assays suspect. Nevertheless, the aluminum levels reported are not particularly high.

In summary, the water is moderately hard, and typical of clean unpolluted waters in the interior of British Columbia.

I trust this report meets your immediate information requirements. It has been a pleasure to work with you on this interesting project. The hospitality shown me by Dr. Dave Bailley at the Indata Lake camp was most appreciated.

Invoices for the assays will be forthcoming shortly. If you have any questions about the enclosed data, please give me a call.

Yours truly,

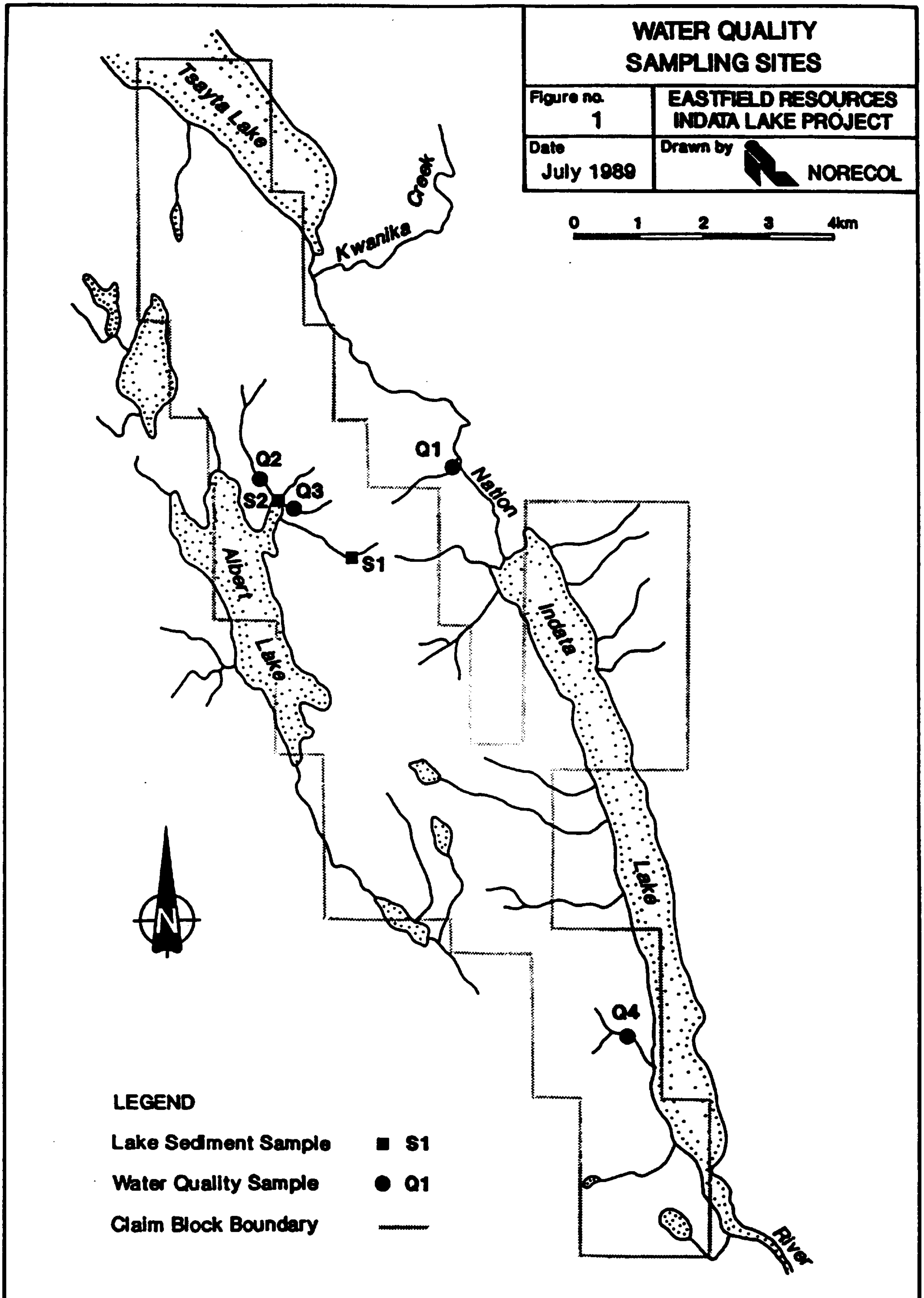
NORECOL ENVIRONMENTAL CONSULTANTS LTD.

Bruce S. Ott, Ph.D.
Project Manager

BSO/dsw

Enclosures

cc: Dr. David Bailley


WATER QUALITY SAMPLING SITES
Figure no. 1
EASTFIELD RESOURCES INDATA LAKE PROJECT
Date July 1989
Drawn by NORECOL
0 1 2 3 4km
Tsayta Lake
Kwanika Creek
Nation
Albert Lake
Indata Lake
River
Q1
Q2
Q3
Q4
S1
S2
N
LEGEND
Lake Sediment Sample S1
Water Quality Sample Q1
Claim Block Boundary

BC RESEARCH

TABLE 1

MERCURY CONTENT OF LAKE SEDIDMENT SAMPLES FROM EASTFIELD RESOURCES

SAMPLE NO.	TOTAL Hg (µg/g dry wt.) SUB SAMPLE: 1	2	3	AVERAGE
S1A	0.045	0.052	0.053	0.050
S1B	0.050	0.051	0.051	0.051
S1C	0.044	0.047	0.046	0.046
S2A	0.063	0.048	0.053	0.055
S2B	0.060	0.063	0.069	0.064
S2C	0.051	0.060	0.074	0.062

TABLE 1

ANALYTICAL RESULTS FOR SEDIMENT SAMPLES FROM EASTFIELD RESOURCES

SAMPLE NO.	TOTAL METALS: (µg/g dry weight) As	Cu	Pb	Zn
S1 A	11.4	32	<4	19.6
S1 B	8.3	26	<4	11.1
S1 C	7.4	32	<4	11.5
S1 C (duplicate)	7.1	27	<4	10.6
S 2A	31	135	<4	47
S 2B	37	151	<4	54
S 2C	30	151	<4	54

Table of Results
Eastfield Reservoir
Indata Lake: file # 1-201-01.01

Completion Date: 08/08/89
Project: 902-45-00

Sample ID		BLK	Q1	Q2	Q3
Date Collected		17/07/89	17/07/89	17/07/89	17/07/89
GENERAL PARAMETERS					
pH		5.62	8.05	8.15	7.57
Color	(APHA)	1	18	14	9
Total Alkalinity	(mg CaCO3 /L)	1.6	107	189	147
Turbidity	(NTU)	0.3	0.6	0.4	0.8
Specific Conductivity	(umhos /25C)	1.1	205	364	284
Total Solids	(mg/L)	0	93	201	172
Suspended Solids	(mg/L)	0	2.4	0	5.9
Calculated Hardness	(mg CaCO3 /L)	0.3	120	220	160
Sulfate	(mg/L as SO4 2-)	<1	<1	5	11
Ammonia	(ug/L as N)	50	40	50	70
Nitrate	(ug/L as N)	<2	<2	<2	<2
Nitrite	(ug/L as N)	<5	12	<5	14
Total Phosphorus	(ug/L as P)	0	6	3	15
TOTAL CYANIDE	(ug/mL)	<10	<10	<10	<10
TOTAL MERCURY	(ug/L)	<0.05	<0.05	<0.05	<0.05
TOTAL METALS (ug/L)					
Aluminum		432	144	509	70.5
Antimony		<0.03	0.38	14.10	1.43
Arsenic		<0.15	0.17	2.51	0.68
Barium		4.13	12.2	57.7	25.9
Cadmium		<0.04	<0.04	<0.04	<0.04
Cobalt		0.04	0.10	0.10	0.10
Chromium		0.71	1.20	1.48	0.96
Copper		1.43	1.56	1.50	2.94
Iron		21.8	46.9	69.6	49.4
Lead		2.78	0.45	0.83	2.35
Manganese		8.85	9.67	19.5	8.27
Molybdenum		0.06	0.10	1.02	0.56
Nickel		<0.25	1.50	1.35	1.08
Selenium		0.36	0.36	0.36	0.36
Silver		<0.02	<0.02	<0.02	<0.02
Zinc		13.5	1.80	9.00	1.94
DISSOLVED METALS (ug/L)					
Aluminum		143	442	83.9	220
Antimony		<0.03	0.57	13.7	1.54
Arsenic		<0.15	<0.15	3.12	0.28
Barium		5.10	12.7	54.8	26.7
Cadmium		<0.04	<0.04	<0.04	<0.04
Cobalt		<0.02	0.08	0.05	0.05
Chromium		0.43	1.60	1.10	0.79
Copper		0.38	2.22	0.82	2.74
Iron		7.66	31.6	34.2	35.4
Lead		1.42	1.05	2.28	0.46
Manganese		2.96	9.49	7.34	8.59
Molybdenum		<0.03	0.27	1.07	0.37
Nickel		<0.25	1.27	0.84	0.52
Selenium		0.36	0.36	<0.24	0.36
Silver		<0.02	<0.02	<0.02	<0.02
Zinc		2.24	8.43	3.21	7.14

Table of Results
Eastfield Reservoir
Indata Lake: file # 1-201-01.01

Completion Date: 08/08/89
Project: 902-45-00

Sample ID		Q4
Date Collected		17/07/89
GENERAL PARAMETERS		
pH		8.22
Color	(APHA)	12
Total Alkalinity	(mg CaCO3 /L)	195
Turbidity	(NTU)	0.3
Specific Conductivity	(umhos /25C)	306
Total Solids	(mg/L)	197
Suspended Solids	(mg/L)	0
Calculated Hardness	(mg CaCO3 /L)	219
Sulfate	(mg/L as SO4 2-)	4
Ammonia	(ug/L as N)	35
Nitrate	(ug/L as N)	<2
Nitrite	(ug/L as N)	12
Total Phosphorus	(ug/L as P)	3
TOTAL CYANIDE	(ug/mL)	<10
TOTAL MERCURY	(ug/L)	<0.05
TOTAL METALS (ug/L)		
Aluminum		573
Antimony		0.16
Arsenic		<0.15
Barium		75.5
Cadmium		<0.04
Cobalt		0.04
Chromium		1.40
Copper		0.99
Iron		41.0
Lead		1.41
Manganese		14.2
Molybdenum		0.49
Nickel		<0.25
Selenium		0.36
Silver		<0.02
Zinc		9.29
DISSOLVED METALS (ug/L)		
Aluminum		98.8
Antimony		0.20
Arsenic		0.23
Barium		77.6
Cadmium		<0.04
Cobalt		0.04
Chromium		1.62
Copper		0.50
Iron		16.5
Lead		6.78
Manganese		2.24
Molybdenum		0.27
Nickel		0.53
Selenium		0.67
Silver		<0.02
Zinc		3.83

Appendix 16.6

Petrographic Reports

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph. D. Geologist

P.O. BOX 39
8887 NASH STREET
FORT LANGLEY, B.C.
VOX 1JO

PHONE (604) 888-1323

Report for: Bill Morton,
Eastfield Resources Ltd.,
1654 West 7th Avenue,
VANCOUVER, B.C., V6J 1S5

Invoice 6292
February 1987

Samples: DDH-3 88', 142'
DDH-4 19', 35.5'

Summary:

The samples are dominantly of intermediate to mafic plutonic and hypabyssal rocks, with one sample containing a contact between these units and an aphanitic latite. Most of the rocks are altered and veined. Summaries of individual samples are below.

DDH-3 88' altered diorite (plagioclase-hornblende), medium to coarse grained. Hornblende mainly altered to actinolite. Veins dominated by plagioclase with a core of actinolite-calcite-(pyrite-Ti-oxide). Smaller vein of actinolite-plagioclase, and numerous veinlets of chlorite.

DDH-3 142' contact between strongly altered and recrystallized quartz diorite (only plagioclase recrystallized and altered) and aphanitic latite. Chlorite was introduced during recrystallization into both rocks. In the latite, some chlorite-rich patchea appear to be replaced mafic phenocrysts. The rock contains veinlets of pyrite-chlorite-(plagioclase-quartz).

DDH-4 19' altered porphyritic gabbro-diabase, with clinopyroxene and minor plagioclase phenocrysrs in a groundmass dominated by plagioclase and lesser actinolite and calcite. Clinopyroxene is altered completely to a variety of aggregates of calcite, chlorite, and actinolite. The rock contains a fragment of leucocratic quartz diorite? and is cut by two sets of veins, a major set dominated by calcite-(quartz-plagioclase), and a less abundant set dominated by quartz-(chlorite).

DDH-4 35.5' fine grained diorite dominated by plagioclase and actinolite, cut by major veins of plagioclase-chlorite-calcite-(quartz), and minor veinlets of calcite-(pyrite).

John G Payne
John G. Payne

Sample AA DDH-1 49.0m (Slide 85-167X) TUFF BRECCIA

Estimated mode

Plagioclase	32
Quartz	14
Chlorite	32
Amphibole	18
Biotite	2
Rutile	1
Carbonate	trace
Epidote	trace
Sericite	trace
Pyrite	1

This is a heterogenous, strongly altered rock displaying obscure fragmental features.

The slide can readily be seen to consist of two main components - one distinctly green and the other more colourless. The green phase forms ragged, streaked-out fragments in the other, and there are areas of intimately admixed lensoid patches of the two components.

The light coloured material consists dominantly of an ill-defined anhedral granular aggregate of plagioclase, felsite and lesser quartz granules on the scale 0.05 - 0.2mm. It is intimately pervaded intergranularly, and within the grains, by very fine-grained chlorite.

The green material appears to be similar but with a much higher content of chlorite and the felsite barely distinguishable as interstitial remnants. Intergrown acicular amphibole, as non-oriented meshworks, is often abundant, together with scattered small flecks of biotite. Sometimes the amphibole-rich material forms cores to distinct fragments of the green phase, surrounded by rims of more chloritic composition. Some of the chloritic/amphibolitic fragments are speckled with small, rounded or elongate inclusions of quartzo-feldspathic material.

The rock is permeated throughout by irregular veinlets and pockets of quartz, presumably indicative of a phase of silicification - possibly diagenetic. Some of the quartzose pockets have intergrown flaky chlorite, green biotite, sulfides and occasional traces of carbonate. Sulfides also occur as sparse, randomly disseminated grains without associated silicates. The sulfides include pyrite and chalcopyrite.

The chaotic character of this breccia is suggestive of soft sediment slumping in intercalated felsitic and chloritic tuffs. The amphibolitization probably represents a subsequent (thermal?) episode.

Sample AA DDH-2 16.00m (Slide 85-168X) FINE-GRAINED GRAYWACKE

Estimated mode

Plagioclase	30
Quartz	26
Chlorite	30
Amphibole	8
Epidote	1
Carbonate	trace
Opaques	5

This is a rather even-grained, homogenous rock which exhibits a fine-grained graywacke-like texture.

It is composed of abundant angular to sub-rounded quartz grains and clasts of microgranular quartz and/or plagioclase, 0.05 - 0.2mm in size, set in a matrix of fine-grained felted chlorite and felsitic material. Accessory amounts of a fine-grained acicular amphibole form randomly oriented needles and incipient prismatic porphyroblasts through the matrix (and locally penetrating the quartz grains). Scattered tiny granules of epidote are another disseminated component.

The outlines of the coarser quartz and feldspar grains and aggregate patches are somewhat diffuse, as if through incipient replacement by the chloritic matrix.

The texture of this rock is somewhat enigmatic. The homogeneity and lack of layering or distinguishable fragments gives it a fine-grained igneous/volcanic look, but the pronounced microbreccia texture of gritty, dominantly quartzose grains in a fine-grained matrix favours its classification as a graywacke.

The rock contains a relatively high content of very fine-grained opaques. These include some recognizable pyrite but are probably mainly oxides. They exhibit an unusual and distinctive mode of occurrence as spidery, wispy networks and short, sinuous stylolite-like threads. Sometimes these include small discrete granules up to 0.05mm in size. This structure bears only a partial relation to the grain structure of the host, sometimes partially following around the outlines of the clasts but generally seeming independent of them. The sulfide threads and specks tend to define a weak sub-parallel foliation.

The lack of any apparent fracture control or of any associated concentrations of alteration type minerals suggests that the opaques are of a primary or diagenetic origin.

Sample AA DDH-2 27.28m (Slide 85-169X) ALTERED TUFF ?

Estimated mode

Plagioclase	30
Quartz	25
Amphibole	22
Chlorite	16
Epidote	2
Carbonate	2
Opaques	3

This rock is made up of a rather homogenous fine-grained, mafic-rich matrix which is host to prominent, augen-like segregations of quartz.

The matrix is composed of very fine-grained chlorite (possibly with intergrown felsite) within which is developed a meshwork of tiny acicular amphibole needles. Also present are some slender plagioclase laths and abundant small rounded/equant pools of microgranular quartz and felsitic plagioclase.

The fabric of the matrix shows a weak but distinct foliation (produced by weak preferred orientation of amphibole needles, strong parallelism of the scattered plagioclase laths and a tendency for the small quartz/feldspar clumps to occur in elongate clusters). This is emphasized by the distribution of fine-grained opaques which form spidery dendritic clusters, elongated in the direction of the foliation. Locally they form stylolite-like wisps and sinuous networks.

Although sub-concordant with the foliation, the opaque clusters and streaks seem to bear no consistent relation to the grain fabric of the matrix.

The opaques are very fine-grained and little more can be said about them in the absence of a polished surface for reflected light examination. As far as can be seen from the cut-off chip, however, they probably consist mainly of chalcopyrite and magnetite.

The prominent augen-like masses in this rock (which, in general, also show a conformity to the overall foliation) are composed essentially of anhedral mosaic aggregates of quartz of grain size 0.1 - 1.0mm. Some of them also contain intergrown coarse-grained carbonate, sheaf-like prismatic epidote, pockets of felted chlorite, and crystals of sericitized plagioclase.

The origin of these segregations is unclear. Sometimes they form clearly defined rounded or elongate patches reminiscent of amygdules. Elsewhere, however, they show more diffuse contacts, with gradational envelopes of fine-grained silicification in the surrounding matrix. In some cases they are linked by distinct veinlets of quartz, suggesting that they are centres of introduced silicification.

The rock itself is, overall, of obscure origin. The texture of the matrix looks volcanic-igneous, in which case the foliation may be a flow feature. However, it also looks somewhat recrystallized (the amphibole could be a superimposed feature) and the foliaiton could be partly deformational. Alternatively - and perhaps most likely overall - the foliation may follow original layering in a tuff in which the quartzose augen are fragments or coarse silty intercalations.

Sample AA DDH-3 12.00m (Slide 85-170X) ANDESITE

Estimated mode

Plagioclase	80
Amphibole	16
Carbonate	1
Sphene	1
Sericite	trace
Chlorite	trace
Epidote	trace
Opaques	2

This rock is composed essentially of a meshwork-textured aggregate of unaltered plagioclase, mainly in the size range 0.02 - 0.2mm. Euhedral to subhedral lath-like grains form a mesh to interstitial finer-grained felsitic plagioclase. A few coarser semi-phenocrysts ranging up to 0.5mm or more are also present, sometimes in clumps.

The scattered coarser grain clusters are lightly dusted with sericite but, for the most part, the plagioclase is fresh and unaltered.

The principal accessory is a pale olive coloured amphibole which forms small acicular crystals intimately intergrown with the plagioclase meshwork, as well as scattered, coarser, subhedral, phenocryst-like grains (sometimes clumped with the coarsest plagioclase).

Minor accessory sphene occurs as disseminated granules, and rims to small grains of oxides.

The amphibole is presumably mostly of primary origin (though some of the coarser grains have inclusions of plagioclase and look a little ragged and porphyroblastic). However, it also shows some wispy, irregular, veinlike concentrations, sometimes with associated sulfides and carbonate. These probably represent incipient alteration/recrystallization controlled by micro-fracturing.

Rare isolated granular pockets of epidote also occur.

The distribution of sulfides (mainly pyrite) is clearly fracture-controlled.

Sample AA DDH-3 22.65m (Slide 85-171X) BRECCIATED ALTERED TUFF (?)

Estimated mode

Carbonate	50
Sericite	14
Plagioclase) Felsite)	25
Quartz	10
Secondary amphibole(?)	1
Opaques	trace

This is a rock of enigmatic character.

As can be clearly seen from the cut-off chip it is, in part, a breccia. One end of the slide shows angular, matching fragments, 0.5 - 8.0mm in size, with a minor veinlet-type cementing phase.

The rock in this area appears to be a sericitized felsite heavily and pervasively permeated by fine-grained carbonate. Irregular diffuse-margined patches of quartz occur within this material and look like unreplaced remnants.

The cementing veinlet phase is carbonate and an olive green felted mineral which may be a type of amphibole. The latter sometimes forms rims and networks outlining microbrecciated areas of sparry carbonate (calcite) within the cementing phase.

This obviously brecciated zone is in contact with an area of similar but more homogenous rock which, however, lacks quartz. This makes up the central part of the slide and consists, apparently, of very fine-grained, partially sericitized felsite, densely and evenly pervaded by carbonate. The latter shows a peculiar sheaf-like, semi-fibrous habit. It may be either pseudomorphous after another mineral (amphibole/) or in a state of incipient recrystallization to this other mineral.

This area may simply be a large clast in the same crackle-type breccia referred to earlier. It is cut by occasional hair-line veinlets of the felted amphibole-like mineral.

It appears to show a sharp contact with the material making up the far end of the slide, which consists of patches of a granular quartzo-feldspathic rock separated by sub-opaque carbonate. This is also probably a breccia structure. The fragment material looks almost like a fine graywacke or crystal tuff - consisting of close-packed, small (0.02 - 0.2mm) clasts or crystals of quartz and plagioclase in a carbonate/sericite matrix. Locally the matrix is essentially lacking and the aggregates look volcanic in origin (lithic clasts?). The carbonate in this area often shows pellety, streaky features suggesting that it may be pseudomorphous after vitric or vitroclastic material.

The whole rock is obscured in detail by the strong pervasive carbonatization. The carbonate is non-reactive to dilute acid and is probably dolomitic.

The rock is probably an altered pyroclastic which has been brecciated.

(26.9m)
DDH-3 88' Altered Diorite cut by several vein types

The rock is a medium to coarse grained diorite in which plagioclase is slightly altered to dusty sericite-epidote, and hornblende is variably altered to actinolite. A few hornblende grains are relatively fresh, and most are altered completely. Veins include a large composite vein dominated by plagioclase with a core of actinolite-calcite-(pyrite), a smaller vein dominated by acicular actinolite and lesser plagioclase, and numerous narrow chlorite-rich veinlets. Calcite-pyrite forms a few irregular replacement patches.

plagioclase	50-55%
hornblende/actinolite	35-40
calcite	0.2
pyrite	minor
ilmenite	0.1
Ti-oxide	0.1
veins	
1. plagioclase with core of actinolite-calcite-(pyrite)	4- 5%
2. actinolite-(plagioclase)	0.5
3. chlorite	½- 1

Plagioclase forms anhedral, equant grains averaging 1-1.5 mm in size. These are altered slightly to moderately to dusty to extremely fine grained sericite, epidote, and actinolite. Actinolite forms tiny acicular grains in some plagioclase grains.

Hornblende forms anhedral to subhedral grains averaging 0.7-1 mm in size. A few grains are relatively fresh, and are light brownish green in color with weak pleochrism. Many grains are altered to pseudomorphs of very pale green actinolite. More intense alteration and recrystallization produces subparallel to irregular aggregates of fibrous to acicular actinolite.

Calcite forms irregular interstitial patches averaging 0.1-0.2 mm across. A few larger patches up to 07. mm across contain very irregular intergrowths of very fine to extremely fine grained pyrite?.

Ilmenite forms scattered anhedral, equant to elongated grains from 0.05-0.15 mm in average size. A few have thin, partial rims of Ti-oxide. Ti-oxide/leucoxene forms disseminated, extremely fine grained patches, mainly less than 0.05 mm in size.

The rock is cut by a main vein 1-1.3 mm in width, dominated by anhedral, fine to locally medium grained plagioclase, with an irregular core zone averaging 0.1-0.2 mm in width consisting of extremely fine to very fine grained calcite and actinolite. Pyrite forms very irregular inclusions in some calcite patches (as in the host rock). Ti-oxide forms a cluster of elongated prismatic grains up to 0.5 mm in length. The original grains are altered completely to extremely fine grained aggregates of two phases, one colorless with high relief (rutile) and the other semiopaque to opaque (leucoxene).

In one corner is a vein up to 0.5 mm wide dominated by very fine grained, commonly acicular actinolite, with lesser anhedral, equant plagioclase of similar grain size.

The rock is cut by numerous wispy seams averaging 0.01-0.03 mm in width of very fine grained chlorite.

Sample AA DDH-3 34.20m (Slide 85-172X) AMPHIBOLITIZED INTRUSIVE (?)

ALTERED TUFF?

Estimated mode

Plagioclase	37
Quartz	20
Amphibole	20
Chlorite	12
Carbonate	8
Opaques	3

This sample consists of a quartzo-feldspathic rock of uncertain origin which has been strongly altered in a rather distinctive fashion.

What appears to be the primary texture consists of rather coarse subhedral to irregular shaped grains of quartz, 0.3 - 3.0mm in size, set in a matrix of plagioclase. The textural relationships are partly of sub-graphic type, and have the aspect of an intrusive. The character of the plagioclase, however, is strange. Instead of the discrete grains one might expect, it exhibits an obscure internal structure of patchy felsitic (or pseudo-felsitic?), type, sometimes microgranular, sometimes almost feathery. It is possibly a cryptic form of granophyre. Alternatively (though less likely) the quartz may be a form of silicification within a coarse-grained lithic tuff. The rock could also be extensively recrystallized, though no features of deformation are apparent.

The plagioclase is lightly dusted throughout with minute speckles of carbonate.

The rock is pervaded by radiate clusters, irregular meshwork patches and sub-parallel vein -like concentrations of pale-green, weakly pleochroic amphibole. This forms fibrous masses grading to acicular prismatic grains up to 1mm long. The more dispersed, finer-grained amphibole forms sheafs and rosettes often controlled by quartz/plagioclase contacts, but also as inclusions within quartz.

In parts of the slide ampbibole is rare and its place appears to be taken by chlorite. This forms rather well-segregated irregular masses and pockets of fine-grained felted material. This locally acts as matrix to meshwork of fine acicular amphibole and the latter mineral sometimes appears to be developing from chlorite.

Carbonate is an associate of some of the coarser segregations of amphibole. It occurs as interstitial pockets or as matrix to meshworks of amphibole needles.

Well-crystallized (twinned) plagioclase occurs in association with some of the vein-like amphibolitized zones.

Opaques (mainly pyrite) are patchily concentrated in the amphibolitic zones - in an intimately intergrown interstitial relation to the silicate meshworks. Disseminated anhedral grains of pyrite are also seen in the non-amphibolitized rock, sometimes associated with chlorite.

A proportion of the opaques exhibit the sinuous thread-like form seen in some of the other rocks of the suite. These may be largely rutile or Fe/Ti oxides (which are also seen as small skeletal/lattice growths).

(43.3m)

DDH-3 142' Contact: Quartz Diorite and Latite; Veins of Pyrite-Chlorite

The sample is at the contact of a medium to coarse grained quartz diorite and an extremely fine grained latite. The quartz diorite is strongly recrystallized (plagioclase but not quartz) and replaced by chlorite. The latite contains patches of chlorite, which may be replacements of hornblende phenocrysts. Veinlets in both rocks are dominated by pyrite and chlorite.

quartz diorite

plagioclase	55-60%
chlorite	10-12
quartz	25-30
ilmenite/leucoxene	1-1½
calcite	trace

Plagioclase forms anhedral grains from 0.7-2 mm in size. It is recrystallized strongly to very fine or extremely fine grained aggregates of equant, anhedral grains. The latter have been slightly to strongly replaced by chlorite, which is intimately intergrown with recrystallized plagioclase.

Quartz forms medium to locally coarse grains which show moderately strained extinction. They are fractured, with fractures filled by extremely fine grained plagioclase-chlorite.

Ilmenite/leucoxene forms ragged, equant grains up to 0.3 mm in size. These are corroded and replaced by extremely fine grained recrystallized plagioclase-chlorite.

Calcite forms scattered, extremely fine grained patches of irregular outline.

latite

plagioclase	70-75%	
chlorite	15-20	(groundmass)
chlorite patches	7- 8	
Ti-oxide	trace	
apatite	trace	
hematite?	trace	

The latite is dominated by extremely fine grained aggregates of plagioclase, with minor to moderately abundant intimately intergrown chlorite flakes of similar size. Chlorite is more abundant near late pyrite-chlorite veinlets. Scattered through the rock are patches up to 1.3 mm in size dominated by extremely fine to very fine grained chlorite. Some of these have subhedral outlines suggesting that they represent altered hornblende phenocrysts. However, some contain minor to moderately abundant intergrown plagioclase (as in the groundmass), suggesting that they formed by replacement of the groundmass. Scattered through the groundmass are irregular patches averaging 0.05-0.1 mm in size of plagioclase, probably formed by recrystallization.

Ti-oxide forms disseminated extremely fine grains.

Apatite forms a very few ragged prismatic grains up to 0.1 mm long.

Hematite? forms one euhedral pseudomorph 0.2 mm across. It is deep red-brown in color and isotropic. The original grain may have been pyrite.

veinlets

The rock is cut by numerous veinlets less than 0.2 mm wide. Most are dominated by patches of pyrite, with much less plagioclase, quartz, and brownish green chlorite. These grade laterally into thin seams of light green chlorite. A few lensy veinlets are dominated by quartz with much less plagioclase and/or chlorite.

(5.8m)
DDH-4 19' Altered Porphyritic Gabbro/Diabase; Calcite-Quartz veins

The rock contains medium to very coarser phenocrysts of clinopyroxene and minor plagioclase is a groundmass dominated by lathy plagioclase with interstitial actinolite and calcite. Clinopyroxene phenocrysts are altered to chlorite, actinolite, and calcite in a variety of textures. The rock is cut by two sets of veins, one dominated by quartz with lesser chlorite, and the other dominated by calcite with lesser quartz and plagioclase. The rock contains a fragment? of leucocratic quartz diorite?.

phenocrysts	
clinopyroxene	15-17%
plagioclase	1- 2
groundmass	
plagioclase	50-55
actinolite	15-17
calcite	5- 7
opaque	0.3
pyrite/hematite	trace
fragment	
quartz diorite?	2- 3
veins	
1) quartz-(chlorite)	1½- 2
2) calcite-quartz-(plagioclase)	7- 8

Clinopyroxene forms euhedral to subhedral phenocrysts up to several mm across. They are altered completely. Large phenocrysts generally are altered to fine to very fine grained aggregates of chlorite. Some of these contain cores rich in calcite with minor ragged actinolite grains. Others have thin rims of actinolite surrounding cores of chlorite. A few contain minor Ti-oxide as disseminated, extremely fine grained irregular patches. One contains irregular patches of quartz and actinolite surrounded by chlorite. Smaller phenocrysts (less than 1.5 mm) are dominated by pseudomorphic actinolite, with only minor chlorite or calcite.

Plagioclase forms one large phenocrysts over 2 mm across. It is irregularly replaced by patches of quartz of very fine to fine grain size. Smaller plagioclase phenocrysts are prismatic and up to 0.8 mm long; they are relatively fresh.

The groundmass is dominated by lathy plagioclase grains averaging 0.2-0.5 mm in length. Interstitial to these are subhedral to anhedral garins of actinolite up to 0.3 mm in size, and very fine grained patches and seams of calcite. Calcite and actinolite probably are secondary after primary clinopyroxene. Calcite probably is in part secondary after actinolite (Some patches in the rock contain only actinolite after clinopyroxene, and in other patches the only material interstitial to plagioclase is calcite.

Opaque forms anhedral grains and clusters from 0.1-0.6 mm in size. The mineral probably is ilmenite, possibly altered to leucoxene.

A very few subhedral to euhedral grains of pyrite are up to 0.1 mm across. They are altered completely to dark red-brown hematite pseudomorphs.

The rock contains an irregular patch (inclusion?) at one end of the section. The patch is dominated by very fine grained, equant, slightly interlocking plagioclase, with muc hess interstitial quartz, and also contains a few patches of fine to medium grained quartz.

The rock is cut by veins up to 0.6 mm wide of very fine to fine grained quartz with patches of extremely fine grained chlorite.

A larger, more irrgeular vein or replacement zone consists of very fine to fine grained calcite with lesser very fine grained quartz, and a few patches of very fine grained plagioclase. The hand sample contains several similar calcite-(quartz) veins up to 1.5 mm in width.

Note: Two thin sections were prepared; they have slightly different features. The description is of the section with the large calcite-rich vein.

(10.8m)
DDH-4 35.5' Fine Grained Diorite cut by Plagioclase-Calcite-Chlorite-(Quartz) Veins

The rock is a uniform, fine grained diorite dominated by plagioclase and actinolite, with minor Ti-oxide/ilmenite, chlorite, and calcite patches. It is cut by two large veins dominated by earlier extremely fine grained plagioclase and chlorite and later coarser grained calcite-chlorite-(quartz).

plagioclase	50-55%	
actinolite	30-35	
calcite	2- 3	
chlorite	1½-2	
Ti-oxide	1- 1½	
veins		
plagioclase-calcite-chlorite-(quartz)		7- 8%
calcite-opaque (pyrite?)		minor

Plagioclase forms a few prismatic phenocrysts up to 1 mm in size, and more abundant ones from 0.4-0.6 mm in length. The latter grade down into groundmass plagioclase, which consists of lathy, prismatio, and equant grains averaging 0.1-0.3 mm in size. Plagioclase is slightly altered to extremely fine grained sericite, chlorite, and actinolite.

Actinolite forms ragged prismatic grains averaging 0.1-0.5 mm in size, with a very few over 0.7 mm in length. Color is pale to light green and pleochroism is weak.

Calcite forms very irregular patches of extremely fine grain size; patches are up to 0.2 mm in size.

Chlorite forms interstitial patches up to 0.2 mm in size of extremely fine grained aggregates of equant flakes averaging 0.02 mm in grain size.

Ti-oxide and ilmenite occur in ragged patches from 0.02-0.05 mm in size. Patches commonly have tiny opaque (ilmenite/leucoxene) cores surrounded by high-relief Ti-oxide. Probably original ilmenite grains are replaced by Ti-oxides.

The rock is cut by two parallel veins from 1 to 3 mm wide. These consist of two main assemblages. Earlier, extremely fine grained aggregates are dominated by plagioclase with lesser interstitial chlorite. Plagioclase is equant and slightly interlocking. Later semas parallel to vein walls, and mainly in the core of veins consist of very fine grained calcite, with patches of chlorite and minor interstitial quartz. In one vein, some of the plagioclase near this core is moderately to strongly altered to extremely fine grained sericite and very fine grained sericite/muscovite.

Wispy stringers up to 0.03 mm in width consist of calcite with scattered patches up to 0.07 mm in size of opaque, probably pyrite. These veinlets cut the rock and the earlier plagioclase-rich veins.

Sample AA DDH-4 17.52m (Slide 85-173X) FINE-GRAINED DIORITE

Estimated mode

Plagioclase	50
Amphibole	42
Chlorite	1
Epidote	4
Carbonate	3
Sphene	trace
Opaques	trace

This is a fresh, evenly granular, medium to fine-grained rock composed essentially of intergrown plagioclase and amphibole.

The plagioclase forms an interlocking meshwork of subhedral, prismatic grains, 0.2 - 0.6mm in size. It is fresh and sometimes shows well-developed twinning. Observation of extinction angles indicates a composition in the andesine range. Scattered interstitial pockets of fine-grained felsitic or feathery textured plagioclase are also seen.

The amphibole is a rather pale coloured, olive to blue-green pleochroic variety which forms subhedral prismatic to anhedral grains of similar size to the plagioclase. It appears to be a primary constituent and exhibits an interstitial/ interpenetrating textural intergrowth with the plagioclase. The amphibole tends to concentrate in clumps.

Epidote occurs as rather evenly distributed small fine-grained clusters, mainly as an alteration of plagioclase, but occasionally within amphibole.

Carbonate forms sparsely disseminated irregular flecks and intergrowths with the epidote, but is concentrated mainly as thin veinlets and linear replacement zones.

Sphene occurs as sparse scattered granules. Opaques are rare. They appear to be Fe/Ti oxides.

A Grid

3+50N 4+00W

S-AA-2: ALTERED (ACTINOLITE-QUARTZ) VOLCANIC (DACITE ?).

This sample originally consisted mainly of an aggregate of fine shspeless to lath-like plagicolase grains, intergrown with some quartz. Pervasive alteration has resulted in the formation of quartz patches within the mass of plagioclase. Perhaps all the quartz (certainly most of it) has been introduced which would place the rock in the andesite classification field. Actinolite and opaques (pyrite, judging from hand specimen) are intergrown with the quartz. Minerals are:

plagioclase	37%
quartz	32
actinolite	20
opaque (pyrite)	6
chlorire	4
epidote	1

Plagioclase forms shapeless to lath-like interlocking grains 0.05 to 0.3mm in siza which are intergrown with some fine quartz. Extremely fine chlorite occurs between the plagioclase grains and is partly replacing them. The chlorite is concentrated in irregularly shaped patches up to 1mm in size where it forms a mass of flakes 0.05 to 0.1mm in size. In places rounded epidote grains less than 0.05mm in size occur in clusters within the plagioclase.

Quartz forms irregulalrly shaped to subrounded grains 0.1 to 0.6mm in size which occur in partly interconnected patches up to a few millimeters in size which have replaced the plagioclase. Small remnants of the plagioclase occur within the quartz patches. Sometimes there are small prismatic epidote grains within the quartz. There is also a veislet of quartz about 1mm wide where the quartz is intergrown with tabular plagioclase grains about 0.3mm in size. Contacts with the rock are not sharp.

The quartz is associated with actinolite and pyrite (identified in hand specimen). The actinolite forms ragged acicular grains 0.05 to 0.3mm in length which occur in aggregates and clusters replacing the plagioclase around the quartz patches and are also intergrown with and included within the quartz grains. Small radieting clusters occur within the plagioclase away from the quartz patches. Very fine actinolite grains are included in the quartz and plagioclase in the veinlet.

The pyrite forms cubic to rounded grains 0.05 to 0.5mm in size. The larger ones usually occur in small aggregates which are intergrown with quartz; actinolite clusters around these and is sometimes intergrown with the pyrite. These actinolites are usually much broader than the more typical acicular grains. The smaller pyrite grains are disseminated throughout the plagioclase part of the rock.

B Grid

4+75N 1+75E

S-AB-1: ALTERED (ACTINOLITE - QUARTZ) VOLCANIC.

This sample originally consisted of a mass of fine plagioclase grains and was probabaly an andesite. Pervasive silicification has resulted in the formation of a partly interconnected patchy network of quartz within the mass of plagioclase. Actinolite is intergrown with the quartz and also occurs in patches within the volcanic parts of the rock. Further alteration (authigenic?) has resulted in bleaching and staining of the amphibola by limonite; this is associated with fine carbonate and chlorite. Minerals are:

plagioclase	35%	
actinolite	35	
quartz	30	
Fe-Ti oxide	minor	
chlorite	minor	
sericite	minor	
calcite	trace	
opaque	trace	(altering to limonite)

Plagioclase forms a mass of subrounded grains about 0.03mm in size. There are vague outlines of larger grains up to 0.2mm in size suggesting that the fine plagioclase has been recrystallised from these during the alteration. Extremely fine Fe-Ti oxides are disseminated within the plagioclase. In places there are very fine flakes of sericite within the plagioclase.

Alteration has resulted in the formation of a closely spaced, partly interconnected patchy network of quartz and actinolite within the plagioclase. The quartz forms subrounded to irregularly shaped grains 0.05 to 0.3mm in size. Interconnected patches may be a few millimeters in size; isolated ones are much smaller. In the larger patches actinolite occurs in a network amongst the quartz grains. It forms fine feathery or acicular grains up to 0.2mm in length which are growing into the quartz. The fine network of actinolite is continuous into the volcanic parts of the rock and it also occurs in patches within the plagioclase where it forms grains up to 1mm in length. Sericite in the plagioclase tends to occur near the actinolitic patches.

