

LOG NO:	DEC 1 8 1992	RD.
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**ASSESSMENT REPORT**  
**GEOLOGY, GEOCHEMISTRY, GEOPHYSICS AND TRENCHING**  
**ON THE**  
**McCARTHY PROPERTY**  
**KAMLOOPS MINING DIVISION**  
**LATITUDE 51° 32' LONGITUDE 120° 06'**  
**NTS 92P/9E**

**GEOLOGICAL BRANCH**  
**ASSESSMENT REPORT**

**22,686**

**OWNER:** Martin Peter

R. Farmer

**OPERATOR:** Teck Exploration Ltd

November, 1992

## SUMMARY

The McCarthy Property consists of the McCarthy 1-3 claims totalling 21 units. The property is located east of the North Thompson River, approximately 20 kilometres south of Clearwater, B.C.

The 1992 program consisted of 1:5000 scale mapping of the claims area, 1:2500 scale grid mapping, grid controlled soil and magnetic surveys and trenching. The purpose of the program was to trace massive sulphide mineralization recently discovered in a hand trench by the property owner, Martin Peter.

Mapping determined that the claims are underlain by massive basalt and related coarse grained dioritic dykes and sills as well as chert of the Mississippian-Permian Fennell Formation. Intensely chloritized basalts host the massive sulphide mineralization.

Soil sampling failed to identify the known mineralization and anomalies present likely do not reflect a bedrock source. Overburden in the grid area was found to be largely glacial outwash, which effectively masks any geochemical signature.

The magnetic survey identified the known mineralization but the signature is complex. Anomalies are short and discontinuous, and internally consist of a complex mixture of highs and lows. The magnetic response reflects the variable content of magnetite and pyrrhotite, and also the erratic distribution of massive sulphide fragments. A more consistent response at the South Zone, may indicate more consistent mineralization in this area.

A total of four trenches and one small test pit were excavated to test the strike extent of known mineralization. The discovery hand trench was also mapped and sampled. Results indicate that the massive sulphide mineralization occurs as fragments and discontinuous bands within a prominent NNW trending fault zone. Best results include; 6.6m @ 1.1% Cu, including 1.0m @ 2.24% Cu; 315 ppb Au from the discovery hand trench; and a grab sample of massive sulphide from Trench C which assayed 9.35% Cu, 0.012opt Au. The area of the main showing has been adequately tested, however the South Zone warrants further work.

## **RECOMMENDATIONS**

Recommendations at this point, are restricted to the South Zone:

1. Expand the grid and magnetic coverage at the south zone to completely delineate the anomaly identified during the 1992 program.
2. Trench the magnetic anomalies. Close spaced trenches (50m) are recommended to allow for adjustments due to structural complexity.

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## **INTRODUCTION**

During October and November 1992, an exploration program was carried out on the McCarthy Property south of Clearwater, B.C. Exploration was carried out to search for massive sulphide mineralization, and was prompted by the new discovery of copper occurrences by the owner, Martin Peter, hosted by basalts of the Mississippian-Permian Fennell Formation.

Grid controlled magnetometer and soil surveys, geological mapping and trenching comprised the exploration program.

This report will describe the work done and present an interpretation of the results.

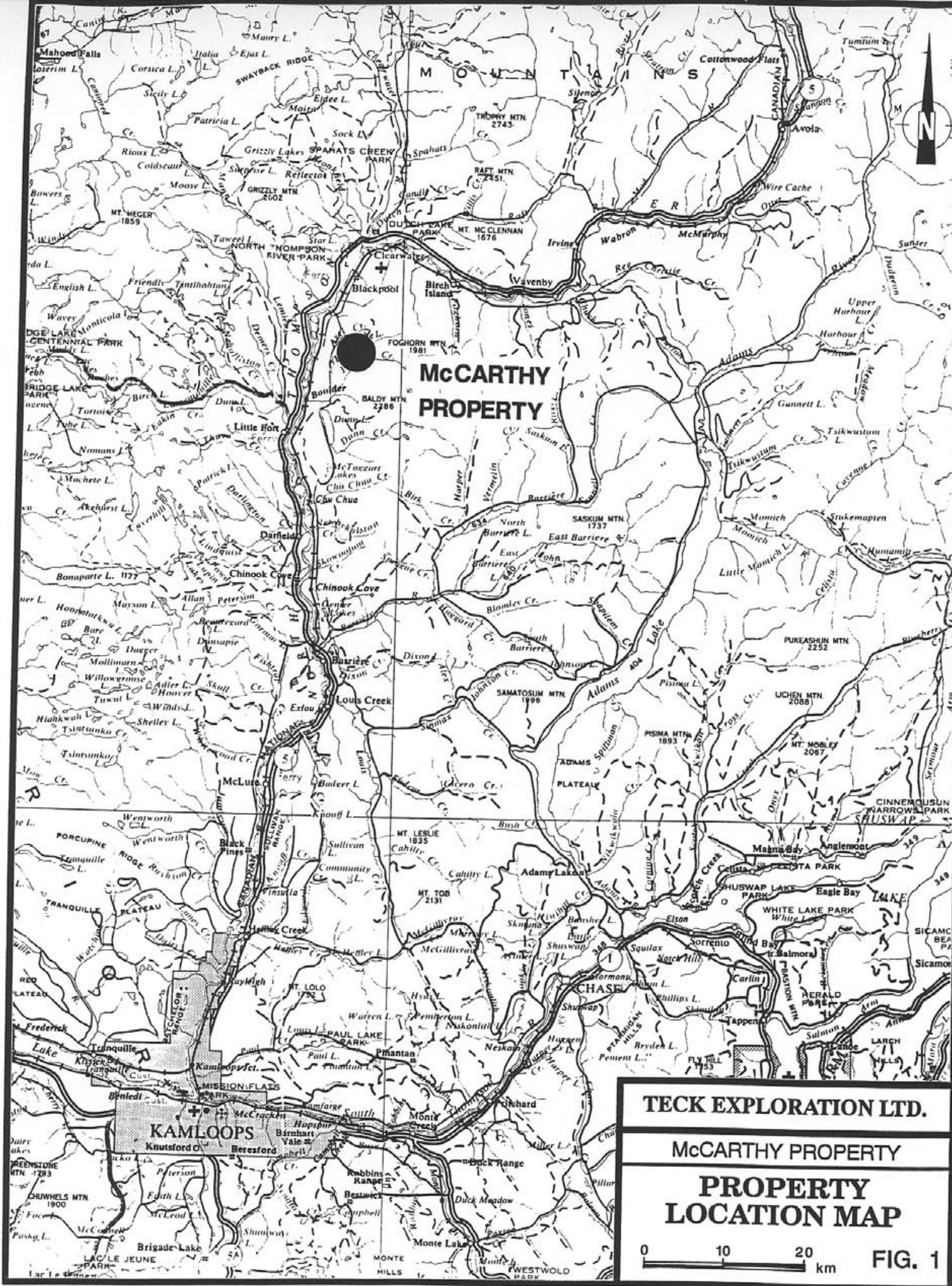
## **LOCATION AND ACCESS**

The McCarthy Property is located approximately 20 kilometres south of Clearwater, B.C. (figure 1). Access is gained by following the Dunn Lake road for twenty kilometres south of Clearwater, then turning left onto the McCarthy Mountain microwave tower road. The western boundary of the property is approximately two kilometres along this road. The main area of exploration described in this report is a further 0.5km along the road. A series of old logging roads and skid trails provides fair access to the main grid area of the property.

The claims lie along the lower portions of the main west - sloping ridge, east of the North Thompson River. Elevations on the property vary from 2900ft (885m) along the west boundary, to 4000ft (1220m) along the east boundary. Topography is moderately steep, and occurs as a series of steps and benches. Most of the property has been selectively logged of conifers, sometime in the past, leaving a relatively open forest of birch and poplar, with moderate to thick alder undergrowth.

## **CLAIMS**

The property is comprised of the McCarthy 1-3 claims for a total of 21 units (figure 2). Martin Peter, of North Vancouver is the registered owner of the claims. A summary of claim statistics is presented below.



**McCARTHY PROPERTY**

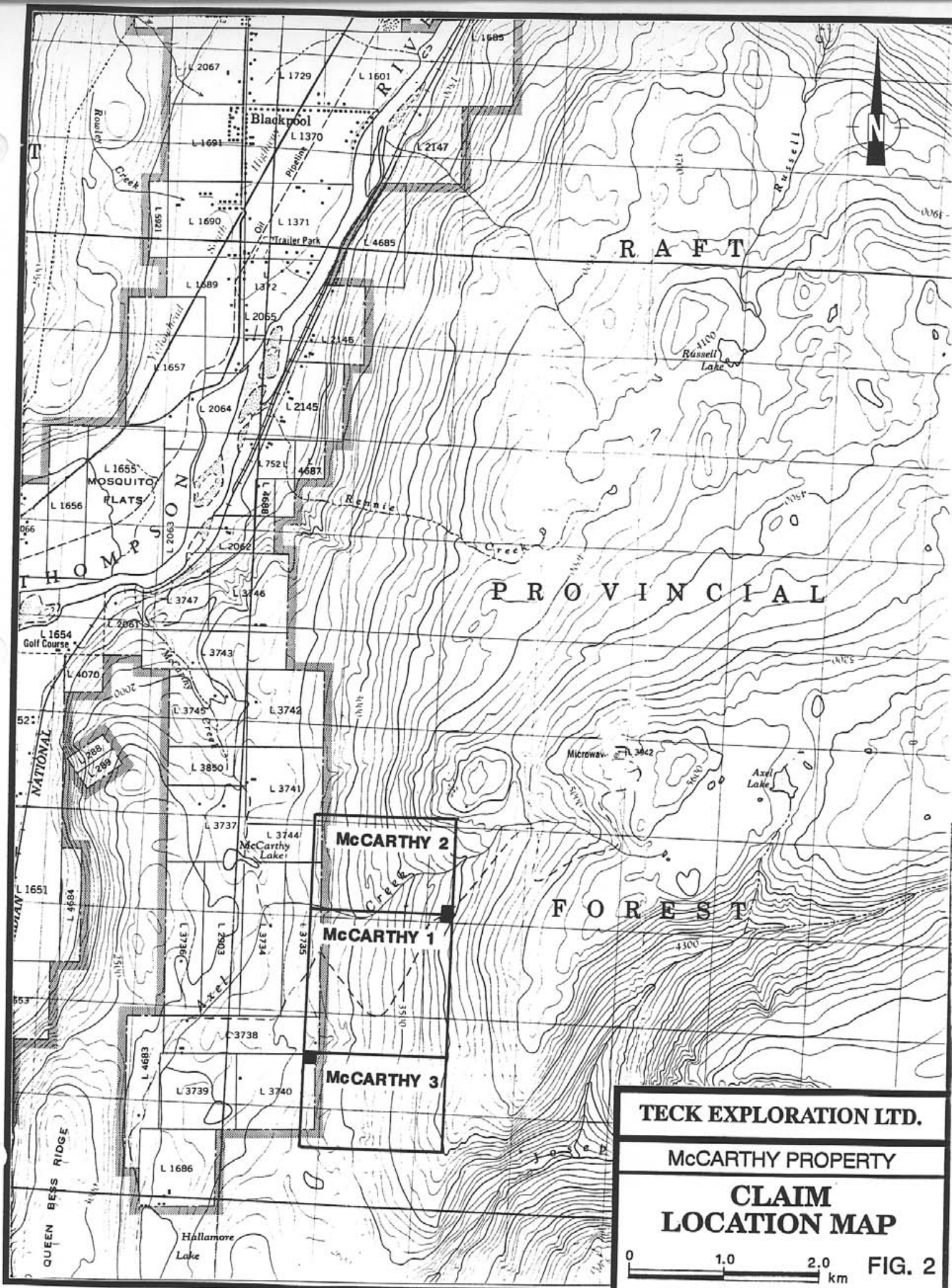
**TECK EXPLORATION LTD.**

**McCARTHY PROPERTY**

**PROPERTY LOCATION MAP**

0 10 20 km **FIG. 1**





R A F T

P R O V I N C I A L

F O R E S T

**McCARTHY 2**

**McCARTHY 1**

**McCARTHY 3**

**TECK EXPLORATION LTD.**

**McCARTHY PROPERTY**

**CLAIM  
LOCATION MAP**

0 1.0 2.0 km **FIG. 2**

<b>TABLE 1: CLAIM STATISTICS</b>				
<b>CLAIM NAME</b>	<b>RECORD NUMBER</b>	<b>NUMBER OF UNITS</b>	<b>OWNER</b>	<b>EXPIRY DATE*</b>
McCarthy 1	311484	9	Martin Peter	June 26/99
McCarthy 2	311485	6	Martin Peter	June 26/99
McCarthy 3	311845	6	Martin Peter	August 1/99

**Total: 21 Units**

- \* Expiry Date Based on Acceptance of this Report
- \* Grouped as the McCarthy Group

### **PREVIOUS WORK**

In 1979 Craigmont flew a Dighem III survey covering all of the Fennell Formation between Barriere and Clearwater, B.C., including the McCarthy claims area.

During 1988 Kerr Addison Mines Ltd carried out a prospecting and rock sampling program in the Joseph Creek area and this program covered part of the area presently covered by the McCarthy Claims. This program discovered a showing of stringer and fracture fill Py-Po-Cp in what is now the Main Grid area of the McCarthy property.

In 1992 the property owner, Martin Peter established a grid and carried out a prospecting style magnetometer survey centered in the area of the Kerr Addison showing. Hand trenching of magnetic anomalies was then carried out which discovered more significant, massive sulphide mineralization, 50 metres north of the Kerr Addison showing.

In September, 1992 Teck Corporation optioned the McCarthy Claims from Martin Peter.

There is no record of any other exploration having been carried out in

the area covered by the McCarthy claims.

## **1992 PROGRAM**

During October and November 1992, Teck carried out a program consisting of; re-establishing a portion of a previous grid, grid and limited property scale geological mapping, a ground magnetic survey, soil survey and, trenching. The purpose of the program was to better define and better expose a recently discovered massive sulphide showing.

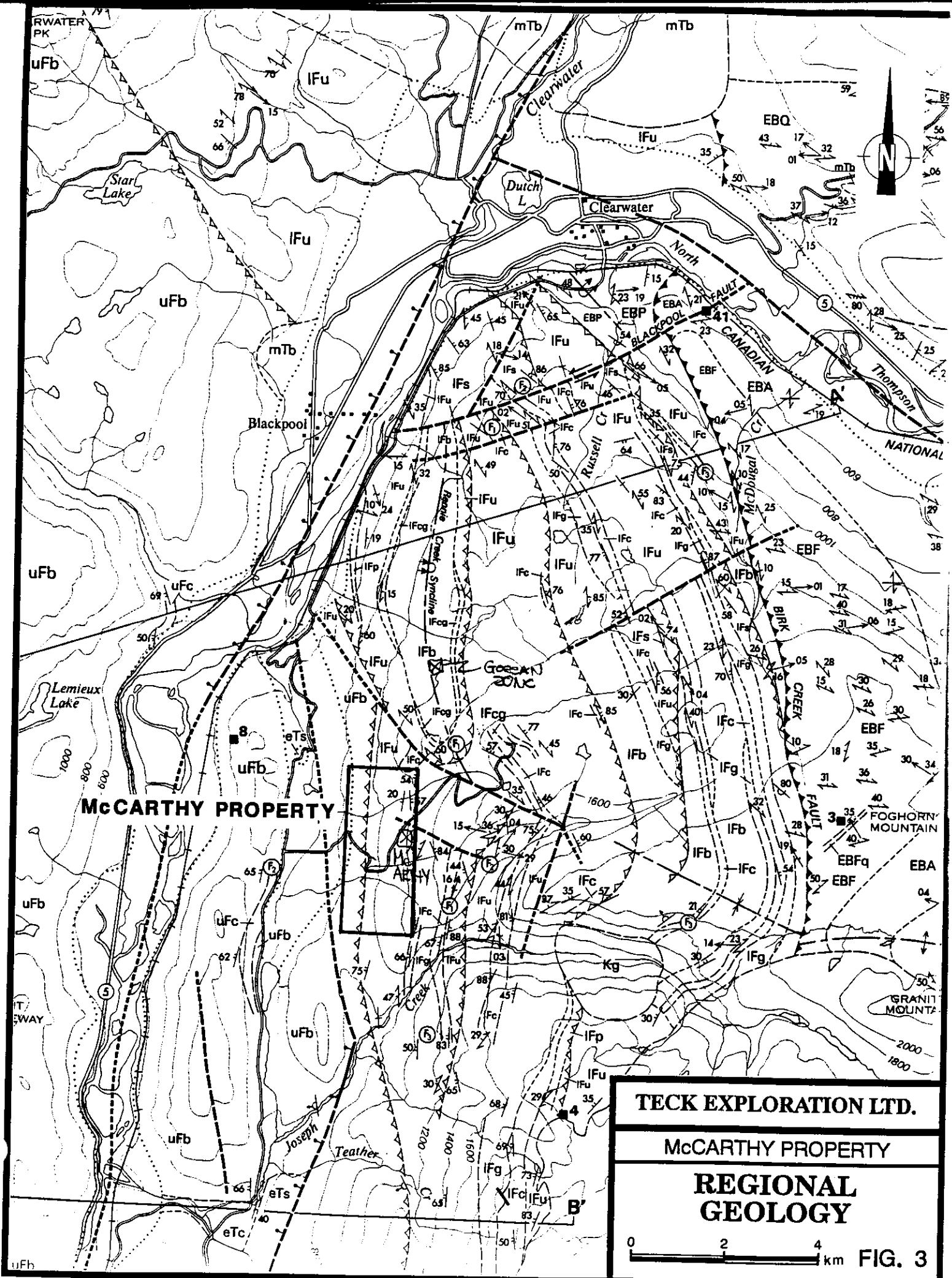
At the completion of the program described above the trenches were back filled and water bars constructed to prevent erosion. The trench sites were also fertilized (13-16-10) and seeded (forestland mixture #1).

