

PROPERTY EXAM

006106

# JASPER PROPERTY

VICTORIA MINING DIVISION  
VANCOUVER ISLAND, BC

NTS: 092C 088

LAT: 48°52' LONG: 124°36'

Owner:

**INSPIRATION MINING CORP.**

Prepared By:

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ARNEX RESOURCES LTD.**

Prepared For:

**Jacques Houle  
Nick Massey  
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BC Ministry of Energy and Mines**

Date:

**October 9, 2001**

**PROPERTY FILE**

092C 080

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# JASPER PROPERTY, VICTORIA MINING DIVISION

## 1. SUMMARY

The Jasper Property is owned 100% by Inspiration Mining Corp. ("Inspiration") and consists of 82 mineral claim units (2,050 hectares) located in Map Sheet 092C 088.

The Jasper Property consists of three former Minfile occurrences known as the Jasper, Tam and Pan-Easy Prospects. The ground position was consolidated under one ownership in 1994 and 1995. Inspiration optioned the Property in 1995 acquired the Property outright in December, 1996.

Exploration activities on the claims dates back to the early 1970's, when portions of the Property were explored for porphyry Cu potential and later, during the 1980's, for Volcanogenic Massive Sulphide ("VMS") potential. The majority of the Property was then logged and several new showings were exposed in road-cuts. Some of the Showings were mapped and sampled in 1994 and 1995 by the author and reconnaissance soil sampling encountered highly anomalous results.

A field exploration program was conducted by Arnex Resources Ltd. ("Arnex"), for Inspiration, during December, 1995 to June, 1996. The program consisted primarily of establishing a cut-line grid at the J-Branch Main Showing area and completing a geological, geochemical and geophysical program. The program identified drill targets where coincident geophysical and geochemical anomalies occur in a favourable geological setting.

Arnex conducted soil grid geochemical programs at the Pan area in December, 1998 and October 2000. The programs encountered very high base metal coincident anomalies, which extended beyond the sampled grids, and high-grade massive sulphide showings were sampled in outcrop.

A +four km long northward striking pyritic intensive alteration zone is present within rocks mapped as lower Jurassic Bonanza volcanics that underlie the Property. Polymetallic Massive Sulphide showings and stream sediment and soil anomalies are present in numerous locations within the alteration zone.

The alteration zone is generally present at the contact between mafic, intermediate and felsic sub-aqueous volcanic rocks, and both footwall stringer type mineralization and layered, concordant VMS style mineralization has been exposed by logging road-cuts. It is concluded that the Property offers excellent exploration potential for the discovery of a series of clustered, VMS deposits based on the large-scale size of the hydrothermal system, positive geochemical responses from areas tested to date and the presence of high grade outcrop showings in several localities hosted in a favourable geological environment.

A phased \$500,000 exploration program has been recommended.

## 2. HISTORY

### 2.1. *History Summary*

The Jasper Property consists of three former MEM Minfile occurrences known from north to south as the Jasper 1 (092C 080), Tam 16 (092C 081) and Pan-Easy (092C 088) prospects. Minfile Capsule Geology Descriptions are contained in Appendix A.

The Tam and Easy properties were originally staked in 1970 by Hudson Bay Mining and Smelting. Geological mapping, soil and rock chip geochemistry and an IP geophysical survey were carried out in 1970 and 1971. During 1971 and 1972, Marshall Creek Copper staked claims to the south of Hudson Bay's Easy claims and conducted an extensive soil sampling program on the Pan Property. In 1975, Hudson Bay carried out mapping and sampling on recently constructed logging roads on the Easy claims.

It is reported that Noranda Mines conducted a regional aeromagnetic survey during this era, but no information regarding the results were filed as a matter of public record.

The next period of exploration activity occurred in 1980 and 1981 when Malibar Mines conducted soil sampling on the Jasper Property. Also in 1980, Umex Corporation conducted a grid geochemical soil sampling program on the Easy prospect. Claims covering the Jasper prospect were eventually forfeited.

In 1984 a prospecting program was carried out by Ron Bilquest on the Jasper prospect and the J-Branch Main Zone massive sulphide showing was found in recently constructed roadcuts. The claims were restaked and optioned to Falconbridge Limited who conducted geological mapping, soil and rock geochemistry and a VLF-EM program. It is reported that Falconbridge did additional work during 1985 including packsack diamond drilling, but no Assessment Report was filed. Asamara Inc. then conducted a brief geology, soil sampling and VLF-EM program in 1987. The Jasper claims eventually lapsed following a negative recommendation by Asamara's consultant and a general lack of exploration interest in BC at the time.