The actinolite has been bleached and stained a light brown colour by limonite; the green colour is preserved in the core of the patches. The limonite is derived from cubic opaque grains (altered pyrite??) up to 0.1mm in size which occur scattered about the patchy network of actinolite. Bleaching is probably due to the addition of calcite and chlorite which have been introduced along very thin fractures. Small chlorite patches are sometimes intergrown with the actinolite and very fine chlorite occurs in thin discontinuous vein-like patches within the plagioclase. Calcite also forms very fine grains occuring in thin vein-like patches in the plagioclase or in places it occurs as fine specks. Some of the actinolites have been pseudomorphically replaced by fine calcite.

Cu	123 ppm	Sb	34 ppm
Pb	236 ppm	Au	6 ppb
Zn	521 ppm		
As	13 ppm		
Ag	9.5 ppm		

Harris
EXPLORATION SERVICES
MINERALOGY AND GEOCHEMISTRY
534 ELLIS STREET, NORTH VANCOUVER, B.C., CANADA V7H 2G6 TELEPHONE (604) 929-5867

Job #85-59

October 10th, 1985

Report for: Rad Peshalj,
Imperial Metals Corp.,
1300-409 Granville St.,
Vancouver, B.C.
V6C 1T2

Samples:

7 core samples from Project 4114. The rocks were prepared as standard thin sections. Corresponding sample and slide numbers are as shown below:

Sample No.	Slide No.
AA DDH-1 49.0m	85-167X
AA DDH-2 16.00m	85-168X
AA DDH-2 27.28m	85-169X
AA DDH-3 12.00m	85-170X
AA DDH-3 22.65m	85-171X
AA DDH-3 34.20m	85-172X
AA DDH-4 17.52	85-173X

Summary:

This is a rather diverse suite including several rocks of obscure type.

Two samples readily identifiable are 170X, a fresh, non-porphyritic, plagioclase-rich andesite; and 173X, a plagioclase-amphibole rock classified as a fine-grained diorite.

The majority of the rocks exhibit features which suggest a probable tuffaceous or volcaniclastic origin. 168X appears to be a fine-grained graywacke; 169X is tentatively identified as an andesitic tuff with quartzose segregations; 167X may be a slumped melange of andesitic and felsic tuffs; and 171X is an intensely carbonated and sericitized breccia of possible tuffaceous character.

A notable feature of all these rocks, except the last, is the presence of fine-grained acicular amphibole. This appears to have developed from chlorite, possibly in response to thermal metamorphism.

The remaining rock of the suite, 172X, is of uncertain affinities: it was initially felt to be an altered intrusive but may be related to the tuffs. It contains acicular amphiboles similar to those characterising the latter group, as well as fine-grained opaques of a distinctive textural type also observed in 168X and 169X.

J.F. Harris Ph.D.

VPL

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph. D. Geologist

P.O. BOX 39
8887 NASH STREET
FORT LANGLEY, B.C.
VOX 1JO

PHONE (604) 888-1323

Report for: **J. William Morton,**
Eastfield Resources Ltd.,
110 - 325 Howe Street,
VANCOUVER, B.C., V6C 1Z7

Invoice 7015
December 1987

Samples: 87-1-1 158', 87-1-2 13', 87-1-3 24', 87-1-5 130'

Summary:

The samples are of a metamorphosed hypabyssal suite of diorite-andesite composition. Hornblende is altered completely, mainly to one or more of actinolite, chlorite, and calcite. Plagioclase generally is fresh to altered slightly. Phenocrysts of plagioclase and hornblende are ubiquitous but not abundant.

Veins are common, and are dominated by one or more of calcite, chlorite, quartz, plagioclase, actinolite, and epidote.

87-1-1 158' diorite, moderately abundant phenocrysts of hornblende and lesser plagioclase; groundmass of plagioclase and actinolite; large vein of tremolite/actinolite with hornblende phenocrysts.

87-1-2 13' diorite-andesite, phenocrysts of hornblende in groundmass of plagioclase with lesser chlorite and much less epidote and calcite; veins of calcite.

87-1-3 24' contact: meta-andesite (cut by chlorite-quartz-plagioclase-(calcite) veins; epidote-chlorite vein on contact with meta-basalt (cut by veins of calcite-chlorite-quartz)

87-1-5 130' diorite-andesite, minor hornblende phenocrysts in groundmass of plagioclase-actinolite; veins of quartz-(chlorite-opaque).

John G. Payne

John G. Payne

87-1-1 158' **Metamorphosed Hypabyssal Diorite cut by Actinolite-rich Vein**

The rock contains phenocrysts of plagioclase and hornblende in a very fine to fine grained groundmass of plagioclase and actinolite. Plagioclase is altered slightly to moderately to epidote, chlorite, sericite, and calcite, whereas hornblende is altered completely to actinolite-chlorite. The rock is cut by a vein up to a few mm wide of extremely fine grained actinolite with clusters of altered hornblende phenocrysts.

phenocrysts		vein	
plagioclase	4- 5%	hornblende phenocrysts	2- 3
hornblende	7- 8	tremolite/actinolite	
groundmass		groundmass	8-10
plagioclase	30-35	border zone	2- 3
actinolite	35-40	amygdule(?)	
epidote	1- 2	calcite-quartz	0.3
Ti-oxide/ilmenite	0.3	late veinlets	
opaque(pyrite?)	minor	calcite	trace

Plagioclase forms anhedral, stubby to locally slender prismatic phenocrysts averaging 0.7-1.2 mm in size. It is altered slightly to moderately to patchy zones of extremely fine grained chlorite, epidote, sericite, and calcite, with each alteration mineral generally occupying a separate part of the phenocryst.

Hornblende forms prismatic phenocrysts up to 3 mm in length. It is altered completely to pseudomorphic to fibrous, pale to light green actinolite. Many grains contain patches of very fine grained chlorite in cores of grains, surrounded by wispy fibrous rims of actinolite. Some phenocrysts are dominated by chlorite with disseminated grains of tremolite, some of which are in optical continuity and may represent relic pseudomorphs after hornblende.

The groundmass is dominated by very fine to fine grained, anhedral plagioclase intergrown with ragged prismatic to fibrous, pale green actinolite. Epidote forms anhedral patches averaging 0.03-0.15 mm in size of extremely fine to very fine grained aggregates, probably after plagioclase. A very few larger patches are up to 0.8 mm across. Opaque (pyrite?) forms a few equant, subhedral grains up to 0.05 mm in size. Ti-oxide forms irregular, extremely fine grained patches averaging 0.02-0.04 mm in size. Some of these contain cores up to 0.01 mm in size of ilmenite.

The rock contains a patch up to 1.5 mm in size of an intimate intergrowth of very fine grained quartz and interstitial calcite and epidote.

The vein is dominated by extremely fine grained, unoriented grains of tremolite/actinolite, with 2-3% disseminated, fibrous to prismatic grains up to 0.08 mm long. A few clusters up to 1.7 mm across consist of subhedral to euhedral hornblende phenocrysts up to 1.2 mm long. These are replaced completely by very fine grained chlorite. Ti-oxide is concentrated along borders of phenocrysts as extremely fine grained aggregates, and also is scattered thru the groundmass. The vein is bordered by a zone from 0.05-0.5 mm in width of coarser grained tremolite/actinolite in subparallel orientation parallel to the vein wall. The border zone appears to have slightly higher birefringence than the main vein.

Late wispy veinlets up to 0.02 mm wide consist of very fine grained calcite.

87-1-2 13'   Hypabyssal Diorite/Andesite cut by Calcite Veins

The rock contains phenocrysts of hornblende and minor ones of plagioclase in a groundmass dominated by plagioclase with lesser chlorite, epidote, and calcite. Groundmass texture is diabasic, with minor late-stage intergrowths of plagioclase-quartz.

phenocrysts	
hornblende	4- 5%
plagioclase	0.5
groundmass	
plagioclase	65-70
chlorite	12-15
epidote	7- 8
calcite	3- 4
quartz	1
pyrite	0.1
veins	
calcite	1- 2

Hornblende forms subhedral to euhedral, prismatic grains up to 0.7 mm in length. Some are replaced by fibrous to feathery aggregates of tremolite with minor to very abundant disseminated, irregular patches of calcite. Others are replaced completely by single grains or aggregates of a few grains of calcite.

Plagioclase forms a few prismatic phenocrysts from 1-1.5 mm in average length and a few clusters of similar grains up to 2 mm across. Albite twins commonly are very discontinuous. Alteration is slight to patches of calcite.

Plagioclase in the groundmass ranges from prismatic to lathy grains up to 0.5 mm in length to anhedral, interstitial grains averaging 0.1-0.2 mm in size. Scattered through much of the groundmass are irregular, tiny, interstitial patches consisting of extremely fine grained plagioclase intergrown with lesser quartz.

Chlorite forms interstitial patches of extremely fine to very fine grained aggregates.

Calcite forms very irregular patches up to 0.15 mm in size, mainly associated with chlorite.

Epidote forms irregular patches of very fine grained aggregates, commonly interstitial to plagioclase and intergrown with calcite. It also forms scattered equant to prismatic grains from 0.2-0.7 mm in size. A very few larger patches up to 2 mm across consists of radisting elongate prismatic grains of epidote intergrown with irregular, very fine grained caloite.

Pyrite forms irregular to skeletal aggregates from 0.05-0.2 mm in size. Individual grains range from anhedral to euhedral in shape and average 0.02-0.03 mm in aize.

Calcite forms somewhat discontinuous fracture-filling to replacement veins up to 0.5 mm wide of very fine to fine grains.

87-1-3 24'   **Contact: Meta-andesite (cut by chlorite-quartz-plagioclase veins) and Porphyritic Meta-basalt(?) (cut by calcite-[chlorite-quartz] vein); Epidote-chlorite vein on contact**

meta-andesite

Plagioclase and hornblende form minor phenocrysts in a groundmass of very fine grained plagioclase and actinolite.

phenocrysts	
plagioclase	minor
hornblende	minor
groundmass	
plagioclase	70-75%
actinolite	25-30
epidote	1
ilmenite/Ti-oxide	1
amygdule	
calcite-quartz-rich	0.5
vein	
chlorite-quartz-plagioclase-(calcite)	3-5%
quartz-(plagioclase)	0.5

Plagioclase forms a few subhedral to anhedral, prismatic phenocrysts up to 0.7 mm long. Albite twins are poorly and discontinuously developed.

Hornblende forms a few prismatic phenocrysts up to 1 mm long. It is replaced by pale green actinolite as ragged pseudomorphs and fibrous aggregates.

The groundmass is dominated by anhedral, interlocking plagioclase grains averaging 0.03-0.1 mm in size, with much less lathy plagioclase grains from 0.1-0.2 mm in length. These are intimately intergrown with ragged prismatic grains of actinolite averaging 0.05-0.15 mm in size.

Epidote forms irregular, extremely fine grained patches up to 0.05 mm in size.

Ti-oxide containing tiny relic cores of ilmenite forms irregular patches up to 0.1 mm in size.

One subrounded patch up to 1.7 mm across consists of an intergrowth of fine to very fine grained quartz and calcite, with a few clusters of prismatic epidote grains up to 0.5 mm in grain length. Chlorite is concentrated with extremely fine to very fine grained quartz, mainly towards the rim of the patch. Minor minerals are actinolite as a ragged prismatic grain 0.1 mm in length, and pyrite as two equant subhedral grains, largely replaced by hematite. Associated with the patch is a vein up to 0.2 mm wide composed of very fine grained quartz and minor plagioclase.

The rock is also cut by two veins up to 0.6 mm wide of very fine grained quartz and plagioclase, and extremely fine grained chlorite, with a few patches of calcite. Along the oenterline of one of these veins is a late, irregular veinlet averaging 0.05 mm wide of calcite. The other vein has a similar but much finer and more discontinuous veinlet of calcite.

border vein

Along the border of the two rock types is a vein from 0.5-1.2 mm in width dominated by very fine grained patches of epidote, and extremely fine grained patches of chlorite, with much less calcite, mainly in patches intergrown with epidote.

meta-basalt

Amphibole phenocrysts occur in a groundmass of actinolite and lesser plagioclase.

phenocrysts	
hornblende	5- 7%
plagioclase	1
groundmass	
actinolite	50-55
plagioclase	35-40
Ti-oxide	0.1
pyrite	minor
veins	
calcite-chlorite-quartz	1-2%

Hornblende forms subhedral to anhedral prismatic phenocrysts up to 1.5 mm in length. They are replaced by variable aggregates of actinolite and chlorite. Actinolite commonly is fibrous. A few phenocrysts contain minor actinolite/hornblende relics surrounded by chlorite. Other grains are altered completely to chlorite, with very minor fibrous to prismatic actinolite.

Plagioclase forms a very few subhedral phenocrysts and clusters of a few phenocrysts up to 0.8 mm in size.

The groundmass consists of very fine grained, ragged prismatic to equant grains of pale green actinolite, with interstitial, very fine grained, anhedral plagioclase. Textures are similar to those in the meta-andesite, but the actinolite/plagioclase ratio is much higher in the meta-basalt.

Ti-oxide forms anhedral patches up to 0.1 mm in size.

Pyrite forms scattered anhedral grains up to 0.13 mm in size. It is altered to hematite.

The meta-basalt is cut by a vein from 0.1-0. 3 mm in width of calcite with patches of chlorite and of quartz.

87-1-5 13Ø' **Altered Hypabyssal Diorite-Andesite**

The rock contains a few phenocrysts of altered hornblende in a fine grained groundmass dominated by plagioclase and altered hornblende. It is cut by a vein of quartz-(chlorite) with a weakly developed epidote halo.

phenocrysts	
hornblende	1- 2%
groundmass	
plagioclase	4Ø-45
actinolite	4Ø-45
chlorite	7- 8
quartz	1- 2
opaque	Ø.1
epidote	Ø.5
veins	
quartz-(chlorite-opaque)	2- 3%

Hornblende forms a few anhedral to subhedral, prismatic phenocrysts from Ø.5-Ø.8 mm in size. It is replaced by pseudomorphic actinolite.

Plagioclase forms anhedral to subhedral prismatic to equant grains averaging Ø.2-Ø.7 mm in size. These are altered in irregular patches to extremely fine grained chlorite, and elsewhere are altered to or intergrown intimately with very fine grained patches of quartz.

Hornblende in the groundmass forms tagged to subhedral prismatic grains averaging Ø.Ø5-Ø.15 mm in length.

Chlorite forms irregular, extremely fine grained patches, in part interstitial to plagioclase.

Quartz forms a few patches up to 1 mm across of very fine grained aggregates averaging Ø.Ø5-Ø.Ø7 mm in grain size. Associated with some of the larger patches are irregular opaque (pyrite?) grains averaging Ø.Ø2-Ø.Ø5 mm in size.

Opaque also occurs as concentrations of anhedral grains averaging Ø.Ø1-Ø.Ø3 mm in size associated with amphibole.

Epidote forms a very few anhedral grains up to Ø.1 mm in size.

The rock is cut by a vein up to 1.2 mm wide of fine to very fine grained quartz, with interstitial chlorite and minor patches of extremely fine grained opaque. In a zone up to 1.5 mm wide outwards from the vein, the rock contains extremely fine grained, irregular, commonly skeletal patches of epidote. The rock also is cut by a very few discontinuous, fine grained quartz veinlets up to Ø.1 mm in width.

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
A.L. LITTLEJOHN, M.Sc. Geologist
JEFF HARRIS, Ph.D. Geologist

P.O. BOX 39
8887 NASH STREET
FORT LANGLEY, B.C.
VOX 1JO

PHONE (604) 888-1323

Invoice #7031

December 30th, 1987

Report for: G.L. Garratt,
Eastfield Resources Ltd.,
110-325 Howe St.,
Vancouver, B.C.
V6C 1Z7

Samples:

4 rock samples for preparation as polished thin sections and petrographic examination.

Samples are designated B7-1-3 82' and 91' and 1-TR-A 1 and 2.

Summary:

Three of these samples are composed predominantly of arsenopyrite. This occurs in intimate intergrowth with siliceous gangue (plus a little carbonate in B7-1-3 82'). Accessory constituents are pyrite, ranging from trace to relatively abundant, and minor chalcopyrite.

The remaining sample (B7-1-3 91') is different. It contains very little arsenopyrite, and the dominant sulfide is very fine-grained, partially gel-type pyrite. The gangue is mixed quartz and carbonate. This sample is unique in the suite in containing notable amounts of tetrahedrite associated with the accessory chalcopyrite.

The textural style of all the samples is characterized by fine-grain size and intimate intergrowths. Other than the tetrahedrite in one sample, no obvious source of elevated Au or Ag values was found.

Individual petrographic descriptions are attached.

J.F. Harris Ph.D.

Sample B7-1-3 91'

Estimated mode

Quartz	20
Carbonate	12
Sericite	trace
Pyrite	54
Melnicovite) Marcasite)	12
Chalcopyrite	1
Tetrahedrite	1
Arsenopyrite	trace
Scorodite	trace
Pyrrhotite	trace

This sample consists essentially of more or less massive fine-grained pyrite intimately intergrown with quartz-carbonate gangue.

For the most part the pyrite forms a compact granular aggregate of grain size 10 - 50 microns. Where free crystal growth has developed, in and around gangue-filled pockets, grain size ranges up to 200 microns. Within the already fine-grained pyrite aggregate there are patchy, streaky or colloform zones of a minutely fine-grained form of pyrite, of the type sometimes referred to as melnicovite or gel-pyrite. This is of grain size 1 - 10 microns, and includes a proportion of intimately intergrown marcasite and iron oxides. It sometimes shows intimate intergrowth with carbonate. It may be a form of altered pyrrhotite, although no recognizable remnants of that mineral survive within it. Traces of pyrrhotite are occasionally seen as inclusions within coarser pyrite grains.

In contrast to the previous sample, arsenopyrite is rare - being confined to occasional individual subhedra in a veinlike zone of gangue. Traces of the derived secondary mineral, scorodite, are seen in one or two instances, cementing pyrite aggregates.

Chalcopyrite and tetrahedrite are notable accessories. They occur, in part, as micron-sized flecks and threads interstitial and intergranular to the massive pyrite aggregate. The major proportion, however, is in the form of irregular segregations, 0.1 - 1.0mm or more in size, mostly associated with the larger pockets of gangue. The chalcopyrite and tetrahedrite are often intimately associated, but are also seen as discrete segregations.

The massive pyrite is intimately pervaded by carbonate gangue, which fills the natural interstitial porosity of the microgranular aggregate. Carbonate also forms some coarser pockets and veniform bodies. The most extensive gangue pockets are made up predominantly of quartz. The carbonate locally shows strong reactivity with dilute acid, but for the most part is unaffected; it thus appears to be a mixture of calcite and dolomite.

It appears probable that tetrahedrite is the Ag-carrier in this material. Physical separation with acceptable grades and recoveries will be difficult to achieve by conventional means in such a fine-grained intergrowth. Bio-hydro-metallurgical methods may prove appropriate.

Sample B7-1-3 82'

Estimated mode

Quartz	11
Carbonate	4
Arsenopyrite	85
Pyrite	trace

This sample consists predominantly of a compact, anhedral aggregate of monomineralic arsenopyrite. The grains making up this massive sulfide mosaic range from 0.1 - 1.0mm in size.

Angular pockets within the massive sulfide are filled by anhedral granular quartz with accessory carbonate. The arsenopyrite bordering these pockets shows partial development of crystal faces.

The same gangue minerals (intergrown quartz and carbonate) fill a delicate network of hairline microfractures which, in part, follow the sulfide grain boundaries.

Pyrite occurs as rare, individual, tiny grains within the arsenopyrite matrix and as occasional segments to gangue-filled micro-veinlets. No other sulfides were seen.

The arsenopyrite is fresh.

Sample 1-TR-A-2

Estimated mode

Quartz	8
Scorodite	8
Arsenopyrite	56
Pyrite	27
Chalcopyrite	1
Limonite	trace

This is a similar type of sample to the previous one, consisting predominantly of arsenopyrite with a quartz gangue. Accessory pyrite is more abundant than in TR-A-1, and the arsenopyrite is more extensively altered (no doubt reflecting the effects of weathering in surface material).

The arsenopyrite occurs as patches of rather coarse-grained anhedral mosaic which are intimately microbrecciated and cemented throughout by a delicate hair-line network of secondary products (scorodite) and quartz. Some coarser veinlets of these minerals also occur, and much of the arsenopyrite is in the form of ragged remnants showing strong marginal replacement by the cementing phases. The quartz forms pockets throughout, commonly fringed by scorodite.

Pyrite is relatively common and occurs as 'sandy' clusters of euhedral grains 0.01 - 0.4mm in size. These are sometimes in a matrix of compact arsenopyrite, but are often cemented by scorodite (after arsenopyrite). Pyrite deposition appears to overlap that of arsenopyrite, and it is sometimes seen filling fractures in that mineral.

Chalcopyrite is minor and typically fine-grained. It forms scattered small clumps and streaks, 0.02 - 0.2mm in size, associated with pockets of gangue, or as veinlets (sometimes with intergrown pyrite) in the arsenopyrite.

The mineralogy is basically simple and no source of Au or Ag values was found.

The scorodite-type alteration mineral in this slide exhibits optical properties gradational to those of the component denoted as prehnite in the previous slide. This material is most likely all a mixture of fibrous secondary arsenates derived from the arsenopyrite.

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
CRAIG LEITCH, Ph.D. Geologist
JEFF HARRIS, Ph.D. Geologist
KEN E. NORTHCOTE, Ph.D. Geologist

P.O. BOX 39
8080 GLOVER ROAD,
FORT LANGLEY, B.C.
V0X 1J0
PHONE (604) 888-1323
FAX. (604) 888-3642

Report for: J.W. Morton,
Eastfield Resources Ltd.,
110 - 325 Howe Street,
VANCOUVER, B.C.

Invoice 8149
May 1989

Samples: INDATA: 89-I-21 104 m; 350N, 400W,
NATION: 88-NBR-9; 88-NBR-24; 88-NBR-35; 21-M-13-R

Summary:

Sample INDATA 89-I-21 104 m is a banded metamorphosed sedimentary to tuffaceous sedimentary rock with a banded texture. It is dominated by dolomite with less quartz and kaolinite, which show a variety of textures. The original composition of the rock is uncertain. Later recrystallized veins and veinlets are of dolomite. Dolomite was granulated along a network of late, braided shear zones.

Sample INDATA 350N, 400W is an altered mafic volcanic rock(?) containing irregular patches of three main compositional types as follows: actinolite-quartz-plagioclase- chlorite; actinolite; plagioclase. Replacement patches are dominated by quartz with minor to moderately abundant chlorite, montmorillonite, and minor fluorite.

Sample INDATA 89-I-21 104 m **Banded Dolomite-Quartz-Kaolinite; Altered Metamorphosed Sedimentary to Tuffaceous Sedimentary Rock; Dolomite Veins**

The rock has a banded texture, and is dominated by dolomite with less quartz and kaolinite showing a variety of textures suggestive of a sedimentary to tuffaceous sedimentary origin. The original composition of the rock is uncertain. Later recrystallized veins and veinlets are of dolomite. Dolomite was granulated along a network of late, braided shear zones.

dolomite	65-70%
quartz	10-12
kaolinite	5- 7
opaque	minor
Ti-oxide	trace
veins, veinlets	
dolomite	12-15

Some layers up to 1.5 mm in width are cryptocrystalline, and are dominated by kaolinite(?)-silica(?) and dolomite in widely varying proportions (both within and between layers). Commonly kaolinite has a feathery texture, with grains in subparallel orientation parallel to the length of the layer.

These layers and other slightly coarser grained layers locally contain angular fragments of quartz averaging 0.03-0.1 mm in size. These fragments probably represent original crystal fragments in a tuffaceous sediment.

Opaque forms equant, angular grains averaging 0.01-0.02 mm in size. A few patches are up to 0.1 mm across. It is concentrated in wispy seams and patches in some cryptocrystalline layers rich in quartz-kaolinite.

Ti-oxide forms patches averaging 0.01-0.02 mm in size.

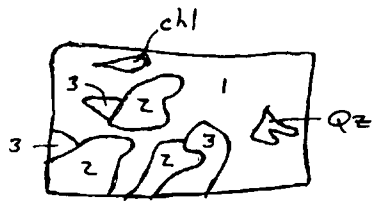
Other layers contain minor to abundant patches of fine to very fine grained quartz intergrown with extremely fine grained dolomite. Abundant wispy veinlets of dolomite cut and replace quartz.

Coarser grained dolomite forms diffuse to sharply outlined vein-like bands up to a few mm across, in which grains average 0.05-0.15 mm in size.

Late, commonly braided seams consist of cryptocrystalline dolomite; they were formed during deformation by granulation of coarser grained dolomite.

Sample INDATA 35ØN, 4ØØW **Patchy Actinolite-Plagioclase-Quartz-Chlorite Rock; Patches of Quartz-(Chlorite-Montmorillonite-Fluorite)**

The rock contains irregular patches of three main compositional types as illustrated in the sketch. These are dominated by one or more of actinolite, plagioclase, quartz, and chlorite, with minor montmorillonite and opaque. The rock probably is an altered mafic volcanic rock. Replacement patches are dominated by quartz with minor to moderately abundant chlorite, montmorillonite, and minor fluorite.



In Zone 1, actinolite forms ragged, prismatic grains averaging Ø.Ø5-Ø15 mm in length. It is pale green in color with weak pleochroism. Quartz and plagioclase form aggregates of grains averaging Ø.Ø1-Ø.Ø2 mm in size intergrown with actinolite. Quartz also forms disseminated grains and patches of grains averaging Ø.Ø5-Ø.1 mm in size. Chlorite forms disseminated, extremely fine grained flakes intergrown with finer grained quartz-plagioclase. Its abundance varies widely. Opaque forms disseminated, anhedral to subhedral grains and patches averaging Ø.Ø2-Ø.Ø3 mm in grain size.

Quartz and minor to moderately abundant chlorite form replacement patches up to 1.5 mm in size. Grain size averages Ø.Ø5-Ø.2 mm for quartz and Ø.Ø1-Ø.Ø3 mm for chlorite. In some quartz patches, montmorillonite(?) forms clusters of patches averaging Ø.Ø3-Ø.Ø7 mm in size composed of equant, cryptocrystalline aggregates with a medium brown color. A few replacement patches up to 3 mm in size are dominated by chlorite flakes averaging Ø.ØØ2-Ø.Ø2 mm in grain size, with a few grains and clusters averaging Ø.Ø5-Ø.Ø8 mm in grain size. Opaque is common in and along borders of these patches.

Zone 2 is dominated by dense aggregates of unoriented actinolite grains averaging Ø.Ø3-Ø.Ø7 mm in length. Intergrown with these zones are patches of prismatic actinolite averaging Ø.Ø3-Ø.Ø5 mm in length with minor to moderately abundant interstitial quartz and plagioclase. In a few coarse grained patches, actinolite forms ragged to subhedral prismatic grains averaging Ø.1-Ø.3 mm in length in random orientation. Quartz forms interstitial grains and patches averaging Ø.Ø5-Ø.1 mm in size. Actinolite is pale green in color and slightly pleochroic. Quartz also forms lenses up to 2 mm in length of grains averaging Ø.Ø5-Ø.15 mm in size. Opaque forms disseminated, equant, subhedral grains and aggregates averaging Ø.Ø3-Ø.Ø7 mm in grain size.

Several patches up to 1.2 mm across consist of fine grained quartz intergrown with patches of very fine grained chlorite. A few patches up to Ø.3 mm in size are of very fine grained chlorite. Opaque forms disseminated, subhedral grains averaging Ø.Ø5-Ø.1 mm in size.

(continued)

Zone 3 consists of aggregates of plagioclase grains averaging 0.1-0.4 mm in grain size. These are recrystallized strongly to extremely fine grained, strongly interlocking aggregates. A few patches contain concentrations of chlorite averaging 0.05-0.1 mm long and patches of cryptocrystalline montmorillonite averaging 0.02-0.08 mm across.

A few irregular patches up to a few mm across are dominated by very fine grained quartz. They contain scattered patches of montmorillonite and flakes of chlorite. The largest patch contains a few clusters up to 0.4 mm across are of fluorite.

Mike Conan Davies

ADDITIONAL NOTES ON HIGHER GRADE INTERSECTIONS AT INDATA

88-I-09 Sample #74932, 50cm, 6870 ppb Au 59-59.5m

Wall rock: Brecciated, sericite-talc rock, Matrix is a very fine, smooth textured clay, white in colour. Sericite is harder and more competent. The colour is generally a yellow-green with some vivid green mariposite? material. Textures are indicative of strong shearing or fault movement. Fragments of Qz, sulfides and serpentine are present.

Mineralized zone: Hi-gold valves come from areas of extreme clay alteration grey-green in colour-distinctly darker than wall rock possibly due to sulfide gouge, foliated texture is apparent. Pyrrhotite and arsenopyrite most common sulfide.
Sample SPC 32, 9.1 taken in this interval.

88-I-10 Sample #74973, 50cm, 2605 ppb Au 53-53.5m

Wall rock: Bleached andesite sericite-silica alteration containing fine grained disseminations of magnetite. Andesite texture is preserved. Carbonate fracture fills and microveins common, and contain up to 5% disseminated py, po.

Mineralized zone: Intensely sheared andesite. Complete destruction of andesite texture, loss of competence. Clay-sericite alteration, smooth feel suggests talc as the clay mineral. Dolomite? occurs as fragments. Trace py, cp. occur as v. fine grained disseminations aligned parallel to shear. Chlorite altered rock fragments are also found.

88-I-10 Sample #74977, 50cm, 2875 ppb 55-55.5m

Wall rock: Bleached sericite-clay altered andesite with increasing clay content towards mineralized zone and more intense shearing. Trace disseminated arsenopyrite present.

Mineralized zone: Intense clay altered rock, white colour. Strong sheared texture. Fragments up to 1cm in diameter of bleached sericite altered andesite,* similar to wall rock plus carbonate occur. Arsenopyrite occurs as fine disseminations up to 10% by volume, trace pyrite is also present.

88-I-10 Other observations

In the interval between the 2 high valve gold intersections is a 35cm wide pyrrhotite rich intersection which carries only moderate amounts of gold up to 625 ppb. This would suggest that the gold occurs within the alterations halo of a pyrrhotite bearing vein system.

Andesite

Andesite/
v/m

Po vein

zone of gold enrichment

Clay rich alteration halo

88-I-11 Sample #74189, 66-67m, 66m-66.5m 11280 ppb Au
66.5m-67m 1020 ppb Au

Wall Rock: Host for mineralization is within altered ultramafic. Carbonate alteration is the most prevalent with some minor chlorite alteration. Carbonate alteration results from a dense network of anastomosing microveinlets of dolomite or magnesite. Rock is weakly foliated.

Mineralized zone: The highest gold valve was obtained in the hanging wall immediately above the carbonate-sulfide vein which visually looks more impressive. The high grade zone consists of relatively competent rock with a moderately developed shear fabric. Pale yellow sericite alteration prevails. Finely disseminated throughout interval are small 0.2mm sphalerite? and magnetite grains. Trace pyrite and arsenopyrite is also present. The lower grade interval below the high grade intercept is a sheared carbonate-sulfide vein with minor quartz. The sheared and broken Qz vein contains up to 50% sulfides. Most abundant are arsenopyrite, pyrite and chalcopyrite with trace pyrrhotite.

88-I-11 Sample #74197, 74m-76m, Zn 86400 ppb Au
74198, 76m-78m, Zn 8120 ppb Au

Wall rock: Dolomite altered ultramafic. The same as described for sample #74189.

Mineralized interval: Meso-levcocratic. Pervasive dolomite alteration. Disseminated in variable concentrations throughout interval is pyrite, and trace arsenopyrite. In the interval 75.8-75.95 the concentration of pyrite is up to 20%. Accessory sulfides in this interval include pyrrhotite and trace cp (v.g.?)

88-I-11 General comment

As for hole 88-1-10 gold is not associated with high concentrations of quartz or pyrrhotite, although these assemblages do occur nearby, within a few meters or less.

88-I-15 Sample #74253, 81-82m, 1725 ppb Au
#74254, 82-83m, 985 ppb Au

Hanging wall: Medium grained, levcocratic altered ultramafic feldspar and chlorite dominate with abundant cross-cutting carbonate veins and microveinlets. Blue-grey colour.

Mineralized zone: Clay rich altered ultramafic. Brecciated, sheared texture, containing wall rock fragments to 20cm diameter. Contains up to 20% arsenopyrite as dominant sulfide with 5% chalcopyrite and trace py. 1-3% pyrrhotite occurs in upper portion of zone.

It cannot be ascertained with certainty if the gold is or is not associated with the pyrrhotite rich upper portion of the zone but based on the other intersections of previous holes this would not seem likely.

88-I-22 Sample #74089, 57.7-58.1m 835 ppb Au
74090, 58.1-58.5m 2065 ppb Au
74091, 58.5-59.1m 935 ppb Au

Wall rock: Altered andesite. Apple-olive green clay-sericite altered rock. Moderately hard, original texture preserved. Weak pervasive carbonate alteration throughout. Footwall to mineralized vein is moderately sheared.

Mineralized zone: Massive quartz vein with carbonate as occasional vugs up to 20%. Mineralization is dominated by pyrite and arsenopyrite up to 50% but averaging 10-15%. Minor chalcopyrite but pyrrhotite is not found.

The unusual feature of this intersection is the apparent lack of shearing associated with mineralization, as normally found in good intersections of other drill holes.

88-I-07 Sample #29166, 48.5-49.0m 1020 ppb Au

Wall rock: Intense chlorite altered, moderately soft fine grained, equigranular andesite. Whisps and patches of fine grained pyrrhotite and trace chalcopyrite.

Mineralized zone: Intensely sheared chlorite talc altered rock containing trace pyrite and chalcopyrite, arsenopyrite as very fine grained material within gouge. Low mag. susceptibility would indicate little if any pyrrhotite present.

88-I-08 Sample #74736, 41.5-42.0m 3845 ppb Au

Wall rock: Blocky weakly mineralized andesite with 57% pyrrhotite weak clay alteration of feldspar phenocrysts.

Mineralized interval: Sheared, clay gouge seam, light green colour. Trace pyrite and pyrrhotite disseminated throughout gouge.

General comments on high gold intercepts

-In nearly all cases gold is associated with clay rich alteration zones. These clay seams often have well developed shear textures suggesting that final gold transport occurs at the same time as shearing and may have been remobilized from a pre existing mineralized vein system as indicated by the fractured and sheared sulfides present in the shear zones.

From an exploration view point this indicates that topographically recessive terrain is prime target location for further exploration and drilling.

-High gold valves are not always associated with high massive sulfide content eg the 2 highest intercepts have a maximum of 923 ppm Cu, and 4170 ppm arsenic. Hence the strongest I.P. anomalies are not necessarily the prime targets.

-There is a positive correlation between high gold valves and the presence of pyrite, arsenopyrite and chalcopyrite. Conversely high gold valves are not found with pyrrhotite, but is found in the wall rock surrounding good gold valves.

1988 - INDATA DRILL CORE SAMPLE LIST

Stored in basement of the Eastfield office, Vancouver

SPC	1	88-1-23	23m	Buff coloured alteration
	2	88-1-23	24.0m	Sheared alteration zone with mineralization
	3	88-1-23	32.9m	Quartz vein
	4	88-1-23	37.0	Quartz vein
	5	88-1-23	13.7m	Porphyritic andesite
	6	88-1-23	18.8	Fine grained andesite
SPC	7	88-1-18	5.0	Oxidized zone
	8	88-1-18	7.3	Bleached clay alteration
	9	88-1-18	9.8	Vein and wall rock alteration
	10	88-1-18	13.5	Medium grained andesite
SPC	11	88-1-17	35.8	Pyrrhotite bearing quartz vein
	12	88-1-17	11.9	Blueish coloured alteration zone
	13	88-1-17	15.3	Altered feldspathic andesite
SPC	14	88-1-16	24.4	Crackled Quartz vein
	15	88-1-16	25.7	Quartz carbonate vein
	16	88-1-16	61.0	Altered andesite
	17	88-1-17	111.0	Diorite/fine grained andesite
SPC	18	88-1-19	24.8	Pyrite in chlorite alteration zone
	19	88-1-19	26.2	Pyrite in white quartz
	20	88-1-19	25.2	Chlorite - quartz vein pyrite mineralized
SPC	21	88-1-21	77.5	Alteration from hanging wall
	22	88-1-21	83.7	Alteration in footwall of first zone
	23	88-1-21	82.0	Upper mineralized zone
	24	88-1-21	87.5	Mariposite bleached zone
	25	88-1-21	81.1	Mineralized shear zone gauge
	26	88-1-21	90.2	Footwall alteration
SPC	27	88-1-07	15.2	Quartz diorite dyke
	28	88-1-07	14.7	Fine grained andesite
SPC	29	88-1-08	130.7	Porphyritic - coarse grained andesite
SPC	30	88-1-09	56.3	Hanging wall mineralized
	31	88-1-09	57.5	Alteration with sphalerite? Magnetite
	32	88-1-09	59.5	Quartz vein with massive arsenopyrite
SPC	33	88-1-10	51.9	Hanging wall alteration
	34	88-1-10	53.9	Massive pyrrhotite
	35	88-1-10	59.6	Ultramafic hanging wall
	36	88-1-10	67.6	Serpentinized ultramafic
	37	88-1-10	66.1	Chlorite/serpentine ultramafic
	38	88-1-10	98.1	Chlorite ultramafic
	39	88-1-10	96.4	Coarse grained ultramafic
SPC	40	88-1-11	66.8	Mineralized zone
	41	88-1-11	82.9	"Zebra ultramafic"

SPC 42	88-1-12	42.6	Altered ultramafic
SPC 43	88-1-14	59.7	Massive pyrrhotite
44	88-1-14	91.6	Medium grained ultramafic
45	88-1-14	29.0	Medium grained ultramafic
SPC 46	88-1-22	56.0	Hanging wall alteration
47	88-1-22	57.9m	Arsenopyrite - quartz vein
48	88-1-22	58.3	Quartz carbonate - Pyrite vein
49	88-1-22	56.9	Footwall alteration
SPC 50	87-1-06	40.4	Footwall alteration
SPC 51	87-1-05	40.53	Altered hanging wall
52	87-1-05	43.0	Quartz vein with pyrite/arsenopyrite
SPC 53	87-1-06	47.5	Footwall alteration
SPC 54	88-1-05	12.0	Clay sericite alteration
55	88-1-05	24.56	Hanging wall alteration
SPC 56	88-1-03	37.5	Quartz vein and wall rock
57	88-1-03	60.0	Altered porphyritic andesite

Please refer to drill logs for more complete rock descriptions and Assays

SAMPLES COLLECTED BY M.C.D. OCTOBER 1988

9.1	88-I-09	59.3m	Clay-rich foliated wall rock hosting mineralization. SPC 32 is sample of vein
10.1	88-I-10	53.2m	Sericite/quartz altered andesite with finely disseminated magnetite
10.2	88-I-10	53.3 (2605 ppb Au)	Intensely sheared, clay-talc altered andesite? Trace py, po, cp in banding parallel to shear
10.3	88-I-10	55.3	Intense clay altered rock, sheared, contains finely disseminated py 5-20%
10.4	88-I-10	64.55	Serpentine/chlorite altered ultramafic with carbonate stockwork veins
10.5	88-I-10	63.4m	Intense chlorite altered ultramafic
11.1	88-I-11	66.2m (11280 ppb Au)	Carbonate altered and brecciated u/m
11.2	88-I-11	66.4m	Carbonate altered u/m sheared with D. py. aspy
11.3	88-I-11	66.6m	Quartz carbonate vein with py, aspy, po (cp)
11.4	88-I-11	75.8m	Potentially the high grade zone 10-20% dark-grey sulfide (not aspy.) Some po and trace cp (v.g.?). In carbonate altered matrix. Some silicified patches
11.5	88-I-11	75.9m	Bleached, carbonate/clay stockwork veining serpentine fracture coating. Trace D. mt. "average" sample from Zu high grade interval.
11.6	88-I-11	75.2	Same as 11.5
11.7	88-I-11	74.2	Sample from hanging wall. Bleached, medium grained u/m. D. mt.
11.8	88-I-11	76.7	Bleached, medium grained u/m with cp vein 1mm wide with cb. alteration selvege.
11.9	88-I-11	76.4m	Bleached, medium grained u/m with minor cb. microveining and D. mt.
11.10	88-I-11	77.5	Representative sample from 8 gr/t interval similar lithology to 11.9 Bleaching more pronounced

1.11	88-I-11	80.2	Foot wall rock to high grade zone. mt. microveining becoming more apparent
14.1	88-I-14	60.0m	massive sulfide sample containing cp, Po and Aspy. In addition it also contains 3900 ppm Bi

<u>Hand Specimens sent for thin sectioning</u>

MC 58	Chalcopyrite bearing andesite	L 6+00S, 4+00E
MC 51	"Diorite"	L 5+00S, 4+75E

VP

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph. D. Geologist

P.O. BOX 39
8887 NASH STREET
FORT LANGLEY, B.C.
V0X 1J0

PHONE (604) 888-1323

Report for: Bill Morton,
Eastfield Resources Ltd.,
110-325 Howe St.,
Vancouver, B.C.
V6C 1Z7

Invoice 7860

January 9th, 1989

Samples:

11 rock samples for sectioning and petrographic examination. Samples with visible opaques were prepared as polished thin sections.