## **GRID PREPARATION**

A grid was previously established on the property and, as such, only re-flagging and re-chaining to permit slope correction (not performed on original grid), were required. A total of 8.4 line kilometers were re-chained and re-flagged. Grid lines were spaced at 50 metre intervals with stations established every 25 metres, utilizing compass and topofil and an inclinometer to correct for slope. Lines are flagged and stations marked on tyvex tags. The grid location is shown on figure 4.

## **GEOLOGY**

The best summary of the regional geology is provided by Schiarizza and Preto (1987). The claims area is underlain by rocks of the Mississippian-Permian Fennell Formation (figure 3). Dominant lithologies are massive to pillowed basaltic flows, with subordinate chert, argillite and conglomerate. The Fennell Formation is divided into upper and lower structural divisions, generally separated by a thrust fault. Cherts, argillites and conglomerate are generally more abundant in the lower structural division. The boundary between the upper and lower divisions is mapped as passing through the center of the



McCarthy Property and through the main grid area (Schiarizza and Preto, 1987). Figure 3 shows the McCarthy claims in relation to the regional geology as mapped by Schiarizza and Preto.

Outcrop exposure is poor on the McCarthy Property and is generally restricted to roads and creeks. During the current program geological mapping was carried out along the various roads in the property area and along Axel Creek, which traverses the central portion of the property (figure 4). This reconnaissance scale mapping was undertaken to assess the overall regional aspects of the geology in the area covered by the claims. Detailed mapping was then carried out over the re-established grid area (figure 5).

In the claims area massive, featureless basalt is the dominant lithology. Locally the basaltic rocks are coarse grained and likely represent dykes or sills, possibly feeders for overlying flows. Thin bedded chert is present locally, mainly in Axel Creek near the eastern claim boundary and in the south-central portion of the property. Based on the cherts, the stratigraphy generally strikes north-south and dips moderately to the east (30-50°). Local bedding dip reversals indicate folding, however insufficient data is available to interpret fold geometry.

## **a) LITHOLOGY**

### **UNIT 1**

Map unit 1 consists of chert. Chert has been identified in several areas on the property including; along Axel Creek near the western property boundary, in the south-central part of the property, on the main grid near the baseline between lines 101+00N and 102+00N as well as at 101+50E at lines 98+50 to 99+00N. Cherts are grey to green in colour and massive to thinly bedded. They seem to occur as both continuous units and as discontinuous lenses of interflow sediment within basalts. This latter mode of occurrence is likely the case for cherts along the baseline on the main grid (fig ). Bedding reversals indicating folding are only observed in cherts.

## **UNIT 2**

Unit 2 consists of massive, featurless basalt. Basalts are fine to locally medium grained, and dark green in colour. Narrow zones of flow breccia or pillowed and variolitic basalt are present, but widespread featureless basalt is distinctive of this unit. Basalts are often altered, usually displaying variable development of epidote and chlorite. When altered basalts usually contain 1-2% disseminated pyrite or pyrrhotite. Most of the McCarthy Property is underlain by Unit 2 basalts.

## **UNIT 3**

Microfeldspar-porphry dyking of Unit 3 was only observed in Trench C. The dykes are very fine grained, light grey in colour and very siliceous. Fine white feldspar phenocrysts 1-2mm in size are locally visible. This unit is present as a north-trending dyke 1.5-2.0 metres thick in the eastern end of Trench C. The dyke is strongly pyritized (2-5%), and contains local, rare malachite and chalcopyrite. Basalts near the dyke are bleached, silicified and pyritized, possibly indicating that the dyke and basalt have been similarly altered and mineralized. This could be, at least in part, the cause of the very siliceous nature of the dyke. Dykes of this type, where altered and mineralized, could possibly be related to the widespread alteration and mineralization within the strongly faulted, trenched area.

## **UNIT 4**

Unit 4 consists of medium to coarse grained, massive basaltic rocks. These rocks are only distinguishable from basalts of Unit 2 by grain size. The rocks are characterized by large, amorphous masses to local euhedral crystals of white feldspar and green mafic minerals. Mafic minerals seem to consist of both pyroxene and amphibole, although pyroxene is the most common. Rocks of this unit are believed to be dykes and/or sills, and are probably feeders for overlying flows. The high pyroxene content, though not verified petrographically, suggests a somewhat alkalic composition.

## **UNIT 5**

Units 1-4 are all part of the Lower Structural Division of Preto and Schiarizza. Map unit 5 is part of the Upper Structural Division and consists of pillowed and variolitic basalt. Breccias and pillow breccias are present occasionally, as are local zones of massive basalt. This unit is distinguishable from basalts of Unit 2 by the characteristic widespread presence of pillows and variolites. Pillows are characteristically a few ten's of centimetres to over a metre in size, although none were seen on the property. Near the landing along the western part of the main grid, an area of exposure consisting of flow breccia, possibly, in part pillow breccia, is present. These rocks may be part of Unit 5, although additional exposure is not present to confirm this. This is the only area on the property which may be part of the Upper Fennell sequence, although the pillowed flows are known to occur further west in the valley bottom.

### **b) STRUCTURE**

Due to the inherent massive, featureless nature of the basalts and the generally poor exposure on the property, the structure is not well understood. Bedding dip reversals in chert in Axel Creek suggest folding, however exposure is too poor to allow interpretation of fold geometries. Several north trending faults are present and represent the main structural features identified on the property. A north trending brittle structure, indicated by brecciated chert is present at 101+50E on the main grid between lines 98+00N and 99+00N. The fault is poorly exposed, however altered basalts and intrusives further to the north could reflect a continuation of the structure.

Faulting was exposed by trenching along the baseline on the main grid. A north to northwest trending zone of intense shearing and brecciation was exposed, which can be up to 30 metres wide. The zone appears to have a shallow to moderate east dip (20°-50°). Intense alteration and pyritization are associated with this structure. In the area of Trench B this fault zone appears to be offset, with a right lateral sense of displacement, by a east to northeast trending fault. The main north trending structure may be related to thrusting, largely due to the shallow dips as a sense of movement was not discerned. Mapping by Schiarizza and Preto (1987) shows a northeast directed thrust fault

trending through the grid area (figure 3), and the north trending fault exposed by trenching could represent back thrusting related to this structure.

### **c) MINERALIZATION**

As mentioned above, silicified basalt with pyrite, pyrrhotite and chalcopyrite mineralization was previously known on the property. Prospecting by the current owner discovered better mineralization north of the known occurrence. The newly discovered mineralization is hosted by chloritic basalt and consists of bands, to 20cm thick, of massive pyrite with chalcopyrite, pyrrhotite and magnetite in a quartz gangue.

In general, trenching in the area exposed broad areas of disseminated pyrite and pyrrhotite associated with silicification and faulting. Trenching also exposed local zones of fragments and/or disrupted bands of massive sulphide. Fragments of massive sulphide are quite variable in size, the largest being about 1x0.5 metres. Fragments are aligned parallel to the fault trend and tend to be concentrated within a zone several metres thick. Field relationships imply that silicification and widespread pyritization may be related to the later faulting, while chloritization and massive mineralization may have been pre-existing and disrupted and brecciated by later faulting. As evidence of this, the fault zone is not chloritized and does not contain significant copper mineralization. Both massive copper-bearing mineralization and intense chloritization occur only as pods or fragments within the fault zone. Sample locations are plotted on the geology and trench maps and results are listed in Appendix III.

### **MAGNETOMETER SURVEY**

During October, 1992 a magnetic survey was run over the grid on the McCarthy Property. Although magnetics had been run previously over the grid area, an examination of the showing and the previous magnetic data indicated that due to the relatively small target size, more detailed, properly corrected magnetics would be required to delineate mineralization. As such, readings were taken every 12.5 metres on slope corrected lines 50 metres apart. A total of 7.8 line kilometres on the Main Grid and 0.6 line kilometres on the South Grid (see figure 4), were surveyed in this manner. A Geometrics model G-816 proton procession magnetometer was used for the survey. Base stations were established and measured periodically throughout the day. The magnetic data



was corrected for diurnal variation. Readings taken on the South Grid were also corrected relative to stations on the Main Grid, so that the data from both grid areas could be compared directly. The background is approximately 57,600 gammas and on figure 6, for ease of plotting, 57,000 should be added to the plotted values to obtain the true magnetic value in gammas. Contouring on the map identifies anomalies, both positive and negative.

On the main grid, anomalies up to +500 gammas above background are present, however the anomalies are small with an erratic distribution. The new showing, which is at L100+00N - 103+00E has a complex magnetic signature consisting of two narrow highs separated by a low. The complex signature is likely due to the complex distribution of mineralization where erratic bands and pods of sulphides are separated by weak to non-mineralized basalt. Mineralization also contains an erratic distribution of pyrrhotite and magnetite. This magnetic anomaly extends 100 metres to the north and was tested by trench C. In trench C, a fault zone containing pods or fragments of massive sulphide underlies the magnetic anomaly. Trenching further north and south, where significant magnetic anomalies are not present, did not expose significant mineralization. Magnetism seems to identify mineralization, but is complex due to erratic distribution of mineralization. Apparently a sufficient quantity of massive sulphide fragments must be concentrated to generate an anomaly.

Three short lines were surveyed with magnetism on the south grid to test an area of alteration and weak mineralization very similar to that seen flanking the massive sulphide mineralization on the main grid. A prominent high, which ranges up to +2400 gammas, has a similar narrow trough-like magnetic low trending NNW through it. The magnetic anomaly is more continuous than those seen on the main grid and is open along strike to the north and south. The apparent continuity of the anomaly suggests that any mineralization present may be more continuous. A second magnetic anomaly is present on the eastern part of the northernmost line (L90+00N). This anomaly is open to the north but the cause is unknown.

## **SOIL SURVEY**

A total of 352 soil samples were collected from the grid. Soils were collected at 25 metre intervals along the grid lines. The 'B' horizon was sampled whenever possible. All samples were placed in Kraft paper bags and sent to Eco-Tech Labs in Kamloops, B.C. where they were analysed for 30 elements by ICP and gold by atomic absorption. Results for copper, gold, silver, manganese and iron are plotted on figures 7 to 11, and the remainder of the

results are included in Appendix III. Grid station numbers were used as sample numbers and since these are self explanatory a sample location map is not necessary.

In general, the soils in the grid area were found to be composed primarily of sandy fluvio-glacial deposits, and as such, often do not reflect local bedrock conditions. Glacial till and residual soil are present locally and when present provide a much more meaningful soil response. The data was evaluated statistically for the five elements plotted. Statistically calculated anomalies are the same as visually obvious anomalies. On figures 7 to 11 the anomalous thresholds used are as follows; copper-100ppm; gold-20ppb; silver-1.0ppm; iron-4.0%, and; manganese-1000ppm.

Copper results (figure 7), generally show an erratic distribution of local anomalies. It is particularly apparent that the known surface mineralization, located at the 'Hand Trench' and 'Kerr Addison Showing' points on fig. 7, is not reflected at all in soils. This casts immediate doubt on the validity of the current soil response. The more significant anomalies are numbered 1-5 on figure 7. Anomaly 1 has a north trend and extends for a minimum of 150 metres, with peak values in the 200ppm range. This anomaly overlies outcrop of rusty, brecciated and pyritized chert indicative of a north trending fault. Although copper mineralization was not noted, the general association of weak mineralization with faulting in the area suggests that anomaly 1 is likely valid and indicative of the fault. Anomaly 2 is a single point, high contrast response located downslope from known mineralization. The soil is residual in nature at this site and a test pit dug upslope of the pit identified ferricrete with malachite mineralization. Anomaly 3, at the north end of the grid, is a moderate contrast anomaly trending off the grid. The anomaly overlies outcrop of altered basalt and dyking, although mineralization was not observed. This anomaly also occurs at a base of slope location. This is not a priority target for followup. Anomaly 4 is a high contrast response at the west end of the grid. It is coincident with weak Fe, Mn, Ag, Au responses and may be a valid anomaly. Bedrock is not present in the area. Anomaly 5, in the south grid area consists, from the limited data available, of a number of erratic one or two station anomalies. The responses surround an area of weak copper mineralization in outcrop, and a strong magnetic anomaly whose response is similar to the main showing. More sampling is warranted in this area to determine if the responses form a recognizable glacial dispersion pattern.

The gold in soils (figure 8) shows a scattering of weak, single point anomalies, and as such little validity can be accredited to the pattern. Random highs within the predominately glacial overburden is the likely cause.

In the case of iron (figure 9), a scattering of one or two station anomalies

is again the dominant pattern. Anomaly 1 is coincident with copper anomaly 4, possibly indicating a mineralized source. A more residual type soil in this area with a better developed B horizon could also explain the apparent anomalous appearance of these samples. Anomaly 2 overlies an area of abundant outcrop (shallow local soil?), of altered, pyritized basalt and may be reflecting the local iron enriched bedrock.

Manganese (figure 10), generates a scattering of amoeba-like anomalous responses. This pattern likely represents overburden composition. The single point, highly anomalous response of anomaly 1 is coincident with copper anomaly 4. Anomaly 2 is coincident with copper anomaly 3, but is not distinguishable from other scattered Mn anomalies.

The few scattered, weak silver anomalies (figure 11) are likely not significant. Anomaly 1, a two station response on line 102+50N is coincident with copper anomaly 4. Re-sampling to confirm the validity of this anomaly may be warranted.

The results of the soil survey are disappointing. Glacial outwash provides an effective mask, known mineralization is not reflected and anomalies present cannot be related to a mineralized bedrock source. A close examination of local soil types should be undertaken before any further soil programs are undertaken in this area. If outwash is the main soil type, extensive soil surveys are not worth undertaking.

## **TRENCHING**

A trenching program was carried out during the first week in November. Soils failed to be of assistance, but magnetics suggested that mineralization continued at least another 50 metres to the north of the mineralized hand trench. Four trenches were dug along the projected strike of mineralization to the north and south of the main showing. Trenches were planned to be approximately 50 metres apart but were located in open areas to minimize timber removal. A JD 290 excavator was utilized to dig a total of 145 metres in four trenches, plus a single test pit. On completion of the job the trenches and test pit were backfilled, water bars constructed and the sites seeded. The hand trench dug by the property owner, which exposes the main showing, was mapped and sampled and was left open at the owners request. Geology and sample locations are plotted on figures 12 to 16 and a geological compilation of the trenched area is also included (figure 17, in pocket). Selected trench sample results are shown on Tables 2-6, sample descriptions are included in

Appendix V, and certificates of analyses in Appendix III. Trench locations are shown on the Grid Geology map, figure 5.

### **1) TRENCH A** (Figure 12)

Trench A was established south of the Main showing and south of the Kerr Addison showing to test for a southern strike extension of mineralization.

Mafic volcanics were exposed over the entire length of the trench. The first 15 metres from the east side of the trench are altered mafic volcanics. Alteration consists of bleaching, silicification and pyritization (+ local pyrrhotite). Alteration produces a hard, light grey-green coloured basalt with 2-5% disseminated pyrite and local pyrrhotite. At 5-6 metres from the east end a fault zone is present. Within the fault, in the south wall of the trench, a narrow zone (0.5m) of semi-massive pyrite is present. Mineralization appears crudely banded and is very similar in appearance to mineralization at the main showing, with the notable exception that copper minerals are absent (see Table 2). Beyond 15 metres, and extending to the west end of the trench, the mafic volcanics are generally unaltered, although minor (1-2%) pyrite is still present.

### **2) TRENCH B** (Figure 13)

Trench B is located immediately north of L100+00N, about 10 metres north of the main hand trench showing.