The Jasper claims were relocated by Arne O. Birkeland in the summer and fall of 1994, who also staked claims covering the Tam, Easy and Pan prospects when existing claims were allowed to forfeit. This was the first time all the prospects were consolidated under one ownership. A detailed geologic mapping and sapling program was carried out in August, 1994 on the J Branch Main Showing. The Property was optioned in 1995 to Consolidated Taywin Resources Ltd., (now Inspiration Mining Corp.) who acquired the Property outright by way of a Bill of Sale, Event Number 3086088 dated May 9, 1996. A subsequent geological and grid soil geochemical program was carried out during 1995. A geological, geochemical and geophysical program was carried out between December, 1995 and June 1996 in the vicinity of the Jasper Main Showing area. Diamond drill targets were identified and additional work was recommended.

A rock and grid soil geochemical sampling program was carried out in the vicinity of the Pan Road Showing by Arnex for Inspiration in December, 1998. A poly-metallic soil anomaly was discovered trending northerly off the soil grid. The grid was extended to the north during a

subsequent program conducted in October, 2000 and additional anomalies were defined. Additional surface work was recommended for the Pan area.

## **2.2. Chronology of Selected Programs Carried Out by Previous Operators**

### **2.2.1. Hudson Bay Exploration and Development – 1970**

Following the discovery of significant chalcopyrite mineralization at the headwaters of Four Mile Creek, Hudson Bay Exploration and Development staked 97 claims and carried out a grid controlled geological mapping and soil geochemical program between June and December of 1970. This program was carried out on the Easy claims prior to the area being logged. A grid was established over an area of approximately 1000 m by 4000 m for a total of 70 line km of grid. A total of 2257 soil samples were collected on the grid and analyzed by Atomic Absorption for Cu, Ag and Mo.

Results of the geological mapping program are reported as follows:

- The Property is underlain by four rock types describes as pyroclastic andesite, felsic volcanics, siliceous rhyolite to dacite volcanics and diorite porphyry dykes and sills.
- The geologic units trend north – south with variable dips.
- Four Mile Creek “probably” follows a north – south fault zone and east – west cross faulting is indicated by side creeks (Figure 6, DEM Image Hillshade).
- Pyrite mineralization is widespread. Chalcopyrite with pyrite was observed at a number of locations and particularly occurs in the siliceous rhyodacite volcanics. Galena, sphalerite and pyrite veins were located at the north end of the grid.

The soil grid delineated extensive Cu soil anomalies primarily on the east side of lower Four Mile Creek and at the upper headwater junction of the creek. Numerous values of >500 ppm Cu are present with values ranging as high as 1305 ppm. Ag and Mo anomalies are much more restricted than Cu, but are anomalous in areas of highest Cu concentrations.

Hudson Bay concluded, “*Results of work to date indicate further exploration is warranted*”.

### **2.2.2. Hudson Bay Exploration and Development – 1971**

During the period July to September of 1971, an IP time domain geophysical survey was carried out over portions of the 1970 grid.

Several well defined resistivity lows were delineated in areas of anomalous Cu – Mo soil geochemistry from the 1970 survey. Chargeability anomalies to 33.5 mv/v were also present.

Assessment Report No. 3649 states "*The survey located several strong chargeability anomalies which, when correlated with soil sampling and rock assay data, appear to be particularly interesting*". Packsack diamond drilling was recommended.

### **2.2.3. Marshall Creek Copper Mining Co. – 1971, 1972**

A grid controlled prospecting and soil geochemical survey was carried out by Marshall Creek Copper between July 1971 and May 1972 on the Pan claims located on the southern lower portion of Four Mile Creek north of the Caycuse River, south of the Hudson Bay Easy claim group. It is reported that at this time a logging road crossed the claims, but access was restricted.

A total of 1400 soil samples were taken over 40 line km of cut grid. Samples were analyzed by atomic absorption for Cu only. Nine rock chip samples were also taken and assayed for Cu, Au and Ag.