Samples are as follows:

11-3	Polished thin section
11-4	Polished thin section
11-5	Polished thin section
11-10	Polished thin section
MC-51	Thin section
MC-58	Polished thin section
SPC-10	Polished thin section
SPC-17	Thin section
SPC-28	Thin section
SPC-36	Polished thin section
SPC-38	Thin section

Summary:

The rocks of this suite fall into two groups. One group is of ultramafic affinities; it includes samples SPC-36 and 38, and 11-4, 5 and 10. The other group is of intermediate-mafic minor intrusives; it includes Samples MC-51 and 58, and SPC-10, 17 and 28.

Of the ultramafic group, SP-31 is the least altered; it is a serpentinized peridotite or pyroxenite, rich in magnetite and containing unaltered clinopyroxene remnants. SP-36 is completely serpentinized, and has a streaky oriented fabric possibly related to shearing; it shows minor superimposed carbonate-talc alteration.

The remaining rocks of this group are intensely altered, and consist of talc and carbonate (magnesite) in various proportions. They may represent the end product of the process seen progressively in

SPC-38 and 36, though no remnants of serpentine or primary silicates survive. These rocks contain from 1 -5% disseminated sulfides - principally pyrrhotite; traces of Ni sulfarsenide (probably gersdorffite) are also seen. Sample 11-4 is distinctive in showing localized development of a Bi-rich assemblage (bismuthinite and Bi tellurides) with associated native gold. The mineralogy was established with the aid of SEM microanalyses.

Sample 11-3 may be related to the altered ultramafic group. It consists of arsenopyrite and magnesite with minor talc and quartz; it is probably a form of vein or segregation. No gold could be found in this section.

Of the mafic intrusive group, SPC-10 and MC-51 are fine-grained diorites - strongly altered in the latter case. SPC-17 is texturally similar, but of quartz diorite composition; it is apparently cut by a fine-grained dyke phase of the same mineralogy. MC-58 is a rock of similar (plagioclase/amphibole) composition to the diorites, but is finer grained and shows typical diabase texture.

SPC-28 is a mafic-rich rock consisting of abundant, partially altered amphibole phenocrysts in a microgranular plagioclase groundmass; it has the aspect of a lamprophyre dyke.

Individual petrographic descriptions are attached. Also included are a few photomicrographs of the Au-bearing assemblage in 11-4.

J.F. Harris Ph.D.

(929-5867)

SAMPLE 11-3 **ARSENOPYRITE WITH MAGNESITE**

Estimated mode

Carbonate	35
Quartz	4
Talc	2
Arsenopyrite	56
Pyrite	3
Chalcopyrite	trace

This is a rock of simple mineralogy, consisting essentially of arsenopyrite intergrown with carbonate.

The arsenopyrite is in the form of a compact, coarsely granular aggregate which has been minutely brecciated in 'crackle' style. The resultant mosaic of matching fragments, 0.01 - 1.0mm in size, is minutely permeated and cemented by carbonate.

The carbonate is mainly very fine-grained, turbid and feathery-textured; X-ray diffraction indicates that it is magnesite, though the peak position shows a slight positive shift from the normal.

Quartz is a prominent accessory, alternating with the carbonate in forming hairline veinlet infillings in the shattered arsenopyrite, and sometimes apparently rimming sulfide fragments. It is typically a cherty-textured, somewhat fibro-lamellar variety.

Flecks and diffuse, irregular veinlets and intergranular networks of cherty quartz are also seen within the pockets of compact carbonate gangue which are intergrown, in random patchy manner, with the crackled sulfide masses.

Talc is a minor accessory, as minute wisps and flecks intimately intergrown with the feathery-textured magnesite. Purer, sparry carbonate occurs as blocky granular patches and veniform bodies within the predominant micritic form.

The shattered arsenopyrite masses are essentially monomineralic as regards sulfide composition. Accessory pyrite is seen, however, as fine-grained wisps and minutely microgranular clumps in some of the pockety carbonate segregations. In one area such pyrite is minutely cemented by chalcopyrite.

One example was seen of a small patch of pyrite associated with carbonate in cementing mode in the arsenopyrite.

The optical examination provides no explanation for the assayed low values in Au - Ag.

SAMPLE 11- 4 TALC ROCK WITH DISSEMINATED SULFIDES

Estimated mode

Talc	84
Carbonate	9
Chalcedony	trace
Chromite	trace
Pyrrhotite	5
Secondary pyrite	trace
Chalcopyrite	trace
Pentlandite	trace
Gersdorffite	trace
Bismuthinite	trace
Bi-telluride	trace
Gold	trace

This rock consists essentially of a mass of compact monomineralic talc. Most of this is of finely felted aggregate texture, on a grain size scale of 10 - 50 microns, but there are also diffuse patches of coarser flaky habit, having grain sizes up to 0.3mm.

Crystal orientations in the talc are totally random throughout.

The principal accessory constituents are carbonate (identified as magnesite by XRD) and sulfides. The carbonate forms occasional irregular vein-like bodies of equigranular mosaic, but, for the most part, occurs as diffuse wisps and network patches of minutely fine-grained, micritic character. Traces of chlorite, as small pockets, are a rare associate.

The sulfides form disseminated, irregular grains and clumps, 0.1 - 1.0mm in size, locally coalescing as network permeations. They occur randomly through the talc host, and show no apparent relation to the distribution of accessory carbonate. The sulfide clumps sometimes show thin fringes of fibrous chalcedonic silica.

Pyrrhotite is the predominant sulfide. For the most part it is fresh and homogenous, though one isolated patch composed of fibrous-textured pyrite is apparently the result of total alteration of pyrrhotite.

Chalcopyrite occurs as scattered, small inclusions within pyrrhotite, and as rare clusters of discrete grains in gangue marginal to pyrrhotite. Very rare specks of a creamy mineral - probably pentlandite - are also seen in the pyrrhotite.

In one localized area of the slide a more complex sulfide association is developed (see photos). Identification of the constituent phases was established by SEM microanalysis.

Sample 11-4 cont.

The principal constituent of this specialized association is a strongly anisotropic, light grey mineral identified as bismuthinite. This occurs as irregular patches, often with intergrown pyrrhotite and/or chalcopyrite.

A white isotropic mineral, occurring as small equant grains, is sometimes seen as inclusions within the bismuthinite, and also occurs marginal to it as clusters of individual grains in gangue. This is confirmed by SEM as a sulfarsenide of Ni with lesser Co and Fe - presumably gersdorffite.

A highly reflective, creamy white mineral is also sometimes seen, as tiny, irregular inclusions, 5 - 25 microns in size, within the bismuthinite. This is a Bi-telluride.

Native gold is seen, exclusively in association with the polymetallic assemblage. It occurs as irregular grains, 5 - 50 microns in size, within bismuthinite and, rarely, in the gangue adjacent to bismuthinite. No gold was seen associated with the disseminated pyrrhotite in the slide at large.

In comparison with 11-3, the mineralogy of this sample is quite distinctive. The host rock is predominantly talc rather than carbonate; the principal sulfide mineralogy is pyrrhotite, rather than arsenopyrite.

The relative paucity of Au in 11-3 probably correlates with the absence of the polymetallic Bi-Ni assemblage.

SAMPLE 11-5 TALC-CARBONATE ROCK

Estimated mode

Carbonate	62
Talc	35
Chromite	1
Pyrite	2
Pyrrhotite	trace
Chalcopyrite	trace
Gersdorffite(?)	trace

This is a rock of similar composition to 11-10.

It consists essentially of an intergrowth of granular carbonate (identified by XRD as magnesite) and flaky aggregates of talc.

The magnesite, as equigranular mosaics of grain size 0.1 - 0.3mm, forms elongate lenses and partially fragmented masses, locally exhibiting parallel orientation. The preferred orientation shows rapid variations throughout, and the fabric appears to be one of mild shear deformation and brecciation. Veining, as such, is not seen.

The talc, in part, forms a coarser aggregate than the finely felted form seen in some other samples of the suite. This texture may be inherited from pre-existing antigoritic serpentine.

The only other constituents are individual, disseminated, equant, subhedral-euhedral grains of chromite, 0.02 - 0.5mm in size, in the talcose component; and relatively abundant disseminated sulfides - principally in the carbonate.

The sulfides are mainly pyrite, as irregular/elongate clumps of coalescent, minute euhedra - often skeletal in form, and sieved with host rock inclusions; it may be secondary after pyrrhotite. Traces of pyrrhotite, chalcopyrite and an isotropic whitish sulfide or sulfarsenide (gersdorffite?) are also seen, typically as individual segregated specks.

No gold was seen, or the Bi-rich assemblage with which gold is associated in 11-4. Other than this, the rock is clearly of related type to 11-4, differing mainly in the proportions of talc and carbonate.

SAMPLE 11-10 **TALC-CARBONATE ROCK**

Estimated mode

Carbonate	55
Talc	43
Glaucophane(?)	1
Chromite	trace
Pyrite	1
Pyrrhotite	trace
Chalcopyrite	trace
Gersdorffite(?)	trace

This sample is composed essentially of a streaky/lensy intergrowth of carbonate and talc.

The carbonate (identified by X-ray diffraction as predominantly magnesite, plus minor dolomite) forms abundant, sub-parallel trains of clumps and lenses of microgranular mosaic, throughout a matrix of minutely felted talc. Some irregular areas of finer-grained carbonate, discordant to the overall, weak textural grain, are also seen.

The mosaic-textured carbonate clumps typically show fringes of a minutely fine-grained, turbid/feathery form of carbonate.

A minor accessory in the talc matrix is a colourless to purplish-grey, micrograular to fibrous, low birefringent mineral, occurring as scattered, tiny flecks and wispy pockets. This may be glaucophane or dumortierite.

Other trace accessories are rare, brecciated clumps and tiny euhedra of chromite, and sparsely disseminated grains of sulfides, 10 - 100 microns in size. The latter are chiefly pyrite, but chalcopyrite, pyrrhotite and a white isotropic mineral (possibly a nickelian or cobaltian Fe-sulfarsenide such as gersdorffite) are also seen - always as discrete grains. The sulfides are randomly distributed; they occur most commonly, but not exclusively, in the carbonate rather than the talc.

This rock is presumably an altered ultramafic of related type to Samples 11-4 and 11-5.

It may have been formed by the action of carbonate-rich solutions in a zone of shearing in serpentinite.

SAMPLE MC-51 **ALTERED DIORITE**

Estimated mode

Saussuritized plagioclase	62
Secondary amphibole	30
Chlorite	5
Epidote	3
Carbonate	trace
Rutile	trace
Felsite	trace

This rock shows a fine to medium-grained, non-porphyritic intrusive-type texture, and is of similar simple composition to SPC-10, though modified by pervasive alteration.

It is made up predominantly of an aggregate of blocky, subhedral-anhedral plagioclase, of grain size 0.2 - 1.0mm. This is of strongly turbid, brownish appearance in thin section as a result of even, pervasive saussuritic alteration to clays, minutely fine-grained sericite and diffuse cryptocrystalline epidote.

Intergrown mafics, of similar grain size to the plagioclase, are totally altered to masses of fine-grained, felted, acicular amphibole, sometimes intergrown with chlorite and minor microgranular epidote.

A little (quartzose?) felsitic material occurs as interstitial wisps and pockets.

The rock is notably devoid of opaques, but contains traces of disseminated rutile flecks.

SAMPLE MC-58 **DIABASE**

Estimated mode

Plagioclase	54
Quartz	4
Amphibole	37
Epidote	2
Carbonate	1
Chlorite	1
Pyrite) Pyrrhotite)	1
Chalcopyrite	trace
Fe-Ti oxides	trace

This is another sparsely porphyritic minor intrusive of intermediate type - generally similar in composition to SPC-28 and the fine phase in SPC-17.

It differs texturally from those rocks in exhibiting a more typical diabasic fabric.

Plagioclase is the dominant constituent, occurring as an aggregate of sub-oriented, lath-like, prismatic grains, 0.1 - 0.3mm in size. It is essentially unaltered.

The plagioclase is intergrown with generally elongate hornblende grains of similar size. Minor quartz forms scattered interstitial granules.

The hornblende grains generally show somewhat diffuse outlines, resulting from minor peripheral modification to fibrous secondary amphibole and local light rimming by dusty, micron-sized epidote.

The rock contains scattered altered mafic phenocrysts, 0.5 - 2.0mm in size. These are of equant form, and consist of prismatic pseudomorphs of secondary amphibole or chlorite, sometimes with carbonate, or are clumps of granular or radiate epidote in association with these minerals.

The rock contains minor disseminated sulfides, as granules 10 - 100 microns in size, sometimes concentrated as small clumps in association with altered mafic phenocrysts.

SAMPLE SPC-10 **DIORITE**

Estimated mode

Plagioclase	64
Amphibole) Altered amphibole)	30
Carbonate veinlets	2
Quartz	1
Sphene	trace
Rutile) Hematite)	1
Pyrrhotite) Pyrite)	2
Pentlandite	trace
Chalcopyrite	trace

This is a rock of simple composition, consisting mainly of plagioclase and variably altered amphibole.

The plagioclase is an aggregate of subhedral-anhedral grains, 0.2 - 1.0mm in size. It seldom shows measurable twinning, but is probably of andesine composition. It is fresh, but for a very light, pervasive dusting of carbonate.

Amphibole forms sheafs and semi-continuous networks of fine-grained, prismatic crystals. In part, it is essentially fresh, pale green hornblende with fringes of fine, fibrous amphibole. In other parts of the rock, it is almost totally altered to fibrous masses of chlorite and fine-grained carbonate.

The amphibole occurs in intergranular relation to the plagioclase aggregate, which it locally appears to penetrate and marginally replace. It is apparently a late-crystallizing component, more or less modified by deuteric processes.

The rock is cut by several sub-parallel hair-line veinlets of carbonate with minor quartz. Incipient microfracturing, sometimes defined by threads of carbonate or quartz, is also seen elsewhere in the slide.

Disseminated sulfides and oxides are closely associated with the mafic silicates, and are probably primary. Sulfides consist of pyrrhotite and pyrite. Much of the latter is of fibrous, secondary appearance, and may be an altered form of pyrrhotite.

Traces of chalcopyrite occur as minute, discrete specks and as occasional inclusions in pyrrhotite. Rare pentlandite is seen in the latter mode.

Oxides, including meshwork clumps of hematite and rutile, are sometimes closely intergrown with the sulfides.

Sample SPC 10 cont.

This rock has the characteristic texture of a rather fine-grained intrusive, and is of dioritic composition.

SAMPLE SPC-17 QUARTZ DIORITE WITH DYKE PHASE

Estimated mode

Plagioclase	38
Quartz	12
Amphibole	42
Epidote	6
Opaques	2

This slide embraces the contact between two texturally distinct lithotypes.

One is a dioritic intrusive of similar texture to SPC 10, but differing in containing in containing substantial quartz.

It consists of a simple intergrowth of subhedral, prismatic plagioclase and pale green amphibole, of grain size 0.2 - 1.0mm. Anhedral quartz forms interstitial pockets of similar size, sometimes showing sub-graphic relations with the plagioclase.

Both plagioclase and amphibole are essentially unaltered, though the plagioclase often appears 'dusty', due to the presence of more or less abundant included wisps of fibrous amphibole, and of tiny opaque granules.

Local strong alteration of the plagioclase to fine-grained epidote is seen adjacent to a cross-cutting veniform or microfracture zone delineated by diffuse microgranular quartz.

The other phase is of essentially similar composition to the quartz diorite, but is much finer grained. It consists essentially of a matrix of felsitic plagioclase (grain size 5 - 30 microns) dusted with minute flecks of amphibole and tiny opaque granules. Through this matrix are developed abundant, ragged, fibrous/skeletal, sub-prismatic grains of hornblende, 0.1 - 0.2mm in size. Accessory quartz forms scattered, small, discrete grains and clumps, 0.1 - 0.3mm in size.

The hornblende occasionally forms coarser phenocryst-like masses, and there are also rare, prismatic phenocrysts of plagioclase to 0.5 or 1.0mm in size.

The contact with the coarse quartz diorite phase is sharp, with the development of a decussate-textured, hornblende-rich marginal zone (chilled margin?) up to 2mm thick.

The fine-grained lithotype shows a faint foliation produced by partial orientation of the hornblende crystals. This is considered to be a flow feature in a dyke phase cutting the coarse quartz diorite.

Sample SPC 17 cont.

The cross-cutting silicified/altered zone mentioned in the description of the coarser quartz diorite also cuts the dyke phase.

SAMPLE SPC-28 MICRODIORITE (LAMPROPHYRE?)

Estimated mode

Quartz	3
Plagioclase	30
Secondary amphibole	60
Epidote	2
Carbonate	3
Chlorite	2

This is a homogenous, even-grained, porphyritic, mafic-rich rock having the typical texture of a minor intrusive (dyke?)

It consists essentially of a random intergrowth of blocky plagioclase and subhedral, prismatic amphibole, of grain size 0.1 - 0.2mm. This constitutes the groundmass.

Amphibole is the predominant constituent, and also forms abundant, somewhat coarser, equant to elongate phenocrysts, in the size range 0.5 - 1.0mm. These occur as random, individual euhedra, and as aggregated clumps.

The amphibole (both the phenocrysts and in the groundmass) is a pale-coloured, non-pleochroic, fibrous variety of obvious secondary origin. It may have developed from primary hornblende and/or from original pyroxene. Some of the coarser phenocrysts (actually pseudomorphs) have rectangular forms suggestive of the latter origin.

Other constituents are minor accessory quartz, as diffuse interstitial pockets, and chlorite, carbonate and epidote locally replacing the amphibole. The epidote is of cryptocrystalline form, developed marginally to the groundmass amphibole grains. The plagioclase appears fresh.

The lack of opaques is an unusual feature in such a mafic-rich rock.

The rock has the composition of a microdiorite. Its texture is that of a lamprophyre, and it may be more correctly classified as a spessartite dyke.

SAMPLE SPC-36 **SERPENTINITE**

Estimated mode

Serpentine	78
Carbonate	12
Talc	4
Chlorite	2
Chromite(?)	2
Magnetite	2
Pyrite	trace

This is a totally altered ultramafic, consisting predominantly of fibro-lamellar antigorite.

Its fabric is a combination of blocky, lenticular and diversely oriented streaky elements, and gives the impression of possibly having formed from a blocky peridotite in an environment of shear stress. Alternatively it may be pseudomorphous after an original flow-injection fabric.

The cellular mosaic textures typical of a dunitic protolith are notably absent.

The lensy serpentine aggregate is further altered by an anastomosing network of hairline veinlets of carbonate. Carbonate also forms clusters of equant granules, often encrusting cores of fine-grained magnetite.

Occasional pockets of intergrown chlorite and carbonate are seen, and talc is another accessory, as diffuse dustings and hairline veinlets associated with carbonate.

Traces of disseminated pyrite occur as tiny grains 10 - 30 microns in size. These are sometimes associated with the magnetite-carbonate clumps, and sometimes independent of them.

Scattered, individual, equant grains of a high relief oxide, 0.05 - 0.3mm in size, are probably chromite. These are sometimes rimmed by secondary Fe oxides.

SAMPLE SPC-38 **SERPENTINIZED PERIDOTITE**

Estimated mode

Serpentine	68
Clinopyroxene	25
Magnetite	7

This is another serpentinized ultramafic. It differs from SPC 36 in having a more homogenous, non-streaky texture, in lacking carbonate and talc, and in retaining substantial remnants of primary pyroxene.

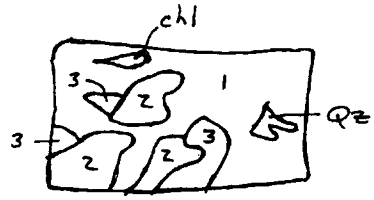
It is composed predominantly of an aggregate of even-textured, felted antigorite. This appears to pseudomorph a granular fabric, on the scale 0.2 - 2.0mm, probably derived from the alteration of a pyroxenitic protolith.

Relict, equant/prismatic grains of essentially fresh clinopyroxene, 0.1 - 2.0mm in size, are evenly scattered throughout the serpentinized matrix.

The rock is notably rich in magnetite - mainly of apparent secondary origin. This occurs throughout the serpentinized matrix as a reticulate meshwork of close-spaced hairline veinlets, tiny disseminated granules, and local diffuse, patchy segregations. The principal direction of magnetite veinlets is constant throughout the whole slide, suggesting that it may relate to a parallel microfracture pattern.

Sample INDATA 35ØN, 4ØØW **Patchy Actinolite-Plagioclase-Quartz-Chlorite Rock; Patches of Quartz-(Chlorite-Montmorillonite-Fluorite)**

The rock contains irregular patches of three main compositional types as illustrated in the sketch. These are dominated by one or more of actinolite, plagioclase, quartz, and chlorite, with minor montmorillonite and opaque. The rock probably is an altered mafic volcanic rock. Replacement patches are dominated by quartz with minor to moderately abundant chlorite, montmorillonite, and minor fluorite.



In Zone 1, actinolite forms ragged, prismatic grains averaging Ø.Ø5-Ø15 mm in length. It is pale green in color with weak pleochroism. Quartz and plagioclase form aggregates of grains averaging Ø.Ø1-Ø.Ø2 mm in size intergrown with actinolite. Quartz also forms disseminated grains and patches of grains averaging Ø.Ø5-Ø.1 mm in size. Chlorite forms disseminated, extremely fine grained flakes intergrown with finer grained quartz-plagioclase. Its abundance varies widely. Opaque forms disseminated, anhedral to subhedral grains and patches averaging Ø.Ø2-Ø.Ø3 mm in grain size.

Quartz and minor to moderately abundant chlorite form replacement patches up to 1.5 mm in size. Grain size averages Ø.Ø5-Ø.2 mm for quartz and Ø.Ø1-Ø.Ø3 mm for chlorite. In some quartz patches, montmorillonite(?) forms clusters of patches averaging Ø.Ø3-Ø.Ø7 mm in size composed of equant, cryptocrystalline aggregates with a medium brown color. A few replacement patches up to 3 mm in size are dominated by chlorite flakes averaging Ø.ØØ2-Ø.Ø2 mm in grain size, with a few grains and clusters averaging Ø.Ø5-Ø.Ø8 mm in grain size. Opaque is common in and along borders of these patches.

Zone 2 is dominated by dense aggregates of unoriented actinolite grains averaging Ø.Ø3-Ø.Ø7 mm in length. Intergrown with these zones are patches of prismatic actinolite averaging Ø.Ø3-Ø.Ø5 mm in length with minor to moderately abundant interstitial quartz and plagioclase. In a few coarse grained patches, actinolite forms ragged to subhedral prismatic grains averaging Ø.1-Ø.3 mm in length in random orientation. Quartz forms interstitial grains and patches averaging Ø.Ø5-Ø.1 mm in size. Actinolite is pale green in color and slightly pleochroic. Quartz also forms lenses up to 2 mm in length of grains averaging Ø.Ø5-Ø.15 mm in size. Opaque forms disseminated, equant, subhedral grains and aggregates averaging Ø.Ø3-Ø.Ø7 mm in grain size.

Several patches up to 1.2 mm across consist of fine grained quartz intergrown with patches of very fine grained chlorite. A few patches up to Ø.3 mm in size are of very fine grained chlorite. Opaque forms disseminated, subhedral grains averaging Ø.Ø5-Ø.1 mm in size.

(continued)

Zone 3 consists of aggregates of plagioclase grains averaging Ø.1-Ø.4 mm in grain size. These are recrystallized strongly to extremely fine grained, strongly interlocking aggregates. A few patches contain concentrations of chlorite averaging Ø.Ø5-Ø.1 mm long and patches of cryptocrystalline montmorillonite averaging Ø.Ø2-Ø.Ø8 mm across.

A few irregular patches up to a few mm across are dominated by very fine grained quartz. They contain scattered patches of montmorillonite and flakes of chlorite. The largest patch contains a few clusters up to Ø.4 mm across are of fluorite.

Sample INDATA 89-I-21 104 m **Banded Dolomite-Quartz-Kaolinite; Altered Metamorphosed Sedimentary to Tuffaceous Sedimentary Rock; Dolomite Veins**

The rock has a banded texture, and is dominated by dolomite with less quartz and kaolinite showing a variety of textures suggestive of a sedimentary to tuffaceous sedimentary origin. The original composition of the rock is uncertain. Later recrystallized veins and veinlets are of dolomite. Dolomite was granulated along a network of late, braided shear zones.

dolomite	65-70%
quartz	10-12
kaolinite	5- 7
opaque	minor
Ti-oxide	trace
veins, veinlets	
dolomite	12-15

Some layers up to 1.5 mm in width are cryptocrystalline, and are dominated by kaolinite(?)-silica(?) and dolomite in widely varying proportions (both within and between layers). Commonly kaolinite has a feathery texture, with grains in subparallel orientation parallel to the length of the layer.

These layers and other slightly coarser grained layers locally contain angular fragments of quartz averaging 0.03-0.1 mm in size. These fragments probably represent original crystal fragments in a tuffaceous sediment.

Opaque forms equant, angular grains averaging 0.01-0.02 mm in size. A few patches are up to 0.1 mm across. It is concentrated in wispy seams and patches in some cryptocrystalline layers rich in quartz-kaolinite.

Ti-oxide forms patches averaging 0.01-0.02 mm in size.

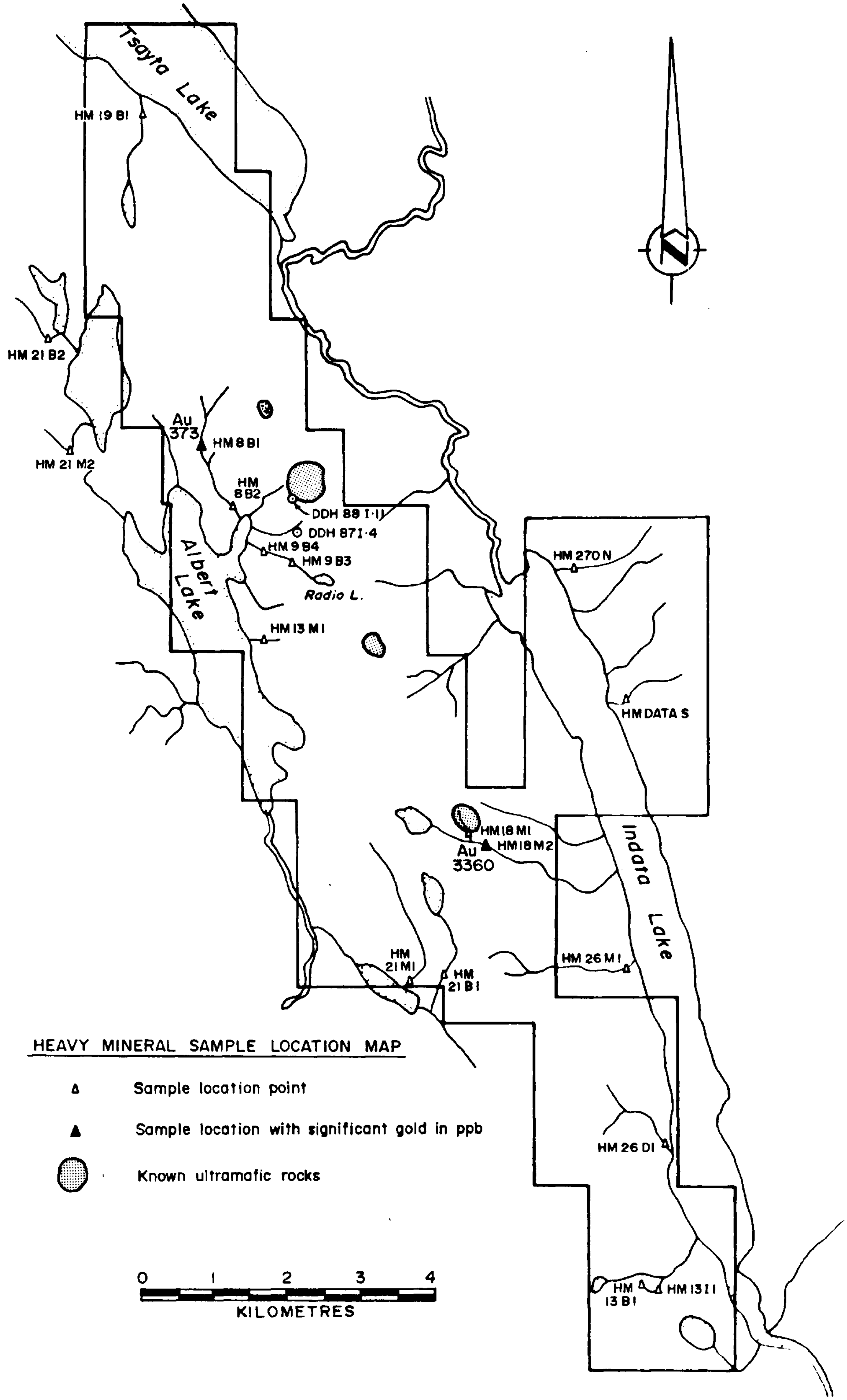
Other layers contain minor to abundant patches of fine to very fine grained quartz intergrown with extremely fine grained dolomite. Abundant wispy veinlets of dolomite cut and replace quartz.

Coarser grained dolomite forms diffuse to sharply outlined vein-like bands up to a few mm across, in which grains average 0.05-0.15 mm in size.

Late, commonly braided seams consist of cryptocrystalline dolomite; they were formed during deformation by granulation of coarser grained dolomite.

Appendix 16.7

Heavy Mineral Sampling Location Map (1:75,000)


Tsayta Lake
HM 19 B1
HM 21 B2
Au
373
HM 8 B1
HM 21 M2
HM
8 B2
DDH 88 I-11
DDH 87 I-4
HM 9 B4
HM 9 B3
Albert Lake
Radio L.
HM 13 M1
HM 27 O N
HM DATA S
HM 18 M1
HM 18 M2
Au
3360
Indata Lake
HM
21 M1
HM
21 B1
HM 26 M1
HM 26 D1
HM
13 B1
HM 13 I 1
HEAVY MINERAL SAMPLE LOCATION MAP
Sample location point
Sample location with significant gold in ppb
Known ultramafic rocks
0 1 2 3 4
KILOMETRES

Appendix 16.8

Anomaly Definition Table

Anomaly Definition

No	Sheet No.	Map Location Lines - Stations	Geochemistry As	Sb	Cu	Au	I.P. Chargeability (N.C.=not completed) weak	mod.	strong	Trend	Comments
1	1, 2	A5S/2E - 16S/10E	X		(X)	spot		N.C.		NNW	DDH 88-16, 17, 18, 23; T-40, 41; crosses intrusive - volc. contact.
2	1	A78/BL - 10+50S/250E	X		X	wk sp	X	X		NW	Parallels No. 1
3	1	B-9N/3W - 3N/BBL	(X)		X	spot		N.C.		NW	Parallels No. 1
4	1	B-8N/1W - 3N/1E	(X)		X	spot		N.C.		NW	Parallels No. 3, 1
5	1, 2	A12S/BL-2-3W - 4N/2-4W	wk		X	spot		N.C.		NNW	Copper zone grab rocks 0.1 - 0.5% Cu; DDH 85-1, 2 up to 101 ppb Au.
6	1	A16S/2 - 3E			X	X		N.C.		?	Only one line, nearest line 400 m.
7	1	A18+50S/BL - 19+50/BL			X	X		N.C.		?	Needs more sampling
8	2	A8S/5E - 4S/4E	X		X	spot		X	X	NNW	DDH-88-19
9	2	A4S/750E - 6S/7E to 350S/8E	X	X	X			X	X	NE	Camp zone - DDH 89-10, 11; trenches
10	2	B8N/1W - A5S/650E	X		(X)			N.C.		NNW	Merges W. Camp zone As.
11	2	A6S/11+50E - 5S/10+50E	X	X				N.C.		NW	Open to south; on edge of topo high.
12	2	A4S/12E - 2+50N/9E	X	wk spot	wk spot	wk spot	X	(Partial coverage)		NW-N	Open to N and SE (trench 8) Trench 23: 1714 ppb Au; 42.0 ppm Ag.
13	2	A450N/7-11E - 7N/7-10E	wk spot	wk spot		X			X	?(N)	Most extensive gold outside discovery zone; up to 85 ppb -good geology
14	2	A3S/2W - 1+50N/250W	X	wk spot	X	spot		N.C.		NNW	Overlaps Cu zone. May extend to 3+50N (650 meters)
15	2	A150S/4-6E - 6N/4E	X	X	X	X		X	X	N	Maon Zone.
16	2, 3	A750N/2-5W - 11N/2-6W	X	X	spot	wk spot		X	X	NW (E&NE)	Veins parallel and x-cut shear zone at NW, NE, E; 0.7 m x 0.177 opt Au.(NW zone)
17	3	A8AN/950E - 11N/1050E	X		X	wk spot		X (not complete)	X	N-NE	Open to N; gold in soils to South.
18	3	A13N/650E - 17N/5E		X	X	spot		N.C.		NNW	Very linear
19	3	A18N/9E - 20N/7E	spot		X	wk spot		N.C.		NW-W?	Open N and SE; propylitic alt'n. and Cu mineralization noted.
20	3	A21N/2E - 8N/5E	wk		X	spot		X (not complete)		NNW	Grab and chip rocks at N end to 3.5% Cu and 575 ppb Au.
21	3	A10N/4E - 20N/0+25E		X	spot	mod.		N.C.		NNW	Part overlap with Cu of 20; parallels u/m-volc. contact.
22	3	A14N/1W - 16N/150W	X	X	X	spot		N.C.		N(?)	May be underlain by u/m.
23	3	A17N/0+75W - 25N/4W	mod. spot	X	spot	spot		N.C.		N-NW	X-cuts limestone-volc interpretted contact.
24	3	A17N/250W - 24N/5-6W	mod.	X		X		N.C.		NW-N	Parallels topo and drainage discontinuous-may be 3 anom.
25	2	A0+00/7E - 2+50N(?)/6E	X			spot		X		NNW	Trench 7
26	2	A1+50S/1+50E - 4N/1+50E						X	(X)		Between Main zone and Copper Zone.
27	1	84N/4+25E	not completed					X		?	Disseminated copper noted in this area.