Trench B exposed a large fault zone within mafic volcanics over much of its length. Much of the trench consists of intensely sheared and brecciated mafic volcanics, with only local zones of competent rock. A general north to northwest trend to shearing is apparent, however this trend is cut by later northeast trending gouge zones. Trench B seems follow an east-northeast trending fault. Only local, sporadic silicification, bleaching and pyritization were noted. Weak chlorite is developed along foliation planes near the west end. From 19-21 metres along the south wall of the trench, small pods or fragments of semi-massive sulphide are present. The fragments occur within a zone of strong shearing and brecciation. Semi-massive pyrite and chalcopyrite are hosted by silicified and chloritic basalt. The best result from this zone ran 7668ppm Cu over 1.4 metres (see Table 3). Trench B seems to have exposed a late fault zone, and thereby generally missed the main zone of alteration and

# LEGEND

## MISSISSIPPIAN-PERMIAN

### FENNEL FORMATION

#### UPPER STRUCTURAL DIVISION

**5** PILLOWED, VARIOLITIC BASALT, BASALT BRECCIA, PILLOW BRECCIA, LOCAL MASSIVE BASALT

#### LOWER STRUCTURAL DIVISION

**4** MEDIUM GRAINED, BASALTIC DYKES or SILLS, DIORITE

**3** SILICEOUS FELDSPAR MICROPORPHYRY DYKES

**2** MASSIVE BASALT, LOCALLY PILLOWED or VARIOLITIC

**1** CHERT, GREY-GREEN, LAMINATED TO THIN BEDDED LOCALLY MASSIVE

BEDDING, INCLINED

JOINTING

FOLIATION

BANDING

CLEAVAGE

THRUST FAULT

NORMAL or STRIKE SLIP FAULT

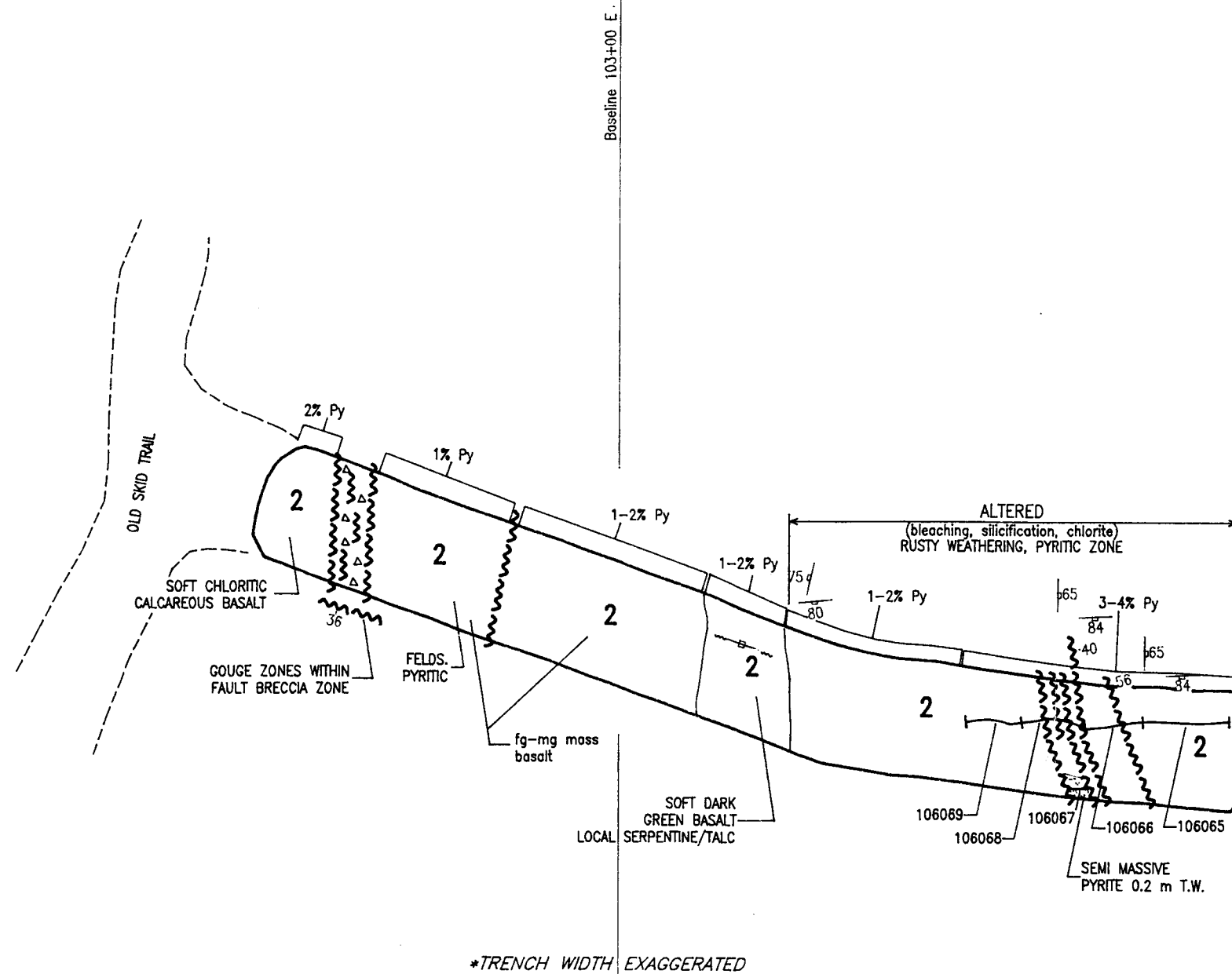
RELATIVE SENSE OF MOVEMENT INDICATED

MASSIVE SULPHIDE (usually bands)

SAMPLE No. and INTERVAL  
106157

#### ALTERATION MINERALS

ep  
chl  
sil  
bl  
Py  
Po  
Cp  
Mt



\*TRENCH WIDTH EXAGGERATED

Baseline 103+00 E

L 99+00 N  
103+00 E

L 99+00 N  
103+25 E

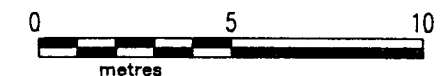
FIGURE 12



TECK EXPLORATION LTD.  
KAMLOOPS, BRITISH COLUMBIA

MCCARTHY PROPERTY

## TRENCH A Geology and Sample Locations



DATE DRAWN: DEC. 8, 1992	SCALE: 1:200	DWG. NAME: MCC-TRA
COMPILED BY: R.F.	JOB No: 1730	
DRAWN BY: S.A.	NTS No: 92P/9	

# LEGEND

## MISSISSIPPIAN-PERMIAN

### FENNEL FORMATION

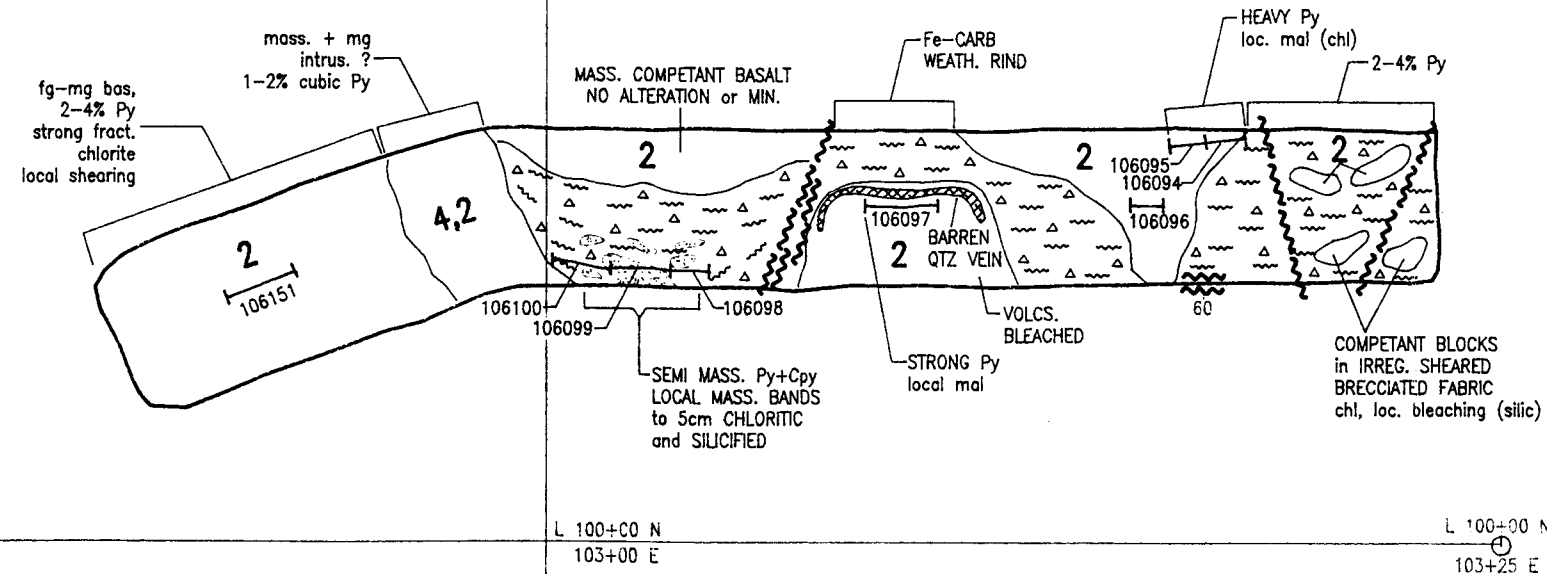
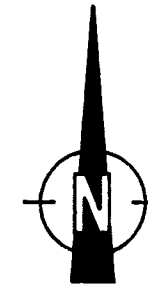
#### UPPER STRUCTURAL DIVISION

- 5** PILLOWED, VARIOLITIC BASALT, BASALT BRECCIA, PILLOW BRECCIA, LOCAL MASSIVE BASALT

#### LOWER STRUCTURAL DIVISION

- 4** MEDIUM GRAINED, BASALTIC DYKES or SILLS, DIORITE
- 3** SILICEOUS FELDSPAR MICROPORPHYRY DYKES
- 2** MASSIVE BASALT, LOCALLY PILLOWED or VARIOLITIC
- 1** CHERT, GREY-GREEN, LAMINATED TO THIN BEDED LOCALLY MASSIVE

- |  |                                      |                     |
|--|--------------------------------------|---------------------|
|  | BEDDING, INCLINED                    | ALTERATION MINERALS |
|  | JOINTING                             | ep                  |
|  | FOLIATION                            | chl                 |
|  | BANDING                              | sil                 |
|  | CLEAVAGE                             | bl                  |
|  | THRUST FAULT                         | Py                  |
|  | NORMAL or STRIKE SLIP FAULT          | Po                  |
|  | RELATIVE SENSE OF MOVEMENT INDICATED | Cp                  |
|  | MASSIVE SULPHIDE (usually bands)     | Mt                  |
|  | SAMPLE No. and INTERVAL              |                     |



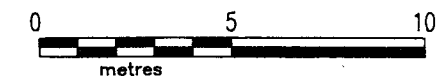
\*TRENCH WIDTH EXAGGERATED

FIGURE 13

**TECK EXPLORATION LTD.**  
KAMLOOPS, BRITISH COLUMBIA

McCARTHY PROPERTY

## TRENCH B Geology and Sample Locations



DATE DRAWN: DEC. 8, 1992	SCALE: 1:200	DWG. NAME:
COMPILED BY: R.F.	JOB No: 1730	MCC-TRB
DRAWN BY: S.A.	NTS No: 92P/9	

TABLE 2 - TRENCH A: SAMPLE RESULTS

SAMPLE NO.	LENGTH	COPPER PPM	ZINC PPM	SILVER PPM	GOLD PPB
106065	2.7m	179	43	<0.2	25
106066	2.0m	178	37	<0.2	20
106067	0.5m	462	45	0.2	65
106068	2.0m	457	52	<0.2	15
106069	2.0m	263	35	<0.2	15

TABLE 3 - TRENCH B: SAMPLE RESULTS

SAMPLE NO.	LENGTH	COPPER PPM	ZINC PPM	SILVER PPM	GOLD PPB
106094	1.0m	3727	976	1.0	85
106095	1.0m	1620	116	<0.2	45
106096	1.0m	176	103	<0.2	15
106097	2.0m	2151	133	0.6	60
106098	1.0m	2705	65	0.2	70
106099	1.4m	7668	91	1.2	65
106100	1.6m	395	64	<0.2	5
106151	2.0m	224	142	<0.2	5



mineralization.

### 3) TRENCH C (Figure 14)

Trench C is approximately 50 metres north of trench B and was dug to test the north end of a magnetic anomaly extending from the main mineralization in the hand trench, 100 metres to the south.

Similar to trenches A and B, trench C exposed intensely sheared and brecciated basalt. Narrow zones of grey-green chert are present at the east and west ends of the trench. Near the east end a narrow feldspar porphyry dyke intrudes basalt. The dyke is very siliceous (silicified?), strongly pyritized and shows trace malachite. Basalts locally display strong silicification, bleaching and pyritization similar to trench A. At 17.6-29.0 metres (from the east end), an intense shear zone with an apparent northwest trend is exposed. This shear zone contains fragments (or disrupted bands?), of massive sulphide. Sulphides consist of pyrite and chalcopyrite with local pyrrhotite and magnetite. Fragments are variable in size with the largest being approximately 0.5x1.0 metres, and are aligned along the apparent structural trend. Mineralization is hosted by intensely, pervasively chlorite altered basalt (also restricted to the fragments). Locally quartz veins occupying late east-west gouge zones are mineralized, possibly indicating some late stage remobilization. Massive sulphides often display a crude banding, and locally are very high grade copper (see Table 4). The shear zone has a shallow to moderate northeast dip (15°-50°). In spite of the apparent northwest trend, the shear zone and mineralization continue to occur at the baseline in most trenches. A possible explanation is that a NNW trending structure is offset by a ENE structure (ie: as seen in Trench B), which would imply a right-lateral sense of movement for the later ENE structure (figure 17). The shallow dip on the main NNW structure is suggestive of thrust faulting; if so this structure could be related to the major thrust mapped through the area by Schiarizza and Preto, (1987), perhaps backthrusting(?). The massive sulphide and related chloritized basalt only occur as fragments indicating early formation. It could represent early syngenetic mineralization disrupted by later faulting.

The best results from Trench C include; a grab of the massive sulphide fragments with 9.35% Cu, 0.021opt Au, and; 1.4 metres @ 2.22% Cu, 0.012opt Au (see Table 4 for complete results).

# LEGEND

## MISSISSIPPIAN-PERMIAN

### FENNEL FORMATION

#### UPPER STRUCTURAL DIVISION

**5** PILLOWED, VARIOLITIC BASALT, BASALT BRECCIA, PILLOW BRECCIA, LOCAL MASSIVE BASALT

#### LOWER STRUCTURAL DIVISION

**4** MEDIUM GRAINED, BASALTIC DYKES or SILLS, DIORITE

**3** SILICEOUS FELDSPAR MICROPORPHYRY DYKES

**2** MASSIVE BASALT, LOCALLY PILLOWED or VARIOLITIC

**1** CHERT, GREY-GREEN, LAMINATED TO THIN BEDDED LOCALLY MASSIVE

- |  |                                      |                     |
|--|--------------------------------------|---------------------|
|  | BEDDING, INCLINED                    | ALTERATION MINERALS |
|  | JOINTING                             | ep                  |
|  | FOLIATION                            | chl                 |
|  | BANDING                              | sil                 |
|  | CLEAVAGE                             | bl                  |
|  | THRUST FAULT                         | Py                  |
|  | NORMAL or STRIKE SLIP FAULT          | Po                  |
|  | RELATIVE SENSE OF MOVEMENT INDICATED | Cp                  |
|  | MASSIVE SULPHIDE (usually bands)     | Mt                  |
|  | SAMPLE No. and INTERVAL              |                     |

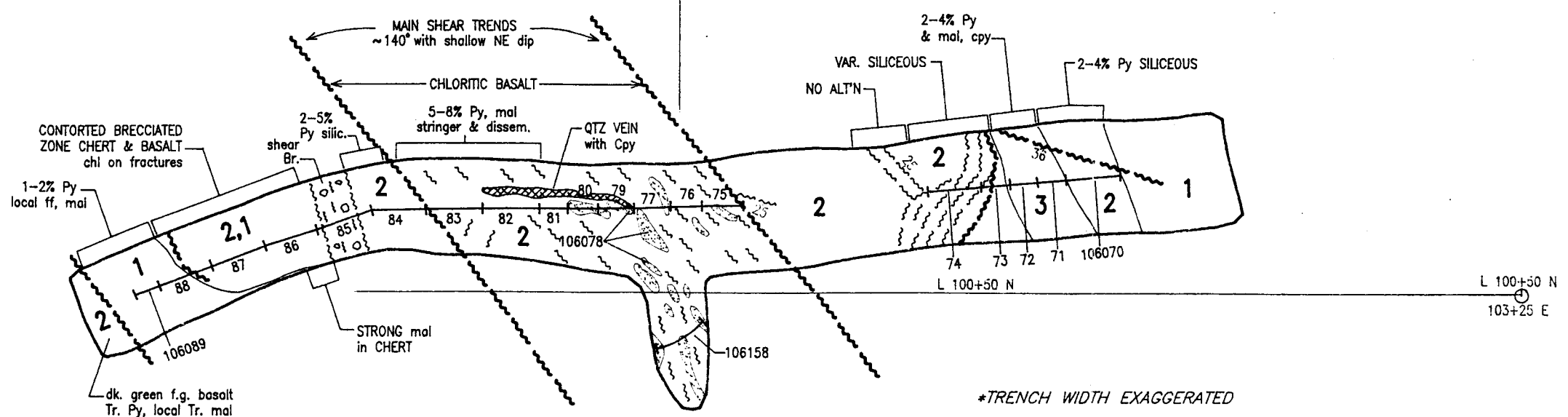
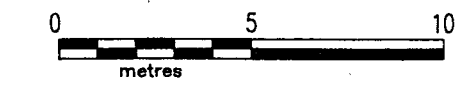


FIGURE 14

**TECK EXPLORATION LTD.**  
KAMLOOPS, BRITISH COLUMBIA

McCARTHY PROPERTY

## TRENCH C Geology and Sample Locations



DATE DRAWN: DEC. 8, 1992	SCALE: 1:200	DWG. NAME:
COMPILED BY: R.F.	JOB No: 1730	MCC-TRC
DRAWN BY: S.A.	NTS No: 92P/9	

TABLE 4 - TRENCH C: SAMPLE RESULTS

SAMPLE NO.	LENGTH	COPPER PPM	ZINC PPM	SILVER PPM	GOLD PPB
106070	2.0m	56	18	<0.2	15
106071	1.0m	262	16	0.2	20
106072	1.0m	321	32	0.2	15
106073	1.0m	395	35	0.2	10
106074	2.0m	366	51	<0.2	30
106075	1.4m	2.02%	140	1.4	140
106076	1.2m	4300	154	1.4	95
106077	1.4m	2.22%	0.15%	0.21opt	0.012opt
106078	GRAB	9.35%	0.45%	0.73opt	0.021opt
106079	1.4m	1.16%	2185	4.2	175
106080	1.0m	1.96%	781	5.4	240
106081	1.0m	6492	204	1.6	125
106082	2.0m	1.90%	182	3.8	80
106083	2.0m	1919	181	0.2	25
106084	2.0m	1086	104	<0.2	10
106085	2.0m	1609	151	<0.2	<5
106086	2.0m	1223	156	<0.2	5
106087	2.0m	792	214	<0.2	5

TABLE 4 - TRENCH C: SAMPLE RESULTS

SAMPLE NO.	LENGTH	COPPER PPM	ZINC PPM	SILVER PPM	GOLD PPB
106088	2.0m	1099	285	<0.2	5
106089	1.0m	403	70	<0.2	<5
106158	2.3m	1.40%	0.04%	0.10opt	0.006opt

#### **4) TRENCH D** (Figure 15)

Trench D was established approximately 50 metres north of Trench C to test the strike extent of the mineralized zone. A magnetic anomaly is not present in this area.