It is reported that background values for Cu in soil are 50 ppm Cu. Assessment Report No. 3671 states "*Siliceous andesites show appreciable sized areas of anomalous Cu bearing soils 2 to 10 times background.*"

A massive and disseminated pyrite and chalcopyrite showing was found and trenched hosted in siliceous andesite in an area of anomalous soil geochemistry. Best values were 5.4% Cu and 0.24 oz/ton Ag over 3.5 feet. A short distance away, a 9.0 foot width returned a composite assay grade of 0.7% Cu.

The report summarizes "*The claims are underlain by Bonanza volcanics intruded by quartz feldspar porphyry and mineralized by pyrite, bornite and chalcopyrite. The geochemical survey reflects this mineralization with high anomalous Cu bearing soils about mineralized outcrop areas.*"

### **2.2.4. Hudson Bay Exploration and Development – 1975**

Rock geochemistry, prospecting and mapping were carried out in November 1975 on the Easy claim group by Hudson Bay Exploration and Development. At this time a logging road had been built to the Four Mile Creek bridge and logging operations were being carried out on the claims. Thirty eight rock chip samples were taken along the road cuts.

Rock chip anomalies were found in the vicinity of previous soil anomalies > 300 ppm Cu, and also at the Pan Road Showing. Assessment Report No. 5857 concludes "*The rock geochemistry work proved to be very useful in the area it was carried out. It indicated that Cu soil anomalies that had been outlined previously were probably close to their source.*"

The report also states that "*In May, 1972, 161 years of assessment (diamond drilling) was applied.*" The author of this Technical Report has not been able to find any public record of the diamond drilling that was reported to have been carried out.

### **2.2.5. Umex Corporation – 1980**

Limited geochemical soil sampling was done in April 1980 by Umex in the vicinity of the Easy prospect. The exact location of the soil grid was not plotted. Numerous logging roads are plotted and it is presumed that the area was being logged at that time.

One anomalous sampled returned values of 1300 ppm Cu and 1580 ppm Zn.

### **2.2.6. Falconbridge Limited - 1984**

A program of geologic mapping, soil and rock chip sampling, VLF geophysics and litho geochemistry was conducted by Falconbridge during the field season of 1984 on the Jasper prospect. The Property was undergoing active logging at the time and the Jasper Main Showing was discovered outcropping at the junction of two road cuts on a ridge between Jasper and Four Mile Creeks.

Massive sulphides at the Main Showing were reported to occur across a 28 metre road cut section. Cu values averaged 1.2% Cu over eight massive sulphide sections sampled.

A VLF-EM16 geophysical survey was conducted over a three line km grid in the area of the Main Showing. Three minor anomalies were found, one of which is over the Main Showing. Additional work was recommended and was reportedly carried out during the 1995 field season, but no Assessment Report was filed.

### **2.2.7. Asamara Inc. – 1987**

A limited geologic mapping, rock chip and soil sampling program was carried out in July 1987 by Taiga Consultants for Asamara Inc. on the Jasper Main Showing.

Geologic mapping revealed that the Main Showing lies within a mafic volcanic unit where it is in contact with an intermediate volcanic sequence. The northwest trend of the massive sulphide mineralization is concordant with geologic trend of the volcanic stratigraphy. A major alteration zone was mapped trending southerly from the Main Zone towards the Tam-Easy prospect on Four Mile Creek. Anomalous soil geochemistry was found to be associated with the alteration zone.

Despite the fact that one rock chip sample taken from the Main Zone assayed 0.9% Cu and 25.6% Zn, in the opinion of the author of Assessment Report No. 17,105 "*Several small, widely scattered, low-grade Cu/Zn mineralized occurrences were delineated which are localized within lengthily, narrow, fracture/alteration zones. The current work, together with a re-interpretation of previously obtained data, suggests that the Property does not display significant potential for hosting volcanogenic polymetallic massive sulphide deposits.*"

### **2.2.8. Arnex Resources Ltd. - 1994**

Detailed mapping and sampling were carried out at the J Branch Main Showing during August, 1994 by Arnex. For reference to the Jasper soil and geophysical grid, the Main Showing is centered on the baseline (5000E) at 5000N.

Two massive sulphide bands of true width between 0.4 to 2.7 metres were mapped and sampled over a strike length of 44 metres (Figure 13). Composite Assay Intervals are presented as Table 2.