Appendix 16.9

Summary of Trench Analyses

Indata: 1989 Trench Program

Trench	Location	Length	No. of Samples	Comments
89-T1	L4+50S 7+00E - 7+50E	50m	17	Mapped
89-T2	L4+00S 7+25E - 7+55E	30m	10	Mapped
89-T3	L5+00S 6+75E - 7+25E	50m	17	Mapped
89-T4	L6+00S 6+55E - 7+12E	57m	24	Mapped
89-T5	L3+50S 7+25E - 7+60E	35m	0	B/R volcanic not mapped
				Mapped
89-T7	L0+50N 6+70E - 7+50E	80m	3	Mapped
89-T8	L2+00N 8+10E - 8+50E	40m	3	Mapped
89-T9	L1+50N 6+75E - 7+40E	65m	-	Not mapped - Bedrock but thick overburden
89-T10	L3+50N 5+45E - 5+95E	50m	0	Mapped
89-T6	L0+50N 7+70E - 8+25E	55m	6	Mapped
89-T12	L5+50N 7+60E - 8+50E	90m	6	Mapped
89-T13	L4+50N 8+48E - 8+75E	27m	1	Mapped
89-T14	L6AN 3+70E - 4+23E	53m	10	Mapped
89-T14A	L6AN 3+75E runs 12 miles N. 168 degrees	12m	8	Mapped
89-T15	L6N 3+90E - 4+20E	30m	-	Till
89-T16	L8AN 5+00E - 5+20E	20m	-	Till
89-T17	L7+50N 6+50E - 6+80E	30m	0	Mapped
89-T18	L8AN 3+00E - 3+80E	80m	0	Mapped
89-T19	L5+50S 6+50E - 7+40E	90m	-	B/R not mapped (missed)
89-T20	L4+80S 7+25E - 7+50E	25m	10	Mapped
89-T21	L4+90S 7+25E - 7+50E	25m	13	Mapped
89-T22	L3+75S 7+50E - 7+65E	15m	18	Mapped
89-T23	L0+50S 9+50E - 10+25E	75m	1	Mapped
89-T24	L0+50S 7+25E - 7+75E	50m	0	Mapped
89-T25	L1+50S 9+50E - 10+25E	75m	0	Mapped
89-T26	L1+50S 10+75E - 11+50	75m	0	Mapped
89-T27	48 m from 7+98E L45 a 332 degrees	12m	9	Mapped
89-T28	45 m from 8+08E L45 a 350 degrees	20m	3	Mapped
89-T31	L9+00N 2+75W - 3+50W	75m	22	Mapped
89-T32	L8+50N 1+70W - 2+50W	80m	18	Mapped
89-T33	L9+00N 2+00W - 2+50W	50m	5	Mapped
89-T40	L6+50S 1+75E - 2+50E	75m	11	Mapped
89-T41	L7+00S 1+00E - 1+75E	75m	6	Mapped
89-T42	L7+50S 2+75E - 4+00E	125m	3	Mapped
89-T43	L8+50S 3+50E - 4+00E	50m	2	Mapped
89-T44	L9+00S 3+25E - 3+75E	50m	-	Till
89-T45	L10+50S 2+25E - 3+50E	125m	5	Mapped
89-T46	L9+50S 3+75E - 4+50E	75m	4	Mapped
89-T47	L8+50S 4+00E - 4+75E	75m	0	Mapped
89-T48	South of T14		6	Location unknown exactly
89-T49	South of T14		1	filled in T49 not mapped
Total 42		Total 2211m	Total 247	3 trenches in till 4 trenches not mapped

Trench 89-T1
4+50S, 7+23E-7+95E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	1181	60807	42.00	2333	2502	69	1714
2	1.00	945	78167	32.90	1192	1770	23	1946
3	1.00	29	245	0.40	22	131	2	7
4	1.00	953	5856	17.80	196	1232	2	291
5	1.00	843	33444	32.70	161	1764	17	844
6	1.00	193	1088	2.80	51	588	3	57
7	1.00	58	144	0.80	6	195	2	8
8	1.00	30	117	0.50	2	124	2	5
9	1.00	29	96	0.10	12	46	2	3
10	1.00	41	57	0.10	6	12	2	2
11	1.00	810	4919	15.00	179	1432	4	258
12	1.00	22	60	0.10	8	147	2	4
13	1.00	33	100	0.10	7	100	2	6
14	1.00	14	21	0.10	5	23	2	3
15	1.00	854	41386	32.70	1155	1748	49	1195
16	1.00	208	524	3.10	18	171	3	35
17	0.25	1427	99236	59.50	2703	2211	38	3669

Trench 89-T2
4+00S, 7+26E-7+55E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	0.40	267	23655	6.60	548	12752	2	1131
2	0.75	727	10420	9.20	283	773	3	398
3	0.42	558	19445	23.00	662	14288	4	933
4	0.40	671	1525	26.40	57	861	4	143
5	1.10	596	51279	28.80	1711	1108	16	1132
6	0.35	565	99999	37.80	1680	2246	30	3681
7	0.30	90	2743	2.50	62	320	2	84
8	0.55	1899	13502	128.90	1382	1471	31	1186
9	0.55	292	1795	9.00	181	306	2	182
10	0.75	104	145	0.80	11	11	3	9

Trench 89-T3
5+00S, 6+68E-7+25E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	318	31748	48.00	1216	1479	2	903
2	1.00	79	334	0.80	11	202	2	11
3	1.00	27	425	0.60	26	34	2	17
4	1.00	75	162	0.20	4	18	2	19
5	1.00	40	1072	1.60	89	102	2	117
6	1.00	17	219	0.20	11	27	4	33
7	1.00	15	97	0.10	6	9	2	5
8	1.00	31	92	0.10	12	13	2	7
9	1.00	53	174	0.60	6	21	3	17
10	1.00	163	375	1.50	2	40	3	34
11	1.00	35	112	0.10	3	15	2	7
12	1.00	30	103	0.10	3	10	2	5
13	1.00	71	43	0.10	4	7	2	6
14	1.00	81	34	0.10	2	2	3	3
15	1.00	50	83	0.10	23	11	2	32
16	1.00	8	51	0.10	4	4	2	4
17	1.00	38	19	0.10	3	6	3	4

Trench 89-T4
6+00S. 6+53E-7+12E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	54	15	0.10	5	2	3	2
2	1.00	445	98	0.10	2	193	2	20
3	1.00	102	744	0.20	4	51	2	9
4	1.00	118	434	0.10	2	44	3	6
5	1.00	183	291	0.10	2	78	3	4
6	1.00	25	166	0.10	2	6	3	3
7	1.00	29	167	0.10	2	18	2	4
8	1.00	21	92	0.10	2	12	11	3
9	1.00	15	119	0.10	2	10	3	4
10	1.00	17	54	0.10	2	2	2	2
11	1.00	22	17	0.10	2	2	2	4
12	1.00	53	20	0.10	2	2	3	4
13	1.00	44	55	0.10	2	2	2	2
14	1.00	189	102	0.40	2	2	2	7
15	1.00	49	33	0.10	3	2	2	5
16	1.00	156	14	0.10	2	2	2	9
17	1.00	59	69	0.10	2	3	3	4
18	1.00	199	38	0.20	5	2	2	16
19	1.00	32	160	0.10	2	2	2	3
20	1.00	61	77	0.30	2	20	2	3
21	1.00	45	100	0.10	4	2	2	3
22	1.00	22	77	0.10	4	2	2	1
23	1.00	47	84	0.10	2	16	2	7
24	1.00	24	30	0.10	2	3	2	2

Trench 89-T6
0+50N. 7+89E-8+26E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	1024	11	0.10	2	2	2	6
2	1.00	13	4	0.10	3	2	2	8
3	1.00	23	12	0.10	2	2	2	11
4	1.00	13	13	0.10	2	2	2	2
5	1.00	14	20	0.10	2	2	2	2
6	1.00	726	16	0.10	2	2	3	8

Trench 89-T5

3+50S, 7+25E-7+60E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)

Trench 89-T7
0+50N, 6+70E-7+50E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	75	4275	2.60	30	101	2	314
2	1.00	34	18368	3.90	170	98	2	1605
3	0.70	21	85582	1.70	31	148	14	5231

Trench 89-T8
2+00N, 8+10E-8+29E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	153	435	0.50	10	67	2	12
2	0.04	269	7430	59.00	1684	433	34	833
3	1.00	11	55	0.30	7	3	2	4

Trench 89-T11
5+50N, 5+66E-5+97E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	11	79	0.40	8	2	2	40
2	1.00	24	168	0.10	3	2	2	72
3	1.00	22	231	0.20	2	2	2	9
4	1.00	15	51	0.20	2	2	2	8
5	1.00	7	11	0.40	2	2	2	5

Trench 89-T12
5+50N, 7+60E-8+50E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	20	20	0.10	4	2	2	3
2	1.00	10	6	0.20	2	3	2	8
3(grab)	0.00	6	26	0.10	3	50	2	3
4	1.00	5	33	0.40	2	60	2	22
	0.00	3	2	0.10	5	2	2	2
	0.00	73	2	0.10	2	2	2	2

Trench 89-T13

4+50N, 8+48E-8+75E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	0.60	3	2	0.10	3	2	2	6

Trench 89-T14
6A+00N, 3+70E-4+23E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	0.70	3950	48921	17.50	2	37	58	828
2	0.70	7960	99999	17.50	7	822	217	10135
3	0.50	287	1595	0.50	2	6	3	106
4	1.00	57	764	0.10	5	6	2	61
5(grab)	0.00	148	1623	0.70	2	3	2	61
6	0.70	38	315	0.10	2	2	2	9
7	0.50	20	559	0.40	2	2	2	10
8	1.00	20	512	0.10	2	2	2	24
9	1.40	60	929	0.10	2	2	15	6
10(grab)	0.00	23	261	0.10	2	2	2	4

Trench 89-T14A
6A+00N-6A+20N, 8+75E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	0.55	175	358	1.00	5	9	2	33
2	0.75	4365	99999	11.00	59	644	146	4340
3	0.37	41	864	0.00	2	30	2	39
4	1.05	3324	99999	12.00	73	699	273	6759
5	0.75	30	1580	0.00	2	21	2	29
6	0.50	215	1095	1.00	5	23	4	124
7	0.55	5546	99999	14.00	7	390	209	4744
8	0.50	874	11628	2.00	2	44	24	551

Trench 89-T20
4+75S, 7+25E-7+50E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1(grab)	0.00	92	36	0.30	2	15	2	9
2	1.00	109	19	0.20	2	4	3	7
3	1.00	694	16	3.10	2	19	3	21
4	1.00	1180	60	4.80	8	19	4	30
5	1.00	415	34	0.80	2	16	3	17
6	0.80	363	13	0.60	4	5	2	13
7	1.00	526	30	0.50	3	17	2	9
8	1.00	375	110	1.40	6	47	2	25
9	1.00	1466	175	5.60	2	179	21	83
10	1.50	38	9	0.10	2	2	2	4

Trench 89-T21
4+85S, 7+25E-7+50E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	7	47	0.10	15	10	2	4
2	1.00	20	185	0.20	13	49	3	9
3	1.00	309	13445	21.80	1027	474	12	560
4	1.00	304	76	0.20	10	56	11	12
5	1.00	291	112	0.30	13	19	2	11
6	1.00	720	51	0.70	8	15	3	18
7	1.00	173	2539	4.90	72	102	3	68
8	1.00	994	6604	42.00	626	412	11	386
9	1.00	3463	4097	142.80	262	1078	28	1004
10	1.00	2786	2374	40.00	171	116	62	883
11	1.00	1851	5169	102.00	920	98	94	1924
12	1.00	83	100	0.90	17	5	5	6
13	1.00	73	109	1.60	17	7	5	12

Trench 89-T22
3+75S, 7+25E-7+50E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	0.50	67	344	0.40	9	225	2	7
2	0.50	2678	67336	227.10	5863	3232	83	3312
3	0.40	2799	19598	85.60	303	2831	30	1604
4	0 40	5157	47699	358.80	3906	5757	59	3995
5	0.30	194	3707	26.00	178	521	28	454
6	0.30	2038	99999	239.90	16706	9148	109	3525
7	0.45	420	1276	15.30	82	353	46	248
8	1.00	65	66	0.40	9	8	2	8
9	1.00	88	397	4.10	57	92	3	34
10	1.00	2603	64948	329.20	4378	3721	83	3750
11	1.00	23	196	2.00	27	30	3	17
12	1.00	2323	55390	233.30	7069	6338	51	2839
13	1.00	367	8876	51.10	262	1605	52	1203
14	1.00	4827	99999	469.40	22783	14334	80	4279
15	1.00	951	5164	31.50	263	1160	303	1281
16	1.00	1275	2138	10.70	303	298	11	145
17	1.00	238	491	1.40	24	79	2	32
18	1.00	1160	5146	30.90	1067	631	46	284

Trench 89-T27
Adjacent to and Northeast of T22

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	112	70	0.10	10	23	4	12
2	1.00	1633	42705	98.70	2217	6369	112	2633
3	1.00	611	4448	5.90	110	759	6	206
4	1.00	268	591	0.40	9	65	2	8
5	1.00	15	62	0.10	4	13	2	6
6	1.00	60	1086	2.70	64	158	2	86
7	0.95	1656	44321	125.40	1405	3641	71	3009
8	0.70	138	193	0.50	6	218	2	20
9	0.55	91	475	1.20	17	59	2	29

Trench 89-T28
Adjacent to and Northeast of T28

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	121	95	0.40	8	32	2	10
2	1.00	952	51705	267.70	4243	2299	24	3415
3	1.00	50	128	0.60	12	62	2	14

Trench 89-T31
9+00N, 2+75W-3+50W(?)

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.50	86	346	0.00	2	57	2	23
2	1.50	29	116	0.00	2	18	2	6
3	1.00	174	296	0.00	17	24	2	26
4	1.00	3732	99500	24.00	143	457	253	2465
5	1.00	595	37118	2.00	10	45	402	13126
6	1.00	2665	93452	6.00	12	180	598	11875
7	1.00	3325	84444	15.00	116	722	202	1879
8	1.00	4700	14586	6.00	7	118	173	1166
9	1.00	3062	72420	127.00	222	37874	197	10448
10	1.00	922	20592	18.00	52	13545	34	7806
11	1.00	174	2609	3.00	7	1619	2	229
12	1.00	78	911	0.00	2	331	2	37
13	1.00	34	183	0.00	2	115	2	15
14	1.00	40	168	0.00	5	134	2	8
15	1.00	20	618	0.00	2	354	2	20

Trench 89-T40
6+50S, 1+75E-2+50E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.50	1779	1293	9.50	116	124	258	32
2(grab)	0.00	2447	482	12.60	18	64	210	57
3	1.00	1389	2578	4.40	31	32	37	42
4(grab)	0.00	89	341	0.40	2	4	2	2
5	1.00	7426	99999	28.60	85	2101	562	312
6	1.00	1819	46209	16.10	65	302	157	185
7	1.00	3656	77189	50.30	128	297	461	319
8	1.00	4307	87556	25.70	61	545	538	500
9	1.00	4345	90310	48.10	308	1472	693	442
10	1.00	5772	91033	49.80	115	1406	544	285
11	1.00	4139	99999	15.60	84	729	413	294

Trench 89-T41
7+00S, 1+10E-1+75E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1(grab)	0.00	1742	10914	101.50	1738	1226	99	2550
2(grab)	0.00	1029	2294	4.40	96	180	29	118
3(grab)	0.00	786	1360	5.20	140	151	30	87
4(grab)	0.00	917	1986	2.60	19	130	13	75
5(grab)	0.00	746	2693	3.60	25	87	12	602
6(grab)	0.00	663	3281	2.00	23	99	21	225

Trench 89-T42
7+50S, 2+75E-4+00E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	570	106	0.50	13	3	2	17
2	1.00	354	63	0.20	2	2	3	6

Trench 89-T43
8+50S, 3+50E-4+00E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	85	12	0.10	11	2	2	2
2	1.00	43	24	0.20	6	5	2	5

Trench 89-T45
10+50S, 2+25E-3+50E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	25	16	0.10	9	2	3	1
2	1.00	198	5	0.20	4	2	2	2
3(grab)	0.00	7	11	0.10	3	2	2	3
4(grab)	0.00	63	7	0.10	2	2	2	2
5(grab)	0.00	173	3	0.10	2	2	2	13

Trench 89-T46
9+50S, 3+75E-4+50E

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1(grab)	0.00	10	4	0.10	3	2	2	1
2(grab)	0.00	39	11	0.10	3	3	2	3
3(grab)	0.00	31	23	0.10	3	3	2	2
4(grab)	0.00	42	40	0.10	3	3	2	1

Trench 89-T48
(Location Unknown)

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1	1.00	422	702	1.20	2	14	13	8
2	1.00	41	255	0.30	2	34	3	25
3	1.00	58	72	0.10	2	4	2	8
4	1.00	79	72	0.10	2	14	2	7
5	1.00	13	126	0.10	2	5	2	3
6	1.00	1370	507	4.80	4	376	14	189

Trench 89-T49
(Location Unknown)

Sample Number	Width	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Bi (ppm)	Au (ppb)
1(grab)	0.00	13	187	0.10	5	13	3	9

Appendix 16.10

Trench Logs

Trench T1
Line 4+50S
7+23E to 7+95E

Interval	Description
7+23.5 to 7+26.0	Grey green fine to very fine grains porphyritic with amphibole Phenocrysts to 2 mm. No visible sulphides chlorite altered.
7+26.0 to 7+26.9	Coarse grained highly chloritized. Granular texture to quartz-plagioclase mafic more euhedral. Coarse tuff. No visible sulphides.
7+27.5 to 7+29.5	Green grey medium grains slightly silicious. Up to 5% phenocrysts. No visible sulphides. Moderate to strong chlorite alteration. 7+27.5 to 28.0 strongly fracture 145 degrees.
7+34.0 to 7+37.0	Silicified zone. Greyish white to greenish grey very fine grained, very silicified. No grains visible. Microveinlets (dendritic) of very fine. black material (MN?). Rusty weathering. Trace to 2% disseminated Py (very fine). Mineralized zone (Approximated to Datum on Cross section).
7+37.0 to 7+37.5	Very fractured milky white quartz vein. Rusted. Fracturing severe. No sulphides encountered.
7+37.1 to 7+38.9	Gouge (or severely weathered) 80 cm thick.
7+38.9 to 7+39.0	5 cm band of massive sulphide that appears to be parallel to overlying quartz. Very fine, dark grey. Likely arsenopyrite. Minor associated quartz in veining like appearance.
7+39.0 to 7+40.3	Severely fractured milky white (Bullish appearance) quartz. Rusted. Pods of sulphide (massive Py) seen in quartz.
7+40.3 to 7+40.15	15 cm Massive sulphide band. Fine grained, grey. Py; yellow powder (weathering) associated.
7+40.15 to 7+40.7	Severely fractured milky white rusted quartz. Pods or disseminated Py (f.g.) up to 2 cm in size. Arsenopyrite and Po present in much less quantity. Note: Mineralized zone strikes at approximately 028 degrees with a dip of 30 degrees east.

Interval	Description
7+40.7 to 7+43.5	Silicified zone. Greyish white to greenish grey very silicified; very fine grained. Black microveinlets (dendritic) through much of the rock. Rusty weathering. 2% disseminated Py.
7+43.5 to 7+50.0	Grey green very fine grained moderately silicious. Few visible phenocrysts. Trace disseminated Py. Fracturing: Most at 100 degrees and 010 degrees. Few at 045 degrees.
7+63.0 to 7+75 E	Grey green fine grained with a slight granular texture. Areas with <1 mm scaled phenocrysts of amphibole to 3%. Strongly chloritized throughout. Moderate silicification in areas. Carbonate along fracture surfaces. Up to 2% disseminated Py in sections. Contact unclear.
7+75 to 7+87.0	Grey green medium to coarse grained porphyritic tuff. Granular texture. Some grains exhibit a slight fragmental look in sections. 5% to 10% amphibole phenocrysts up to 3 mm in size. Strong chlorite alteration. Up to 2% disseminated Py, trace toward 7+87.0. 7+87 Dominant Fracturing at 045 degrees plus 175 degrees.
7+87.0 to 7+95.0 E	Grey green fine to medium grained porphyritic. Phenocrysts of amphibole up to 5% (< 1 mm). Some euhedral phenocrysts. Trace disseminated Py. Moderate to strong chlorite alteration. Joints at 045 and 135 degrees.

Trench T2
Line 4+00S
7+25E to 7+55E

Interval	Description
7+26.5 to 7+37.0E	Grey green fine to medium grained porphyritic (tuff) 5% to 10% phenocrysts of chloritized amphiboles up to 2 mm. Some euhedral phenocrysts. Strong chlorite alteration. Trace disseminated Py.
7+37.0 to 7+38.0	Greyish white to light green grey fine to very fine grained moderately silicious porphyritic. Phenocrysts still present; some euhedral; very chloritized. Trace to 2% disseminated Py. Rusty.
7+38.0 to 7+39.0	Light grey to light grey green very fine grained highly silicious. No visible phenocrysts. 2% disseminated Py. Rusty.
7+39 to 7+47	Mineralized section. See cross section 010 degrees/18 degrees east.
7+46 to 7.47	Mineralized quartz vein appears to cross cut the zone. 040/45 degrees eest. Taken from smooth upper surface. Up to 40% sulphide content. Massive stibnite in 10 cm band; 10% to 20% Py; Cpy, fuchsite(?) in lesser amounts. Quartz is milky white; fractured.
7+47 to 7+49.4	Grey green coarse grained volcanic (tuff). Granular texture with rounded grains. Strongly chloritized. No visible sulphides. No apparent phenocrysts. Fracturing 145 degrees, 175 degrees and 055 degrees.
7+49.4 to 7+55	Grey green fine to medium grained slightly silicious porphyritic. 5% amphibole phenocrysts (<1.5 mm). Moderate chloritization. No visible sulphides.

Trench T2
4+00S

Sample	Length	
89-T2-1	40 cm	Highly mineralized quartz
89-T2-2	75 cm	Silicified
89-T2-3	42 cm	Massive sulphide (Py?) and gouge
89-T2-4	40 cm	Fractured quartz
89-T2-5	1.1 m	Gouge with silicified sections
89-T2-6	35 cm	Massive sulphide (Py)
89-T2-7	30 cm	Silicified
89-T2-8	55 cm	Fractured quartz and gouge
89-T2-9	55 cm	Silicified
89-T2-10	75 cm	Coarse grained tuff

Trench T3
Line 5+00S
6+65E to 7+23E

Interval	Description
6+68E to 6+72	Smooth outcrop with porphyritic texture. Up to 10% mafic (amphibole) phenocrysts in medium grained greenish groundmass. Chlorite alteration throughout.
6+79.5 to 6+80.5	Fine grained grey green. No phenocrysts.
6+82	Fine to medium grained. Granular texture with >5% amphibole. Phenocryst strongly chloritized. No visible sulphides. Not developed.
6+83E to 6+84E	Medium grained green grey. Highly chloritized.
6+84 to 6+84.3	Strongly fractured with associated gouge. Dominate at 005 degrees and 135 degrees.
6+86	Smooth vertical joint surface at 072. Joint 072 degrees.
6+85 TO 6+95	Fine to medium grained grey green strongly chloritized. Porphyritic through most of section. Moderate silicification in areas with trace to 1% disseminated Py.
6+87	Smooth fracture surface at 080 degrees/30S. Fracture 080 degrees.
6+91.5	25 mm fault gouge with fragments present. 130 degrees. 130 degrees gouge.
6+94 to 6+95E	Fracture surfaces on walls of trench. Dominant 085 degrees also at 060 degrees.
6+95.4 to 7+03.2	Fine to medium grained slightly silicious grey green (volcanic). Strongly chloritized. Trace to 3% disseminated Py. Strong 090 degrees fracturing with less dominant 030 degrees fracturing. Dominant 090 degrees. Weaker at 030 degrees.
7+03.2 to 7+09.7	Light grey green very fine grained moderately silicious rock. Some remnants of phenocrysts visible. Highly chloritized. Rusty exterior. Trace to 2% disseminated Py. One area exhibited a watery green coloring.

Interval	Description
7+09.7 to 7+10.9	Highly silicious very fine grained light grey rock. Rusty exterior. No remnant textures or fabric remaining. Scattered dendritic Mn? 1% to locally 3% disseminated Py. Boundary from previous unit gradational. Reflected by resistant ridge over this interval.
7+14.8 to 7+15.8	Grey green medium grained (volcanic). Moderate chloritization. No visible sulphides.

Trench T4
Line 6+00S
6+53E to 7+12E

Interval	Description
6+53 to 6+61.5E	Grey green medium to coarse grained slightly silicious porphyritic. Up to 5% amphibole phenocrysts. (<2 mm). Many euhedral phenocrysts. Strongly chloritized. Up to 2% Py disseminated in sections. Common fracturing at 110 degrees.
6+61.5 to 6+64.0	Fine to very fine grained non porphyritic moderate to highly silicified (next to rusty zone). Trace Py up to 3% disseminated Py in very silicified material. Rusty.
6+64 to 6+72	Rusty (Mineralized?) zone. Here the rock is very weathered and soft. Much of the rock appears to be very weathered highly silicious material and/or possible quartz likely mineralized throughout. At approximately 6+68, massive arsenopyrite and associated Py in a 3 cm band looked to be hosted by quartz. At approximately 6+68.5 bands of massive Py up to 5 mm in size was host by highly silicified material. (Zone appears to dip gently to the west?)
6+72 to 6+75.5	Grey green fine grained porphyritic. Up to 5% amphibole phenocryst (< 1 mm). No visible sulphides. Strongly chloritized and moderately silicified. Fracturing dominant at 170 degrees and 065 degrees.
6+75.5 to 6+85.5	Fine grained light grey green moderate to highly silicified. Phenocrysta visible in some sections. Very rusty. Disseminated Py from 1% to 5% in some spots. Some watery green staining. More competent than rusty zone.
6+85.5 to 7+12E	Fine to medium grained grey green porphyritic. Phenocrysts up to 5% (<2 mm). Often euhedral. Some small coarse grained sections. Trace to 1% disseminated Py. Strongly chloritized. Slightly silicious.

89-T4-1	No visible sulphides.
89-T4-2	Trace Py and Cpy.
89-T4-3	3-5% disseminated Py. Massive pods to 1 cm.
89-T4-4	Py in massive bands. 3-5% disseminated Py.
89-T4-5	Up to 15% Py, massive in sections, silicious host. 5% disseminated Py.
89-T4-6	3% Py disseminated 3 cm band of massive arsenopyrite and Py in quartz.
89-T4-7	No visible sulphides.
89-T4-8	No visible sulphides.
89-T4-9	No visible sulphides.
89-T4-10	Trace pyrite.
89-T4-11	Pyrite 1%.
89-T4-12	No visible sulphides. Volcanics.
89-T4-13	No visible sulphides. Volcanics.
89-T4-14	No visible sulphides.
89-T4-15	Trace Py.
89-T4-16	No visible sulphides.
89-T4-17	Trace Py.
89-T4-18	Trace Py.
89-T4-19	1% to 2% Py. Small massive pods.
89-T4-20	1% Py.

Trench T6
Line 0+50N
7+89E to 8+26E

Interval	Description
7+89E to 7+94.6	Grey green fine grained moderately silicified porphyritic. 5% amphibole phenocrysts (<2 mm). Chlorite alteration. No visible sulphides.
7+94.6 to 8+01.5	Light grey green to dark grey in sections, very fine grained moderate to highly silicious. No visible phenocrysts. Rusty exterior. Trace Py but few sulphides visible. Up to 2% malachite at 7+95.5E.
8+01.5 to 8+06	Grey green fine grained porphyritic with <1 mm scaled phenocrysts of amphibole up to 6%. Strong chlorite alteration. Granular texture to grains. Fractures Common at 160 degrees.
8+06 to 8+10.5	Dyke? Grey green very fine grained. No phenocrysts. Aphanitic. Traces of Cpy.
8+10.5 to 8+17.5	Coarse texture. Grey green fine grained groundmass with rounded and fragmental (clasts). Very chloritized. Coarse tuff. 8+18E Dominant fracturing at 150 degrees and 60 degrees. 8+16.5 approximately a 20 cm section of crystalline equigranular material. Phenocrysts of amphibole (<3 mm) up to 5%. Appears to be a diorite dyke cross cutting the coarse tuff. Trace to 2% Cpy and malachite in tuff within 20 cm of dyke on west side (sample #6).
8+17.5 to 8+26.0E	Grey green fine grained porphyritic. Up to 5% amphibole phenocryst (<1 mm). Strongly chloritized. Samples: T6-1 to T6-5 (1 m) T6-6 (15 cm)

Trench T7
Line 0+50N
6+70E to 7+50E

Interval	Description
6+70 TP 6+80.5E	Thick dark grey green compact till.
6+80.5 to 6+81.5E	Grey green fine grained porphyritic. Up to 4% amphibole phenocrysts (<1 mm). Strong chlorite alteration. No visible sulphides.
6+81.5 to 6+82.5	Dyke? Coarse crystalline texture. Strongly chlorite altered. Light green grey with mafic spots. Trace Py. Sharp contact at 6+82.5 at 175 degrees dip unclear but appears to be steep. (diorite dyke).
6+82.5 to 6+88.5E	Grey green fine to medium grained granular texture, porphyritic. 5% amphibole phenocrysts (<1 mm average). Some euhedral. Moderately chloritized. Slightly silicious with highly silicious sections. Traces of Py and Cpy. Contact at 6+88.5 with very fine grained rock at 020 degrees. Looks sharp. Only slight fracturing.
6+88.5 to 6+91.0E	Light grey green to grey green very fine grained (aphanitic). No phenocrysts. No visible sulphides. Possible dyke.
	Contact at 6+91.0 at 126/65W.
6+91.0 to 6+96.0	Rusty zone. Grey green fine grained porphyritic with up to 5% amphibole phenocrysts (<1 mm). Chloritized. Moderate to highly silicious disseminated Py up to 3%. Likely the top of the mineralized zone at 7+06E to 7+10E. Moderate fracturing at 045 degrees and 130 degrees (shallow).
6+96 to 6+98.0E	Continued fine grain grey green porphyritic. Trace Py. Strong fracturing at 370 degrees (steep).
6+98.0 to 7+00E	Grey green medium grained porphyritic. 6% amphibole phenocrysts (<2 mm). Granular texture. Strongly chloritized. No visible sulphides.
7+00E to 7+06E	Grey green very fine grained moderate to highly silicious. Trace to 1% disseminated Py. No visible phenocrysts.

Interval	Description
7+06 to 7+10.0E	Rusty mineralized zone. (See cross section). The zone is very weathered to a dark red and very strongly fractured. Much of the fractured material appears to be silicified volcanics. Two milky white quartz veins bordered by dark red fault gouge (3 cm) follow the trend of the fractured zone. The vein (15 cm) furthest to the east contains a band (1 cm to 2 cm) of massive arsenopyrite along with disseminated arsenopyrite and Py (up to 10% in sections) and malachite staining. Approximate attitude of zone is 150 degrees/30 degrees W.
7+10E to 7+13.5E	Grey green medium to coarse grained. Porphyritic. Strongly chloritized.
7+13.5 to 7+16.0	Very fine to fine grained grey green to occasional dark grey. Non phenocrystic. Possible dyke.
7+16 to 7+50E	Grey green fine grained with occasional medium grained sections. Porphyritic with up to 10% amphibole phenocryst <1 mm in size. Strong chloritization throughout. The interval is cross cut by numerous light grey green aphanitic dykes.

Trench T8
Line 2+00N
8+00E to 8+30

Interval	Description
8+10 to 8+19	Clay rich till. Main composition appears to be UM Vol.
8+19 to 8+20	Apparent serpentinite (weathered). Fault bounded. Sheared. Quartz vein (4 cm) arsenopyrite. Stibnite. 020/shallow.
8+20 to 8+30	Variably porphyroclastic medium to fine to aphanitic. Volcanic tuff for most the exposure the rock is quite fresh. Rock is quite weathered and/or altered around 8+23 for about a meter either side. Jointing at 8+21 approximately 060/steep.
8+23	Probable pyroxenite (mafic rich gabbro-plag poor) dyke. Approximately 30 cm wide although attitude was not obtainable.

Trench T10
Line 3+50N
5+45E to 5+95E

Interval	Description
5+42 to 5+44.5E	Grey green medium to coarse grain porphyritic. Granular texture to the groundmass. Up to 8% amphibole phenocrysts (phenoclasts) reaching 4 mm in size. Many euhedral. No visible sulphides.
5+44.5 to 5+47E	Grey green fine grained with 3% amphibole phenocrysts (<1 mm). Moderately silicified. Strong chloritization. Trace Py.
5+47 to 5+47.7E	Grey green medium to coarse grained porphyritic. Granular texture. Up to 10% amphibole phenocrysts (<2 mm). Phenocrysts are subrounded, broken and/or euhedral. Strong chloritization. No visible sulphides.
5+47.7 TO 5+56E	Grey green to light grey green very fine grained to aphanitic. 1% phenocrysts in section; absent in others. Moderately silicified and chloritized. Trace Py. Dyke?
5+56 to 5+60E	Grey green medium to coarse grained porphyritic. Up to 6% amphibole phenocrysts with average size <2 mm. Large phenocrysts (>3 mm) common. Trace Py and Cpy. 5+59E fractures at 045 degrees.
5+60 to 5+62.2	Shear zone. Extremely weathered. Appears to have fractured crystalline rock (dyke). Gouge from 5+60 to 5+60.5 General trend at 040 degrees.
5+62.2 to 5+69.5	Medium grained crystalline, equigranular. Plag and mafics with quartz. Fairly fresh. Trace to 2% Py. Quartz Diorite dyke?
5+69.5 to 5+70.2	Grey green very fine grained to aphanitic. No phenocrysts.
5+70.2 to 5+72.0	Light green to green with a slight mottled appearance. Highly silicified. Grains have a granular texture. Some possible remnant phenocrysts carbonate along fractures. No visible sulphides. Likely a silicified tuff. (Does have a crystalline look but likely due to silicification).

Interval	Description
5+82 to 5+95E	Grey green fine grained. 2% to 5% amphibole phenocrysts; average <1 mm. Strong chlorite alteration. 5+82E fractures at 120 degrees. Fault gouge 5+88 to 5+95 120 degrees.
5+88 to 5+94E	Fault zone. The rock is extremely fractured, broken and gouged. The fractures generally trend 120 degrees. The whole zone cross the axis of the trench at a very shallow angle. Fractures 120 degrees. No samples taken.

Trench T11
Line 5+50N
0+40W to 34+00W

Interval	Description
0+40 to 20+00W	Serpentinite in rock and lenses of pyroxenite and/or dunite (approximately 15% of outcrop). If dunite, then this occurs as fine grained material in some serpentinite alteration. Pyroxenite show supergene weathering/alteration and are less conspicuous. This interval is highly and randomly fractured. A fault bounded talc, magnesite vein was seen at 17+00 - 20 cm wide, 200/80. Local asbestos/enstatite.
20+00W	A fairly unaltered dunite lens - is magnetic.
23+00 to 24+00W	A fault bounded sheared package of talc/ carbonate. Ankerite staining at surface. Minor quartz veining (up to 5 cm wide).
24+00 to 25+00W	Fault bounded fairly massive, unsheared talc/carbonate. Displays good bunching. Hematite rich. Ankerite staining at surface. 230/near vertical joint pattern. Very minor, localized Py noted.
25+00 tc 28+00W	Highly sheared talc carbonates. Very weathered, though fresh surfaces are obtainable. Minor disseminated Py seen, locally. Rock, in outcrop has a very rubbly appearance.
28+00 to 29+00W	Partially to strongly serpentinized dunite. Some talc seen. With small serpentinite pods. Fault bounded.
29+00 to 34+00W	Serpentinite. Rock in outcrop has a very rubbly appearance. Very fractured. Manganese staining on all fracture surfaces. 60-120 fracture pattern in conjunction with rounded fault surfaces.
	0+00 of trench tied to trench line 5+50N 6+00E.

Trench T12
Line 5+50N
7+60E to 8+57E

Interval	Description
7+60 to 8+25E	Variably porphyroclastic tuff. Typically medium grained. Zone of minor to strong silicification (strong silica only localized). Minor pyrrhotite noted on some fracture planes, fine grained (Py?) seen disseminated, though minor and localized. No outcrop from 53+00 to 62+00. Zone of silicification probably runs from 40+00 (roughly) to 62+00. Fault at 30+00 044/70.
8+25 to 8+32	Highly sheared and rubbly serpentinite. Fault bounded in the previous interval.
(8+34)	Serpentinite/fault gouge. Broken and rubbly appearance about .5 m wide.
8+32 to 8+35	Massive peridotite in some serpentine/ antigorite veins. Fairly fresh.
8+37 to 8+47	Sheared serpentinized peridotite. Fault at 77+00. Asbestos veining at 79+00.
8+47 to 8+49	Possibly pyroxenite. Medium to coarse grained. Some possible minor magnesite alteration.
8+49 to 8+57	Serpentinite. Asbestos veining. Magnesite and chrysotile/antigorite on shear face. Pods and lenses of fairly fresh diorite. Minor talc on fracture faces.

Trench T13
Line 4+50N
8+45 to 8+74.0

Interval	Description
8+45 to 8+50	Rubbly/fractured porphyroclastic tuff. Some evidence of possible silicification.
8+50 to 8+58	Sheared. Variably (medium to strong) serpentinized peridotite. Minor microveining of asbestos.
8+58 to 8+62.5	Transitional zone. Highly serpentinized UM with talc.
8+62.5 to 8+74.0	Talc/carbonate zone.

Trench T14
Line 6A North
4+10 to 16

Interval	Description
4+10 to 2.5	Fairly massive talc rich rock. Contains micro veins of carbonate. Minor magnetite crystals are visible. Fault bounded.
2.5	Fault gouge/shear zone. Approximately 70 cm true width 080/50-60. Red highly oxidized (supergene weathering). Very friable/ incompetent.
2.5 to 4.0	Talc carbonate. Hematite. Some magnetite is detectable. Carbonate moderate veining. Ankerite stain/weathering is prominent.
4.0 to 6.0	Altered peridotite. Abundant bleached/ altered olivine pseudo crystals. Magnetite layers (5 cm) alternate with altered olivine layers. Some microveining of asbestos noted here.
6.0 to 10.5	Small shear at contact. Variably serpentinized peridotites. (moderate to strong serpentinization). Abundant fracture planes. Decreasing serpentinization towards west.
10.5 to 20.0	Talc carbonate hematite. Some magnetite. Moderate carbonate veining. Ankerite stain/weathering is prominent (very similar to 2.5 - 4.0).
11.0	Narrow zone of possible silicification.
Approximately 14 and 16	Two zones of silicification hosted in talc carbonate. Zones are probably shears. Silica rich in fine grain disseminated Py and possible Arsenopyrite. Zone are approximately 50-70 cm true width. Strongly oxidized. Dips 70 + Plunge approximately 088 degrees.
21.0	Fault gouge highly sheared and oxidized. Dipping steeply to about 080 degrees. 50 cm width approximately.
23.0 to 25.0	Zone of moderate silicification. Fairly good magnetic response.
21.0 to 23.0	Talc carbonate Mematite. Minor magnetite. Some ankerite.
25.0 to 27.0	Serpentinized peridotite? Talc and magnesite alteration.

Interval	Description
27.0 to 34.0	Complex interval. Magnetite, some possible silicification. Varying amounts of serpentinization. Varying grain size.
34 to 36.0	Talc carbonate hematite zone. Minor magnetite.
36.0 to 3+70	Talc, quartz, sulfide zone. (sulfide ratio arsenopyrite >> chalcopyrite = pyrrhotite >>> pyrite) True width, minimum 2 m (disappears under water). Carbonate rich chalcopyrite and pyrrhotite occur as more granular to crystalline suggesting later timing of mineralization.

Samples	Interval		Description
89-T14-01	70 cm	3+73.5 - 3+73	Talc-quartz sulfide zone.
89-T14-02	70 cm	3+73.5 - 3+74.5	Includes 20 cm quartz sulfide vein.
89-T14-03	50 cm	3+74.5 - 3+75	Composite of chips non-continuous 50% blend of talc carbonate 50% quartz disseminated sulfide.
89-T14-04	about/m	3+75 - 3+76	Mostly talc carbonate continuous sample.
89-T14-05	grab	3+86	Grab sample, magnetite rich, possible serpentinized peridotite massive, equigranular - fine.
89-T14-06	70 cm	3+89.3 - 3+90	Continuous chip sample.
89-T14-07	50 cm	3+83 - 3+83.5	Continuous chip sample.
89-T14-08	1 m	3+86 - 3+87	Continuous chip sample, ankerite. Highly silicified, moderately pyritic (fg).
89-T14-09	1.4 m	4+06.5 - 4+08	Continuous chip sample.

89-T14-10 Rock specimen at 4+10 mark of trench possibly from further east because it was not seen in the trench itself. Quartz carbonate host rock with mafic stringer/laminae bordered by limonitic staining. Disseminated f.g. arsenopyrite (<< 0.5%) throughout. The mafic laminae are magnetic, f.g. possibly magnetite. Specific gravity is high. Weathering of rock is rust-brown limonite. Specimen is angular - sub angular and does not appear to be of glacial origin.

Trench T14A
Line 6 North
3+75E

Notes:

Massive Arsenopyrite Section

Massive arsenopyrite is hosted by light grey to watery green talc. The arsenopyrite is both massive and in acicular crystals. Fragments of milky white quartz are incorporated. From 10.0 to 12.0, the quartz occurs as broken veins up to 3 cm wide.

From 9.0 to 10.0, arsenopyrite occurs as bands of euhedral crystals up to 7 cm wide with crystal growth perpendicular to vein strike.

Bands of solid Po up to 2.5 cm wide are hosted by the massive arsenopyrite and talc. Also disseminated massive blebs of Cpy and fragments of magnesite.

The mineralized zone is underlain by a mineralized very soft gouge zone averaging 30 cm in width. Fragments of massive arsenopyrite, minor Po, Cpy, Py and quartz are hosted by the gouge. A light grey portion of the gouge has a lenticular shape following strike.

The mineralized zone has an apparent swell, maximum at 8.5, pinching to the north and south. It strikes at 175 degrees with an average dip of 62 degrees to the east.

A portion of the hanging wall is cut by a 1 cm to 3 cm talcose gouge running in a wavy manner approximately parallel to the mineralized zone. The rock between the gouge and mineralized zone is composed of light grey to watery green talc which hosts Cpy and Po in stringers up to 1 cm wide and as disseminated blebs. The zone is 50 cm to 1 m wide.

Above this is dark to light grey talc/magnesite alteration ultramafic.

The footwall is composed of dark to light grey to watery green talc/magnesite altered ultramafic.

Trench T17
Line 7+50N
7+52E to 7+85E

Interval	Description
7+57 to 7+58E	Light green very fine grained silicified ultramafic. Hard. No crystals visible. No carbonate. No fractures
7+58 to 7+63.75	Black to dark green moderately serpentinized ultramafic. Slightly fractured.
7+63.75 to 7+64	75 cm band of light green silicious looking hard ultramafic.
7+64 to 7+70.5	Black to dark green very fine ultramafic. Moderate serpentinite. 7+66 to 7+67.5 Moderate fracturing of the ultramafic.
7+70.5 to 7+75E	Dark green to grey green coarse ultramafic. Moderate to strong serpentinization coarse sometimes euhedral crystal of pyroxene? Associated talc.
7+75E to 7+76.5	Severely fracture ultramafic. Shear strong serpentinization. Fracturing at 012 degrees.
7+76.5 to 7+77	Very light green to grey rock with what appears to be silicification flooded by microveinlets of serpentinite. This gives the snake skin appearance. Traces of Py.
7+77 to 7+79E	Fine black to dark green ultra mafic. 7+79 to 7+85E Rusty fine ultramafic. Veinlets of ilmenite through much of the rock. Moderately fractured. No visible sulphides.

Trench T18
Line 8+00N/3+00E
3+00 to 3+80

Interval	Description
3+00 to 3+05	Medium to coarse grained gabbro. Altered appearance.
3+05 to 3+50	Variable porphyroclastic crystallized tuff. Local silicification. Sample of partial silicification at 12.0 with minor Py and possible Cpy.
3+50 to 3+80	Ultra mafics. Dominantly variably serpentinized peridotite. Magnetite is common. Magnesite is localized. Some rocks here appear to be pyroxenites.

Trench T20
Line 4+81S 7+25/7+50E
7+25E to 50.0

Interval	Description
7+25E to 28.5E	Carbonate zone. Possible lime rich (limestone) bed in the volcanic. On a pervasively carbonitized volcanic? Fractured.
7+28.5 to 41.0	Highly fractured, highly weathered. Probable volcanics. Varying degrees of silicification. Minor disseminated Py on fracture planes. Moderate chlorite alteration 7+34-35 chlorite alteration increases. Quartz-sulfide veins. Dipping approximately 30 degrees and to the east. 20 to 40 cm wide. Sulfide content averaging 10%, though locally across 5 cm it is massive Py>/Cpy>> arsenopyrite. Some minor chlorite seen in the quartz sulfide veining. Veins are parallel to sub-parallel. Continuous chip samples taken at 0 degrees to horizontal. (Some samples are taken across veins at their apparent width resulting in a slightly thickened sample).
41.0 to 50.0	Hanging wall. Silicified volcanics possible breccia/gas breccia/brittle fracturing. Mn stain on some fracture planes. Silicification goes from intense to moderate going away from the main quartz/sulfide vein at 40.0. Py is seen disseminated (approximately 1%) through the silicified rocks. Cpy in small amounts is probable. Further to the east the rocks become fresher, though some chloritization remains evident. Fresh rock appears to be a porphyroclastic tuff.