A narrow section of grey-green chert was uncovered near the east end of the trench. The chert contains 1-2% disseminated and fracture fill pyrite, and becomes sheared, brecciated and intercalated with mafic volcanics towards the western contact. The chert is thin bedded, with beds generally <5cm thick. A NNW strike with 40° west dip was measured. The remainder of Trench D is underlain by massive basalt. From the western boundary of the chert (at 8 metres) to 17 metres the basalt is bleached and silicified and contains an estimated 2% disseminated pyrite. A sheared zone is present from 17-19 metres and, west of the fault, the basalt is not altered, though 1-2% pyrite continues to be present. At the very west end of the trench basalts become somewhat chloritic, although no significant mineralization is present.

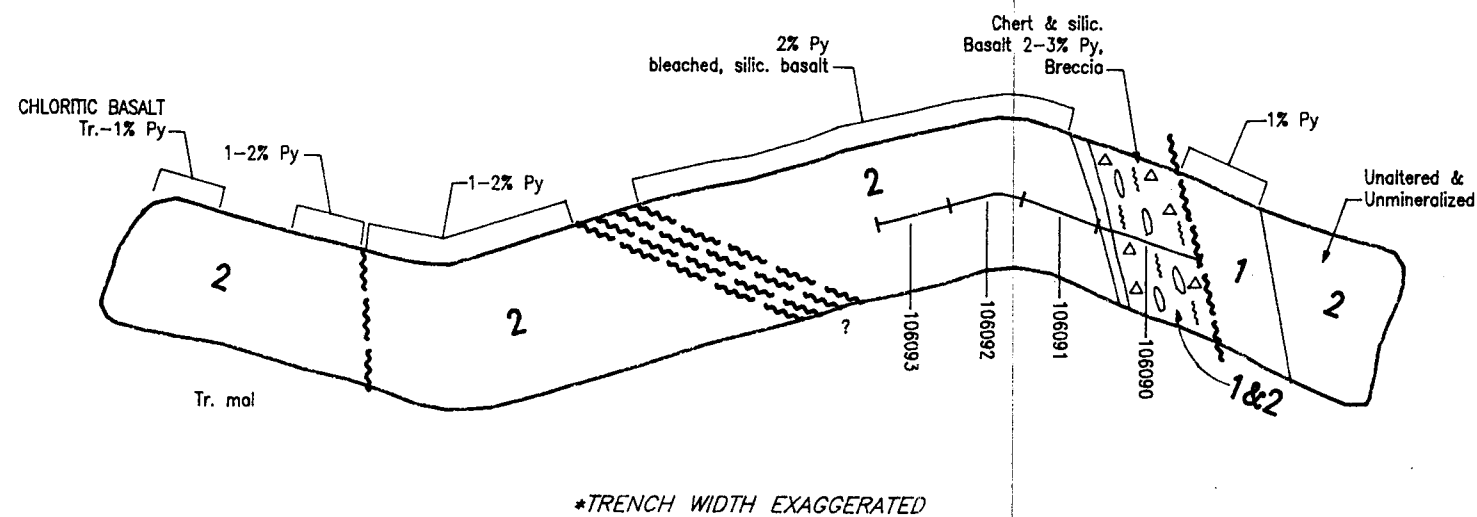
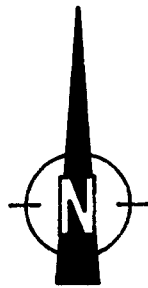
Four samples were collected of the most pyritic section of the trench. Significant results were not obtained (see Table 5).

A small (5m) test pit was dug south and west of the west end of Trench D, on L101+00N at 102+65E. The test pit was dug to test the strike extent of the NNW trending shear zone identified in Trench C at a point just upslope from a single station copper in soil anomaly (1106ppm). The test pit intersected a ferricrete zone which could not be penetrated. Minor malachite was noted in the ferricrete, which likely explains the soil anomaly. It is not clear if the ferricrete is related to underlying mineralization or to downslope migration of iron and copper from known mineralization.

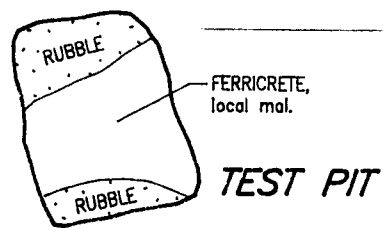
#### **5) HAND TRENCH** (Figure 16)

The Hand Trench had been previously dug by the property owner, is located near L100+00N - 103+00E, and constitutes the main showing on the property. The Hand Trench was mapped and sampled as part of the current program.

The trench exposes chloritic basalt with discontinuous bands and lenses of massive sulphide over the entire length of exposure (6.6m). Sulphides



\*TRENCH WIDTH EXAGGERATED



102+75 E

Line 101+00 N

Baseline 103+00 E

# LEGEND

## MISSISSIPPIAN-PERMIAN

### FENNEL FORMATION

#### UPPER STRUCTURAL DIVISION

**5** PILLOWED, VARIOLITIC BASALT, BASALT BRECCIA, PILLOW BRECCIA, LOCAL MASSIVE BASALT

#### LOWER STRUCTURAL DIVISION

**4** MEDIUM GRAINED, BASALTIC DYKES or SILLS, DIORITE

**3** SILICEOUS FELDSPAR MICROPORPHYRY DYKES

**2** MASSIVE BASALT, LOCALLY PILLOWED or VARIOLITIC

**1** CHERT, GREY-GREEN, LAMINATED TO THIN BEDDED LOCALLY MASSIVE

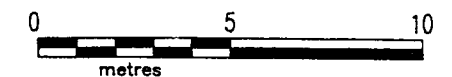
- |  |                                      |   |
|--|--------------------------------------|---|
|  | BEDDING, INCLINED                    | ALTERATION MINERALS<br>ep<br>chl<br>sil<br>bl<br>Py<br>Po<br>Cp<br>Mt |
|  | JOINTING                             |   |
|  | FOLIATION                            |   |
|  | BANDING                              |   |
|  | CLEAVAGE                             |   |
|  | THRUST FAULT                         |   |
|  | NORMAL or STRIKE SLIP FAULT          |   |
|  | RELATIVE SENSE OF MOVEMENT INDICATED |   |
|  | MASSIVE SULPHIDE (usually bands)     |   |
|  | SAMPLE No. and INTERVAL              |   |

FIGURE 15

**TECK EXPLORATION LTD.**  
KAMLOOPS, BRITISH COLUMBIA

McCARTHY PROPERTY

## TRENCH D Geology and Sample Locations



DATE DRAWN: DEC. 9, 1992	SCALE: 1:200	DWG. NAME: MCC-TRD
COMPILED BY: R.F.	JOB No: 1730	
DRAWN BY: S.A.	NTS No: 92P/9	

# LEGEND

## MISSISSIPPIAN-PERMIAN

### FENNEL FORMATION

#### UPPER STRUCTURAL DIVISION

**5** PILLOWED, VARIOLITIC BASALT, BASALT BRECCIA, PILLOW BRECCIA, LOCAL MASSIVE BASALT

#### LOWER STRUCTURAL DIVISION

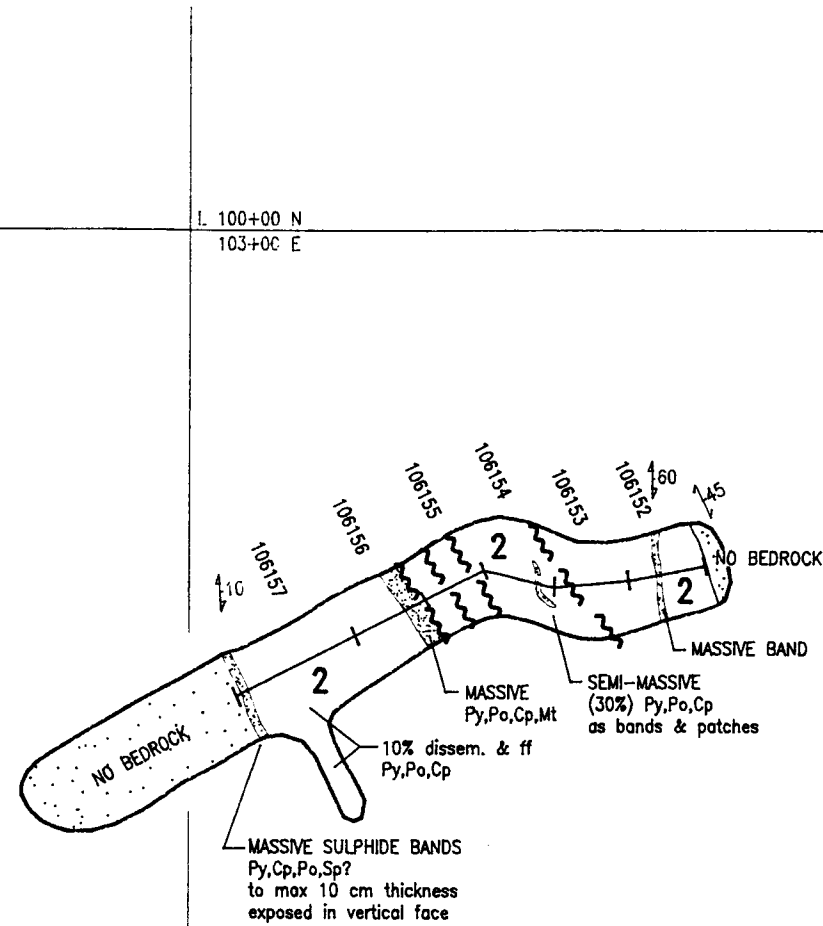
**4** MEDIUM GRAINED, BASALTIC DYKES or SILLS, DIORITE

**3** SILICEOUS FELDSPAR MICROPORPHYRY DYKES

**2** MASSIVE BASALT, LOCALLY PILLOWED or VARIOLITIC

**1** CHERT, GREY-GREEN, LAMINATED TO THIN BEDDED LOCALLY MASSIVE

- |     |                                      |                     |
|-----|--------------------------------------|---------------------|
| — — | BEDDING, INCLINED                    | ALTERATION MINERALS |
| — — | JOINTING                             | ep                  |
| — — | FOLIATION                            | chl                 |
| — — | BANDING                              | sil                 |
| — — | CLEAVAGE                             | bl                  |
| — — | THRUST FAULT                         | Py                  |
| — — | NORMAL or STRIKE SLIP FAULT          | Po                  |
| — — | RELATIVE SENSE OF MOVEMENT INDICATED | Cp                  |
| — — | MASSIVE SULPHIDE (usually bands)     | Mt                  |
| — — | SAMPLE No. and INTERVAL              |                     |



HOST ROCK THROUGHOUT TRENCH IS BASALT with INTENSE CHLORITE ALTERATION

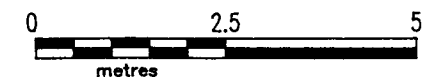
Baseline 103+00 E

FIGURE 16

TECK EXPLORATION LTD.  
KAMLOOPS, BRITISH COLUMBIA

MCCARTHY PROPERTY

## HAND TRENCH Geology and Sample Locations



DATE DRAWN: DEC. 4, 1992	SCALE 1:100	DWG. NAME: MCC-HAND
COMPILED BY: R.F.	JOB No: 1730	
DRAWN BY: S.A.	NTS No: 92P/9	

TABLE 5 - TRENCH D: SAMPLE RESULTS

SAMPLE NO.	LENGTH	COPPER PPM	ZINC PPM	SILVER PPM	GOLD PPB
106090	3.0m	69	18	<0.2	5
106091	2.0m	116	38	<0.2	75
106092	2.0m	106	43	<0.2	<5
106093	2.0m	130	27	<0.2	<5



TABLE 6 - HAND TRENCH: SAMPLE RESULTS

SAMPLE NO.	LENGTH	COPPER PPM	ZINC PPM	SILVER PPM	GOLD PPB
106152	1.0m	2.24%	477	7.2	315
106153	1.0m	9391	572	2.6	175
106154	1.0m	1.12%	0.11%	0.06opt	0.008opt
106155	1.0m	5763	511	1.6	145
106156	1.0m	1.14%	0.05%	0.08opt	0.009opt
106157	1.6m	1.16%	0.07%	0.08opt	0.004opt

consist of massive pyrite, locally coarse grained, with variable amounts of chalcopyrite, pyrrhotite and magnetite. Rare sphalerite was noted locally. Individual bands and lenses vary up to 20cm in thickness, have a north strike and variable east dip. A NNW trending shear zone is present in the centre of the trench and the large sulphide lense there could be a fragment. Where visible, the gangue is a dark grey coloured quartz. Bleaching and silicification are not present in the trench. The best result from sampling is 2.24% Cu, 315ppb Au over 1.0 metre; the entire trench however, averages 1.1% Cu over 6.6 metres (see Table 6).

## CONCLUSIONS

Reconnaissance geological mapping in the claims area indicates generally poor outcrop exposure. The claims are underlain by massive basalt and chert of the Lower Structural Unit of the Fennell Formation. The stratigraphy generally strikes north-south with 40°-60° east dips. Local dip reversals suggest folding, however exposure is too poor to allow interpretation. Semi-massive to massive sulphide mineralization hosted by basalt is present in the central portion of the claims and this area has been the focus of the current exploration program.

Detailed mapping in the grid area indicates that the eastern portion is underlain by coarse grained dioritic intrusions. These intrusive rocks are likely feeder dykes and sills for overlying flows. Most of the remainder of the grid area is underlain by fine to medium grained, massive basalt and local, narrow chert bands. These basalts host the known mineralization. In the extreme northwest corner of the grid an outcrop of basalt breccia, in part pillow breccia, may represent the Upper Structural Unit of the Fennell Formation.

A total of 352 soil samples were collected from the grid. Results are disappointing as anomalies are not associated with known mineralization, and anomalies present do not appear to reflect a bedrock source. The grid area was found to be covered primarily by glacial outwash, which effectively masks the geochemical signature.

A magnetic survey run over the grid indicates that mineralization is represented by a magnetic high, however the signature is complex. Mineralization at the known showing (Hand Trench), is represented by two narrow highs separated by a magnetic low. Anomalies have a short strike length. The magnetic signature is likely due to two factors; the erratic

distribution of the magnetic minerals pyrrhotite and magnetite within the sulphide mineralization, and; the erratic distribution of massive sulphide mineralization, due to faulting. In the South Zone portion of the grid a magnetic response similar to the showing area is present. The anomaly in this area appears much more extensive along strike, possibly indicating more continuous mineralization. Limited exposure indicates bleached, silicified, pyritic basalt similar to the showing area. Additional magnetics to trace off the anomaly, which is currently open to both the north and south, followed by trenching is warranted in the South Zone area.

Four trenches and one small test pit were dug during the current program and the old hand trench which comprises the main showing was mapped and sampled. Additional mineralization was exposed in trenches A, B, and C, with the best mineralization exposed in trench C. Mapping of the old showing as well as in the new trenches has determined that massive sulphide mineralization occurs as brecciated fragments within a large fault zone. The massive sulphides are locally very copper-rich and enhanced in gold. The best interpretation of the available data suggests that an original syngenetic massive sulphide lens has been brecciated by later faulting. Potential may exist along the mineralized horizon outside of the fault zone for additional massive sulphide mineralization. Unravelling of the structure may be important in determining where to look, and this would require additional trenching, due to the poor exposure. Fragment size is small within the fault and this could suggest some transport, especially if the faulting is related to thrusting. In this case a reconstruction may be necessary to determine where the area of potential lies. For example, known massive sulphide mineralization in the Fennell Formation (Chu Chua, CM) lies close to the Upper-Lower Fennell boundary, which in the case of McCarthy would be to the west. Northeast directed thrusting, common to the Fennell Formation, and local back-thrusting (accounting for the shallow east dip of the NNW trending fault), could account for the present location of the mineralized fragments. The South Zone, however remains the best immediate target on the McCarthy Property.