The twelve samples taken from the two lenses averaged 2.2% Cu, 3.1% Zn and 304 ppb Au over an average true width of 0.8 metres. Best weighted assay intervals are 2.7 metres true width of 2.05% Cu, 3.24% Zn and 284 ppb Au (includes 1.0 metre of 4.65% Cu, 7.33% Zn and 335 ppb Au) and a second interval of 2.0 metre true width that returned values of 2.39% Cu, 2.43% Zn (includes 1 metre of 3.46% Cu, 4.04% Zn). It is reported that "Packsack" core drilling in this area by Falconbridge intersected 1.34 metres grading 1.65% Cu, 3.52% Zn and 6.0 g/t Ag.

### **2.3. Chronology of Exploration Programs Carried Out by Inspiration Mining Corp**

Field exploration programs consisting of mapping, rock chip sampling and grid soil geochemistry were carried out by Arnex for Inspiration on the Jasper J Branch Main Showing area during the field seasons of 1995 and 1996. Orientation geophysical surveys were also conducted in 1996.

Grid soil geochemical surveys were carried out by Arnex for Inspiration at the Pan Road Showing area during the fall of 1998 and 2000. Descriptions and results of the four Inspiration programs are detailed in Section 5, Exploration.

### **2.4. Property Geology**

No Property scale geologic map has been compiled for the Jasper, Tam and Pan Minfile occurrences from the detailed mapping that has been done on a local scale by various parties over the years. A compilation of this nature goes beyond the scope of this technical report and would best be done by correlation of geologic units and inputting data into a GIS database system such as MapInfo which has been used to prepare some of the maps contained in this technical report.

From historical mapping, the Property geological setting can be described as follows:

The Jasper claims are underlain by mafic to felsic volcanic rocks that have been previously mapped as Bonanza group. The northern portion of the Property (Jasper occurrence) is underlain by a northwest trending sequence of intermediate flows and flow breccias that are flanked to the east by mafic flows. Units appear to have a moderate dip to the southwest. A wedge shaped body of felsic flows overlies the mafic rocks to the east. Felsite dykes intrude the intermediate and mafic volcanics, some of which are likely feeders to the younger felsic flows. Often the intermediate and mafic flows and flow breccias are massive and bedding orientation is impossible to determine. Minor thin intercalations of pyritic argillite are present within the volcanic sequence.



The central and southern portions of the Property (Tam and Pan occurrences) are underlain by mafic and intermediate volcanic sequences. Felsic volcanics occur at higher elevations on the eastern portion of the claims. Local foliation is oriented north-south. Within the alteration zone, protoliths are obliterated in macroscopic outcrop scale and individual units are difficult to correlate and map.

All rocks are intruded by lower Jurassic "andesite and gabbro" dykes that are coeval with the Bonanza volcanics and by felsite dykes of the Catface sequence.

## **2.5. Structure and Alteration**

A late major fault suture cuts Vancouver Island from the mouth of the Carmanah River on the West Coast to Qualicum Beach on the East Coast (Figure 12, Regional DEM Hillshade, Southwestern Vancouver Island). The Pan and Tam occurrences along Four Mile Creek and the J Branch Main Showing on Jasper Ridge occur along this major fault structure. A north trending gossanous alteration zone with a strike length greater than 4 kilometers underlies the Jasper Property along the fault from the Caycuse Creek drainage in the south to the Nitinat Valley in the north. The alteration zone is characterized by moderate to intense argillization and silicification accompanied by ubiquitous pyrite flooding. The alteration zone is generally concordant with the foliation and stratigraphy throughout its strike length. Based on the huge volume of intensely altered rock present, a very major period of hydrothermal activity has taken place along the strike length of the system. The Jasper and Pan Grid areas are partially underlain by the intense alteration zone. On the Pan grid, ferrocrete and till commonly overlie the alteration zone and have the effect of "masking" residual soil anomalies.

Steeply dipping, cross cutting, north trending fractures, shears and fault gouge zones are prevalent within the alteration zone and form the recessive valley containing Four Mile Creek. Coincident narrow fault and fracture zones often emanate as a conjugate set at right angles to the main north trending fault system and control second order drainages that are the side creeks of the main Four Mile Creek drainage system.

Offsets of all structures are not known as units have not been mapped across structures. Local brittle faulting commonly causes minor offsets to massive sulphide lenses in outcrop.

## **3. DEPOSIT TYPES**

The deposit classifications being explored for on the Jasper Property include Kuroko and Besshi volcanogenic massive sulphide ("VMS") type deposits.