Trench T21
Line 4+91S
7+22E to 7+50E

Interval	Description
7+22E to 7+23.5E	Lightly chloritized porphyroclastic volcanics.
7+23.5 to 7+31.5	Strongly carbonated and silicified volcanic. Oxidation products (limonite etc.) on fracture surfaces. These rocks appear to lie over the fresher looking rocks to the immediate west. Contains minor disseminated sulfides (Py=Asp> Cpy) sulfide content increases slightly further east down trench. Some relict porphyroclastic volcanic textures evident. Carbonate alteration increases to pervasive eastwards. Rocks display a thick rind of ankerite. Rock has a greenish hue in unweathered faces - could be an indication of chromium mineralization. A variety of textures are seen. The altered rocks often show up as a very fine grain homogenous cream white to a more blotchy and mottled greenish blue white. Sulfides approximately 1-2% fine grained and disseminated. From 25/26.0 to 26.5 sulfides occur as stringers (trench filled with water from 26 to 30.0). Vein: shallow westward dipping quartz/sulfide vein 10.20 cm wide at 26.5 (seen on the walls of the trench). Vein contains Arsenopyrite/stibnite and probably their respective alteration weathering products. Rock is broken and rubbly around this interval. It appears to punch and swell. Strong weathering/oxidation halo, at least 50 cm in the overhead rocks.
31.5 to 34.0	Vein: at 31.5 a more massive vein of quartz/sulfide. Sulfides include Py>Asp and slightly lesser amounts of Cpy. Quartz is milky white and coarsely crystaline with oxides on all the fracture faces. This vein has a near horizontal attitude, however there is a slight and perceptible dip to the west. The vein outcrops in the floor of the trench to about 34.0 Strong oxidation coloration. Sulfide stringers are abundant and are locally massive. True thickness of the vein is around 30 cm, though this is hard to determine.

Interval	Description
34.0 to ? (water in trench)	Structurally and immediately above the quartz/sulfide vein. Quartz carbonate altered volcanics. Highly oxidized and displaying an ankerite rind. Again very shallow dipping. Outcrop disappears at 37.0 Around 32.0 fresher volcanics appear about 1 m up section (structurally above) the quartz-sulfide vein.
48.0 to 7+50E	Fresher appearing volcanics. Slightly chloritized porphyroclastics.

Trench T22
Line 3+75S
7+40E to 7.65E

Interval	Description
7+40 to 7+50E	Grey green fine to medium grained granular texture with up to 4% amphibole phenocrysts. (Average <1 mm, some small sections of coarse grained material as well as very fine grained. Pervasive chloritization; very strong in sections. Tuffs. 7+45E to 7+49 10 cm milky white quartz vein. Trending parallel to the trench. 2% disseminated Cpy, 1% Py. Up to 10% Cpy, Py in sections. 090/33 degrees N. The volcanic host is moderately silicified within 25 cm of the vein. 7+47E slight fracturing 160 degrees steep dip to the east.
7+50E to 7+52.5	Very weathered section. Brownish orange weathering similar to that on silicified sections. No carbonate. Doesn't appear sheared.
7+52.5 to 7+53	Grey green medium grained with no phenocrysts. Moderate chlorite alteration.
7+53 to 7+56	Silicified section. Light grey green to light grey very fine grained. Very hard. Trace Py. Brownish orange weathering. Carbonate associated (Powder fizzes).
7+56 to 7+67.5	Sheared mineralized section. See cross section. Note: The fractured quartz between 7+60E and 7+61E appears to be internally folded with a plunge and trend of the fold axis at 29 degrees/229.
7+62.5 to 7+63	Silicified zone. Light grey to light grey green highly silicified with associated carbonate. Brownish orange weathering.
7+63 to 7+65	Grey green fine to medium grained with 5% amphibole phenocrysts (<1 mm in size). Moderate chloritization.

Trench T23
Line 0+50S
9+50 to 10+30E

Interval	Description
9+50 to 10+30E	Variably porphyroclastic volcanic tuff.
Sample DT89-01	Apparent silicified fine grained tuff. MnO stain on fractures. Minor pyrrhotite and pyrite on fracture planes.

Trench T24
Line 0+50S
7+50 to 7+90E

Interval	Description
7+50 to 7+90E	Variably porphyroclastic volcanic tuff.

Trench T25
Line 1+50S
9+40 to 10+25E

9+40 to 10+25E	Variably porphyroclastic volcanic tuff.

Trench T26
Line 1+50S
10+75 to
11+50E

10+75 to 11+50E	Variably porphyroclastic volcanic tuff.

Trench T27
Trending 152 degrees, the trench begins
48 m north of 7+98E on
Line 4+00S
0 to 9.20E

Interval	Description
0 to 2E	Grey green fine to very fine grained non-porphyritic. Moderately chloritized.
2E to 3.25E	Grey-green, medium to coarse grained porphyritic with 2% to 4% amphibole phenocrysts. Moderate chlorite alteration. No visible sulfides.
3.25 to 5.50	Medium grey green very fine to fine grained moderately silicious with up to 5% amphibole phenocrysts still present (<2 mm). Moderate to strong chlorite alteration.
5.50 to 9.20	Rusty mineralized shear zone.
5.5 to 6.75	Sheared section. Rusty and very weathered. Fresher rock looks like coarse grained volcanic. Several small milky white quartz veins (<2 cm). Following shear.
6.75 to 7.75	Highly silicified. Very light grey green highly silicius with carbonate microveinlets. No previous textures visible. No visible sulfides.
7.75 to 9.20	Shear zone. Extremely weathered and fractured composed of fault gouge; blocky. Fractured milky white quartz and 2 bands of massive arsenopyrite with Py. Apparent dip of 30 degrees to the east. Strike and dip of 070 degrees/26 degrees S? (need a brunton).

Trench T28
45 m at 350 degrees from 8+08E
Line 4+00S
0 to 18.0

Interval	Description
0 m to 2.2. m	Light grey very fine grained moderate to highly silicious. Up to 5% amphibole? phenocrysts present (<2 mm). Few phenocrysts visible close to the shear. Trace Py.
2.2 to 3.25	Shear zone. Very rusty consisting mainly of fault gouge with blocky milky white quartz and a 5 cm band of massive arsenopyrite and Py.
	Strike and dip approximately 055 degrees/26 degrees south. (need bruton)
3.25 to 10.8	Grey green fine to medium grained porphyritic. 2% to 4% amphibole phenocrysts (<2 mm). Often euhedral. No visible sulfides.
10.8 to 12.0	Medium grained equigranular mesocratic. Intrusive. Equivalent percentage of mafics and non mafic. (plag?).
12.0 to 14.2	Grey green medium grained porphyritic with 3% amphibole phenocrysts.
14.2 tc 18.0	Grey green fine to very fine grained. No visible phenocrysts. Trace to 1% Py possible intrusive.

Trench T31
Line 9N
2+72W to 3+50W

Interval	Description
measured along south side of trench	
2+72W to 2+75.2	Dark green-grey fine grained non - porphyroclastic mafic volcanic. Minor carbonate along fracture planes. Slight irregular fracturing.
2+75.2 to 2+87W	Dark green-grey to light green-grey (resulting in a slight mottled appearance) fine to medium grained carbonate altered mafic volcanic. The grains are strongly carbonate altered with minor carbonate microveining and veining. Weathering gives the rock a reddish orange color. Tr Py. From 2+75.2W to 2+79W moderate to locally strong fracturing occurs at 110 degrees to 130 degrees; dipping generally at 74 degrees east. From 2+79W to 2+87.5W, the rock is severely fractured and shears at 125 degrees with a dip of 77 degrees east. The intensity of shearing is greatest from 2+82W to 2+87.5W.
2+76.2 to 2+79W	Mineralized shear zone: A dark rusty red gouge zone (70 cm to 80 cm wide) runs sub-parallel to the trench with an attitude of 100 degrees/80S. Associated with this gouge zone are massive amounts of sulphide most often hosted by milky white quartz that usually occurs as large and small fragments. Asp and/or Py occurs throughout in roughly equivalent proportions reaching up to 60% locally. Cpy and Po occur in minor amounts (up to 10% locally). Several sections contain massive stibnite. Also traces of malachite. This mineralized shear zone cross-cuts the previously mentioned shear running at 125 degrees.
2+87 to 2+93.5	Light grey to light green-grey fine grained to aphanitic altered volcanic. Moderate pervasive carbonate alteration and minor quartz microveining. Trace fine disseminated Py. Weathers to a reddish orange color. Fairly hard but can be scratched with a nail.

Interval	Description
2+93.5 to 2+99W	Till cover.
2+99 to 3+04W	Light grey to light green-grey fine grained to aphanitic altered volcanic. Fairly hard with very little carbonate present. Possible silicification. Strongly weathered to a reddish orange color.
3+00.2 to 3+00.5	Dark red gouge zone running sub-parallel to the trench with an attitude of 110 degrees/85S. The gouge contains bands of fragmented rusty milky white quartz containing trace Asp. Slickensides visible along hanging wall.
3+00.5 to 3+02W	Moderately fractured altered volcanic. Fractures at 098 degrees/87S.
3+04 to 3+07	Dark grey to green grey fine to medium grained carbonate altered volcanic. Pervasive carbonate alteration.

Trench T32
Line 8+50N
20+00W to 2+55W

Interval	Description
1+98 to 2+03.2W	Grey-green fine to very fine grained mafic volcanic. Fairly fresh. Moderate pervasive carbonate alteration. Non-porphyroclastic. No visible sulphides.
2+03.2 to 2+07.5	Strongly fractured with a minor amount of shearing. Fracture direction generally 105 degrees dipping close to vertical at 87 degrees north. The rock is very weathered to a reddish orange color. 105/87N. Where fresh it consists of a light grey, very fine to aphanitic altered volcanic. Moderate pervasive carbonate alteration. Relatively hard but can be scratched with a nail - moderate silicification. Minor quartz and carbonate microveining.
2+07.5 to 2+13	Light grey to light green-grey very fine grained carbonate altered volcanic. Strong to very strong carbonate alteration with minor microveining. Where severely carbonated altered, the rock is coarse grained. Moderate silicification. Slightly fractured throughout. Weathering gives the rock a brownish orange color. (2+12.5 to 2+12.7). Severely fractured at 125 degrees/85S. (2+12.5 to 2+12.7) 20 cm milky white quartz vein at 100 degrees/79S. Pinches out by the middle of the trench. rusty carbonate patches. No visible sulphides.
2+13 to 2+21.5W	Severely fractured and sheared at 125 degrees/85S. Grey fine to medium grained volcanic. Slight pervasive carbonate alteration. Minor carbonate microveining. Weathers to a reddish orange color. No visible sulphides. (2+18.8 to 2+19.4) Shear, 40 cm dark rusty red mineralized gouge zone with an attitude of 105/68S. The shear cross-cuts the 125 degrees fracture zone.

Interval	Description
	The gouge zone is extremely weathered. Mineralization occurs in rusty fragments of smoky white quartz containing massive amounts of Asp (up to 90%) with minor Py and Cpy. Mixed in with the gouge are small fragments (1 mm to 4 mm) of milky white quartz.
2+21.5 to 2+32W	Dark green grey fine to medium grained mafic volcanic tuff. 1% to 3% amphibole porphyroclasts up to 2 mm in size. Minor pervasive carbonate alteration.

Trench T33
Line 9N
2+00W to 2+42W

Interval	Description
Measured along north side of trench.	
2+00 to 2+11.5W	Dark-green grey fine to medium grained porphyroclastic tuff. 1% to 4% chlorite altered amphibole porphyroclasts with a size range of <1 mm to 2 mm; average 1 mm Moderate pervasive chlorite alteration. Slight pervasive carbonate alteration. (2+01.5 to 2+05.5) Moderate to strongly fractured at 100 degrees to 115 degrees and dipping generally at 75 degrees S. Not rusty.
2+11.5 to 2+25W	Green-grey to light green-grey very fine grained to aphanitic mafic volcanic. Deep weathering to a brownish orange. Fresh surfaces are moderately pervasively carbonate altered where as weathered sections are strongly carbonate altered. Numerous microveins and veins of carbonate; several of quartz. Very hard. Much of the rock is weathered. No visible sulphides. (2+18 to 2_19) Dark rusty red gouge zone. Extremely weathered. Attitude of 062/68S. The gouge contains bands (parallel to shear) of fragmented milky white quartz (unable to get a piece of relatively fresh material). An extremely weathered consolidated fragment contains what appears to be weathered Asp. The hosting altered volcanic is relatively unfractured.
2+25 to 2+42W	Light grey fine grained non-porphyroclastic mafic volcanic. Moderate to strong pervasive carbonate alteration. Trace to 1% finely disseminated Po.

Trench T40
Line 6+50S

Interval	Description
	Volcanics fine to < medium grained amphibole? porphyroclastic tuffs. Darkish green. Very jointed. Attitude of zone hard to determine.
Samples	
1.	Chip across 1.5 highly oxidized silica rock, sulfides are corroded.
2.	Grab. Dusty/fine granular quartz 15% (+/-) sulfide Py and lesser amount of Asp. (trench filled rapidly with water!).
3.	1 m chip sample immediately east of 2. Highly oxidized quartz rock, probable volcanic.
4.	5-11 average 1 m continuous chip. All samples contain massive to semi massive Asp + lesser Py and lesser (minor) Cpy. All samples are quartz rich and highly oxidized.

Trench T41
Line 7+00S

Not logged

Trench T42
Line 7+50S

Volcanics are fine grained, dark green. Mostly non porphyroclastic. Very blocky/highly jointed, fractured. Some silicification (?) locally. Py is seen occasionally as smears on fracture planes and locally as fine grained disseminations up to 1-2% (source of IP anomaly?).

Samples 1 and 2:

Two 1.0 m(+) chip samples of volcanic in fg disseminated Py and possible silicification.

Trench T43
Line 8+50S

Samples 1 and 2

Chip samples approximately 1 m each across a fault. Rubbly material 10 cm blocks and less to fault gouge. Orange red oxidation/weathering stain. Fine grained volcanics.

Trench T44
Line 9+00S

Not logged. Deep till, trench abandoned.

Trench T45
Line 10+50S

Samples 1 and 2

Fine grained. Dark green, non porphyroclastic volcanic tuff. Py occurs as smear on fracture planes and as fine grained <1% dissemination. Minor silicification seen in sample 1.

Sample 3

Same as above but with more silicification.

Sample 4

Same as samples 1 and 2 but porphyroclastic.

Sample 5

Same as sample 4.

Trench T46
Line 9+50S

Samples are of carbonate alteration; tuff. All samples are fine grained and limonite stained.

Trench T47
Line 8+50S

Very steep ground, outcrop scraped not trenched

No log

Trench T48

(follow up to trench 14 with enechelon trenches to the south. O/B becomes too thick to trench to the north).

Samples 1 and 2

Grabs off muck pile from the bottom of trench.

Samples 3, 4, 5, and 6

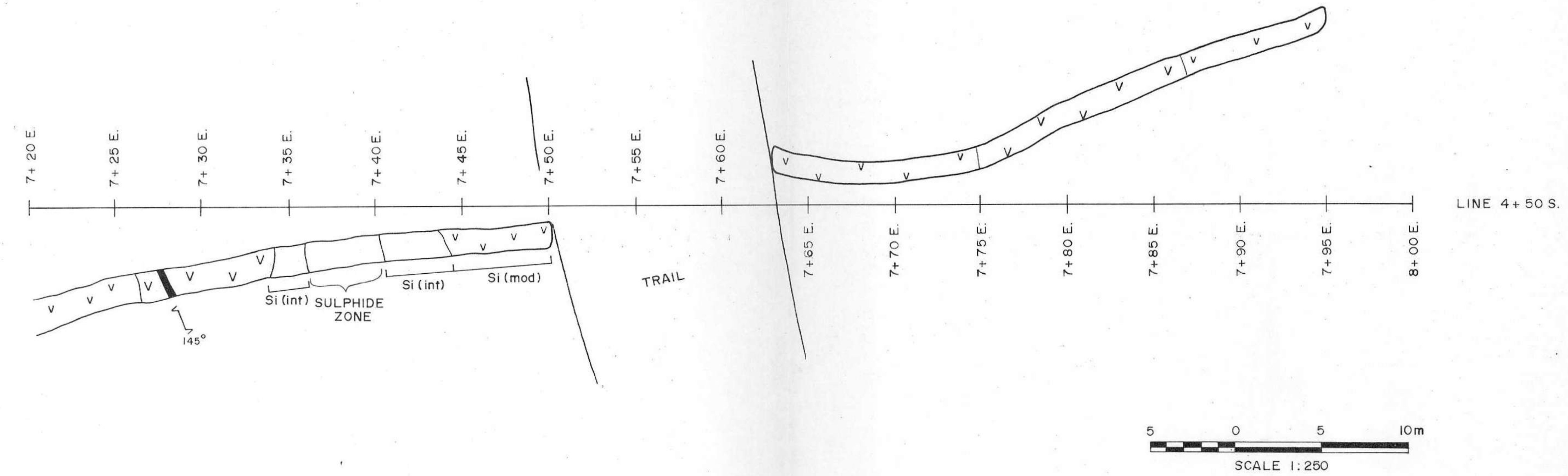
Across approximately 2.5 m. alteration zone appears to be approximately 1.5 m in actual thickness. Samples are a talc altered ultramafic with fine disseminated Py and Py occasionally as smears. Rock is highly sheared. Minor Cpy is noted.

Trench T49

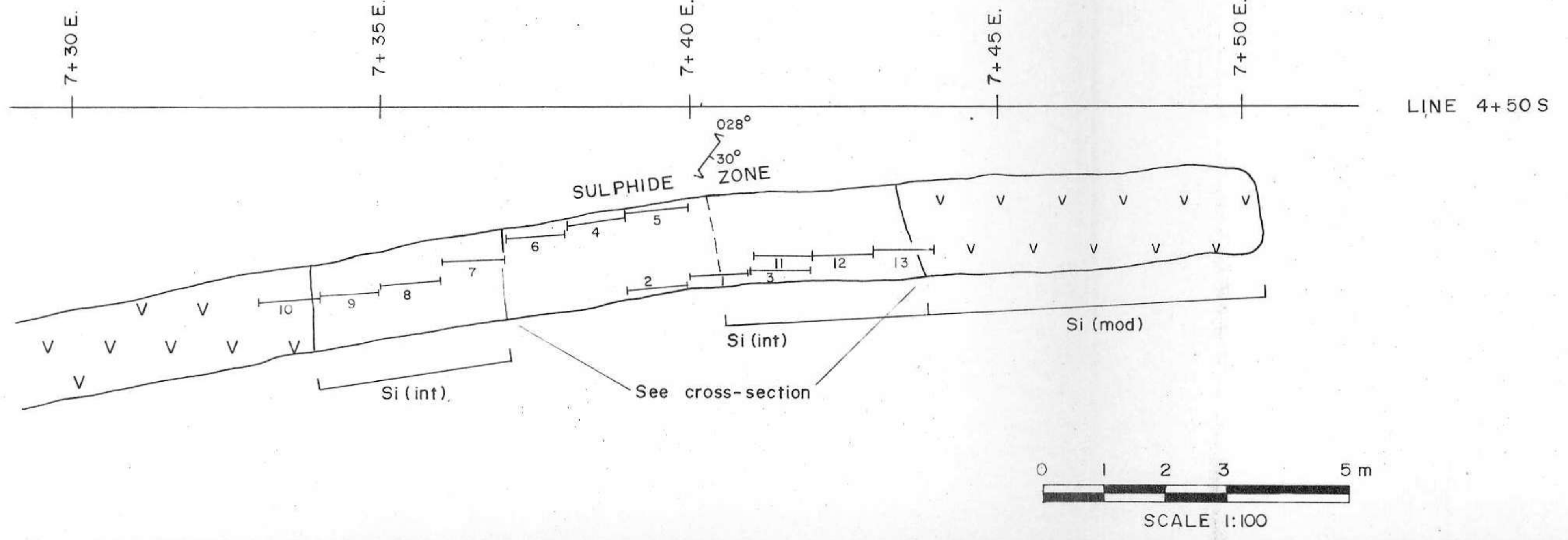
Not logged

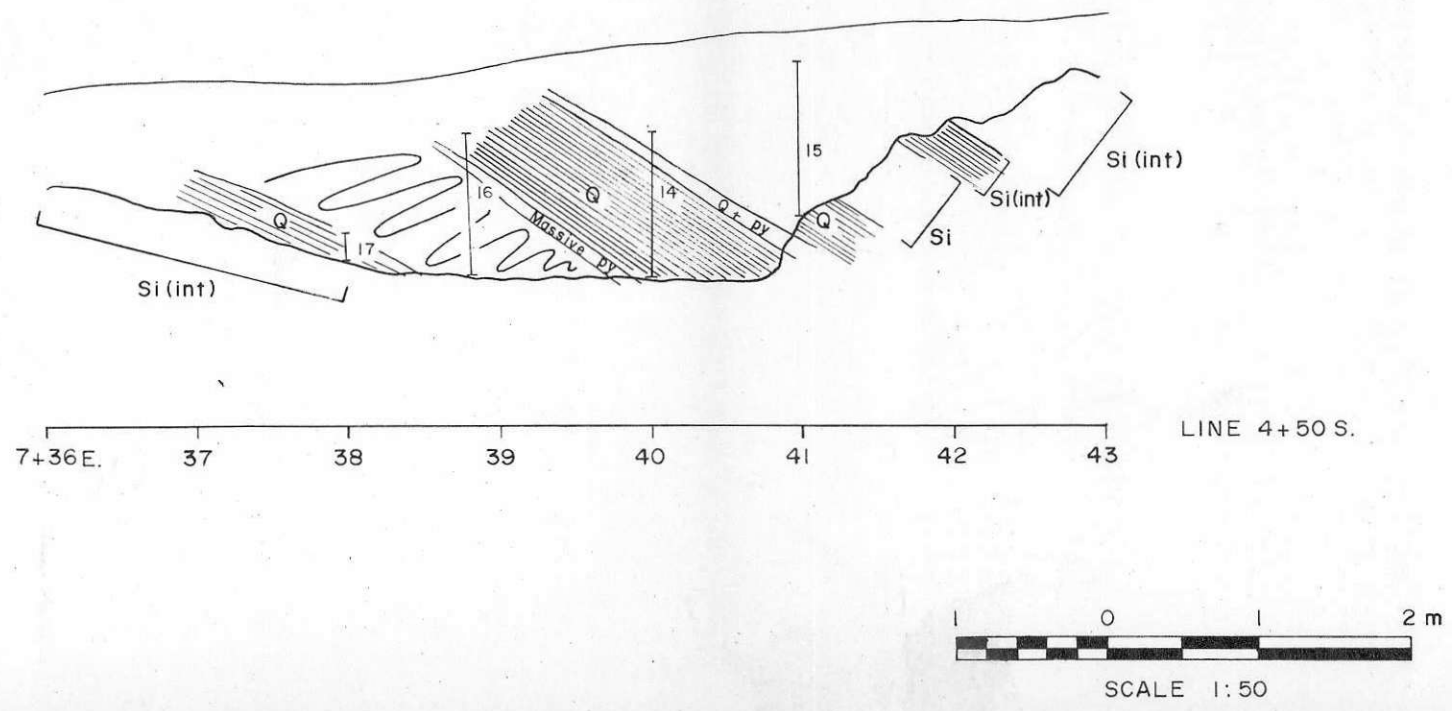
Appendix 16.11

Trench Plans (1:100; 1:250; 1:500)



Sample No.	Cu (ppm)	As (ppm)	Ag (ppm)	Au (ppb)	Pb (ppm)	Sb (ppm)	Width (m)
1	1181	60807	42·00	1714	2333	2502	1·0
2	945	78167	32·90	1946	1192	1770	1·0
3	29	245	0·40	7	22	131	1·0
4	953	5856	17·80	291	196	1232	1·0
5	843	33444	32·70	844	161	1764	1·0
6	193	1088	2·80	57	51	588	1·0
7	58	144	0·80	8	6	195	1·0
8	30	117	0·50	5	2	124	1·0
9	29	96	0·10	3	12	46	1·0
10	·41	57	0·10	2	6	12	1·0
11	810	4919	15·00	258	179	1432	1·0
12	22	60	0·10	4	8	147	1·0
13	33	100	0·10	6	7	100	1·0
14	14	21	0·10	3	5	23	1·0
15	854	41386	32·70	1195	1155	1748	1·0
16	208	524	3·10	35	18	171	1·0
17	1427	99236	59·50	3669	2703	2211	0·3



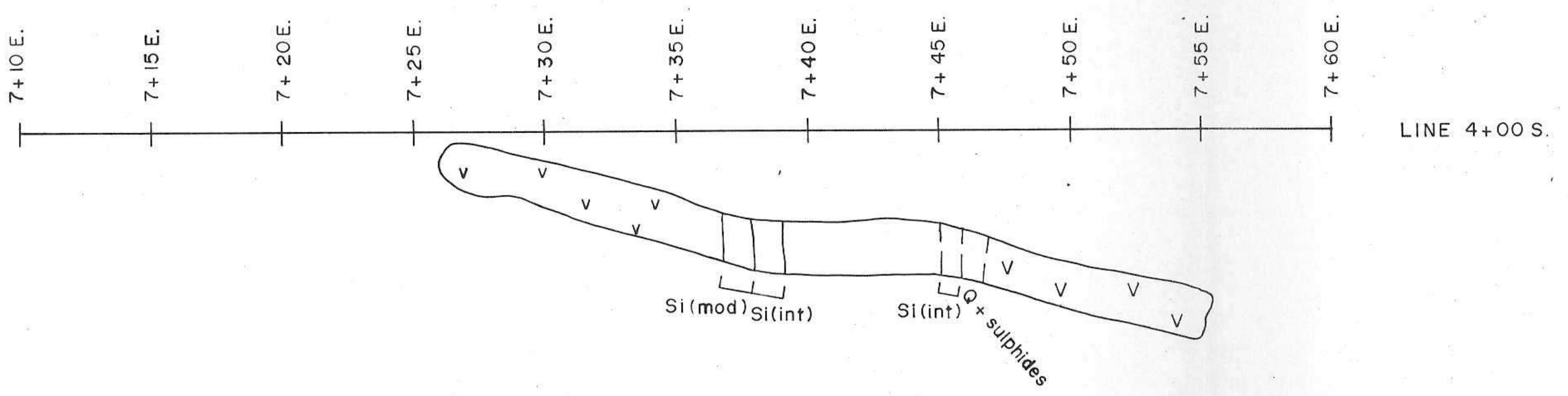


EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

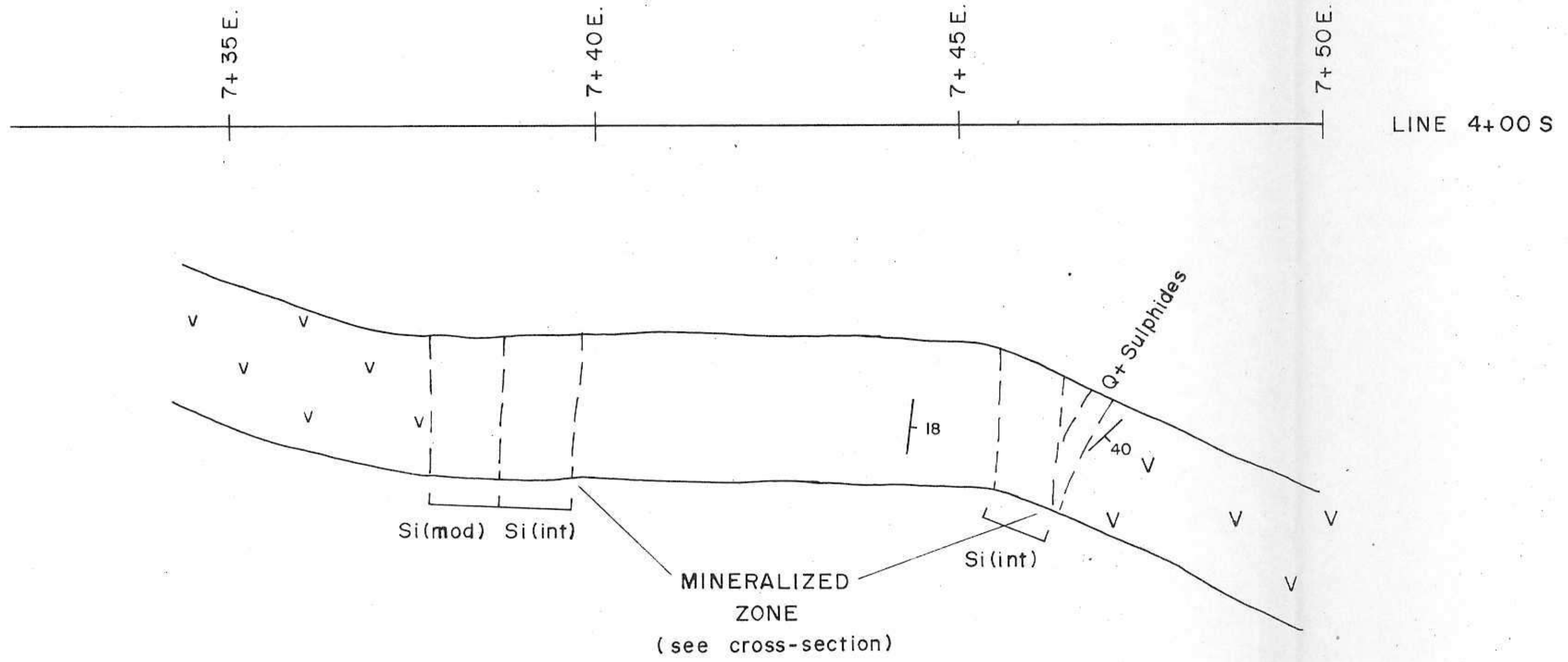
TRENCH 89-T1
LINE 4+50S.
7+20E to 7+95E.

Date	N.T.S.
September/89	93N/6
Scale: as shown	Figure
By	

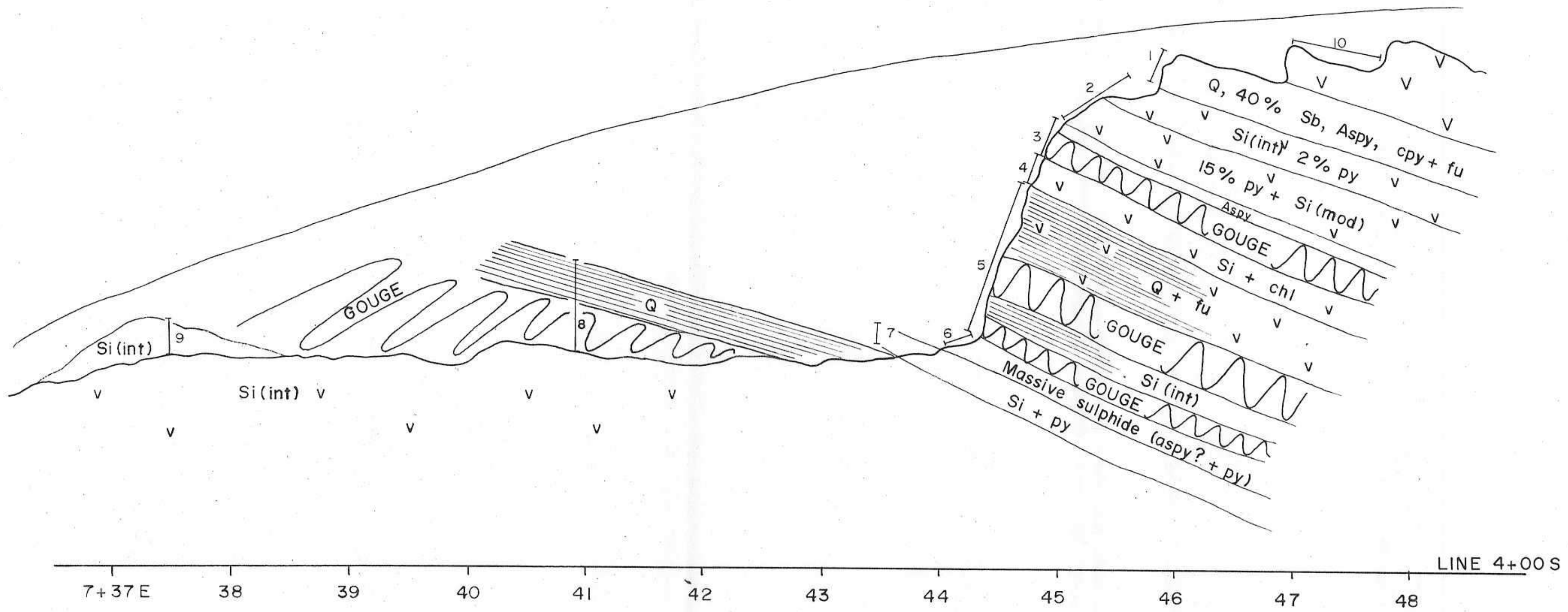


5 0 5 10 m
SCALE 1:250

Sample No.	Cu(ppm)	As(ppm)	Ag(ppb)	Au(ppb)	Pb(ppm)	Sb(ppm)	Width(m)
1	267	23655	6·60	1131	548	12752	0·40
2	727	10420	9·20	398	283	773	0·75
3	558	19445	23·00	933	662	14288	0·42
4	671	1525	26·40	143	57	861	0·40
5	596	51279	28·80	1132	1711	1108	1·10
6	565	99999	37·80	3681	1680	2246	0·35
7	90	2743	2·50	84	62	320	0·30
8	1899	13502	128·90	1186	1382	1471	1·55
9	292	1795	9·00	182	181	306	0·55
10	104	145	0·80	9	11	11	0·75



0 1 2 3 5 m
SCALE 1:100



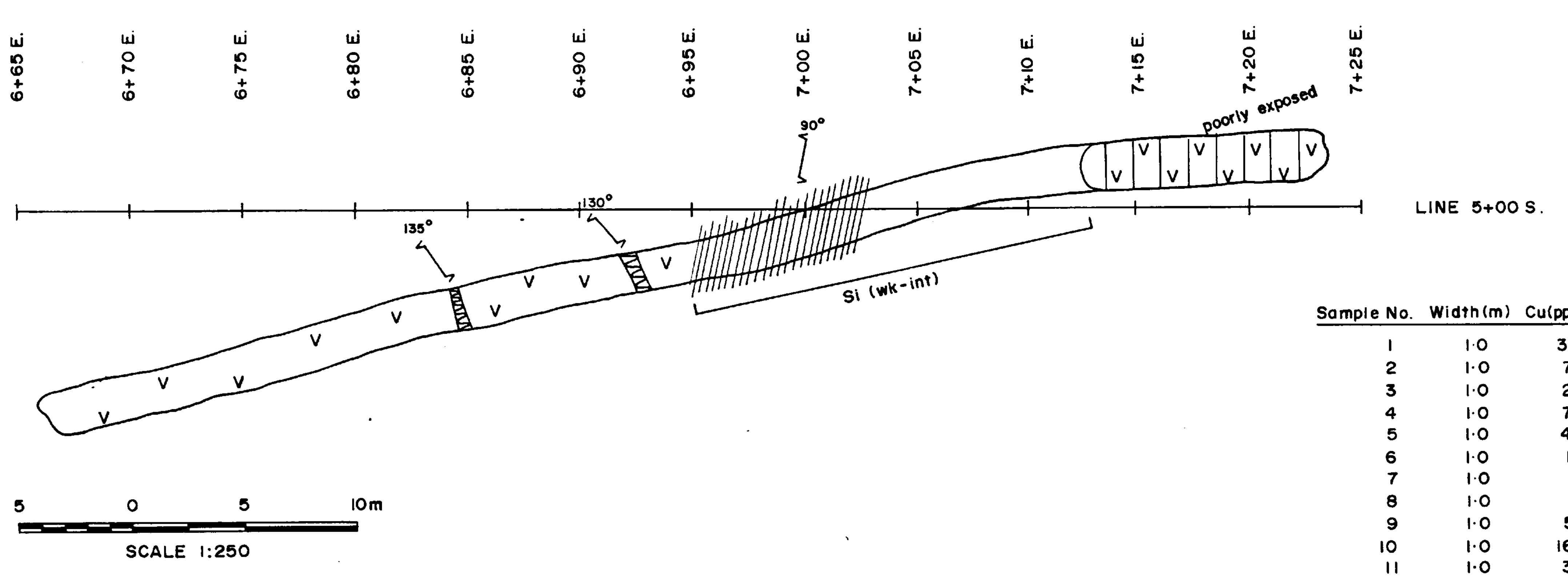
1 0 1 2 m
SCALE 1:50

EASTFIELD RESOURCES LTD.

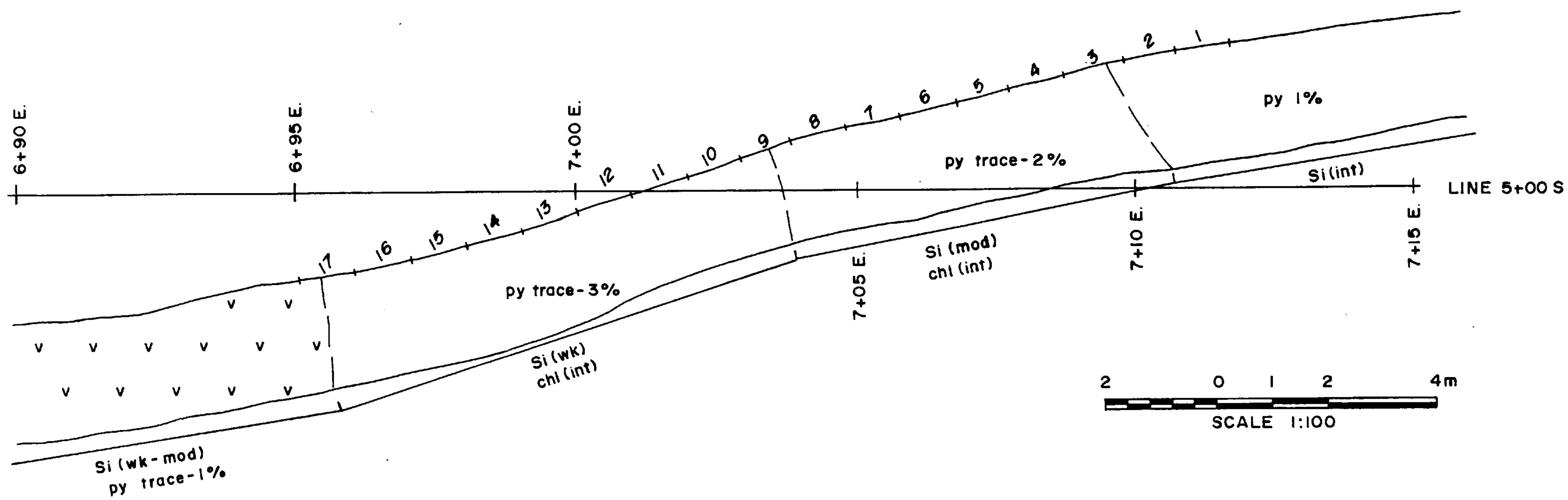
INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89- T2
LINE 4+00S
7+25E to 7+55E

Date September/89	N.T.S. 93N/6
Scale as shown	Figure
By	



Sample No.	Width(m)	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)	Pb(ppm)	Sb(ppm)
1	1·0	318	31748	48·0	903	1216	1479
2	1·0	79	334	0·8	11	11	202
3	1·0	27	425	0·6	17	26	34
4	1·0	75	162	0·2	19	4	18
5	1·0	40	1072	1·6	117	89	102
6	1·0	17	219	0·2	33	11	27
7	1·0	15	97	0·1	5	6	9
8	1·0	31	92	0·1	7	12	13
9	1·0	53	174	0·6	17	6	21
10	1·0	163	375	1·5	34	2	40
11	1·0	35	112	0·1	7	3	15
12	1·0	30	103	0·1	5	3	10
13	1·0	71	43	0·1	6	4	7
14	1·0	81	34	0·1	3	2	2
15	1·0	50	83	0·1	32	23	11
16	1·0	8	51	0·1	4	4	4
17	1·0	38	19	0·1	4	3	6



EASTFIELD RESOURCES LTD.