## REFERENCES

1. Schiarizza, P. (1983): Geology of the Barriere River-Clearwater Area. B.C. Ministry of Energy, Mines and Petroleum Resources; Preliminary Map No. 53.
2. Schiarizza, P. and Preto, V. (1987): Geology of the Adams Plateau-Clearwater-Vavenby Area. B.C. Ministry of Energy Mines and Petroleum Resources; Paper 1987-2.
3. Dvorak, Z. and Fraser, D.C. (1979): Dighem III Survey of North Thompson River, B.C., for Craigmont Mines Limited by Dighem Limited. Assessment Report No. 7659.
4. Daley, F., Whalen, D.J., Angus, S.E. (1988): Prospecting and Geochemistry on the Honeymoon Claims. Assessment Report # 18582.

**APPENDIX I - COST STATEMENT**

# COST STATEMENT

## 1. PERSONNEL

### a) GEOLOGICAL MAPPING

R. Farmer (geologist)  
October 2, 3, 4, 5, 7  
5 days @ \$252.76/day ..... \$1263.80

### b) SOIL SURVEY

i) Martin Peter (assistant)  
October 4, 5, 8  
3 days @ \$168.00/day ..... \$504.00

ii) Bing lovang (assistant)  
October 2, 3, 4  
3 days @ \$217.50/day ..... \$652.50

### c) GRID RE-ESTABLISHMENT

Martin Peter (assistant)  
October 2, 3  
2 days @ \$168.00/day ..... \$336.00

### d) MAGNETOMETER SURVEY

Bing Lovang (assistant)  
October 5, 6  
2 days @ \$217.50/day ..... \$435.00

### e) TRENCH CLEANING/MAPPING/SAMPLING

R. Farmer (geologist)  
October 31, November 2, 3, 4, 5, 6, 7  
7 days @ \$252.76/day ..... \$1769.32

### f) RECLAMATION

R. Farmer (geologist)  
November 8  
1 day @ \$252.76/day ..... \$252.76

## **COST STATEMENT-CONTINUED**

### **g) REPORT WRITING**

R. Farmer (geologist)  
5 days @ \$252.76/day ..... \$1263.80

### **h) DRAFTING**

S. Archibald (draftsman)  
5 days @ \$145.00/day ..... \$725.00

## **2. ANALYTICAL**

Eco-Tech Labs Ltd, Kamloops, B.C.

### **a) ROCK SAMPLES**

i) 45 samples (30 elem. ICP+Au) @ \$13.64 ea. .... \$613.80  
ii) 11 samples (Cu assay) @ \$6.95 ea. .... \$76.45  
iii) 6 samples (Zn,Ag,Au assay) @ \$20.32 ea. .... \$121.92

### **b) SOIL SAMPLES**

352 samples (30 elem. ICP+Au) @ \$14.18 ea ..... \$4991.36

## **3. TRENCHING**

### **a) MOB/DEMOB**

Double N Trucking  
19hrs. @ \$69.55/hr. .... \$1321.45

### **b) JD 290 EXCAVATOR**

41.5hrs @ \$74.90/hr ..... \$3108.35

## **4. RECLAMATION**

Seed and Fertilizer ..... \$101.60

## **COST STATEMENT-CONTINUED**

### **5. TRANSPORTATION**

a) Truck Rental (Can-ex), 5 days @ \$80.00/day .....	<b>\$400.00</b>
b) Truck Rental (Teck Owned), 13 days @ \$20.00/day .....	<b>\$260.00</b>
(includes fuel, insurance, etc.)	

### **6. LIVING EXPENCES**

#### **a) ACCOMODATION**

i) 13 days @ \$45.00/day .....	<b>\$585.00</b>
ii) 5days @ \$45.00/day .....	<b>\$225.00</b>

#### **b) FOOD**

23 mandays @ \$20.00/manday .....	<b>\$460.00</b>
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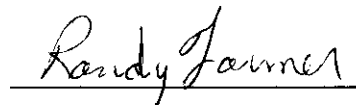
**TOTAL: \_\_\_\_\_ \$19,467.11**



**APPENDIX II - STATEMENT OF QUALIFICATIONS**

I, Randy Farmer, do hereby certify that:

- 1) I am a geologist and have practised my profession for more than 12 years.
- 2) I graduated from Lakehead University in Thunder Bay, Ontario with an Honours Bachelor of Science degree, (Geology), in 1980.
- 3) I performed the geological mapping and supervised the soil and magnetic surveys on the McCarthy Property and authored the report contained herein.
- 4) All data contained within this report and conclusions drawn from it are true and accurate to the best of my knowledge.
- 5) I hold no personal interest, direct or indirect, in the McCarthy Property which is the subject of this report.

A handwritten signature in cursive script that reads "Randy Farmer". The signature is written in black ink and is positioned above a horizontal line.

Randy Farmer  
Project Geologist  
December, 1992

**APPENDIX III - CERTIFICATES OF ANALYSES**

ECO-TECH LABORATORIES LTD.  
 10041 EAST TRANS CANADA HWY.  
 KAMLOOPS, B.C. V2C 2J3  
 PHONE - 604-573-5700  
 FAX - 604-573-4557

TECK EXPLORATIONS LTD. BTK 92-541  
 #350 - 272 Victoria Street  
 KAMLOOPS, B.C.  
 V2C 2A2

SEP 19, 1992

ATTENTION: FRED DALEY

IS IN PPM UNLESS OTHERWISE REPORTED

# ROCK SAMPLES

PROJECT: NONE GIVEN  
 5 ROCK SAMPLES RECEIVED OCTOBER 7, 1992

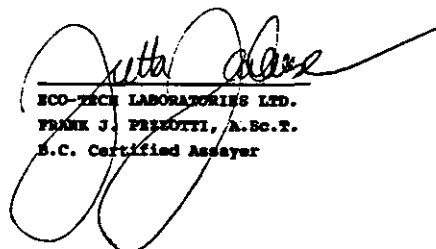
DESCRIPTION	AU(ppb)	AG	AL(%)	AS	B	BA	BI	CA(%)	CD	CO	CR	CU	FE(%)	K(%)	LA	MG(%)	MM	MO	NA(%)	NI	P	PB	SB	SM	SR	TI(%)	U	V	W	Y	ZN
106053	5	1.0	1.41	<5	2	40	<5	.94	1	35	115	99	3.23	.02	<10	1.03	431	3	.02	48	540	22	10	<20	20	.46	<10	64	10	36	186
106054	5	<.2	.60	25	2	150	<5	7.20	<1	29	59	37	5.89	.01	<10	2.90	1265	<1	<.01	53	450	<2	10	<20	125	.01	<10	195	<10	13	56
106056	10	.4	1.57	20	2	55	5	1.18	<1	42	124	94	4.99	.03	<10	1.42	614	2	.02	53	600	2	10	<20	17	.55	<10	96	<10	45	40
106057	10	3.6	2.58	5	2	75	<5	1.24	<1	57	153	1668	5.43	<.01	<10	2.86	766	1	.01	56	610	20	10	<20	19	.39	<10	143	<10	39	240
106058	5	4.0	.97	10	2	50	<5	.51	<1	18	129	76	2.92	.05	<10	.83	262	5	<.01	22	470	30	5	<20	23	.20	<10	72	<10	16	36

< - LESS THAN

DATA

106054	<.2	.62	25	2	145	<5	7.37	<1	30	60	37	6.04	.01	<10	2.97	1295	<1	<.01	55	460	<2	15	<20	129	.01	<10	109	<10	13	48
WARD 1991	1.0	1.69	50	4	120	<5	1.60	<1	18	60	77	3.45	.33	<10	.88	624	<1	.01	21	580	.10	5	<20	62	.13	<10	73	10	14	62

TECK1719

  
 ECO-TECH LABORATORIES LTD.  
 FRANK J. PRESUTTI, A.Sc.T.  
 B.C. Certified Assayer

ECO-TECH LABORATORIES LTD.

TECK EXPLORATIONS LTD. ETK 92-542

10041 EAST TRANS CANADA HWY.  
KAMLOOPS, B.C. V2C 2J3  
PHONE - 604-573-5700  
FAX - 604-573-4557

#350 - 272 Victoria Street  
KAMLOOPS, B.C.  
V2C 2A2

OCTOBER 20, 1992

ATTENTION: FRED DALEY

VALUES IN PPM UNLESS OTHERWISE REPORTED

*Moos Mat from AXEL CK.*

PROJECT: NONE GIVEN  
1 MOSS MAT SAMPLE RECEIVED OCTOBER 7, 1992

ET#	DESCRIPTION	AD(ppb)	AG	AL(%)	AS	B	BA	BI	CA(%)	CD	CO	CR	CU	FB(%)	K(%)	LA	MG(%)	MN	MO	NA(%)	NI	P	PB	SB	SH	SR	TI(%)	U	V	W	Y	ZH
1-	106055	10	.4	1.48	15	4	230	<5	1.30	1	17	49	59	2.83	.09	10	.81	695	<1	<.01	29	690	524	5	<20	42	.11	<10	52	<10	15	117

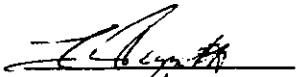
NOTE: < = LESS THAN

Q C DATA

Repeat#

1-	106055		.4	1.52	15	4	240	<5	1.34	1	18	51	62	2.88	.10	10	.82	724	<1	<.01	30	710	468	5	<20	43	.11	<10	52	<10	15	139
STANDARD	1991		1.0	1.65	50	4	115	<5	1.55	<1	17	58	73	3.34	.32	<10	.85	605	<1	.01	20	570	8	5	<20	60	.12	<10	71	<10	13	60

SC92/TECK1719

  
 ECO-TECH LABORATORIES LTD.  
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 B.C. Certified Assayer





















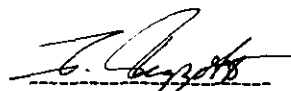


OCTOBER 16, 1992

ECO-TECH LABORATORIES LTD.

ET#	DESCRIPTION	AU(ppb)	AG AL(%)	AS	B	BA	BI	CA(%)	CD	CO	CR	CU	FE(%)	K(%)	LA	MG(%)	MN	MO	NA(%)	NI	P	PB	SB	SN	SR	TI(%)	U	V	W	Y	ZN	
341-L	102 50N 102 50E	<5	<.2	1.91	15	2	125	<5	.52	<1	23	58	41	3.25	.06	10	.97	479	<1	<.01	30	270	10	5	<20	19	.22	<10	68	<10	19	53
342-L	102 50N 103 00E	<5	.4	2.58	5	2	140	<5	.30	<1	15	21	10	2.18	.06	<10	.27	577	<1	.01	22	700	6	<5	<20	14	.15	<10	40	<10	12	117
343-L	102 50N 103 25E	<5	.4	2.57	5	2	260	<5	.53	<1	41	34	27	3.81	.03	<10	.43	1860	<1	<.01	57	1600	4	<5	<20	26	.15	<10	61	<10	12	176
344-L	102 50N 103 50E	<5	<.2	3.05	<5	2	285	<5	.48	<1	19	44	29	3.22	.09	10	.65	404	<1	.01	27	440	10	<5	<20	24	.14	<10	56	<10	12	102
345-L	102 50N 103 75E	<5	.2	2.26	<5	<2	230	<5	.53	<1	17	51	23	3.05	.07	10	.80	318	<1	<.01	27	220	14	<5	<20	25	.14	<10	53	<10	12	64
346-L	102 50N 104 00E	<5	<.2	2.02	10	<2	210	<5	.62	<1	19	60	27	3.20	.07	10	.87	512	<1	<.01	28	330	14	5	<20	26	.12	<10	57	<10	11	64
347-L	102 50N 104 25E	<5	.6	2.22	5	2	255	<5	.99	<1	19	47	46	3.02	.08	10	.69	988	<1	<.01	29	290	18	5	<20	33	.12	<10	46	<10	15	95
348-L	102 50N 104 50E	<5	1.8	2.73	5	2	350	<5	.97	1	23	56	174	3.66	.10	20	.79	2497	<1	.01	60	300	26	<5	<20	37	.13	<10	92	<10	25	112
349-L	102 50N 104 75E	<5	.2	2.88	5	<2	240	<5	.35	<1	16	37	41	2.79	.07	10	.40	795	<1	.01	30	1290	16	<5	<20	19	.13	<10	43	<10	17	129
350-L	102 50N 105 00E	<5	.6	3.03	<5	2	300	<5	.68	<1	18	42	57	3.04	.08	10	.55	966	<1	.01	38	260	16	<5	<20	27	.15	<10	41	<10	25	110
351-L	102 50N 105 25E	<5	<.2	2.19	<5	2	160	<5	.47	<1	17	35	13	2.53	.06	<10	.46	394	<1	<.01	24	460	10	<5	<20	18	.16	<10	48	<10	13	74
352-L	102 50N 105 50E	<5	.2	2.12	<5	4	155	5	.45	<1	17	35	13	2.47	.05	<10	.44	379	2	<.01	23	480	14	<5	<20	18	.16	<10	48	<10	12	74
353-L	102 50N 105 75E	<5	<.2	1.89	5	2	140	<5	.39	<1	17	43	24	2.79	.04	10	.66	298	<1	<.01	24	240	12	<5	<20	16	.17	<10	56	<10	13	63
354-L	102 50N 106 00E	<5	.2	2.19	10	2	140	<5	.31	<1	14	30	9	2.54	.05	<10	.37	251	<1	<.01	19	470	8	<5	<20	14	.15	<10	48	<10	12	72

NOTE: < = LESS THAN  
> = GREATER THAN



ECO-TECH LABORATORIES LTD.  
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B.C. Certified Assayer



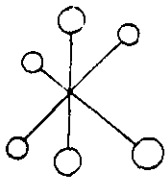
OCTOBER 16, 1992

KCO-TECH LABORATORIES LTD.

ET#	DESCRIPTION	AU(ppb)	AG AL(%)	AS	B	BA	BI	CA(%)	CD	CO	CR	CU	FE(%)	K(%)	LA	MG(%)	MN	MO	NA(%)	NI	P	PB	SB	SN	SR	TI(%)	U	V	W	Y	ZN
QC DATA																															
REPEAT #:																															
60	-L 98 50N 101 25E	<.2	3.01	5	8	260	<5	.83	<1	22	45	84	2.99	.14	10	.63	706	<1	.01	32	1430	14	<5	<20	41	.25	<10	69	<10	21	159
101	-L 99 00N 105 50E	.8	2.40	10	4	405	<5	.79	<1	23	69	98	3.85	.11	20	.87	1055	<1	<.01	39	210	28	<5	<20	31	.18	<10	66	<10	25	63
141	-L 100 00N 102 50E	<.2	2.01	10	<2	130	<5	.52	<1	18	47	16	2.69	.09	10	.78	323	<1	<.01	25	170	6	<5	<20	22	.22	<10	62	<10	19	67
182	-L 100 00N 100 50E	<.2	2.60	10	2	145	<5	.82	<1	21	55	32	3.38	.06	10	.93	375	<1	<.01	25	130	8	5	<20	28	.27	<10	68	<10	23	54
221	-L 100 00N 104 00E	.2	2.66	10	4	265	<5	.72	<1	21	62	33	3.50	.10	20	.83	681	<1	<.01	31	300	16	<5	<20	33	.15	<10	61	<10	15	74
262	-L 100 00N 105 50E	.6	3.32	15	2	335	<5	.65	<1	18	39	46	3.10	.10	10	.49	414	<1	.01	35	350	12	<5	<20	34	.15	<10	48	<10	18	110
303	-L 100 00N 103 25E	.2	2.88	25	2	265	<5	.63	<1	20	52	93	3.53	.06	10	.69	820	<1	.01	46	290	18	5	<20	27	.17	<10	59	<10	25	74
326	-L 102 00N 102 25E	<.2	1.59	10	<2	90	<5	.50	<1	19	50	28	2.83	.04	10	.84	336	<1	<.01	24	180	8	<5	<20	18	.22	<10	62	<10	18	52
STANDARD 1991																															
		1.0	1.94	50	4	145	<5	1.84	<1	20	67	81	3.86	.37	10	.99	713	<1	.01	24	650	16	5	<20	67	.13	<10	80	<10	15	66
STANDARD 1991																															
		1.2	1.89	60	4	130	<5	1.77	<1	20	65	84	3.81	.37	<10	.99	703	<1	.01	23	670	14	5	<20	63	.12	<10	77	<10	14	66
STANDARD 1991																															
		1.2	2.07	60	<2	140	<5	1.93	<1	21	71	85	3.99	.38	10	1.03	728	<1	.02	24	670	8	5	<20	75	.14	<10	86	<10	16	68
STANDARD 1991																															
		1.2	2.13	65	4	140	<5	1.99	<1	21	73	88	4.14	.39	10	1.07	759	<1	.02	25	690	14	5	<20	76	.15	<10	88	<10	16	80
STANDARD 1991																															
		1.2	2.04	60	6	135	<5	1.89	<1	20	71	84	3.98	.37	<10	1.01	726	<1	.02	23	680	10	5	<20	73	.14	<10	84	<10	16	69
STANDARD 1991																															
		1.2	2.05	65	6	135	<5	1.88	<1	20	70	84	3.98	.37	<10	1.01	726	<1	.02	25	680	10	5	<20	72	.14	<10	84	<10	16	69
STANDARD 1991																															
		1.2	1.89	55	4	130	<5	1.78	<1	20	64	82	3.81	.37	<10	.99	703	<1	.01	23	650	14	5	<20	63	.12	<10	78	<10	14	67
STANDARD 1991																															
		1.2	1.89	55	2	130	<5	1.76	<1	19	64	81	3.81	.36	<10	.99	695	<1	.01	24	630	12	5	<20	64	.12	<10	79	<10	14	67
STANDARD 1991																															
		1.0	2.05	55	4	130	<5	1.89	<1	20	69	95	3.84	.37	<10	1.00	707	<1	.02	23	640	12	5	<20	79	.15	<10	85	<10	16	67

NOTE: < = LESS THAN  
> = GREATER THAN

SC/TECK1719



# ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING  
10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

NOVEMBER 17, 1992

## CERTIFICATE OF ASSAY ETK 92-605

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TECK EXPLORATION LTD.  
# 350, 272 VICTORIA STREET  
KAMLOOPS, B.C.  
V2C 2A2

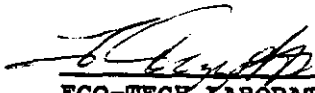
ATTENTION: RANDY FARMER

*Trench Samples*  
SAMPLE IDENTIFICATION: 15 ROCK samples received NOVEMBER 6, 1992  
----- PROJECT: 1730

ET#	AU (g/t)	AU (oz/t)	AG (g/t)	AG (oz/t)	CU (%)	ZN (%)
12 - 106075	-	-	-	-	2.02	-
14 - 106077	.40	.012	7.1	.21	2.22	.15
15 - 106078	.71	.021	25.1	.73	9.35	.45

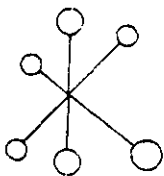
*TRENCH C*

SC92/TECK1730

  
ECO-TECH LABORATORIES LTD.  
FRANK J. PEZZOTTI  
B.C. Certified Assayer

39

*in all...*



# ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING  
10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

NOVEMBER 19, 1992

## CERTIFICATE OF ASSAY ETK 92-611

=====

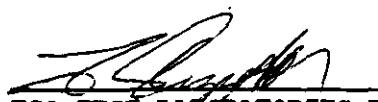
TECK EXPLORATION LTD.  
# 350, 272 VICTORIA STREET  
KAMLOOPS, B.C.  
V2C 2A2

ATTENTION: RANDY FARMER

*Trench Samples*  
SAMPLE IDENTIFICATION: 30 ROCK samples received NOVEMBER 6, 1992  
----- PROJECT: 1730

ET#	AU (g/t)	AU (oz/t)	AG (g/t)	AG (oz/t)	CU (%)	ZN (%)
1 - 106079	-	-	-	-	1.16	-
2 - 106080	-	-	-	-	1.96	-
4 - 106082	-	-	-	-	1.90	-
24 - 106152	-	-	-	-	2.24	-
26 - 106154	.27	.008	2.2	.06	1.12	.11
28 - 106156	.30	.009	2.6	.08	1.14	.05
29 - 106157	.14	.004	2.6	.08	1.16	.07
30 - 106158	.21	.006	3.4	.10	1.40	.04

SC92/1730

  
ECO-TECH LABORATORIES LTD.  
FRANK J. PEZZOTTI  
B.C. Certified Assayer

ECO-TECH LABORATORIES LTD.  
 10041 EAST TRANS CANADA HWY.  
 KAMLOOPS, B.C. V2C 2J3  
 PHONE - 604-573-5700  
 FAX - 604-573-4557

TECK EXPLORATION LTD. ETK 92-323  
 # 350, 272 Victoria Street  
 KAMLOOPS, B.C.  
 V2C 2A2

NOVEMBER 17, 1992

ATTENTION: RANDY FARMER  
 PROJECT #1730  
*Trench Samples*  
 15 ROCK SAMPLES RECEIVED NOVEMBER 6, 1992

VALUES IN PPM UNLESS OTHERWISE REPORTED

ET#	DESCRIPTION	AU(ppb)	AG	AL(%)	AS	B	BA	BI	CA(%)	CD	CO	CR	CU	FE(%)	K(%)	LA	MG(%)	MN	MO	NA(%)	NI	P	PB	SB	SH	SR	TI(%)	U	V	W	Y	ZN
1	106064	20	<.2	1.95	45	4	100	<.5	.30	<.1	7	97	118	1.44	.06	<.10	1.10	309	3	<.01	19	340	<.2	5	<.20	8	.10	<.10	28	<.10	13	49
2	106065	25	<.2	1.65	10	2	60	<.5	.25	<.1	21	141	179	4.74	.03	<.10	1.93	407	4	<.01	49	780	<.2	<.5	<.20	14	.08	<.10	74	<.10	9	43
3	106066	20	<.2	1.95	5	4	45	<.5	.79	<.1	37	140	178	5.25	<.01	<.10	2.28	637	<.1	.01	38	690	<.2	5	<.20	15	.50	<.10	96	<.10	37	37
4	106067	65	.2	2.13	75	4	55	<.5	.11	<.1	108	66	462	>.15	<.01	<.10	2.28	469	1	<.01	44	110	2	<.5	<.20	7	.16	20	85	<.10	5	45
5	106068	15	<.2	2.50	10	4	80	<.5	.55	<.1	26	143	457	6.04	<.01	<.10	2.85	609	1	<.01	42	770	<.2	5	<.20	16	.26	<.10	115	<.10	20	52
6	106069	15	<.2	2.09	10	4	50	<.5	.76	<.1	37	129	263	5.64	<.01	<.10	2.21	592	1	.01	50	540	<.2	5	<.20	15	.50	<.10	105	<.10	35	35
7	106070	15	<.2	.38	10	2	45	<.5	.72	<.1	14	56	76	2.99	.10	<.10	.31	755	1	<.01	25	420	<.2	<.5	<.20	20	<.01	<.10	16	<.10	3	18
8	106071	20	.2	.27	10	4	40	<.5	1.62	<.1	11	96	262	2.81	.07	<.10	.69	587	7	<.01	16	200	<.2	<.5	<.20	15	<.01	<.10	13	10	3	16
9	106072	15	.2	.91	10	4	35	<.5	.86	<.1	24	72	321	4.21	.10	<.10	1.10	529	4	<.01	28	580	<.2	<.5	<.20	12	<.01	<.10	25	10	4	32
10	106073	10	.2	.86	15	4	30	<.5	.95	<.1	42	115	395	4.91	.08	<.10	1.09	663	8	<.01	35	390	<.2	<.5	<.20	12	<.01	<.10	28	<.10	4	35
11	106074	30	<.2	2.22	10	4	35	<.5	3.01	<.1	30	147	366	5.38	.03	<.10	2.91	944	5	.01	49	640	<.2	5	<.20	49	.01	<.10	92	<.10	12	51
12	106075	140	1.4	1.46	75	4	50	<.5	.75	<.1	138	50	>10000	>.15	<.01	<.10	1.04	144	6	<.01	23	<.10	4	<.5	<.20	10	.02	20	55	50	<.1	140
13	106076	95	1.4	1.45	35	4	50	<.5	.30	<.1	79	41	4300	9.96	<.01	<.10	2.02	207	10	<.01	16	110	<.2	<.5	<.20	6	.03	10	41	<.10	4	154

QC DATA

REPEAT #:

11	106074	<.2	2.23	5	2	35	<.5	3.01	<.1	30	148	364	5.38	.03	<.10	2.93	947	4	.01	50	640	<.2	5	<.20	49	.01	<.10	92	<.10	12	49
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GEO STANDARDS:

STANDARD 1991	1.2	1.79	50	4	110	<.5	1.67	<.1	18	64	76	3.55	.35	<.10	.96	659	<.1	.01	20	560	8	<.5	<.20	64	.12	<.10	76	<.10	12	61
STANDARD 1991	1.2	1.75	45	4	110	<.5	1.63	<.1	18	62	75	3.48	.34	<.10	.91	638	<.1	.01	18	560	8	5	<.20	62	.11	<.10	74	10	12	59

NOTE: < - LESS THAN  
 > - GREATER THAN

SC/TECK1730

*[Signature]*  
 ECO-TECH LABORATORIES LTD.  
 FRANK J. PEZZOTTI, A.Sc.T.  
 B.C. Certified Assayer


*TRENCH A*  
  
*TRENCH C*



PAGE 2

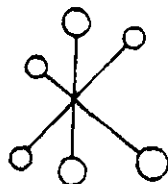
*Trench Samples*

QC/DATA	AG	AL(%)	AS	B	BA	BI	CA(%)	CD	CO	CR	CU	FE(%)	K(%)	LA	MG(%)	MN	MO	NA(%)	NI	P	PB	SB	SM	SR	TI(%)	U	V	W	Y	ZN	
Repeat#:																															
1 - 106079	4.2	2.49	<5	2	45	<5	.43	19	115	133	>10000	11.74	.01	<10	2.65	627	10	<.01	42	280	6	5	20	11	.19	10	123	<10	18	2504	
STANDARD 1991	1.6	2.02	55	4	140	<5	2.01	<1	22	73	89	4.36	.40	<10	1.06	786	1	.01	25	730	30	10	<20	71	.13	<10	85	<10	15	79	

  
 ECO-TECH LABORATORIES LTD.  
 Frank J. Pezzotti, A.S.  
 B.C. CERTIFIED ASSAYER

NOTE: < - LESS THAN  
 > - GREATER THAN

**APPENDIX IV - ANALYTICAL PROCEDURE**



# ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING  
10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (804) 573-5700 Fax 573-466

## GEOCHEMICAL LABORATORY METHODS

### SAMPLE PREPARATION (STANDARD)

1. Soil or Sediment: Samples are dried and then sieved through 80 mesh sieves.
2. Rock, Core: Samples dried (if necessary), crushed, riffled to pulp size and pulverized to approximately -140 mesh.
3. Humus/Vegetation: The dry sample is ashed at 550 C. for 5 hours.

### METHODS OF ANALYSIS

All methods have either canmet certified or in-house standards carried through entire procedure to ensure validity of results.

#### 1. MULTI ELEMENT ANALYSES

- (a) ICP Packages (6,12,30 element).

<u>Digestion</u>	<u>Finish</u>
Hot Aqua Regia	ICP

- (b) ICP - Total Digestion (24 element).

<u>Digestion</u>	<u>Finish</u>
Hot HClO <sub>4</sub> /HNO <sub>3</sub> /HF	ICP

- (c) Atomic Absorption (Acid Soluble)

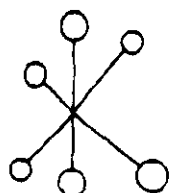
Ag\*, Cd\*, Cr, Co\*, Cu, Fe, Pb\*, Mn, Mo, Ni\*, Zn.

<u>Digestion</u>	<u>Finish</u>
Hot Aqua Regia	Atomic Absorption * = Background corrected

- (d) Whole Rock Analyses.

<u>Digestion</u>	<u>Finish</u>
Lithium Metaborate fusion	ICP





# ECO-TECH LABORATORIES LT

ASSAYING - ENVIRONMENTAL TESTING  
10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (804) 573-6700 Fax 573-6701

9. Gallium

Digestion  
-----

Finish  
-----

Hot HClO4/HNO3/HF

Atomic Absorption

10. Germanium

Digestion  
-----

Finish  
-----

Hot HClO4/HNO3/HF

Atomic Absorption

11. Mercury

Digestion  
-----

Finish  
-----

Hot aqua regia

Cold vapor generation -  
A.A.S.

12. Phosphorus

Digestion  
-----

Finish  
-----

Lithium Metaborate  
Fusion

ICP finish

13. Selenium

Digestion  
-----

Finish  
-----

Hot aqua regia

Hydride generation -  
A.A.S.

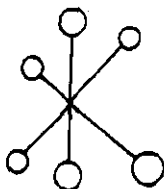
14. Tellurium

Digestion  
-----

Finish  
-----

Hot aqua regia  
Potassium Bisulphate  
Fusion

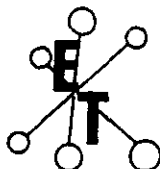
Hydride generation - A.A.S.  
Colorimetric or I.C.P.



# ECO-TECH LABORATORIES LTI

ASSAYING - ENVIRONMENTAL TESTING  
10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (804) 573-5700 Fax 573

2. Antimony	
Digestion -----	Finish -----
Hot aqua regia	ICP
3. Arsenic	
Digestion -----	Finish -----
Hot aqua regia	Hydride generation - A.A.S.
4. Barium	
Digestion -----	Finish -----
Lithium Metaborate	ICP
5. Beryllium	
Digestion -----	Finish -----
Hot aqua regia	Atomic Absorption
6. Bismuth	
Digestion -----	Finish -----
Hot aqua regia	Atomic Absorption (Background Corrected)
7. Chromium	
Digestion -----	Finish -----
Sodium Peroxide Fusion	Atomic Absorption
8. Fluorine	
Digestion -----	Finish -----
Lithium Metaborate Fusion	Ion Selective Electrode



# ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING

10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (804) 573-5700 Fax 573-4557

41

## GEOCHEMICAL LABORATORY METHODS

### Multi Element ICP Analyses

**Digestion:** 1 gram sample is digested with 6 ml dilute aqua regia in a waterbath at 90°C for 90 minutes and diluted to 20 ml.

**Analysis:** Inductively coupled Plasma.

**APPENDIX V - SAMPLE DESCRIPTIONS**

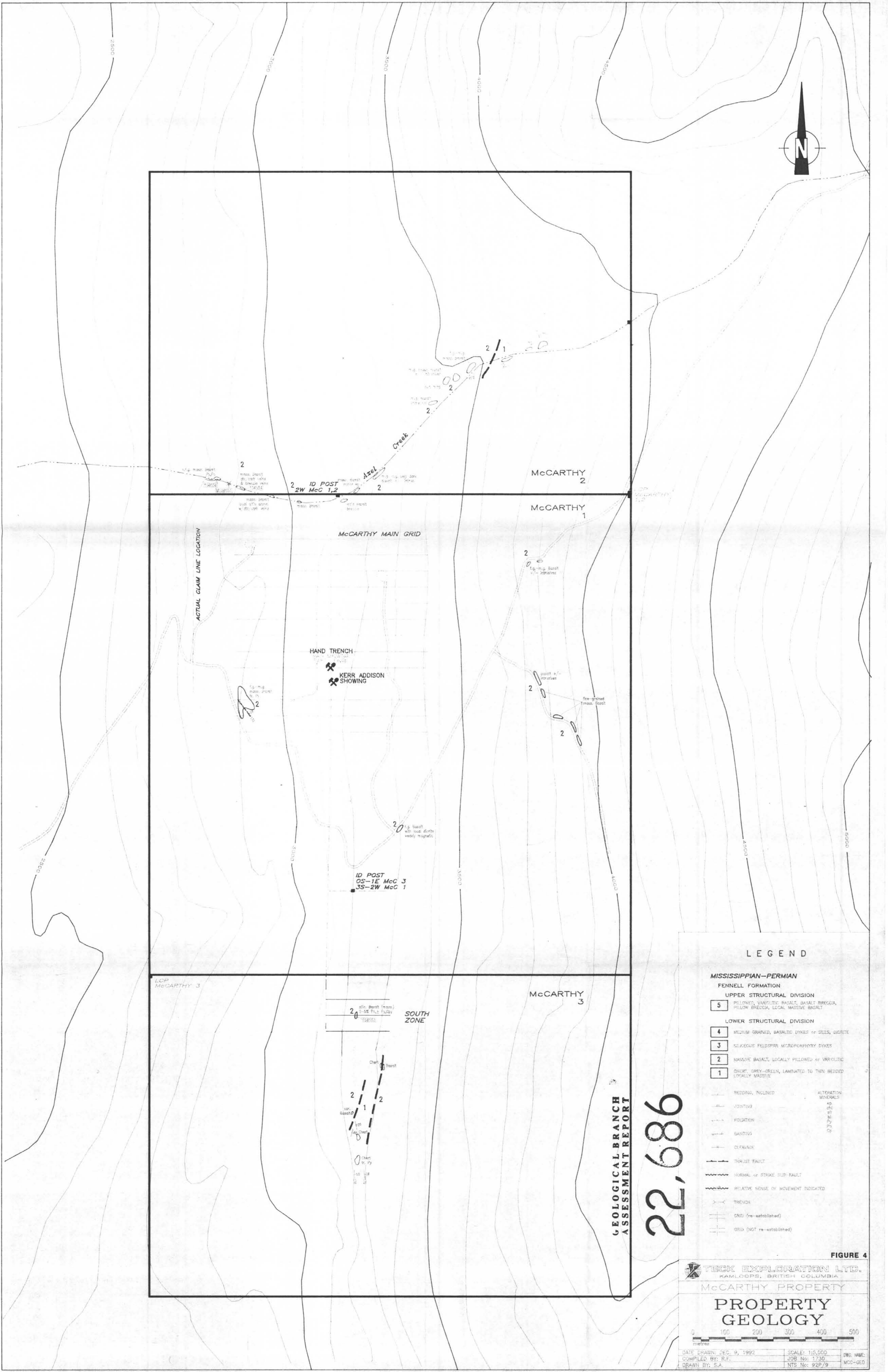
SAMPLE NUMBER	LOCATION COMMENT	SAMPLE DESCRIPTION
106065	Trench A	Chip from 0.3 to 3.0m. Altered, pyritized basalt with minor barren quartz veins.
106066	Trench A	Chip from 3.0 to 5.0m. Altered, pyritized basalt.
106067	Trench A	Chip from 5.0 to 5.5m along south wall of trench. Zone of semi-massive Py occurring as crude bands. Zone is 20cm true thickness, and appears fault bounded.
106068	Trench A	Chip from 5.0 to 7.0m along north side of trench. Sample is of fault zone. Minor pyrite in 1cm quartz veinlets at east end. No other mineralization.
106069	Trench A	Chip from 7.0 to 9.0m. Altered, pyritized basalt, pyrite content weakening.
106094	Trench B	Chip from 5.0 to 6.0m, along north wall of trench. Basalt with heavily dissm. and fracture fill Py +/- Po, rare Mal. 10% sulphide overall.
106095	Trench B	Chip from 6.0 to 7.0m, along north wall. Very dark, chloritic basalt, 1-2% Py, Po.
106096	Trench B	Chip from 7.0 to 8.0m, along north wall. Chloritic basalt, 1-2% dissm. Py.
106097	Trench B	Chip from 13.0 to 15.0m. Chloritic basalt invaded by quartz veins. Local sulphide veins and fractures of semi-massive Py, Cp.
106098	Trench B	Chip from 19.0 to 20.0m along south side. Chloritic and silicified basalt, 2-4% Py but near end of interval have semi-massive Py, Cp as bands or stringers.
106099	Trench B	Chip from 20.0 to 21.4m. Same as 106098 except more Cp, Mal, Az.
106100	Trench B	Chip from 21.4 to 23m. Massive but brecciated chloritic basalt, 2-4% Py.
106151	Trench B	Chip from 30 to 32m. Medium grained basalt/intrusive? with 2-4% dissm and ff Py.
106070	Trench C	Chip from 4.0 to 6.0m of rusty weathering, siliceous basalt with 2% Py. Part of sample is unmineralized fault gouge.
106071	Trench C	Chip from 6.0 to 7.0m of siliceous feldspar porphyry (dyke?), with 3% Py and local Mal, Cp, dendritic Mn.
106072	Trench C	Chip from 7.0 to 8.0m of mixed feldspar porphyry and basalt, 2-3% Py, local Mal, Cp.