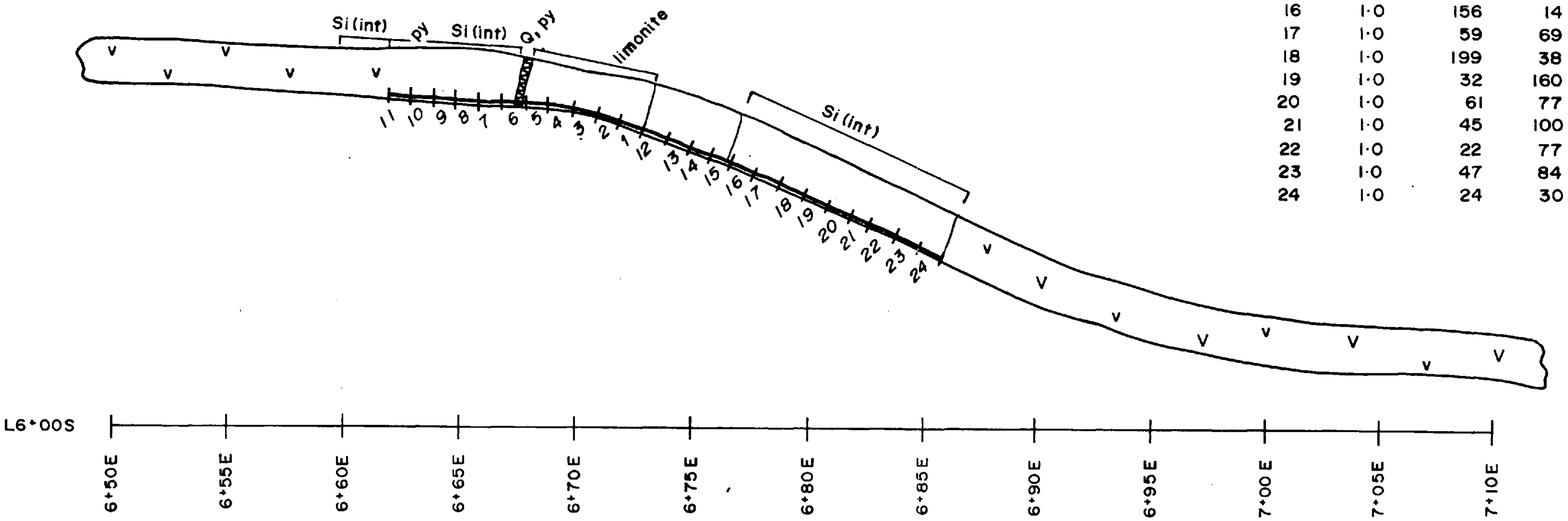
INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T3
LINE 5+00 S
6+65 E to 7+23 E

MINCORD EXPLORATION CONSULTANTS LIMITED

Date	September/89	N.T.S.	93 N/6
Scale	as shown	Figure	
By			

Sample No.	Width(m)	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)	Pb(ppm)	Sb(ppm)
1	1·0	54	15	0·1	2	5	2
2	1·0	445	98	0·1	20	2	193
3	1·0	102	744	0·2	9	4	51
4	1·0	118	434	0·1	6	2	44
5	1·0	183	291	0·1	4	2	78
6	1·0	25	166	0·1	3	2	6
7	1·0	29	167	0·1	4	2	18
8	1·0	21	92	0·1	3	2	12
9	1·0	15	119	0·1	4	2	10
10	1·0	17	54	0·1	2	2	2
11	1·0	23	17	0·1	4	2	2
12	1·0	53	20	0·1	4	2	2
13	1·0	44	55	0·1	2	2	2
14	1·0	189	102	0·4	7	2	2
15	1·0	49	33	0·1	5	3	2
16	1·0	156	14	0·1	9	2	2
17	1·0	59	69	0·1	4	2	3
18	1·0	199	38	0·2	16	5	2
19	1·0	32	160	0·1	3	2	2
20	1·0	61	77	0·3	3	2	20
21	1·0	45	100	0·1	3	4	2
22	1·0	22	77	0·1	1	4	2
23	1·0	47	84	0·1	7	2	16
24	1·0	24	30	0·1	2	2	3



5 0 5 10 m

SCALE 1:250

EASTFIELD RESOURCES LTD.

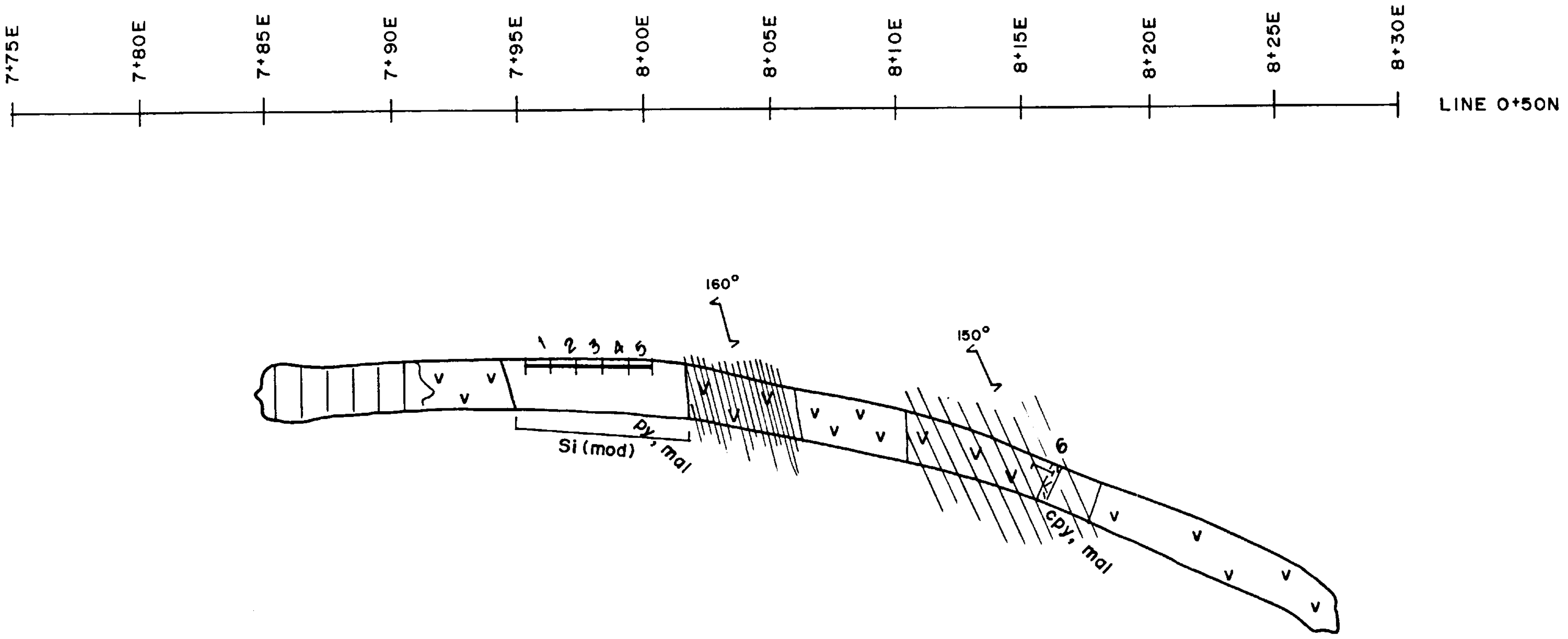
INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T4

LINE 6+00S
6+53E to 7+12E

MINCORD EXPLORATION CONSULTANTS LIMITED

Date	N.T.S.
September/89	93 N/6
Scale: 1:250	Figure
By	



5 0 5 10 m

SCALE 1:250

Sample No.	Cu (ppm)	As (ppm)	Ag (ppm)	Au (ppb)	Width (m)
1	1024	11	0·10	6	1·0
2	13	4	0·10	8	1·0
3	23	12	0·10	11	1·0
4	13	13	0·10	2	1·0
5	14	20	0·10	2	1·0
6	726	16	0·10	8	1·0

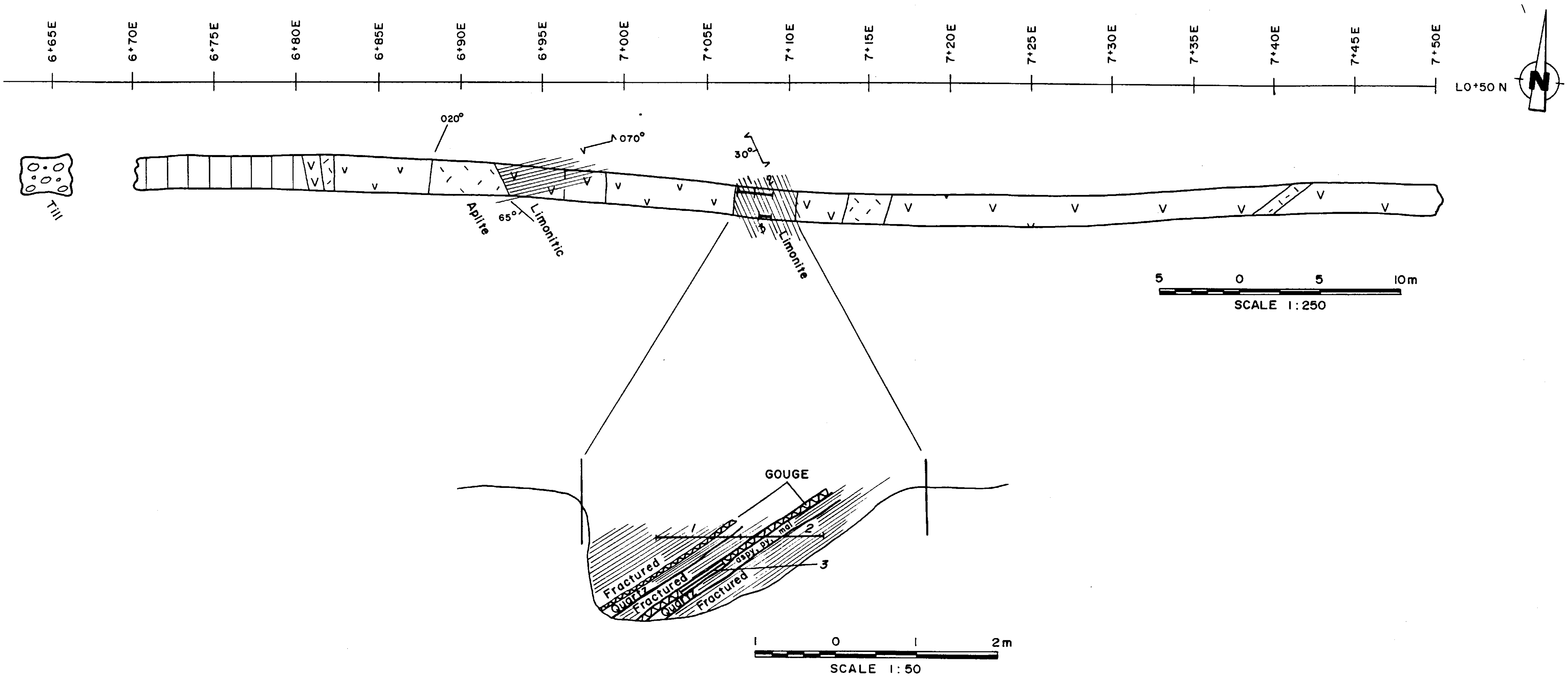
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T6
LINE 0+50S
7+85E to 8+27E

MINCORD EXPLORATION CONSULTANTS LIMITED

Date: September/89
N.T.S.: 93 N/6
Scale: 1:250
Figure:
By:



Sample No.	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppm)	Width(m)
1	75	4275	2·60	314	1·0
2	34	18368	3·90	1605	1·0
3	21	85582	1·70	5231	0·7

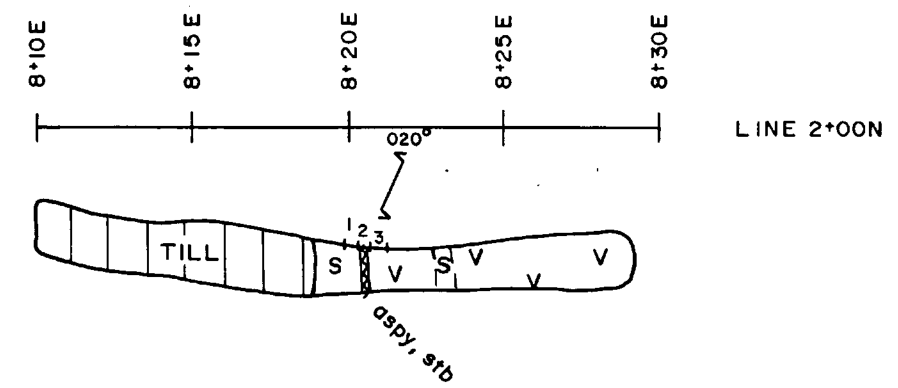
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T7
LINE 0+50 N.
6+70E to 7+50E

MINCORD EXPLORATION CONSULTANTS LIMITED

Date September/89	N.T.S. 93 N/6
Scale as shown	Figure
By	



Sample No.	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)	Pb(ppm)	Sb(ppm)	Width(m)
1	153	435	0·50	12	10	67	1·00
2	269	7430	59·00	833	1684	433	0·04
3	11	55	0·30	4	7	3	1·00

5 0 5 10m
SCALE 1:250

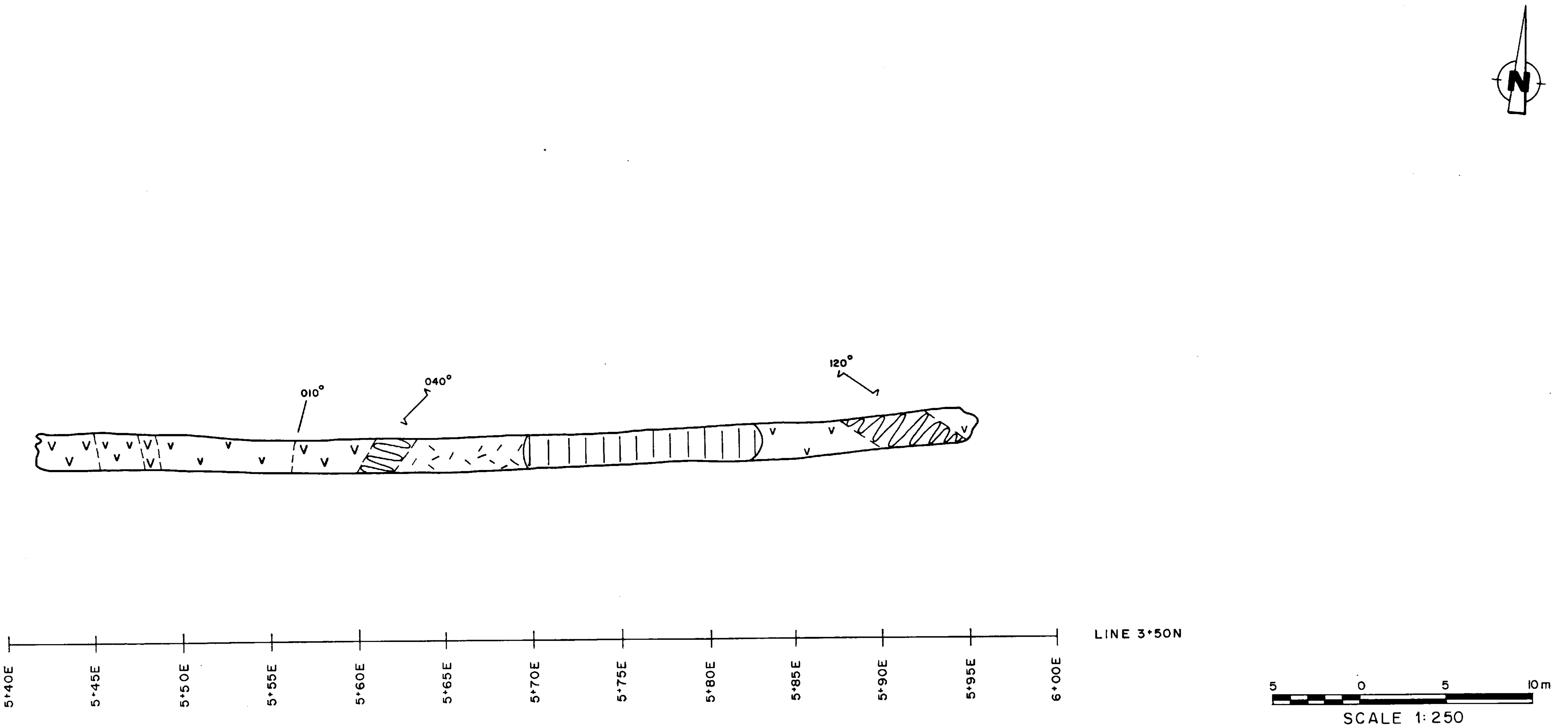
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T8
LINE 2+00N
8+10E to 8+25E

MINCORD EXPLORATION CONSULTANTS LIMITED

Date: September/89
N.T.S.: 93 N/6
Scale: 1:250
Figure:
By:

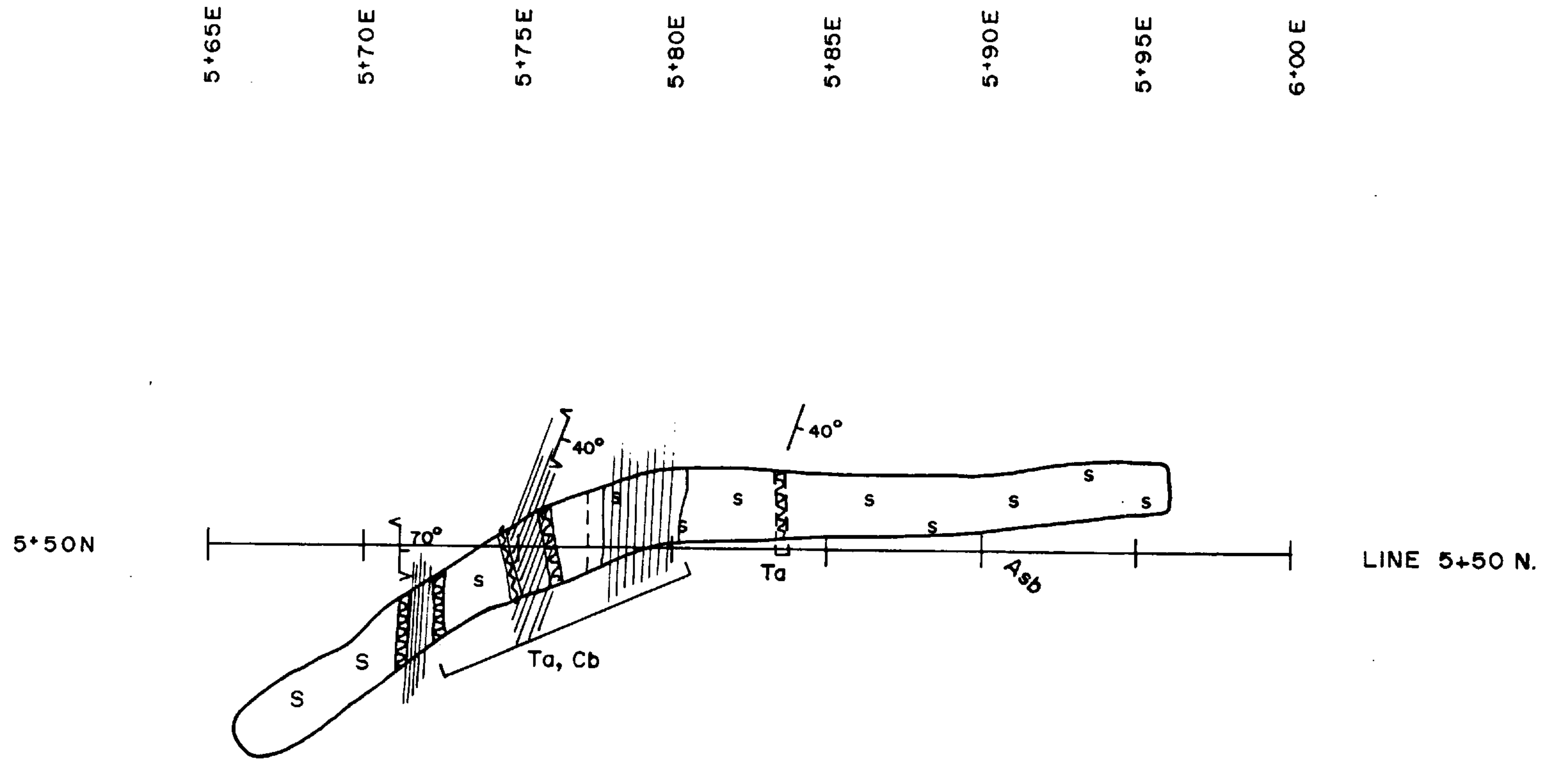


EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T10
LINE 3+50N
5+45E to 5+95E

MINCORD EXPLORATION CONSULTANTS LIMITED	Date September/89	N.T.S. 93 N/6
	Scale 1:250	Figure
	By	



Sample No.	Width(m)	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)
1	1·0	11	79	0·4	40
2	1·0	24	168	0·1	72
3	1·0	22	231	0·2	9
4	1·0	15	51	0·2	8
5	1·0	7	11	0·4	5

N

5 0 5 10 m

SCALE 1:250

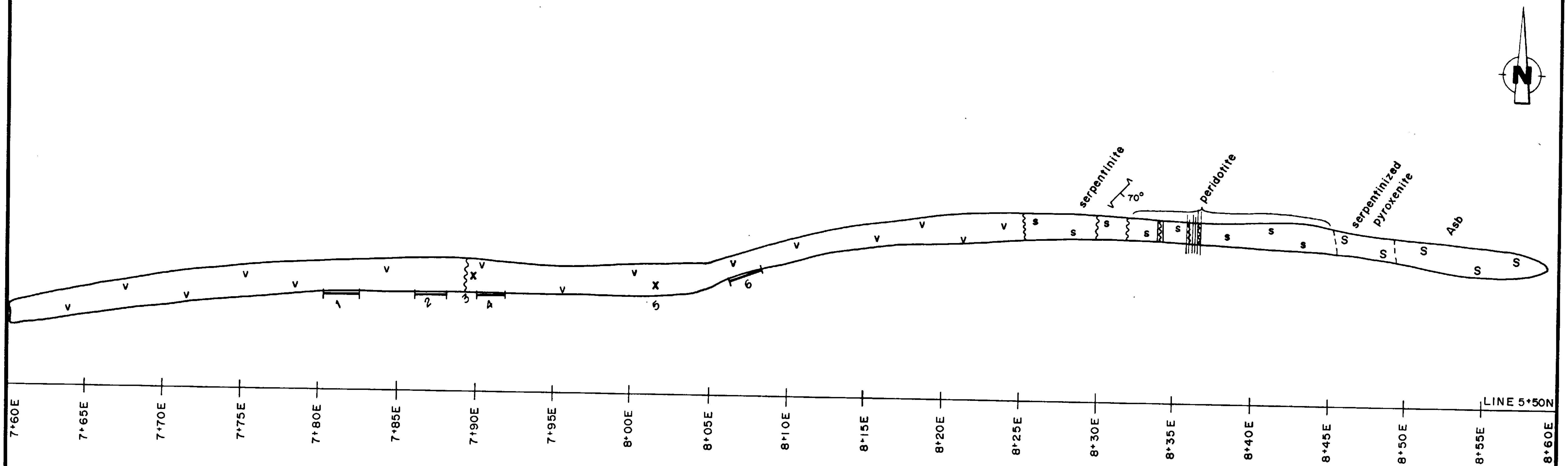
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T11
LINE 5+50N
5+66E to 5+96E

EXPLORATION CONSULTANTS LIMITED

Date	N.T.S.
September/89	93 N/6
Scale 1:250	Figure
By	



Sample No.	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)	Width(m)
1	20	20	0·10	3	1·0
2	10	6	0·20	8	1·0
3	6	26	0·10	3	(Grab)
4	5	33	0·40	22	1·0
5	3	2	0·10	2	(Grab)
6	73	2	0·10	2	1·0

5 0 5 10m
SCALE 1:250

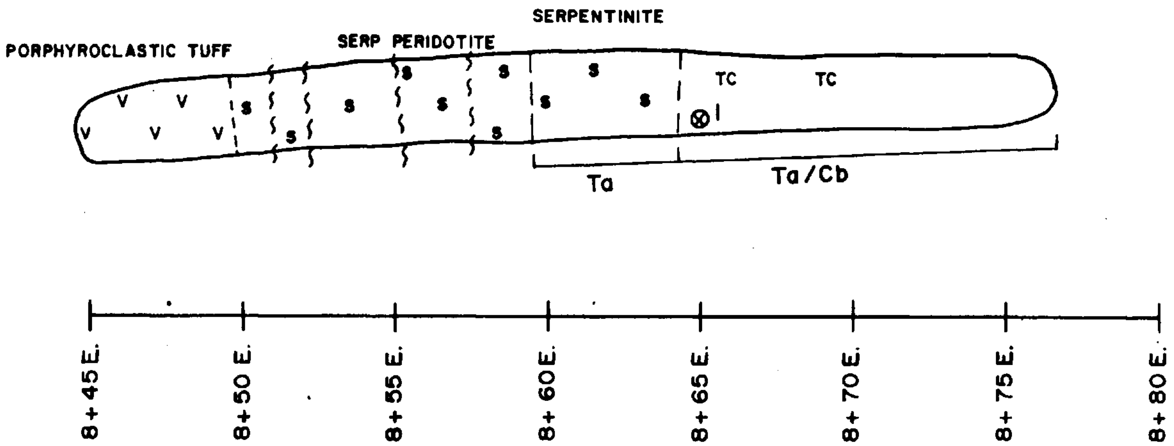
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T12
LINE 5+50N
7+60E to 8+60E

EXPLORATION CONSULTANTS LIMITED

Date September/89	N.T.S. 93 N/6
Scale 1:250	Figure
By	



Sample No.	Width(m)	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)
1	0·6	3	2	0·1	6

EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

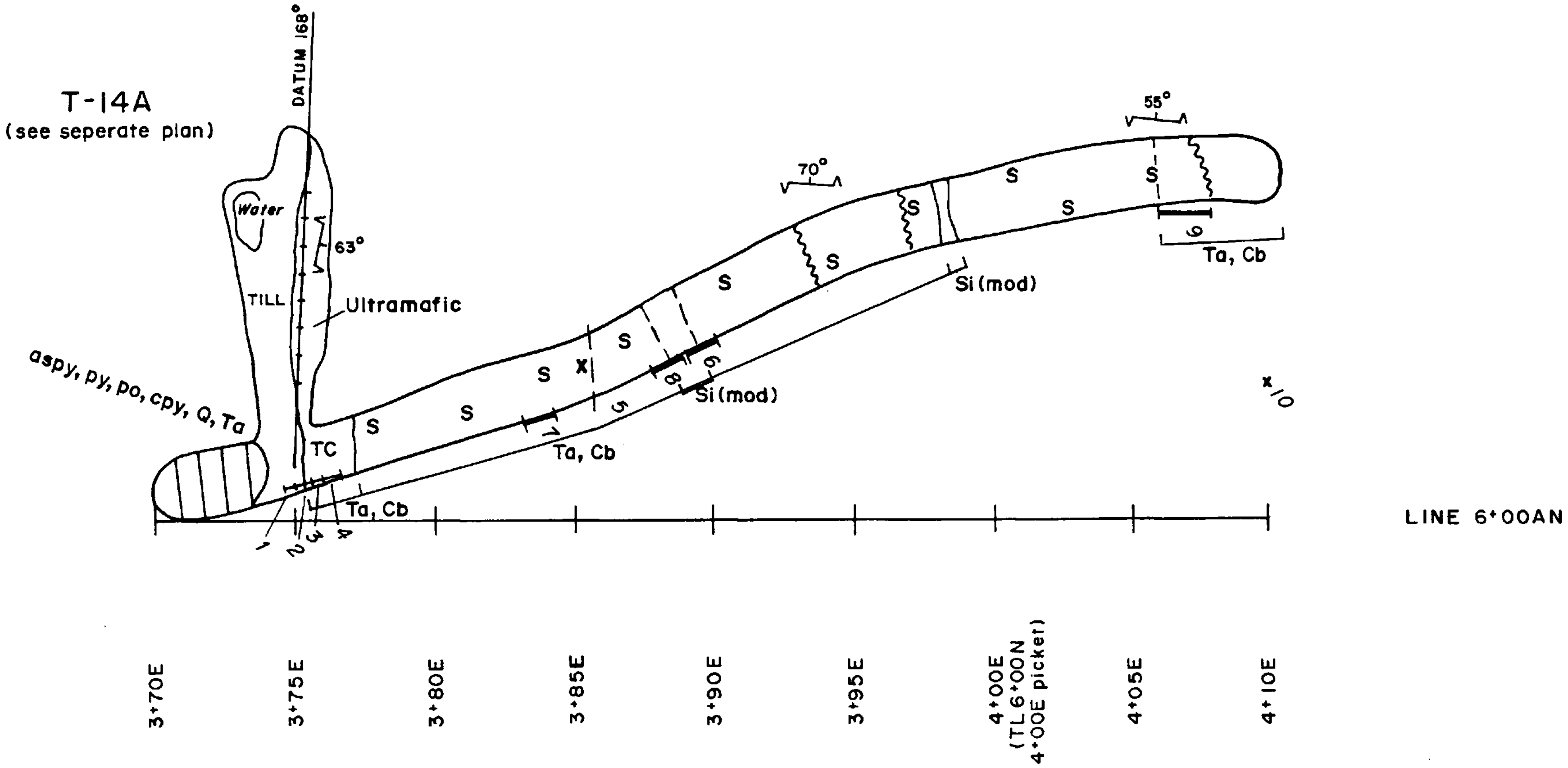
TRENCH 89-T13

LINE 4+50N.

8+40E to 8+80E.

MINCORD EXPLORATION CONSULTANTS LIMITED

Date	N.T.S.
September/89	93 N/6
Scale 1:250	Figure
By	



5 0 5 10 m

SCALE 1:250

Sample No.	Width(m)	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)
1	0·7	3950	48921	17·5	828
2	0·7	7960	99999	17·7	10135
3	0·5	287	1595	0·5	106
4	1·0	57	764	0·1	61
5	(Grab)	148	1623	0·7	61
6	0·7	38	315	0·1	9
7	0·5	20	559	0·4	10
8	1·0	20	512	0·1	24
9	1·4	60	929	0·1	6
10	(Grab)	23	261	0·1	4

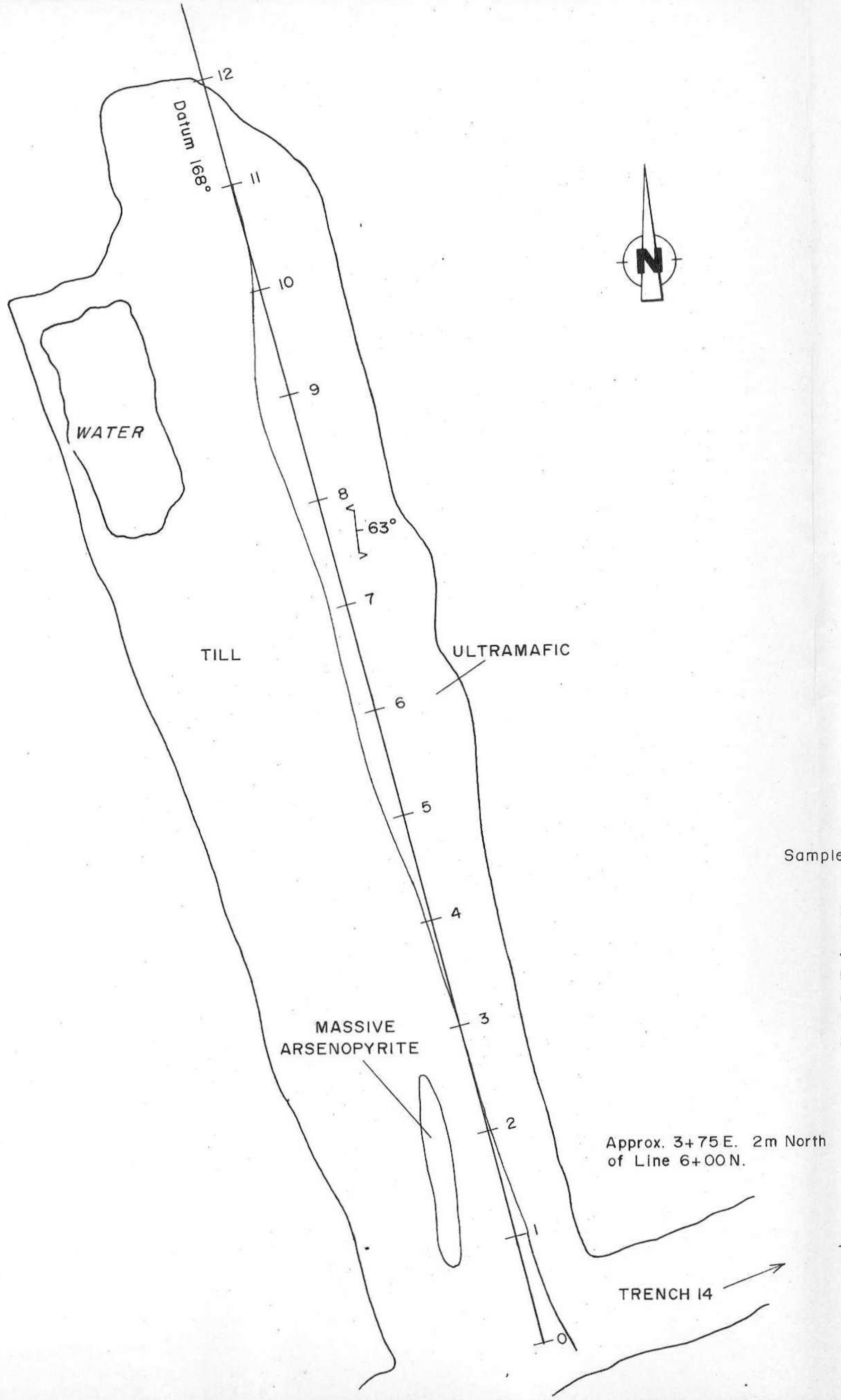
EASTFIELD RESOURCES LTD.

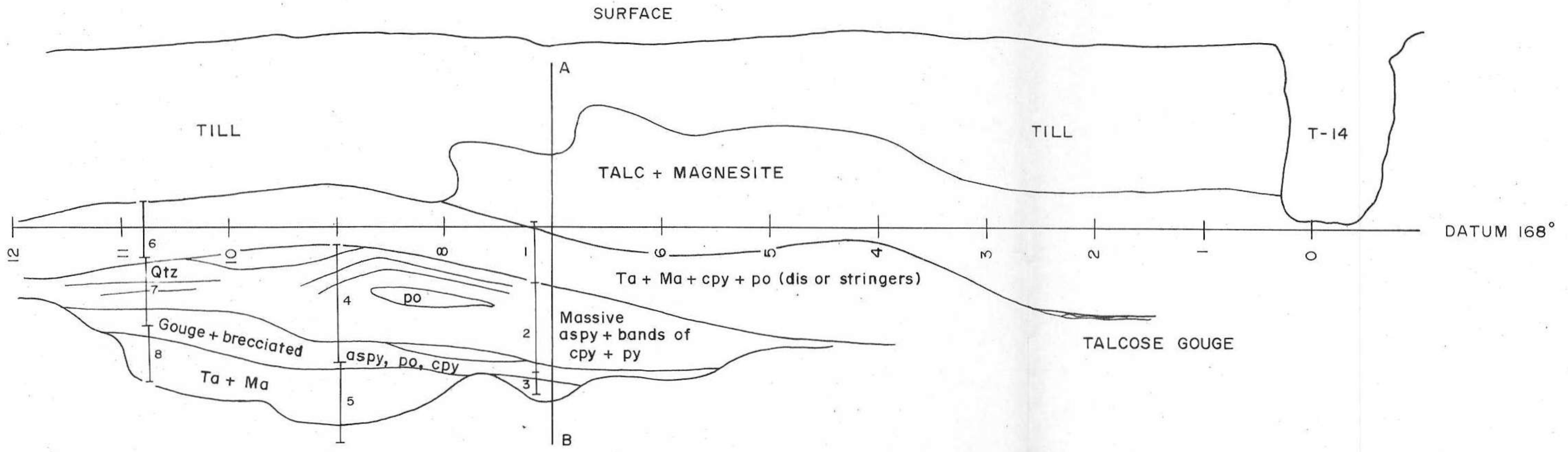
INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89T-14
LINE 6+00AN
3+70E to 4+10E

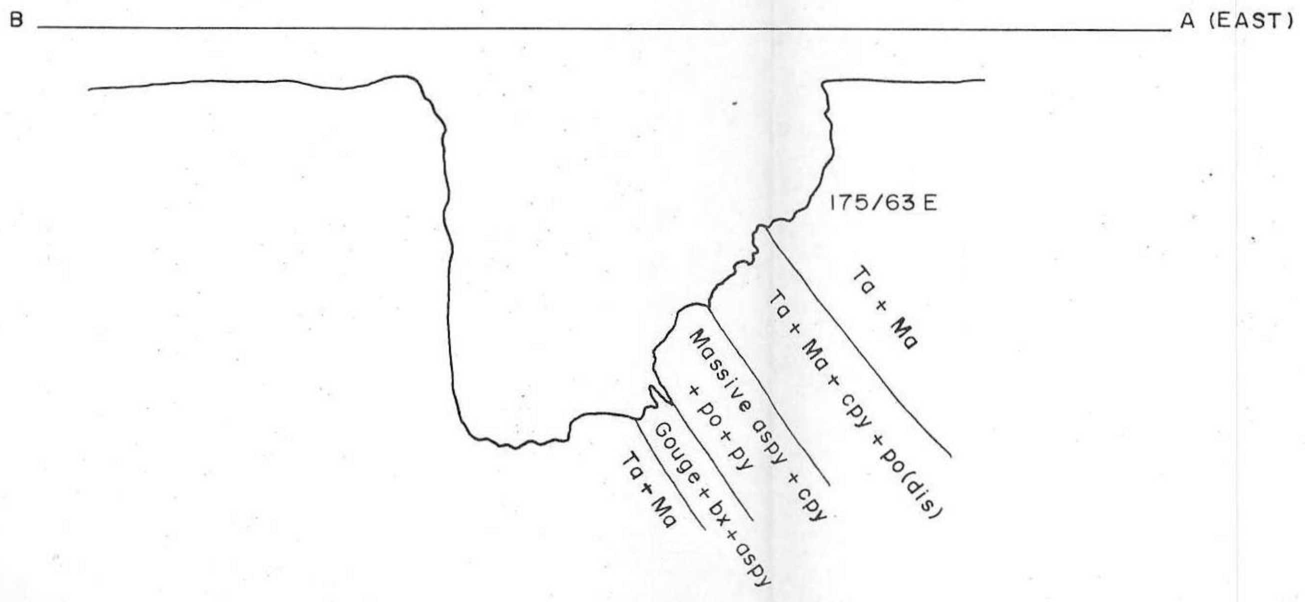
MINCORD EXPLORATION CONSULTANTS LIMITED

Date	September/89	N.T.S.	93 N/6
Scale	1:250	Figure	
By			





Sample No.	Width (m)	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)	Sb(ppm)	Bi(ppm)
1	0·55	175	358	1·0	33	9	2
2	0·75	4365	99999	11·0	4340	644	146
3	0·37	41	864	0·0	39	30	2
4	1·05	3324	99999	12·0	6759	699	273
5	0·75	30	1580	0·0	29	21	2
6	0·50	215	1095	1·0	124	23	4
7	0·55	5546	99999	14·0	4744	390	209
8	0·50	874	11628	2·0	551	44	24



1 0 1 2

SCALE 1:50

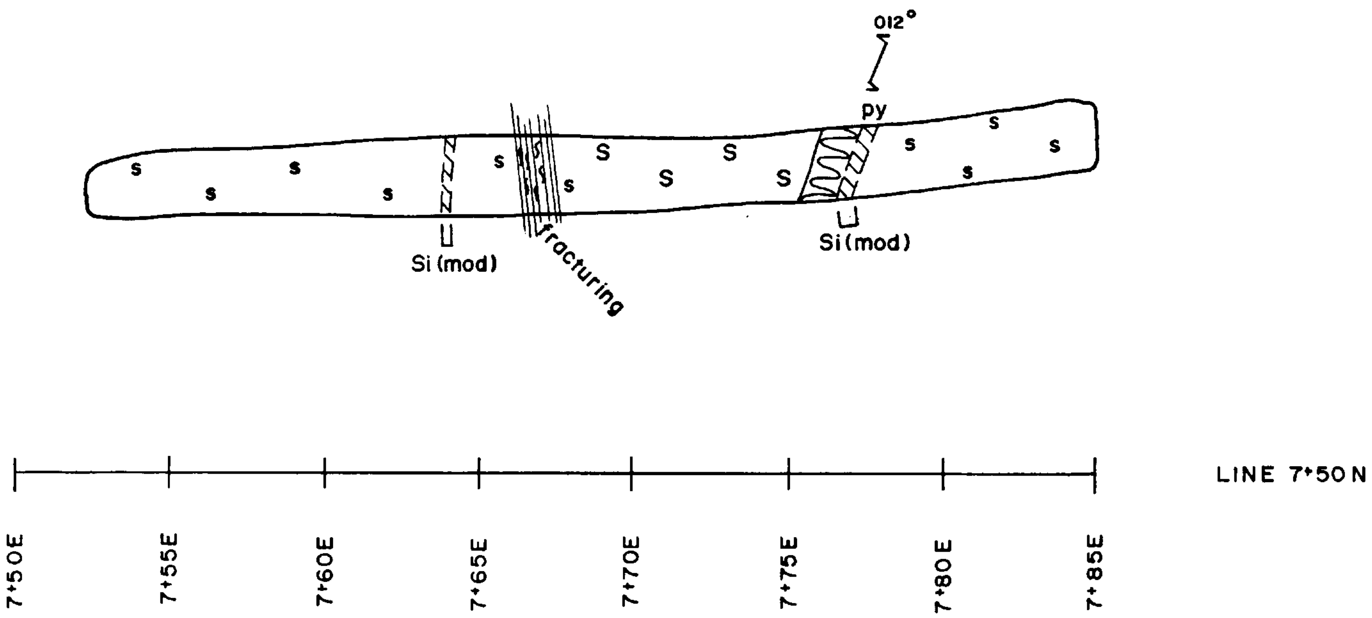
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89 - T14A

LINE 6+00 N, 3+75 E.