SAMPLE NUMBER	LOCATION COMMENT	SAMPLE DESCRIPTION
106073	Trench C	Chip from 8.0 to 9.0m of sheared, fine grained basalt, with Fe-Carb. weathering rind. 2-3% Py.
106074	Trench C	Chip from 9.0 to 11.0m of weakly altered basalt with 2% Py. Includes 10cm qtz vein with Py, Cp.
106075	Trench C	Chip from 17.6 to 19.0m of shear zone with pods or discontinuous bands of semi-massive Py, local Cp Mal. Deeply weathered.
106076	Trench C	Chip from 19.0 to 20.2m. Lithology and mineralization same as 106075.
106077	Trench C	Chip from 20.2 to 21.6m of same shear zone with pods or discontinuous bands of massive sulphide (Py, Cp, +/- Po, Mt). 60-70% of sample is MS.
106078	Trench C	Grab of massive sulphide from pods or bands in same interval as 106077. Some of the MS is very copper rich.
106079	Trench C	Chip from 21.6 to 23.0m of same shear with local MS pods, but are less frequent than previous interval.
106080	Trench C	Chip from 23.0 to 24.0m. Same as above, considerable MS in sample, locally copper rich.
106081	Trench C	Chip from 24.0 to 25.0m of sheared basalt with stringer and dissm. Py, Cp and local massive pods.
106082	Trench C	Chip from 25.0 to 27.0m of dissm. to stringer Py, Cp and a heavily copper mineralized qtz vein, all hosted by sheared basalt.
106083	Trench C	Chip from 27.0 to 29.0m. Same as previous sample, more brecciated. 3-5% Py, Mal, Cp.
106084	Trench C	Chip from 29.0 to 31.0m of more massive basalt, 1% Py.
106085	Trench C	Chip from 31.0 to 33.0m of poorly mineralized fault zone in massive basalt. Minor Mal in last 0.5m of interval.
106086	Trench C	Chip from 33.0 to 35.0m of mixed basalt and chert, strong chlorite and Mal on fractures. 1-2% Py.
106087	Trench C	Chip from 35.0 to 37.0m. Same as previous sample, but only minor Mal.
106088	Trench C	Chip from 37.0 to 39.0m of predominately chert with 1-2% Py.
106089	Trench C	Chip from 39.0 to 40.0 of chert with 1-2% Py.

SAMPLE NUMBER	LOCATION COMMENT	SAMPLE DESCRIPTION
106158	Trench C	2.3 metre chip (from 19.0 to 21.3m) taken 3m south of previous sampling in trench extension. Shear zone with pods of massive Py, Cp, +/- Po, Mt. Sample is about 70% MS.
106090	Trench D	Chip from 5.0 to 8.0m of chert with 3% dissm. Py.
106091	Trench D	Chip from 8.0 to 10.0m of altered basalt with 3% Py
106092	Trench D	Chip from 10.0 to 12.0m of altered basalt with 2% Py
106093	Trench D	Chip from 12.0 to 14.0m of altered basalt with 1-2% Py and weathered fault zone.
106152	Hand Trench	Chip from 0.2 to 1.2m of chloritic basalt with 3-5% dissm. and ff Py, Po; local massive sulphide bands to 4cm.
106153	Hand Trench	Chip from 1.2 to 2.2m. Same as previous sample but more overall sulphide (5-10%), and very chloritic.
106154	Hand Trench	Chip from 2.2 to 3.2m of very chloritic basalt with semi-massive Py, Cp, Po (30% overall).
106155	Hand Trench	Chip from 3.2 to 4.2m. Same as previous but half of sample is poorly mineralized shear zone.
106156	Hand Trench	Chip from 4.2 to 5.2m of weathered basalt with dissm. Py, Cp, Po, Mal, Az. Includes 20cm massive sulphide pod(?).
106157	Hand Trench	Chip from 5.2 to 6.8m. Chloritic basalt with dissm. Py, Po, Cp, Mal. Includes flat lying massive sulphide bands to 10cm at end of interval, trace Sp?

SAMPLE NUMBER	LOCATION COMMENT	SAMPLE DESCRIPTION
106053	South Showing area	Grab of rusty altered basalt. 2-5% Po.
106054	Axel Creek	Grab from Qtz.-Carb vein, minor pyrite.
M106055	Axel Creek, 2860ft elev.	Moss Mat sample from creek, ph 9.3.
106056	Axel Creek	Grab of fine grained, silicified basalt. Dissm. and patchy Py, Po, +/- 3%.
106057	Main Grid, L101N - 102+90E	Grab from hand pit of basalt with Py, Mal, Cpy.
106058	Main Grid, L101N - 103+25E	Grab of intensely silicified basalt (cherty), 2-5% Py





**LEGEND**

- MISSISSIPPIAN-PERMIAN**
- FENNEL FORMATION**
- UPPER STRUCTURAL DIVISION**
- 5 PILLOWED, VARICLITIC BASALT, BASALT BRECCIA, PILLOW BRECCIA, LOCAL MASSIVE BASALT
- LOWER STRUCTURAL DIVISION**
- 4 MEDIUM GRAINED, BASALTIC DYKES or SILLS, DIORITE
  - 3 SILICEOUS FELDSPAR MICROPORPHYRY DYKES
  - 2 MASSIVE BASALT, LOCALLY PILLOWED or VARICLITIC
  - 1 CHERT, GREY-GREEN, LAMINATED TO THIN BEDDED, LOCALLY MASSIVE
- ALTERATION MINERALS**
- BEDDING, INCLINED
  - JOINTING
  - FOLIATION
  - BANDING
  - CLEAVAGE
  - THRUST FAULT
  - NORMAL or STRIKE SLIP FAULT
  - RELATIVE SENSE OF MOVEMENT INDICATED
  - TRENCH
  - GRID (re-established)
  - GRID (NOT re-established)

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**22,686**

**FIGURE 4**

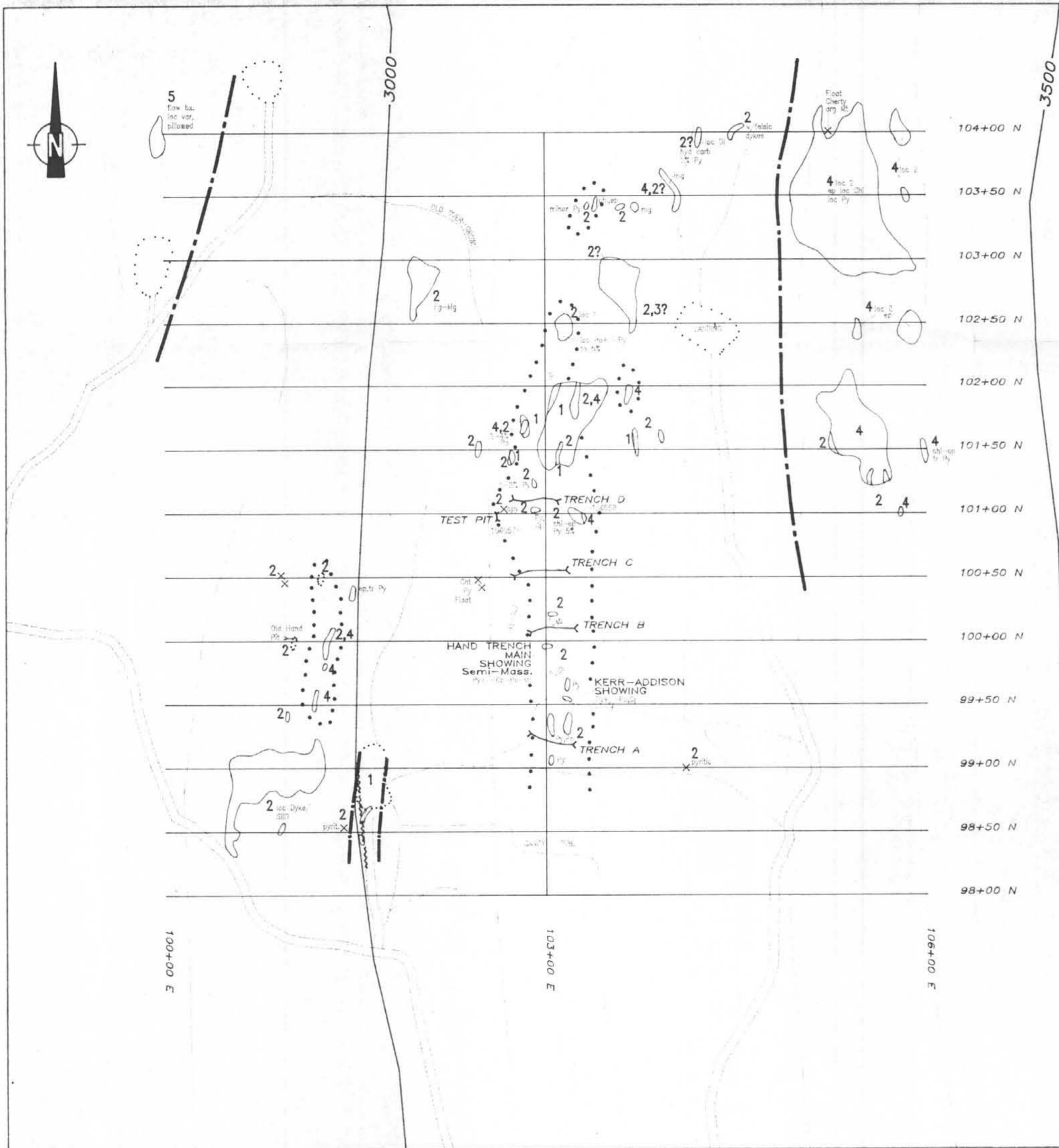
**TECK EXPLORATION LTD.**  
KAMLOOPS, BRITISH COLUMBIA

**MCCARTHY PROPERTY**

**PROPERTY GEOLOGY**

0 100 200 300 400 500 metres

DATE DRAWN: DEC. 9, 1992      SCALE: 1:5,000      DWR: NAME  
 COMPILED BY: R.F.      JOB No: 1730      MCC-GEO  
 DRAWN BY: S.A.      NTS No: 92P/9



LEGEND

MISSISSIPPIAN-PERMIAN

FENNEL FORMATION

UPPER STRUCTURAL DIVISION

5 PILLOWED, VARIOLITIC BASALT, BASALT BRECCIA, PILLOW BRECCIA, LOCAL MASSIVE BASALT

LOWER STRUCTURAL DIVISION

4 MEDIUM GRAINED, BASALTIC DYKES or SILLS, DISRITE

3 SLUGGED FELDSPAR MICROPORPHYRY DYKES

2 MASSIVE BASALT, LOCALLY PILLOWED or VARIOLITIC

1 CHERT, GREY-GREEN, LAMINATED TO THIN BEDDED LOCALLY MASSIVE

- BEDDING, INCLINED
- BEDDING
- FOLIATION
- BRIDGING
- GLEASAGE
- THRUST FAULT
- NORMAL or STRIKE SLIP FAULT
- RELATIVE SENSE OF MOVEMENT
- TRENCH
- GRID (re-established)
- GRID (NOT re-established)
- GEOLOGICAL CONTACT
- OUTCROP
- FLOAT
- ROAD
- SKID TRAIL
- ALTERATION
- SAMPLE NUMBER

GEOLOGICAL BRANCH ASSESSMENT REPORT

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FIGURE 5

TECK EXPLORATION LTD.  
KAMLOOPS, BRITISH COLUMBIA

McCARTHY PROPERTY

McCARTHY 1 GRID  
GRID  
GEOLOGY

0 50 100 150 200 250  
metres

DATE DRAWN: DEC. 10, 1992	SCALE: 1:2,500	DWG. NAME:
COMPILED BY: R.F.	JOB No: 1730	MCC-GGD
DRAWN BY: S.A.	NTS. No: 92P/9	



MAIN  
GRID



100+00 E      103+00 E      106+00 E

3000

3500

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

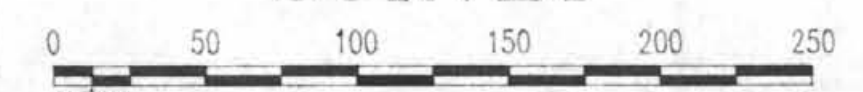
**22,686**

FIGURE 6

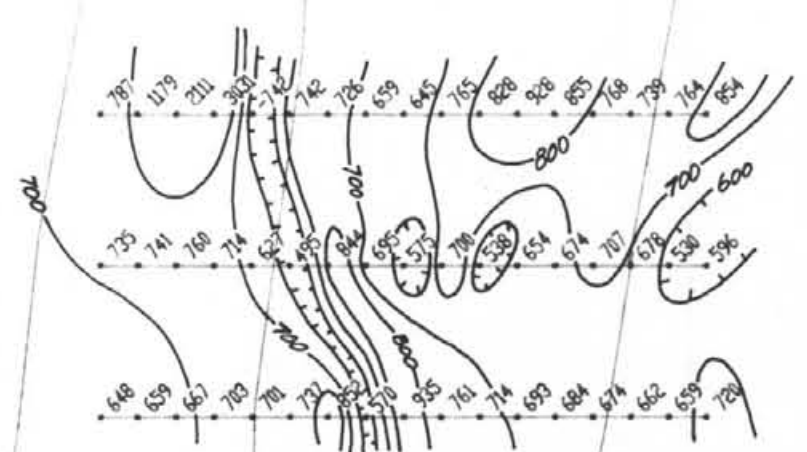
TECK EXPLORATION LTD.  
KAMLOOPS, BRITISH COLUMBIA

MCCARTHY PROPERTY

**MAGNETOMETER  
SURVEY**



DATE DRAWN: DEC. 15, 1992      SCALE: 1:2,500      DWG. NAME:  
COMPILED BY: R.F.      JOB No: 1730      MCC-MAG  
DRAWN BY: S.A.      NTS No: 92P/9