Date September/89	N.T.S. 93 N/6
Scale 1:50	Figure
By	



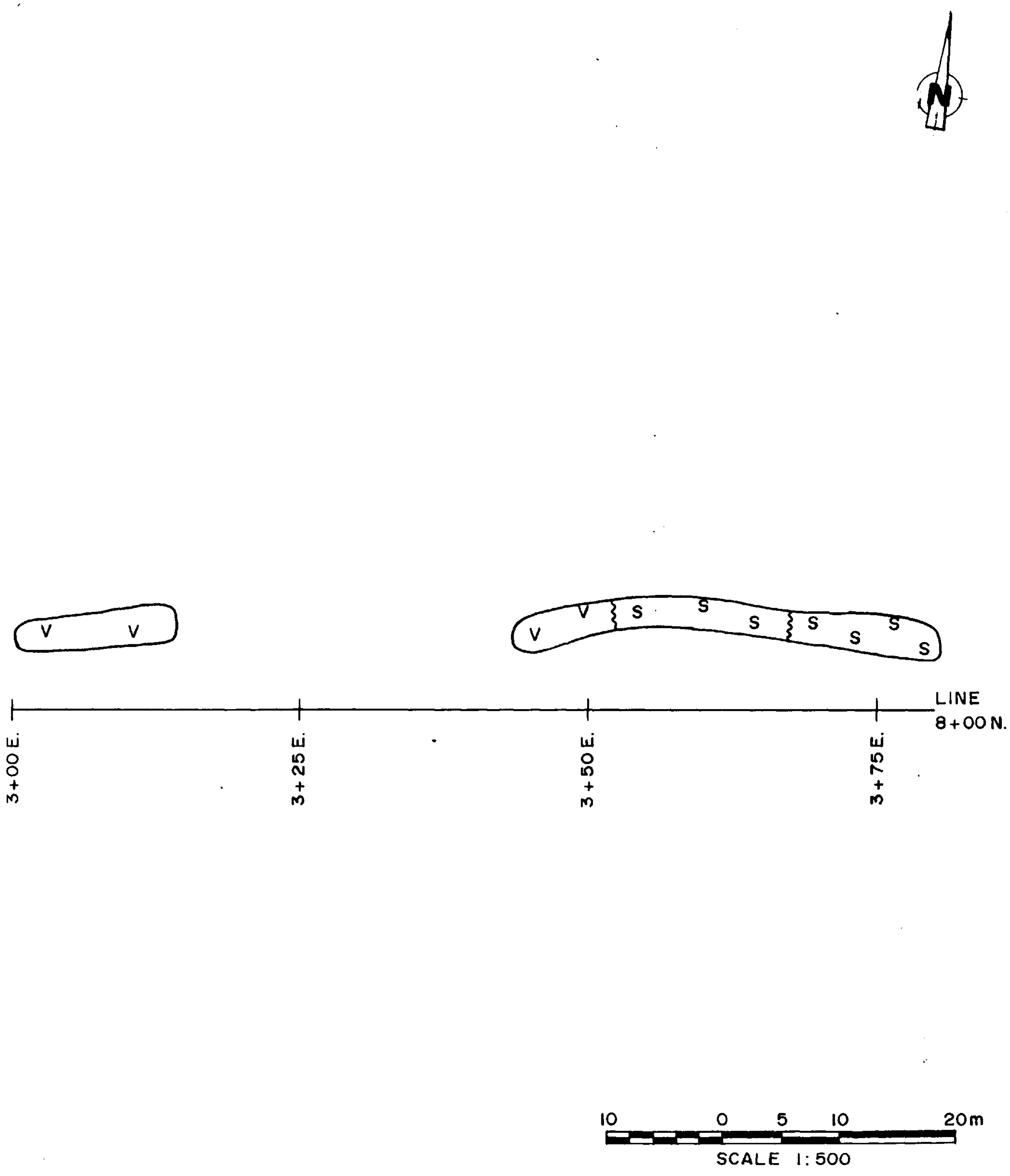
5 0 5 10m
SCALE 1:250

EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T17
LINE 7+50N
7+52E to 7+85E

EXPLORATION CONSULTANTS LIMITED	Date September/89	N.T.S. 93 N/6
	Scale 1:250	Figure
	By	

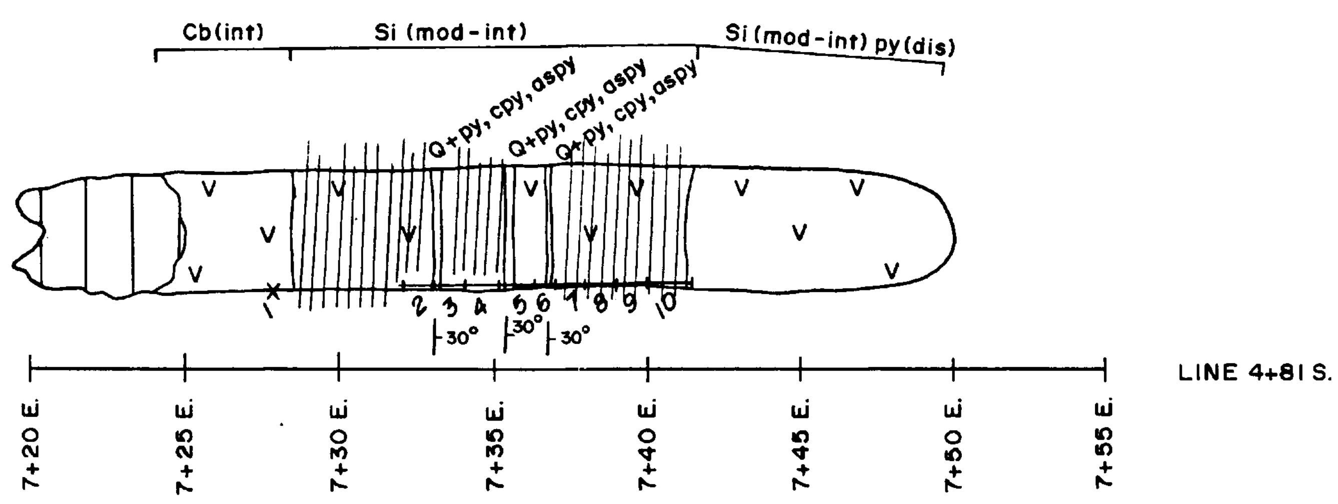


EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T18
LINE 8+00 N.
3+00E to 3+80E.

MINCORD EXPLORATION CONSULTANTS LIMITED	Date September/89	N.T.S. 93 N/6
	Scale 1: 500	Figure
	By	



Sample No.	Width(m)	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)
1	(Grab)	92	36	0·3	9
2	1·0	109	19	0·2	7
3	1·0	694	16	3·1	21
4	1·0	1180	60	4·8	30
5	1·1	415	34	0·8	17
6	0·8	363	13	0·6	13
7	1·0	526	30	0·5	9
8	1·0	375	110	1·4	25
9	1·0	1466	175	5·6	83
10	1·5	38	9	0·1	4

5 0 5 10m

SCALE 1:250

EASTFIELD RESOURCES LTD.

INDATA PROJECT

Omineca M.D., B.C.

TRENCH 89-T20
LINE 4+81 S.
7+25 to 7+50 E.

EXPLORATION CONSULTANTS LIMITED

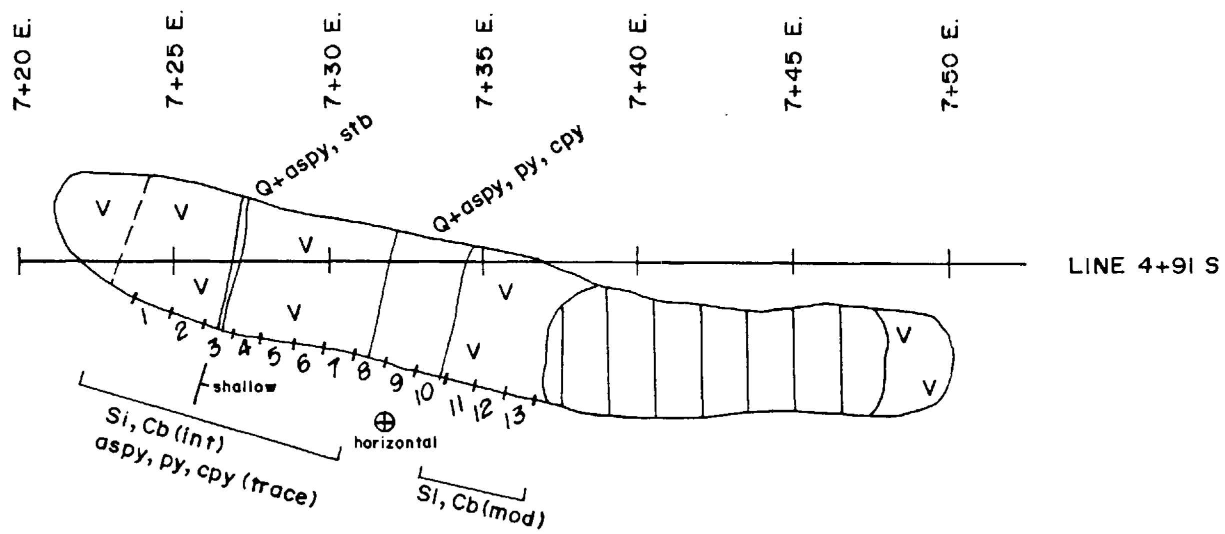
Date: September/89

N.T.S.: 93 N/6

Scale: 1:250

Figure

By



Sample No.	Width (m)	Cu (ppm)	As (ppm)	Ag (ppm)	Pb (ppm)	Sb (ppm)	Au (ppb)
1	1·0	7	47	0·1	15	10	4
2	1·0	20	185	0·2	13	49	9
3	1·0	309	13445	21·8	1027	474	560
4	1·0	304	76	0·2	10	56	12
5	1·0	291	112	0·3	13	19	11
6	1·0	720	51	0·7	8	15	18
7	1·0	173	2539	4·9	72	102	68
8	1·0	994	6604	42·0	626	412	386
9	1·0	3463	4097	142·8	262	1078	1004
10	1·0	2786	2374	40·0	171	116	883
11	1·0	1851	5169	102·0	920	98	1924
12	1·0	83	100	0·9	17	5	6
13	1·0	73	109	1·6	17	7	12

5 0 5 10 m

SCALE 1:250

EASTFIELD RESOURCES LTD.

INDATA PROJECT

Omineca M.D., B.C.

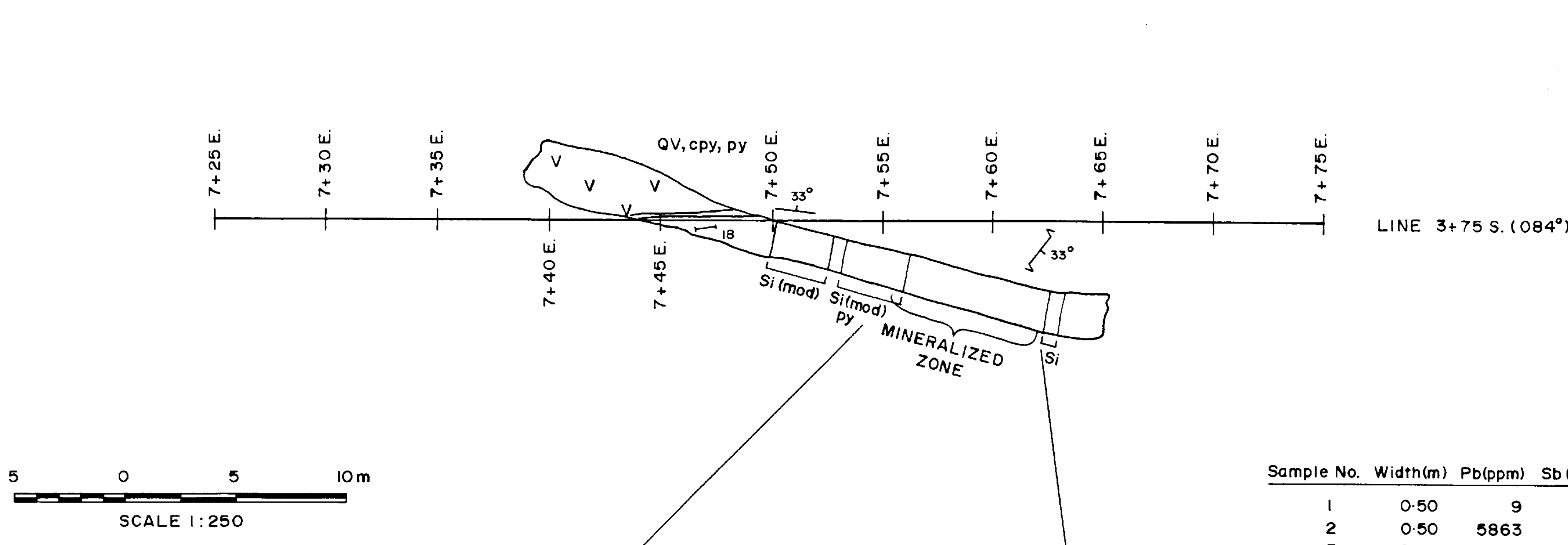
TRENCH 89-T21

LINE 4+91 S.

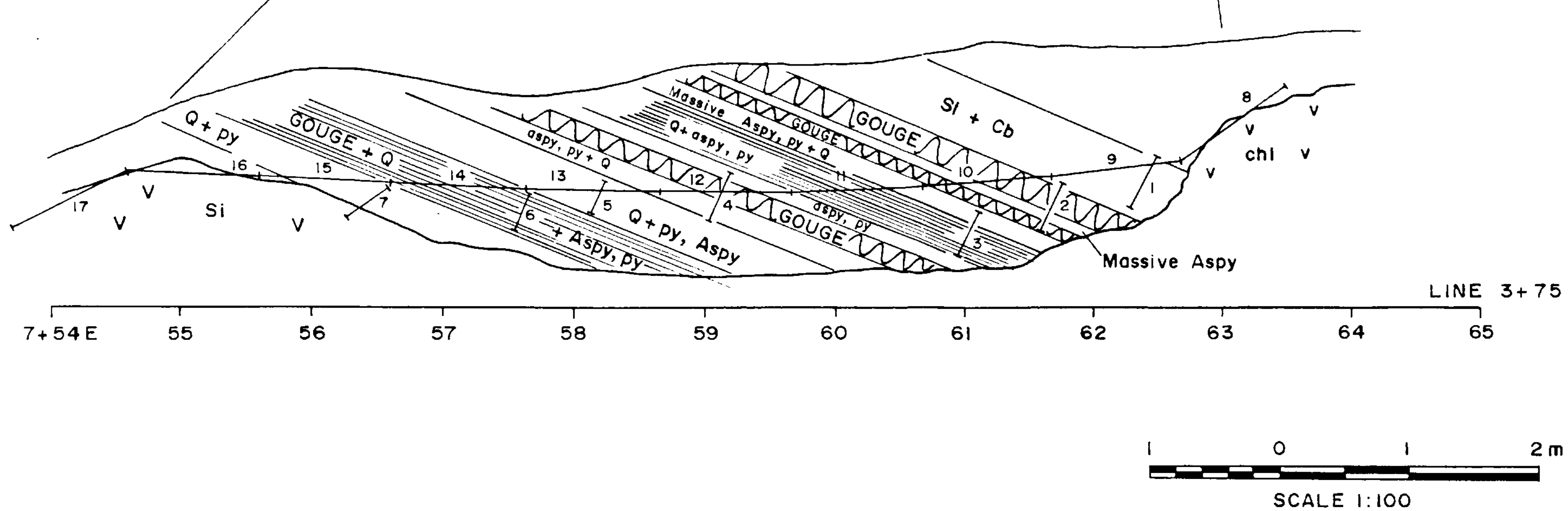
7+22 E. to 7+50 E.

EXPLORATION CONSULTANTS LIMITED

Date September/89	N.T.S. 93 N/6
Scale 1:250	Figure
By	



Sample No.	Width(m)	Pb(ppm)	Sb (ppm)	Cu(ppm)	As (ppm)	Ag(ppm)	Au(ppb)
1	0·50	9	225	67	344	0·40	7
2	0·50	5863	3232	2678	67336	227·10	3312
3	0·40	303	2831	2799	19598	85·60	1604
4	0·40	3906	5757	5157	47699	358·80	3995
5	0·30	178	521	194	3707	26·00	454
6	0·30	16706	9148	2038	99999	239·90	3225
7	0·45	82	353	420	1276	15·30	248
8	1·00	9	8	65	66	0·40	8
9	1·00	57	92	88	397	4·10	34
10	1·00	4378	3721	2603	64948	329·20	3750
11	1·00	27	30	23	196	2·00	17
12	1·00	7069	6338	2323	55390	233·30	2839
13	1·00	262	1605	367	8876	51·10	1203
14	1·00	22783	14334	4827	99999	469·40	4279
15	1·00	263	1160	951	5164	31·50	1281
16	1·00	303	298	1275	2138	10·70	145
17	1·00	24	79	238	491	1·40	32
18	1·00	1067	631	1160	5146	30·90	284



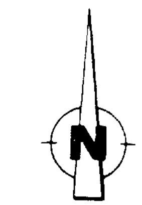
EASTFIELD RESOURCES LTD.

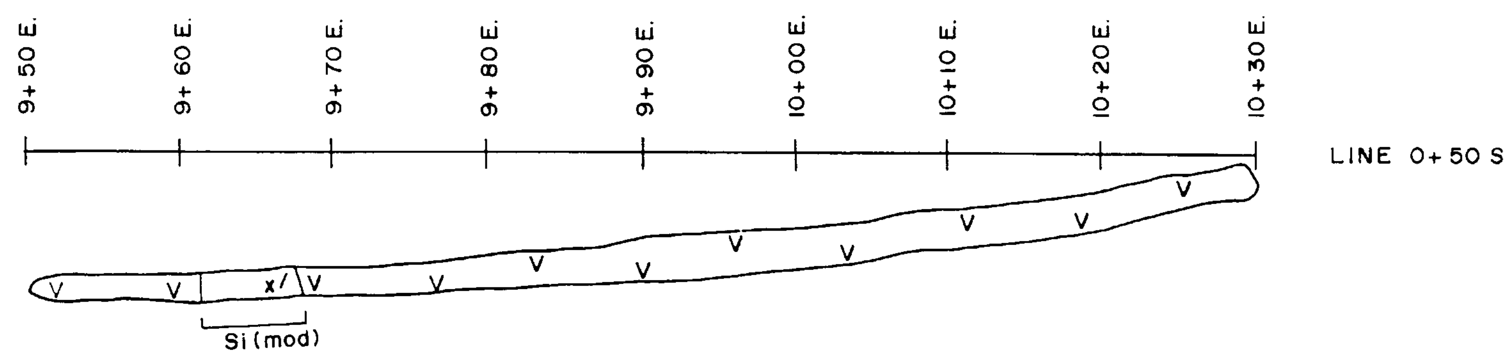
INDATA PROJECT
Omineca M.D., B.C.

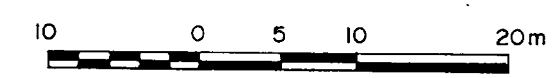
TRENCH 89-T22
LINE 3+75S
7+40 E to 7+65 E

EXPLORATION CONSULTANTS LIMITED

Date	N.T.S.
September/89	93 N/6
Scale: as shown	Figure
By	







SCALE 1:500

Sample No.	Width(m)	Cu (ppm)	As(ppm)	Ag(ppm)	Au(ppb)
1	(Grab)	1181	60807	42·0	1714

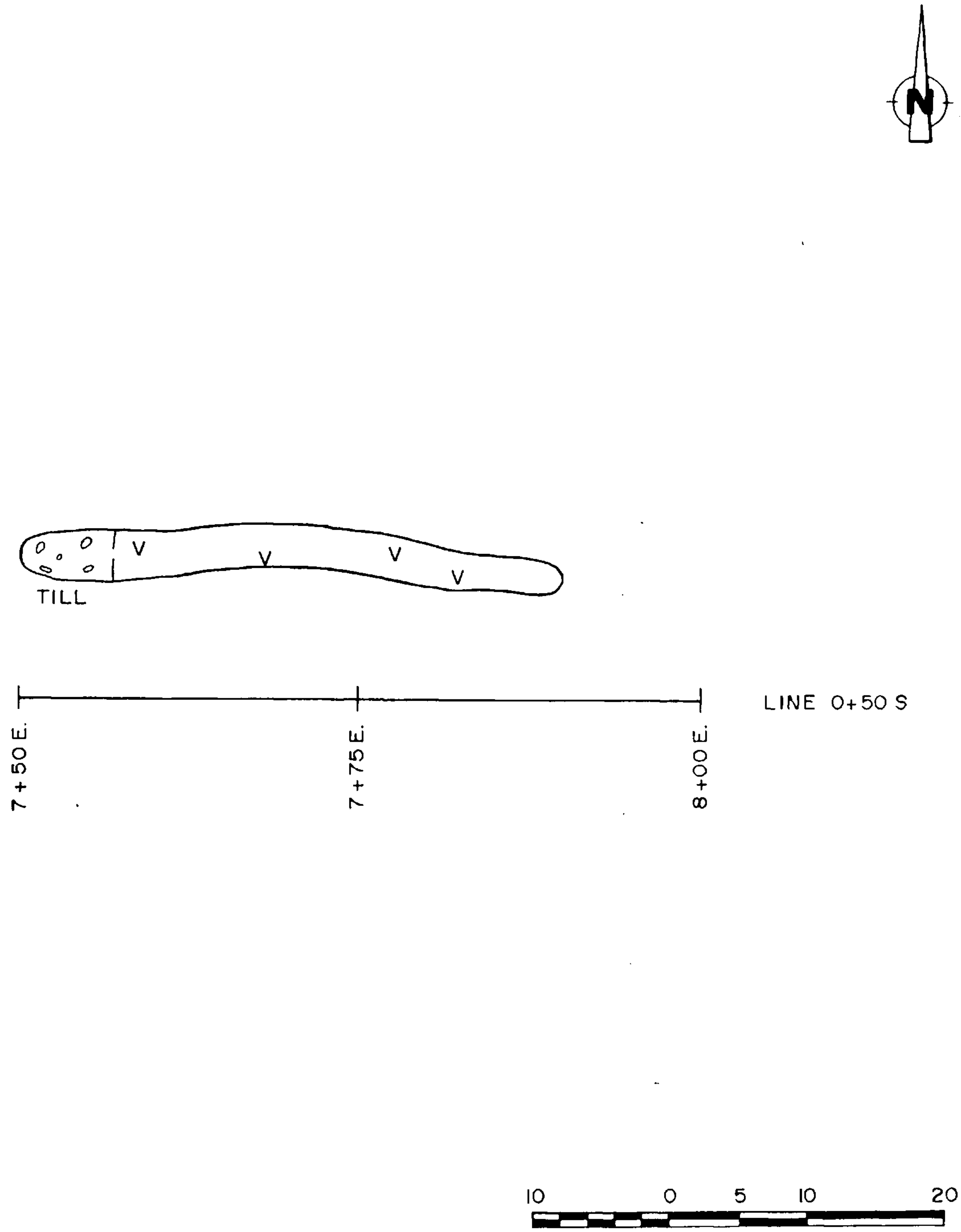
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T23
LINE 0+50S
9+50E to 10+30E.

EXPLORATION CONSULTANTS LIMITED

Date	N.T.S.
September/89	93 N/6
Scale 1:500	Figure
By	



EASTFIELD RESOURCES LTD.

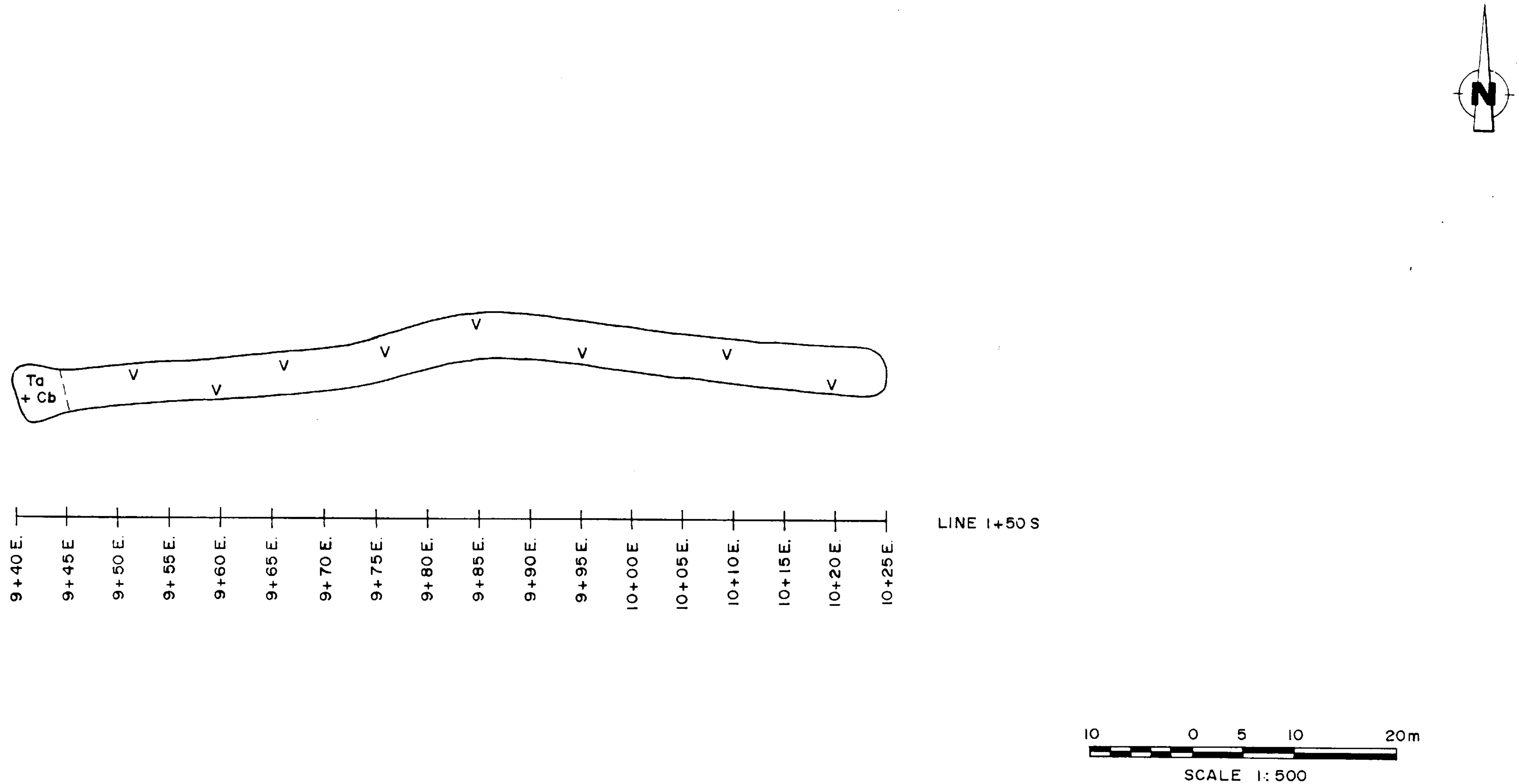
INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T24

LINE 0+50 S.
7+50 E to 7+90 E.

MINCORD
EXPLORATION CONSULTANTS LIMITED

Date September/89	N.T.S. 93 N/6
Scale 1:500	Figure
By	

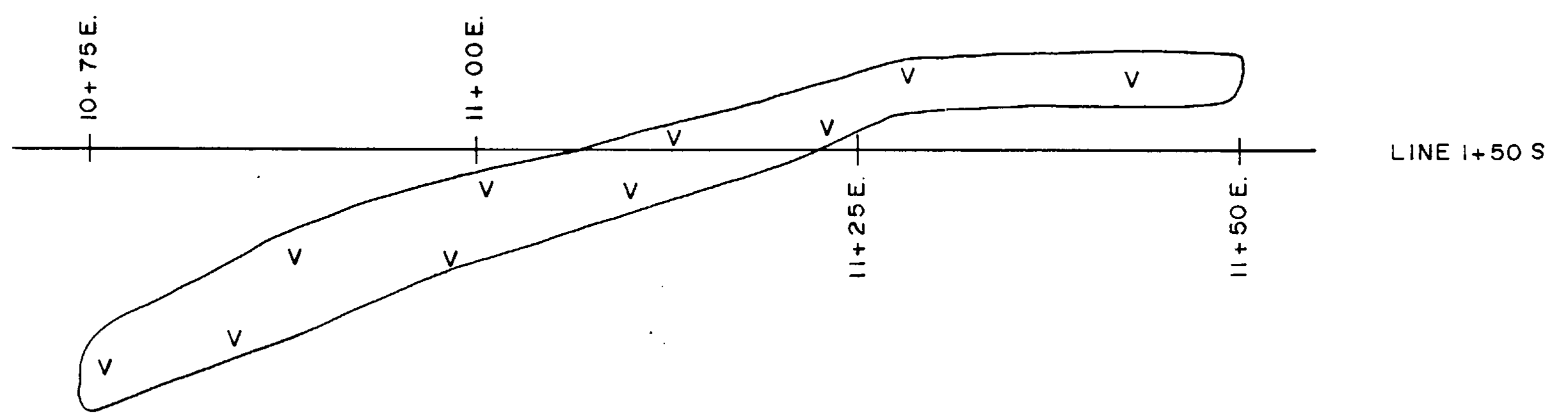


EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T25
LINE 1+50 S
9+40E to 10+25E

EXPLORATION CONSULTANTS LIMITED	Date: September/89	N.T.S.: 93 N/6
	Scale: 1:500	Figure
	By	



10 0 5 10 20 m

SCALE 1: 500

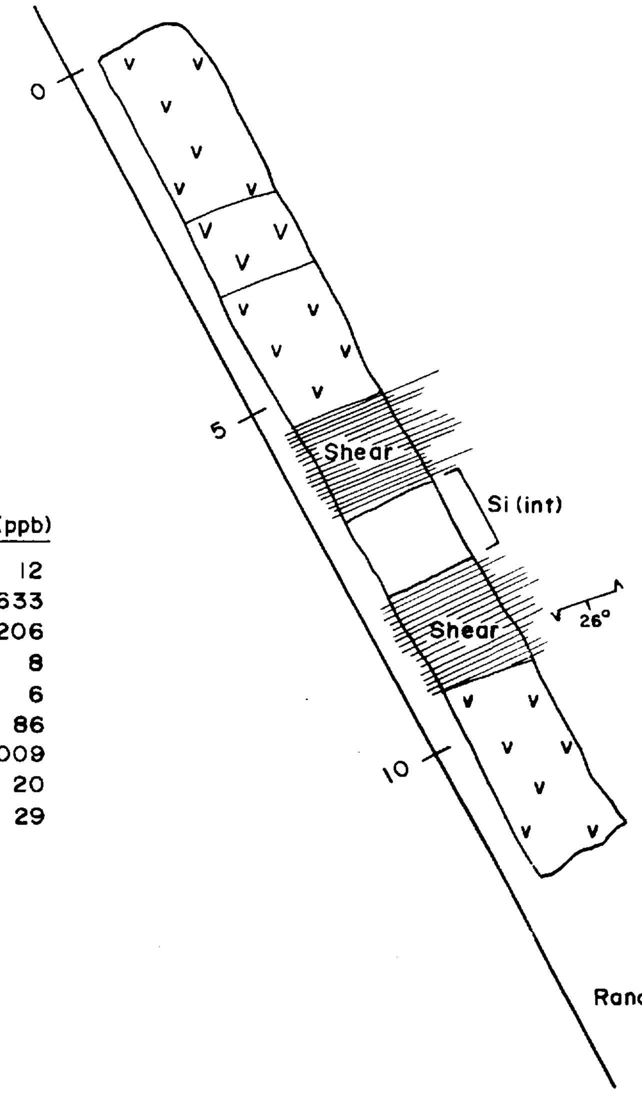
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T26
LINE 1+50 S
10+75E to 11+50E

EXPLORATION CONSULTANTS LIMITED

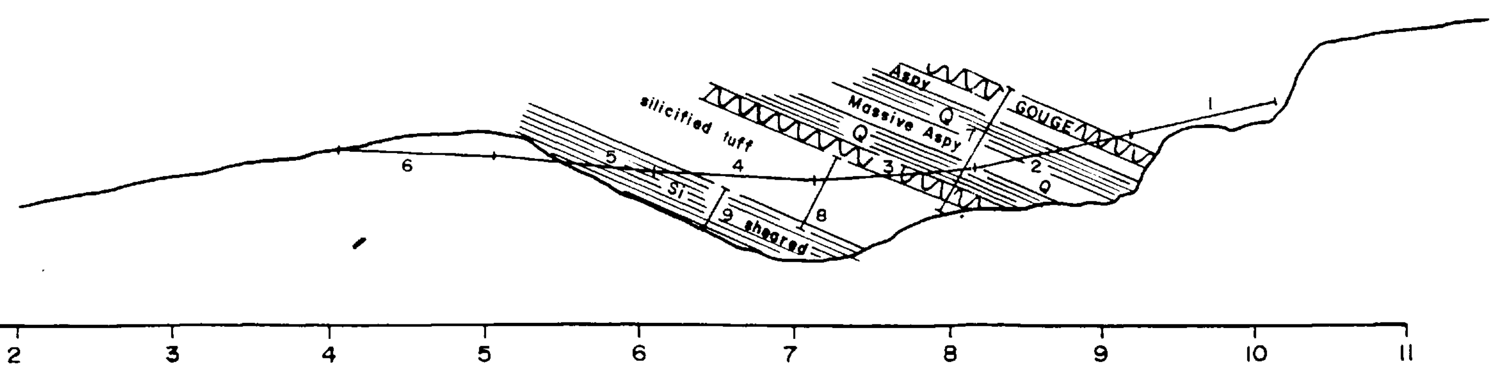
Date September/89	N.T.S. 93 N/6	
Scale 1: 500	Figure	
By		



Sample No.	Width(m)	Cu (ppm)	As(ppm)	Ag (ppm)	Pb (ppm)	Sb(ppm)	Au(ppb)
1	1·00	112	70	0·10	10	23	12
2	1·00	1633	42705	98·70	2217	6369	2633
3	1·00	611	4448	5·90	110	759	206
4	1·00	268	591	0·40	9	65	8
5	1·00	15	62	0·10	4	13	6
6	1·00	60	1086	2·70	64	158	86
7	0·95	1656	44321	125·40	1405	3641	3009
8	0·70	138	193	0·50	6	218	20
9	0·55	91	475	1·20	17	59	29

Location:
48m from the 0 station
to 7+98E on Line 4+00S
Situated between 3+50S and 4+00S.