SOUTH  
ZONE

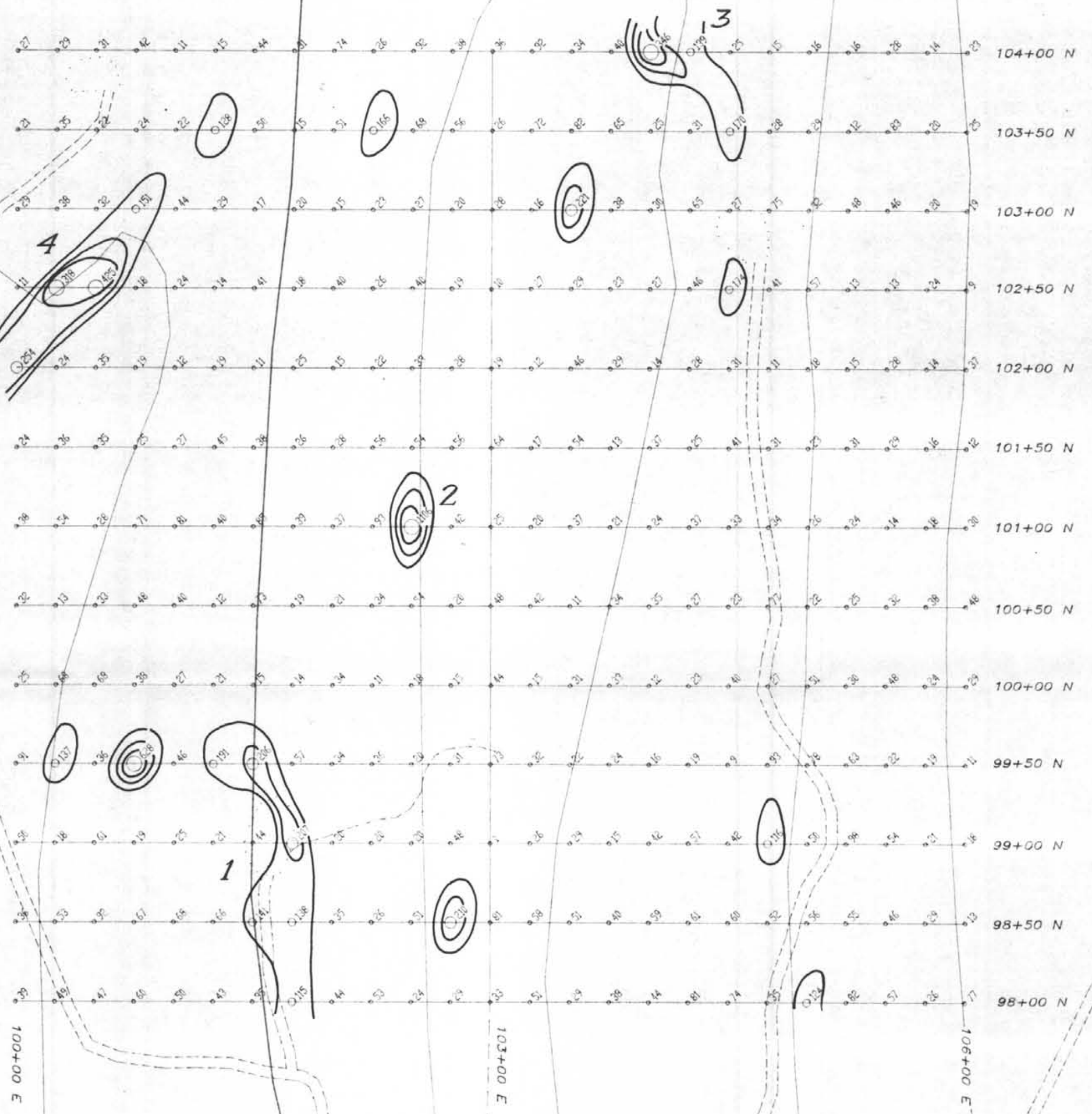
NOTE: 57,000 SHOULD BE  
ADDED TO ALL PLOTTED  
VALUES TO OBTAIN THE  
MEASURED VALUE

CONTOURS at  
800  
700  
600 gammas

Axel Creek



MAIN GRID



GEOLOGICAL BRANCH ASSESSMENT REPORT

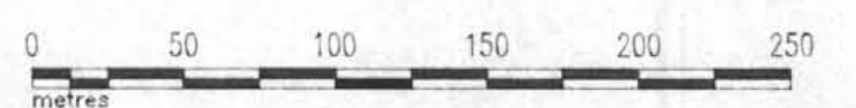
22,686

FIGURE 7

TECK EXPLORATION LTD. KAMLOOPS, BRITISH COLUMBIA

McARTHUR PROPERTY

Soil Geochemistry Cu (ppm)



DATE DRAWN: DEC. 14, 1992	SCALE: 1:2,500	DWG. NAME:
COMPILED BY: R.F.	JOB No: 1730	MCC-CU
DRAWN BY: S.A.	NTS No: 92P/9	

CONTOUR at 100 ppm  
 1 ANOMALY NUMBER DESCRIBED IN TEXT

Azel Creek



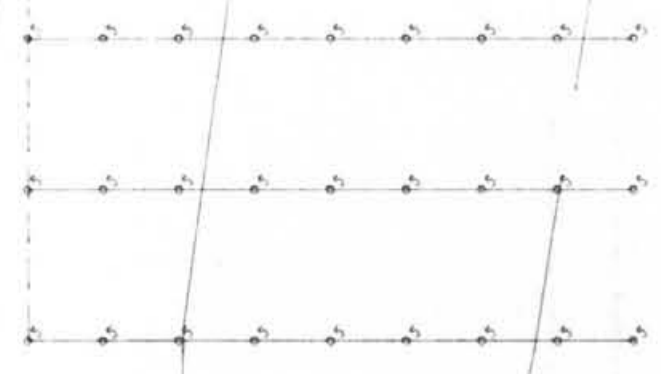
MAIN GRID

3000

3500

103+00 E

SOUTH ZONE



CONTOUR at 20 ppb

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FIGURE 8

TECK EXPLORATION LTD. KAMLOOPS, BRITISH COLUMBIA

McCARTHY PROPERTY

Soil Geochemistry Au (ppb)



DATE DRAWN: DEC. 14, 1992	SCALE: 1:2,500	DWG. NAME:
COMPILED BY: R.F.	JOB No: 1730	MCC-AU
DRAWN BY: S.A.	NTS No: 92P/9	



MAIN GRID

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FIGURE 9

TECK EXPLORATION LTD. KAMLOOPS, BRITISH COLUMBIA

McCARTHY PROPERTY

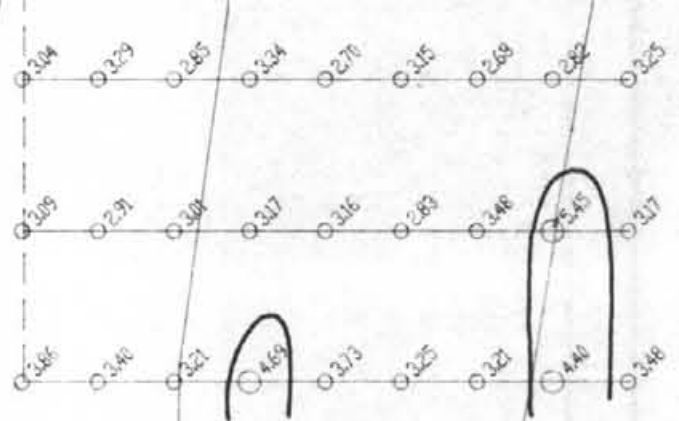
Soil Geochemistry Fe (%)



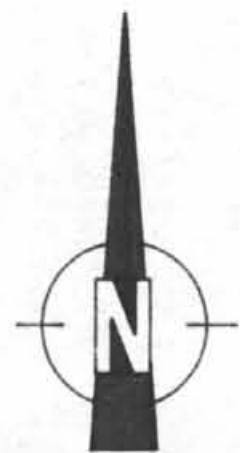
DATE DRAWN: DEC. 14, 1992 SCALE: 1:2,500  
 COMPILED BY: R.F. JOB No: 1730  
 DRAWN BY: S.A. NTS No: 92P/9

DWG. NAME: MCC-FE

SOUTH ZONE

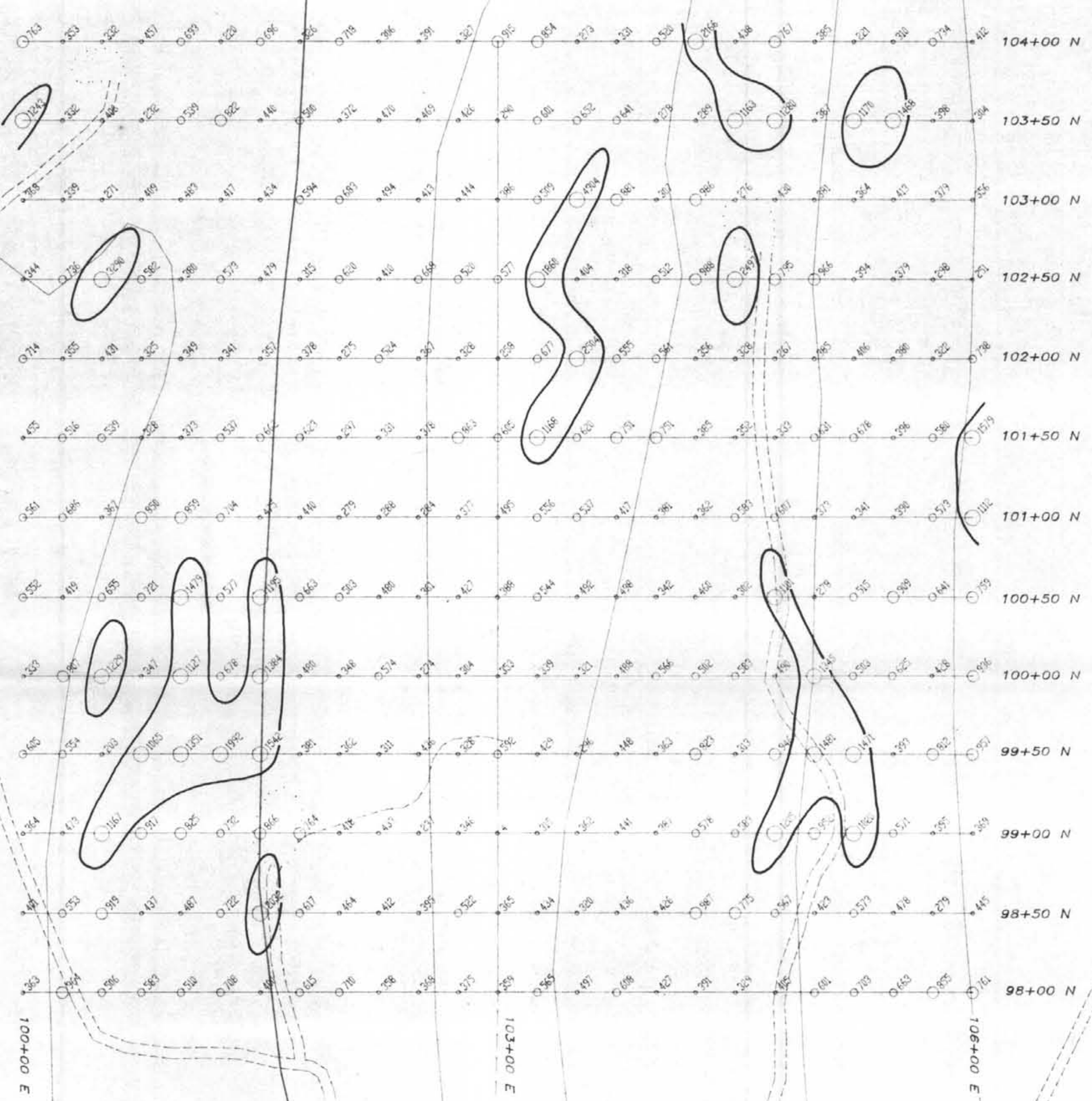


CONTOUR at 4.00 %  
 1 ANOMALY NUMBER DESCRIBED IN TEXT



Azel Creek

MAIN GRID



SOUTH ZONE

CONTOUR at 1000 ppm  
1 ANOMALY NUMBER DESCRIBED IN TEXT

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FIGURE 10

TECK EXPLORATION LTD. KAMLOOPS, BRITISH COLUMBIA

MCCARTHY PROPERTY

Soil Geochemistry Mn (ppm)



DATE DRAWN: DEC. 14, 1992	SCALE: 1:2,500	DWG. NAME:
COMPILED BY: R.F.	JOB No: 1730	MCC-MN
DRAWN BY: S.A.	NTS No: 92P/9	



Azel Creek

MAIN GRID



100+00 E

103+00 E

106+00 E

3000

3500

SOUTH ZONE



CONTOUR at 1.0 ppm  
**1** ANOMALY NUMBER  
 DESCRIBED IN TEXT

GEOLOGICAL BRANCH ASSESSMENT REPORT

**22,686** FIGURE 11

TECK EXPLORATION LTD. KAMLOOPS, BRITISH COLUMBIA

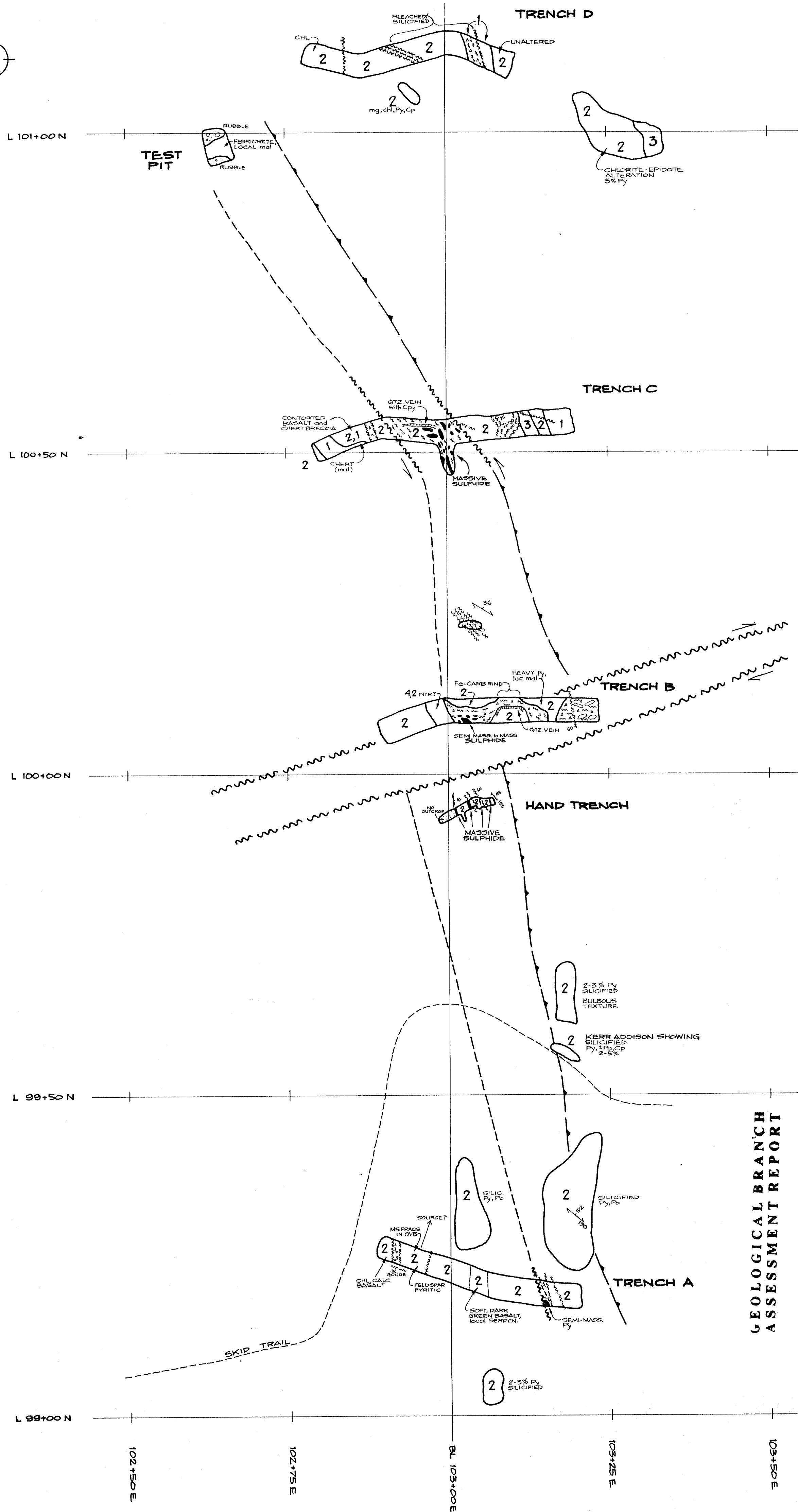
McCARTHY PROPERTY

Soil Geochemistry Ag (ppm)



DATE DRAWN: DEC. 14, 1992	SCALE: 1:2,500	DWG. NAME:
COMPILED BY: R.F.	JOB No: 1730	MCC-AG
DRAWN BY: S.A.	NTS No: 92P/9	





LEGEND

MISSISSIPPIAN-PERMIAN

FENNELL FORMATION

UPPER STRUCTURAL DIVISION

- 5 PILLOWED, VARIOLITIC BASALT, BASALT BRECCIA, PILLOW BRECCIA, LOCAL MASSIVE BASALT

LOWER STRUCTURAL DIVISION

- 4 MEDIUM GRAINED, BASALTIC DYKES or SILLS, DIORITE
- 3 SILICEOUS FELDSPAR MICROPORPHYRY DYKES
- 2 MASSIVE BASALT, LOCALLY PILLOWED or VARIOLITIC
- 1 CHERT, GREY-GREEN, LAMINATED TO THIN BEDDED LOCALLY MASSIVE

- BEDDING, INCLINED
- JOINTING
- FOLIATION
- BANDING
- CLEAVAGE
- THRUST FAULT
- NORMAL or STRIKE SLIP FAULT
- RELATIVE SENSE OF MOVEMENT INDICATED
- OUTCROP
- ROAD
- SKID TRAIL

- ALTERATION MINERALS
- ep
  - chl
  - sil
  - bl
  - Py
  - Po
  - Cp

GEOLOGICAL BRANCH ASSESSMENT REPORT

22,686

FIGURE 17

TECK EXPLORATION LTD.  
KAMLOOPS, BRITISH COLUMBIA

McARTHUR PROPERTY

TRENCH COMPILATION GEOLOGY

0 10 20 30 metres

DATE DRAWN: DEC. 16, 1992	SCALE: 1:400	DWG. NAME:
COMPILED BY: R.F.	JOB No: 1730	MCC-TCOM
DRAWN BY: S.A.	NTS No: 92P/9	