0 1 2 5m
Scale 1:100



1 0 1 2m
Scale 1:50

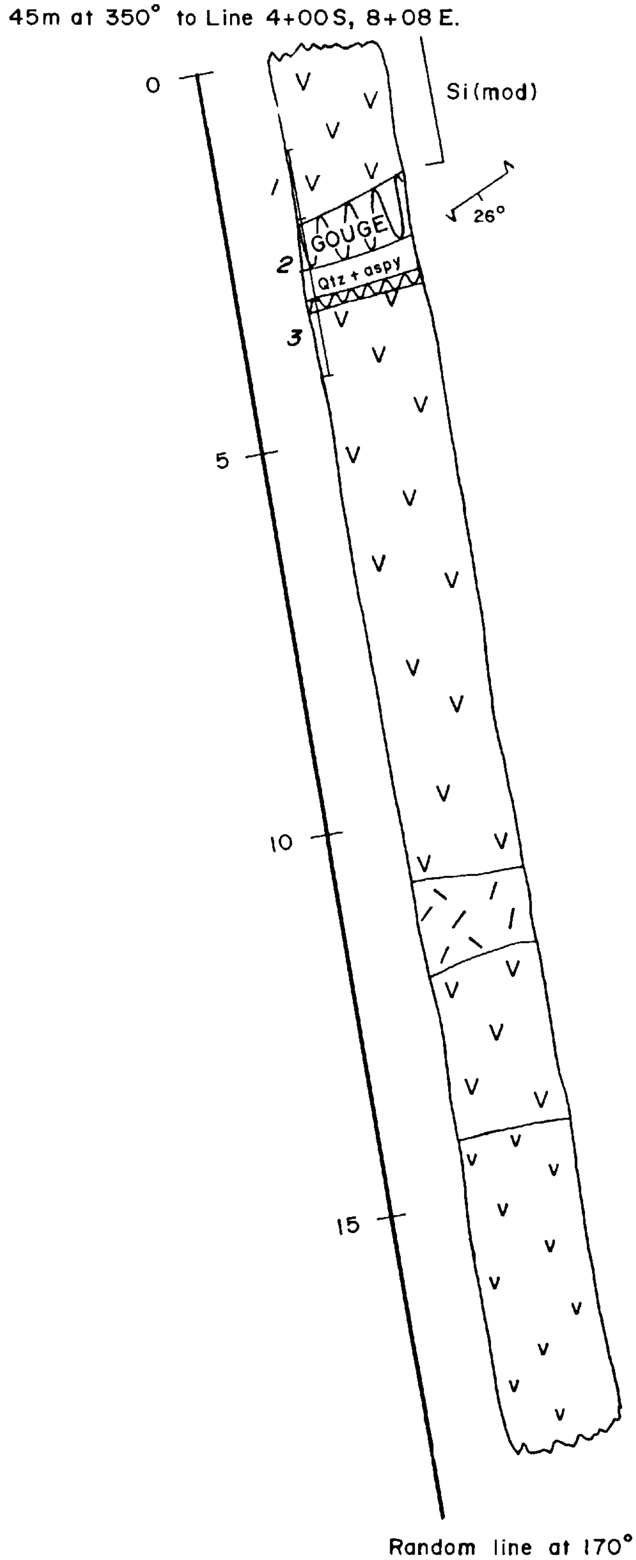
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T27
North of T22
48m from 7+98E, Line 4+00S

MINCORD EXPLORATION CONSULTANTS LIMITED

Date	N.T.S.
September/89	93 N/6
Scale: as shown	Figure
By	



Sample No.	Width(m)	Cu(ppm)	As(ppm)	Ag(ppm)	Pb(ppm)	Sb(ppm)	Au(ppb)
1	1·0	121	95	0·40	8	32	10
2	1·0	952	51705	267·70	4243	2299	3415
3	1·0	50	128	0·60	12	12	14

2 0 1 2 4m
SCALE 1:100

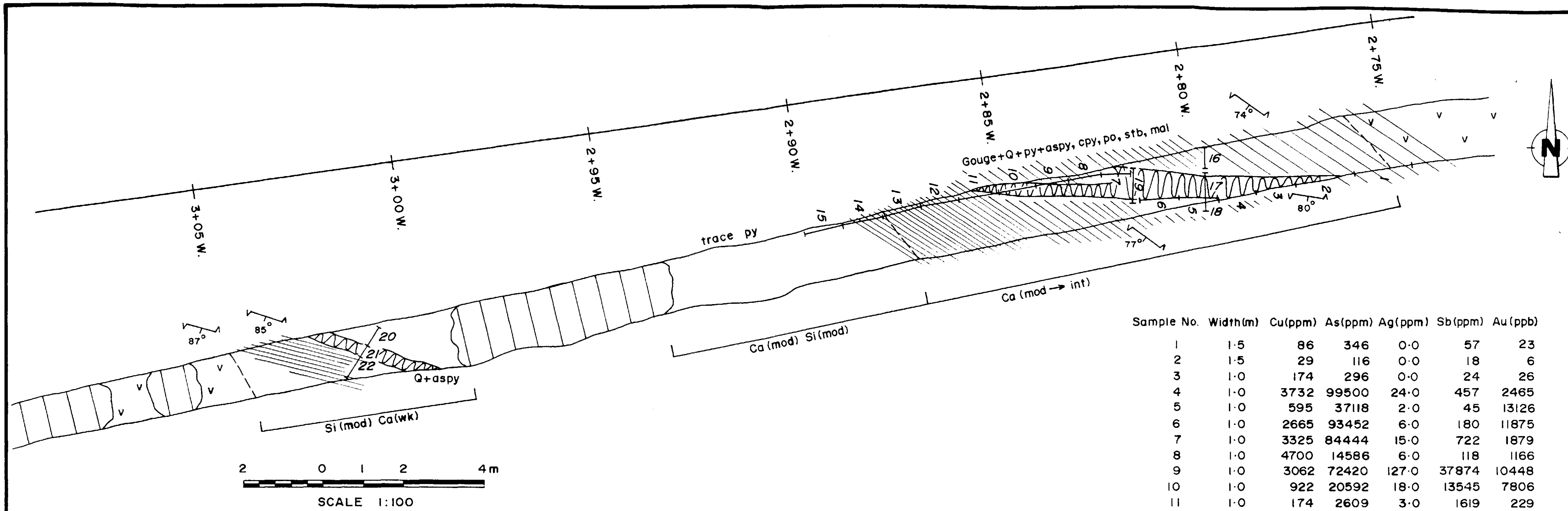
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

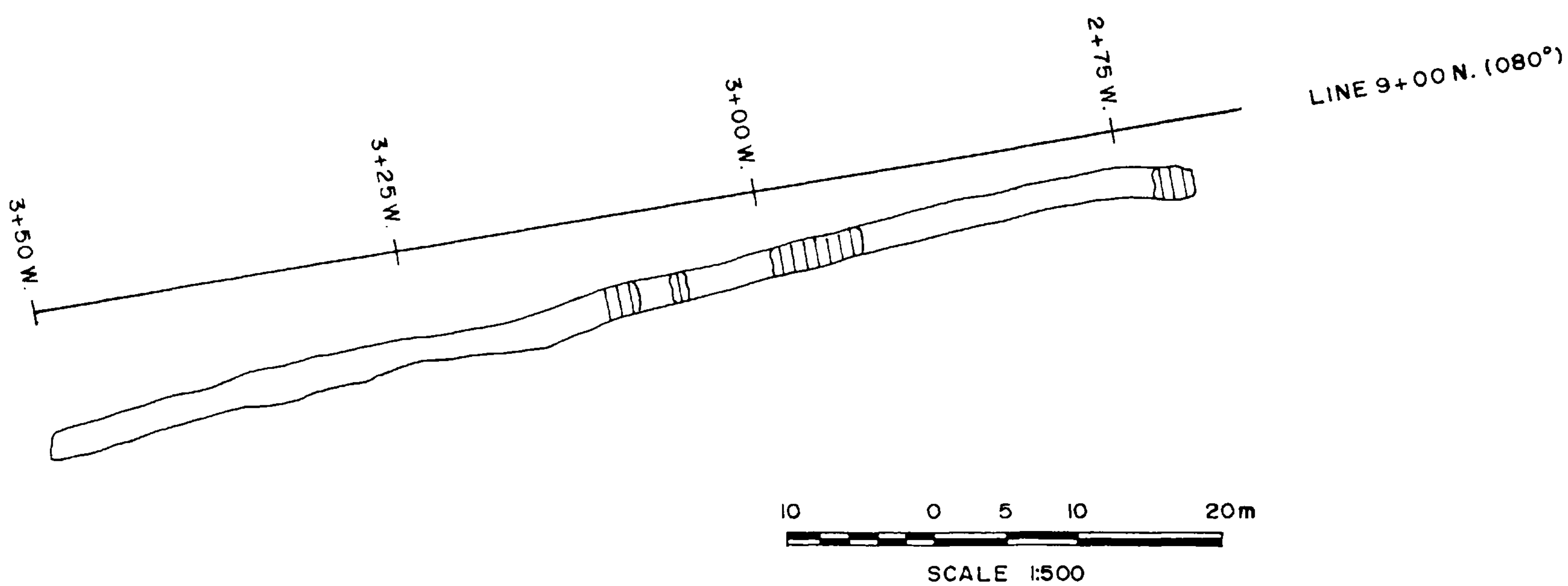
TRENCH 89-T28
Random Line at 170°
45m from Line 4+00 S, 8+08 E.

MINCORD EXPLORATION CONSULTANTS LIMITED

Date	N.T.S.
September/89	93 N/6
Scale 1:100	Figure
By	



Sample No.	Width(m)	Cu(ppm)	As(ppm)	Ag(ppm)	Sb(ppm)	Au(ppb)
1	1·5	86	346	0·0	57	23
2	1·5	29	116	0·0	18	6
3	1·0	174	296	0·0	24	26
4	1·0	3732	99500	24·0	457	2465
5	1·0	595	37118	2·0	45	13126
6	1·0	2665	93452	6·0	180	11875
7	1·0	3325	84444	15·0	722	1879
8	1·0	4700	14586	6·0	118	1166
9	1·0	3062	72420	127·0	37874	10448
10	1·0	922	20592	18·0	13545	7806
11	1·0	174	2609	3·0	1619	229
12	1·0	78	911	0·0	331	37
13	1·0	34	183	0·0	115	15
14	1·0	40	168	0·0	134	8
15	1·0	20	618	0·0	354	20
16	0·45	105	80	0·2	18	8
17	0·70	1563	69717	9·7	269	2442
18	0·25	164	399	0·1	2	5
19	0·85	1619	43104	10·3	439	1605
20	0·55	20	531	0·4	223	33
21	0·30	693	25483	5·9	5246	1245
22	0·60	14	307	0·1	148	33



EASTFIELD RESOURCES LTD.

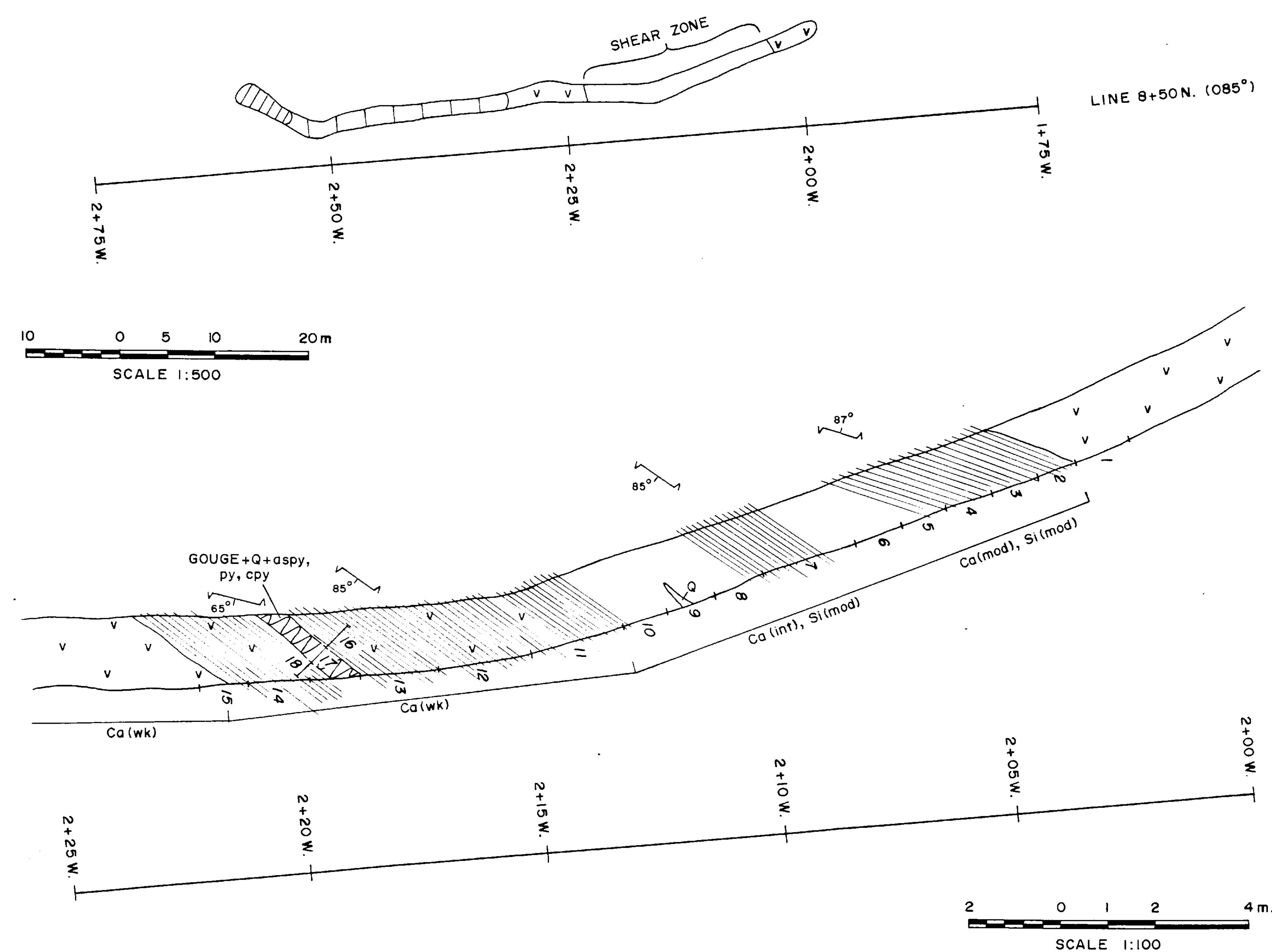
INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89 - T31

LINE 9+00N.
2+73W to 3+50W

EXPLORATION CONSULTANTS LIMITED

Date: September / 89	N.T.S.: 93 N/6
Scale: as shown	Figure
By	



Sample No.	Width (m)	Cu (ppm)	As (ppm)	Ag (ppm)	Sb (ppm)	Au (ppb)
1	1·2	36	144	0·2	2	7
2	1·0	78	82	0·2	17	7
3	1·0	17	271	0·2	45	24
4	1·0	46	198	0·2	33	4
5	1·0	389	925	0·6	204	40
6	1·0	26	250	0·1	45	6
7	2·0	9	105	0·1	29	13
8	1·0	31	111	0·2	11	4
9	1·0	338	347	7·7	88	1463
10	1·0	65	433	0·2	15	200
11	2·0	190	552	1·5	37	498
12	2·0	105	532	0·7	39	133
13	1·6	119	326	0·4	20	17
14	1·4	46	175	0·2	2	10
15	1·0	46	34	0·1	3	4
16	0·6	251	374	2·2	40	73
17	0·4	3331	99999	5·7	308	2898
18	0·4	90	435	0·1	2	4

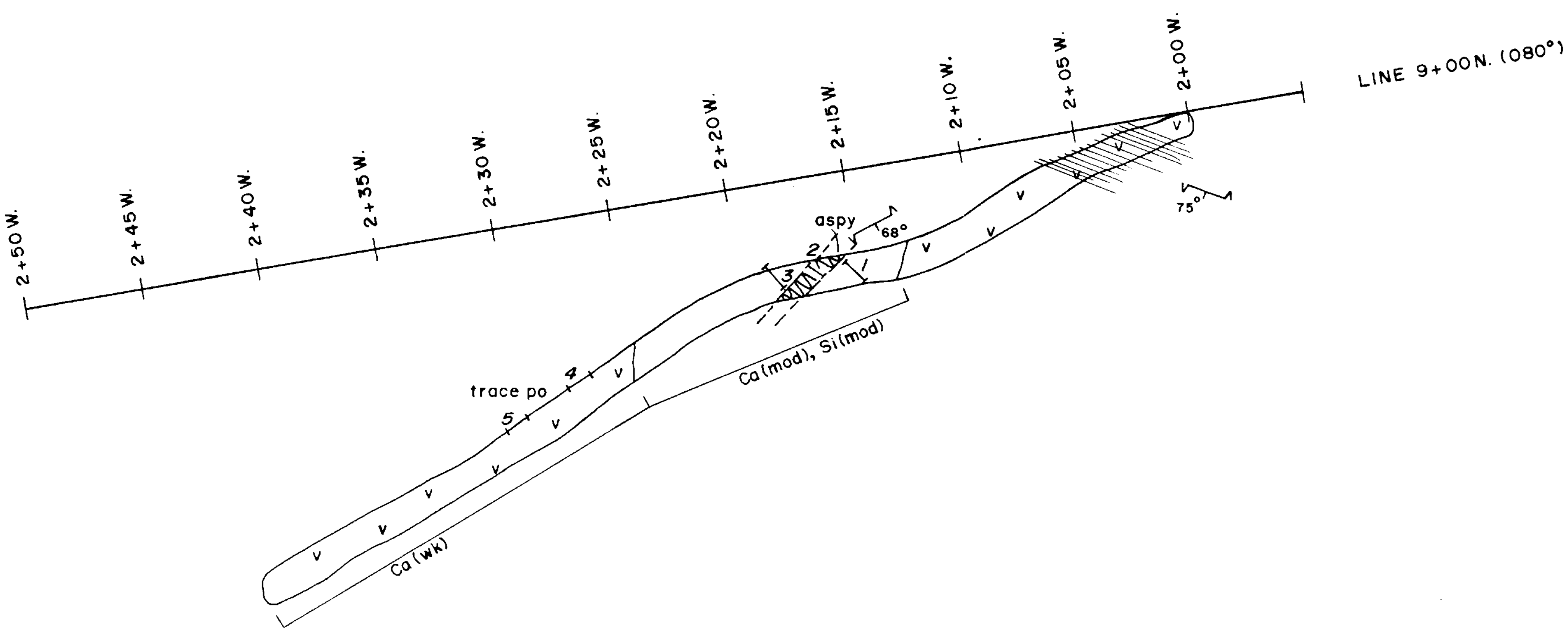
EASTFIELD RESOURCES LTD.

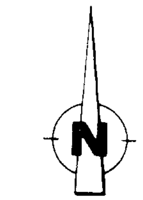
INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89 - T32
LINE 8+50N.
2+00 W to 2+50W

EXPLORATION CONSULTANTS LIMITED

Date: September / 89
N.T.S.: 93 N/6
Scale: as shown
Figure:
By:





5 0 5 10m

SCALE 1:250

Sample No.	Cu(ppm)	As(ppm)	Ag(ppm)	Sb(ppm)	Au(ppb)
1	31	405	0·1	46	5
2	566	12241	38·3	359	966
3	35	710	0·2	34	15
4	31	78	0·3	15	3
5	15	41	0·3	10	3

EASTFIELD RESOURCES LTD.

INDATA PROJECT

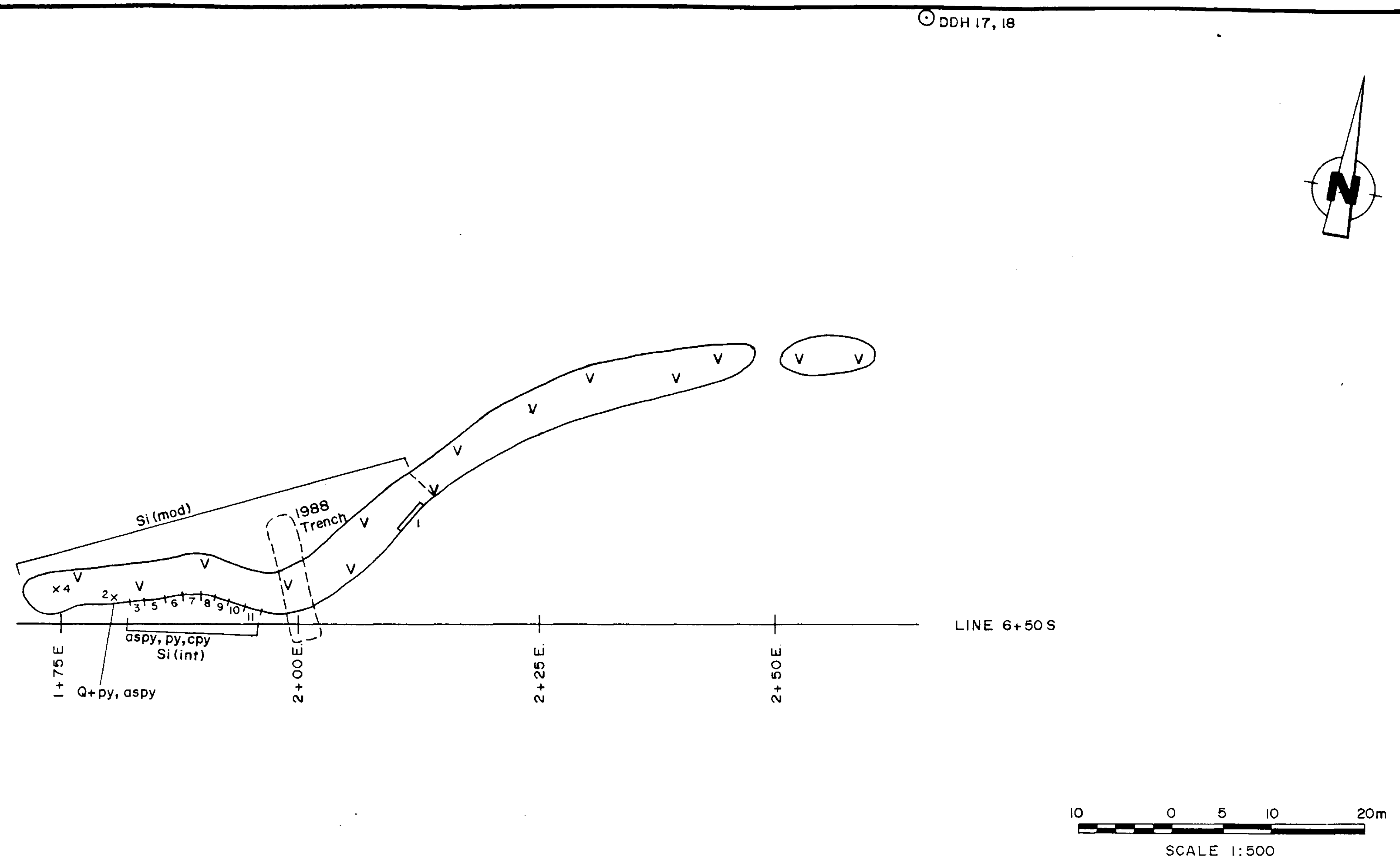
Omineca M.D., B.C.

TRENCH 89 - T33

LINE 9+00N.
2+00W to 2+42W.

EXPLORATION CONSULTANTS LIMITED

Date	N.T.S.
September / 89	93 N/6
Scale 1:250	Figure
By	



Sample No.	Cu (ppm)	As (ppm)	Ag (ppm)	Au (ppb)	Sb (ppm)	Width (m)
1	1779	1293	9·50	32	124	1·5
2	2447	482	12·60	57	64	(Grab)
3	1389	2578	4·40	42	32	1·0
4	89	341	0·40	2	4	(Grab)
5	7426	99999	28·60	312	2101	1·0
6	1819	46209	16·10	185	302	1·0
7	3656	77189	50·30	319	297	1·0
8	4307	87556	25·70	500	545	1·0
9	4345	90310	48·10	442	1472	1·0
10	5772	91033	49·80	285	1406	1·0
11	4139	99999	15·60	294	729	1·0
12	422	702	1·20	8		

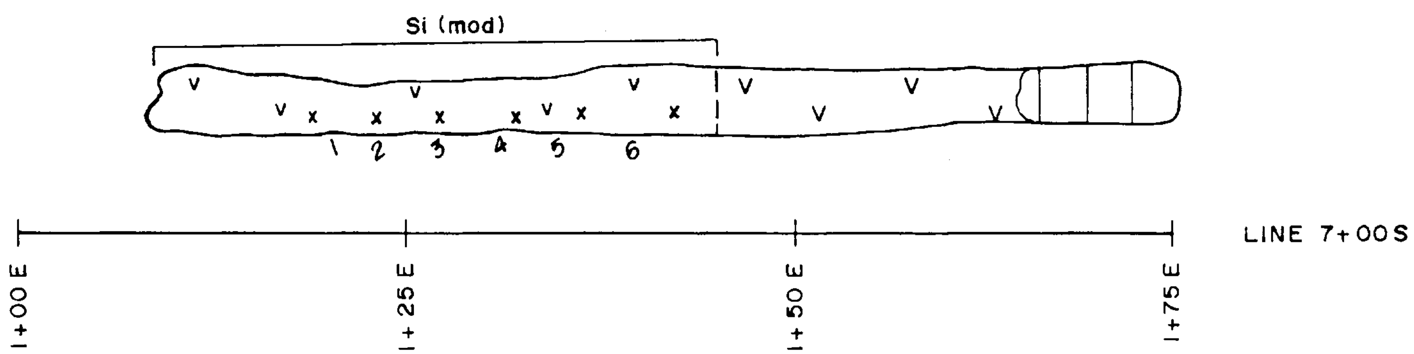
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T40
LINE 6+50 S
1+70E to 2+60E

EXPLORATION CONSULTANTS LIMITED

Date	N.T.S.
September/89	93 N/6
Scale 1:500	Figure
By	



DDH 88-16

10 0 5 10 20m
SCALE 1:500

Sample No.	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)	Sb(ppm)	Width(m)
1	1742	10,914	101·50	2550	1226	(Grab)
2	1029	2294	4·40	118	180	(Grab)
3	786	1360	5·20	87	151	(Grab)
4	917	1986	2·60	75	130	(Grab)
5	746	2693	3·60	602	87	(Grab)
6	663	3281	2·00	225	99	(Grab)

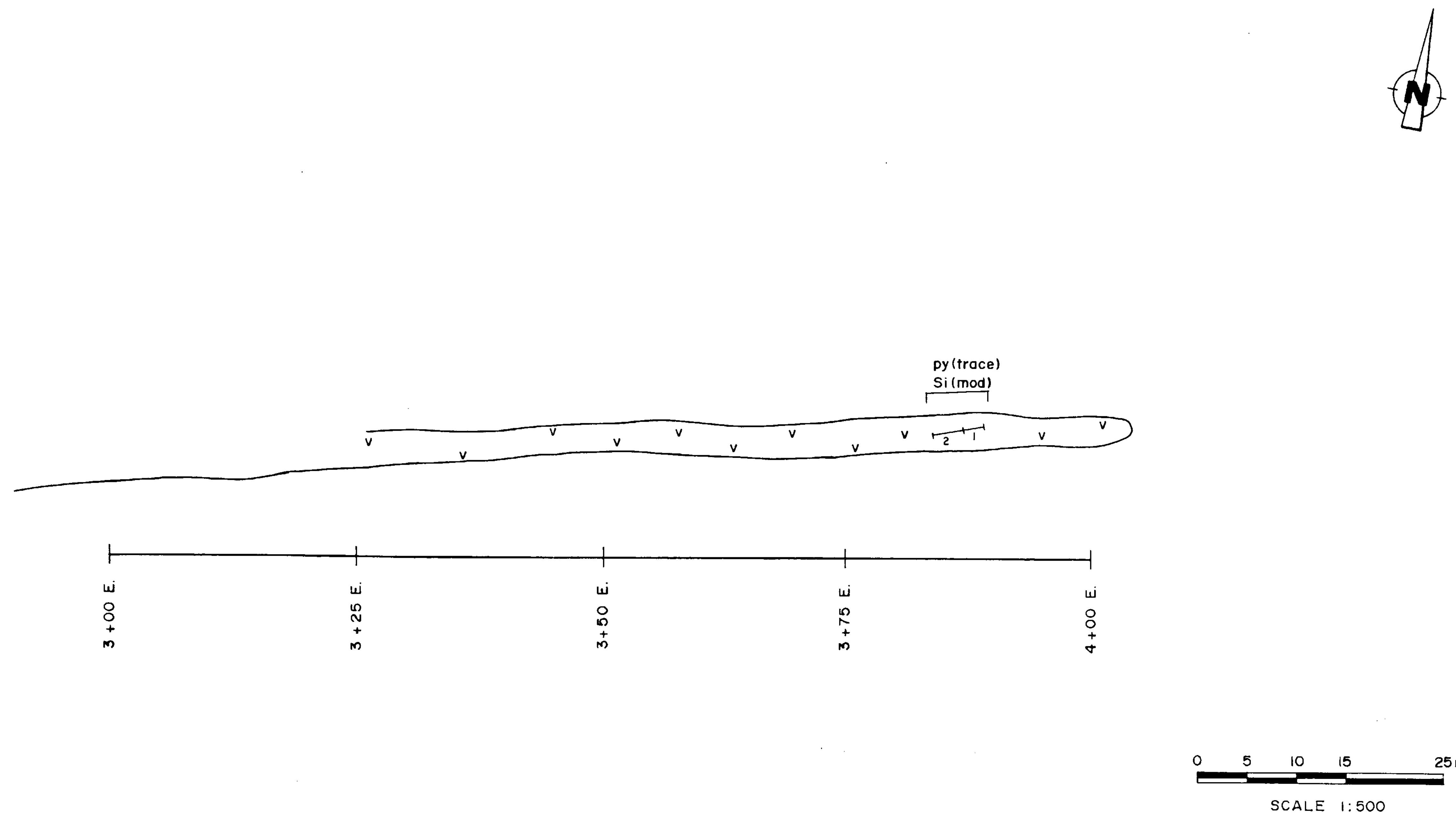
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T41
LINE 7+00S
1+10E to 1+75E.

EXPLORATION CONSULTANTS LIMITED

Date: September/89
N.T.S.: 93 N/6
Scale: 1:500
Figure:
By:



Sample No.	Cu (ppm)	As (ppm)	Ag (ppm)	Au (ppb)	Width (m)
1	570	106	0·50	17	1·0
2	354	63	0·20	6	1·0

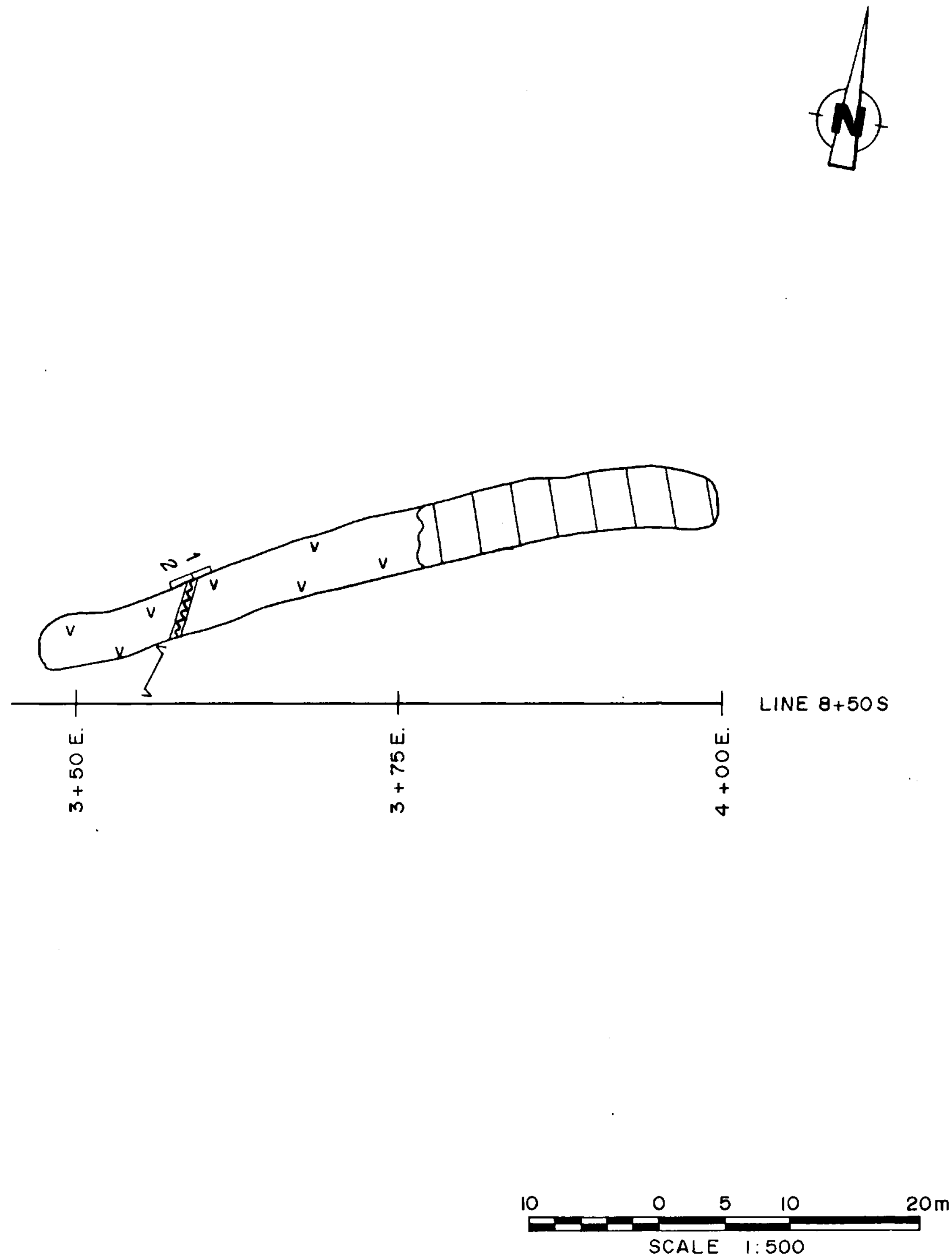
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T42
LINE 7+50S
3+00E to 4+00E

EXPLORATION CONSULTANTS LIMITED

Date	N.T.S.
September/89	93 N/6
Scale 1:500	Figure
By	



Sample No.	Width(m)	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)
1	1·0	85	12	0·1	2
2	1·0	43	24	0·2	5

EASTFIELD RESOURCES LTD.

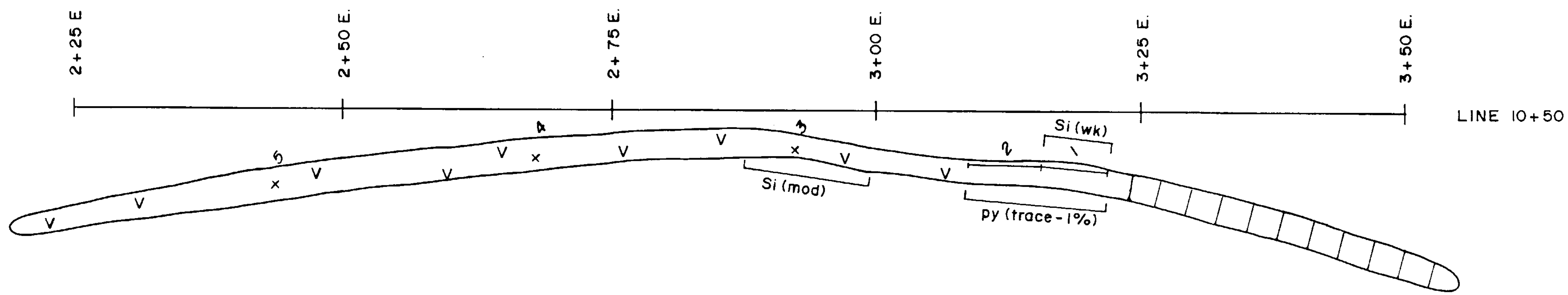
INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T43

LINE 8+50 N.
3+50E to 4+00E.

MINCORD EXPLORATION CONSULTANTS LIMITED

Date September/89	N.T.S. 93 N/6	
Scale 1:500	Figure	
By		



0 5 10 15 25m

SCALE 1: 500

Sample No.	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)	Width(m)
1	25	16	0·10	1	1·0
2	198	5	0·20	2	1·0
3	7	11	0·10	3	(Grab)
4	63	7	0·10	2	(Grab)
5	173	3	0·10	13	(Grab)

EASTFIELD RESOURCES LTD.

INDATA PROJECT

Omineca M.D., B.C.

TRENCH 89-T45
LINE 10+50S
2+25E to 4+00E

EXPLORATION CONSULTANTS LIMITED

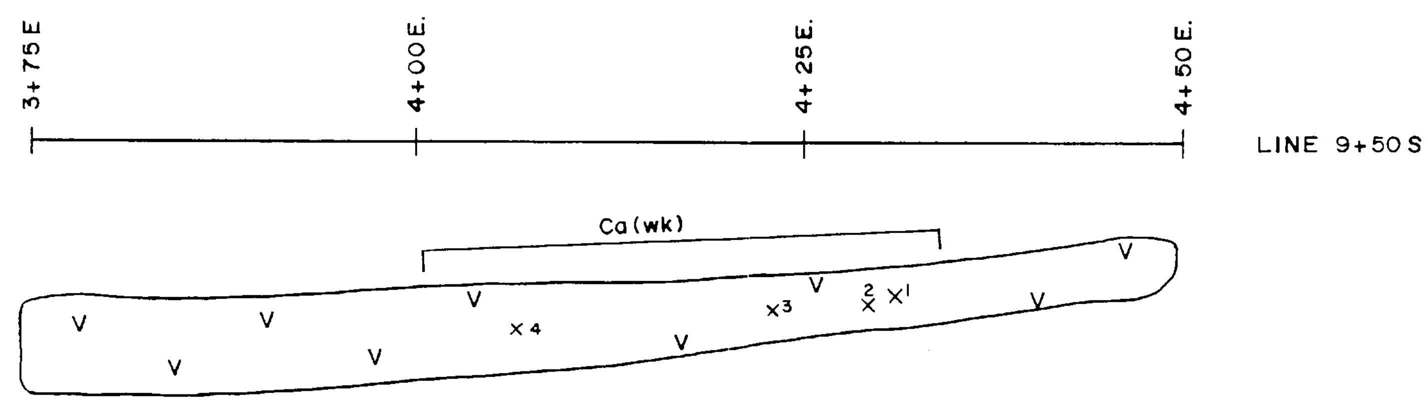
Date September/89

N.T.S. 93 N/6

Scale 1:500

Figure

By



Sample No.	Cu(ppm)	As(ppm)	Ag(ppm)	Au(ppb)	Width(m)
1	10	4	0·10	1	(Grab)
2	39	11	0·10	3	(Grab)
3	31	23	0·10	2	(Grab)
4	42	40	0·10	1	(Grab)

10 0 5 10 20

SCALE 1:500

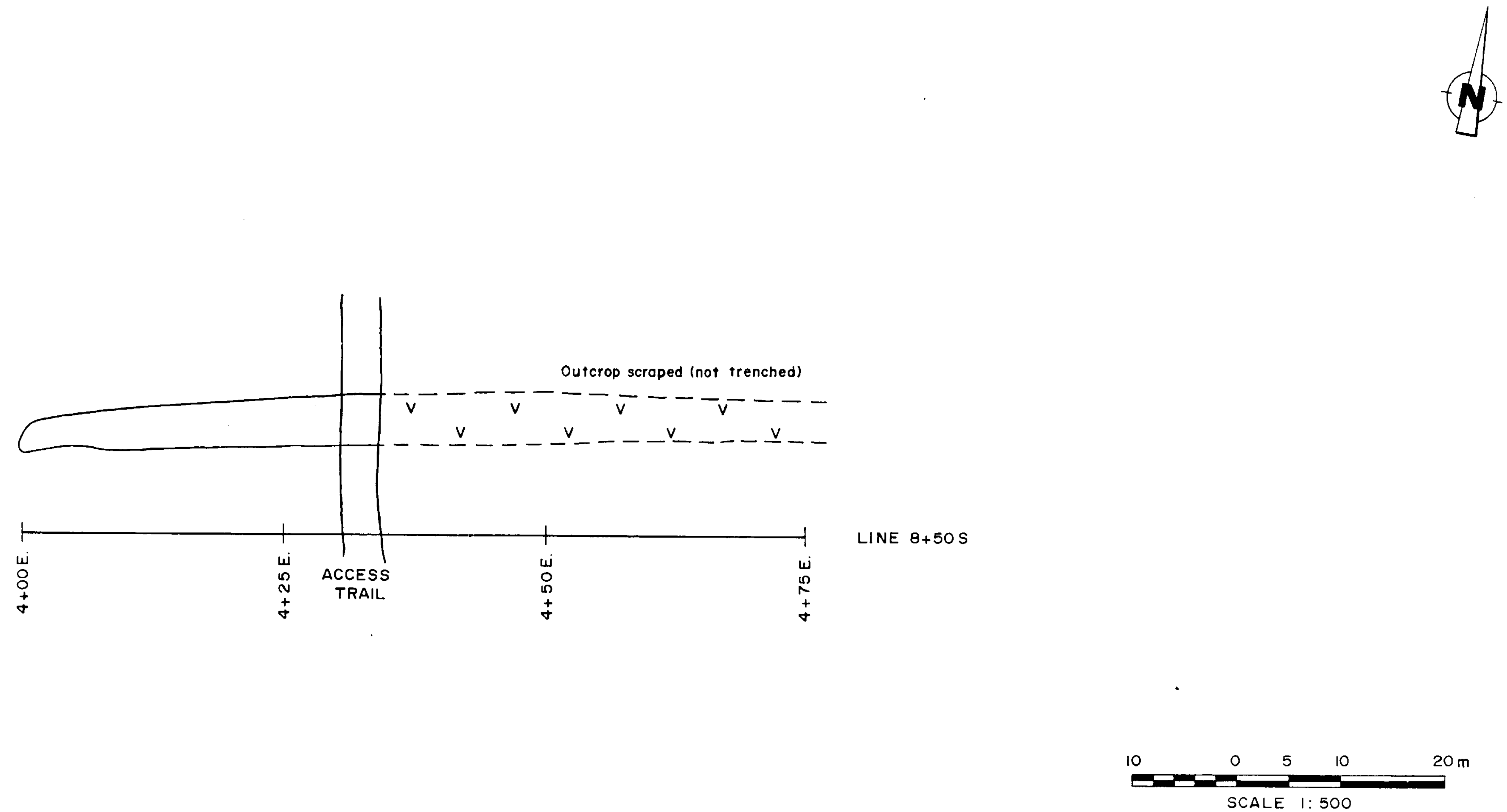
EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T46
LINE 9+50S
3+75E to 4+50E.

MINCORD EXPLORATION CONSULTANTS LIMITED

Date: September/89
N.T.S.: 93 N/6
Scale: 1:500
Figure:
By:



EASTFIELD RESOURCES LTD.

INDATA PROJECT
Omineca M.D., B.C.

TRENCH 89-T47
LINE 8+50 S
4+00E to 4+75E

EXPLORATION CONSULTANTS LIMITED

Date	N.T.S.
September/89	93 N/6
Scale 1: 500	Figure
By	