The Jasper Property exhibits the following characteristics common to VMS geological settings:

- Mineralization is hosted in an Island Arc succession of subaqueous mafic to felsic volcanic and volcanoclastic units.
- The Four Mile alteration zone lies along a prominent north trending fault, which dissects Vancouver Island as is evident on the Regional DEM Hillshade map. It is interpreted that

# Regional DEM Image Hillshade

### Topographic Layers

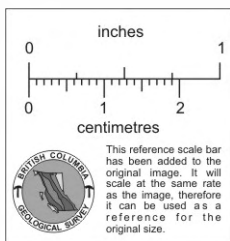
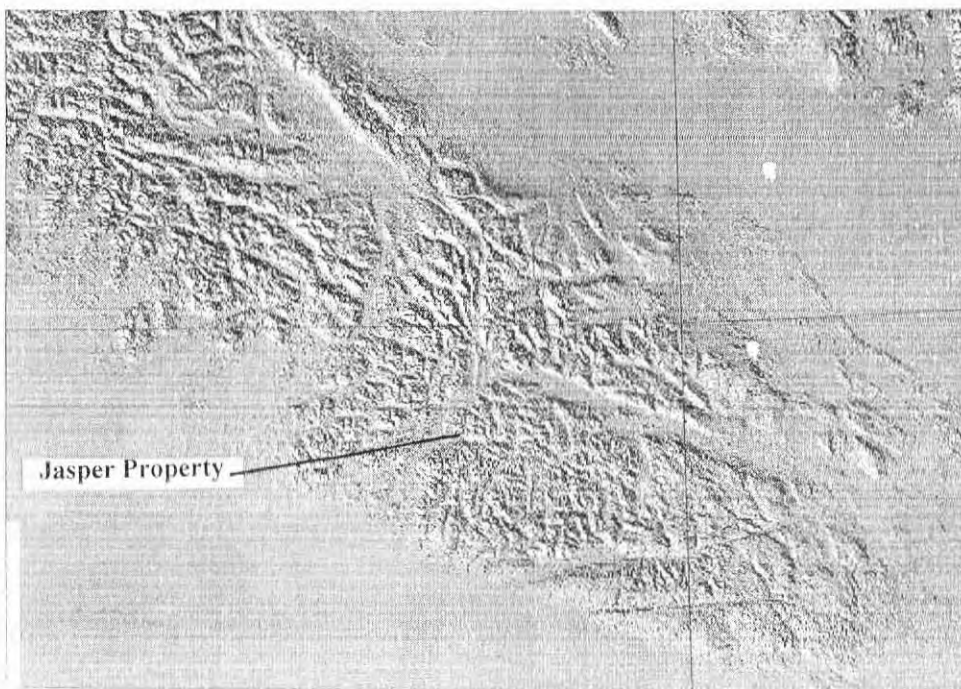
Grid 1:250K maps

### Raster Layers

DEM image hillshade

BC Border 1:2M (<2M)

Border 1:250K (<2M)



*A O Birkeland*  
*May 8, 2001*

*Inspiration Mining Corp.*  
 Jasper Property

## Regional DEM Image Hillshade Southwestern Vancouver Island

MD: Victoria      NTS: 092  
 Date: May 8, 2001  
 Compiled by A O Birkeland, PEng

**Figure 12**

the fault and alteration zone represents a failed rift or grabben margin fault along which volcanic centers and associated VMS deposits were deposited.

- At the Jasper Property, massive sulphide showings are often stratabound with (poorly developed) foliation and mineralized zones often occur at the contacts between volcanic units. Cross cutting stringer style feeder zone mineralization is present in footwall volcanics.
- At the J Branch Main Zone, chlorite alteration is present in the structural footwall of the zone. Chert is present in the structural hangingwall and is interpreted to be an exhalite horizon. Barite and chert also overlie massive sulphide mineralization in at least two localities at the Pan Road Showing area.
- Massive sulphide mineralization in outcrop commonly demonstrates compositional banding or crude layering of chalcopyrite, sphalerite and pyrite. Large (up to 1 metre) massive sulphide fragments are present in some massive sulphide lenses, which also contain (co-genetic) mafic, felsic and chert wallrock fragments.
- A characteristic volcanogenic mineral assemblage containing Cu, Zn, Pb, Ag, Au, Ba, and Cd is present.

## 4. MINERALIZATION

### 4.1. Mineralization

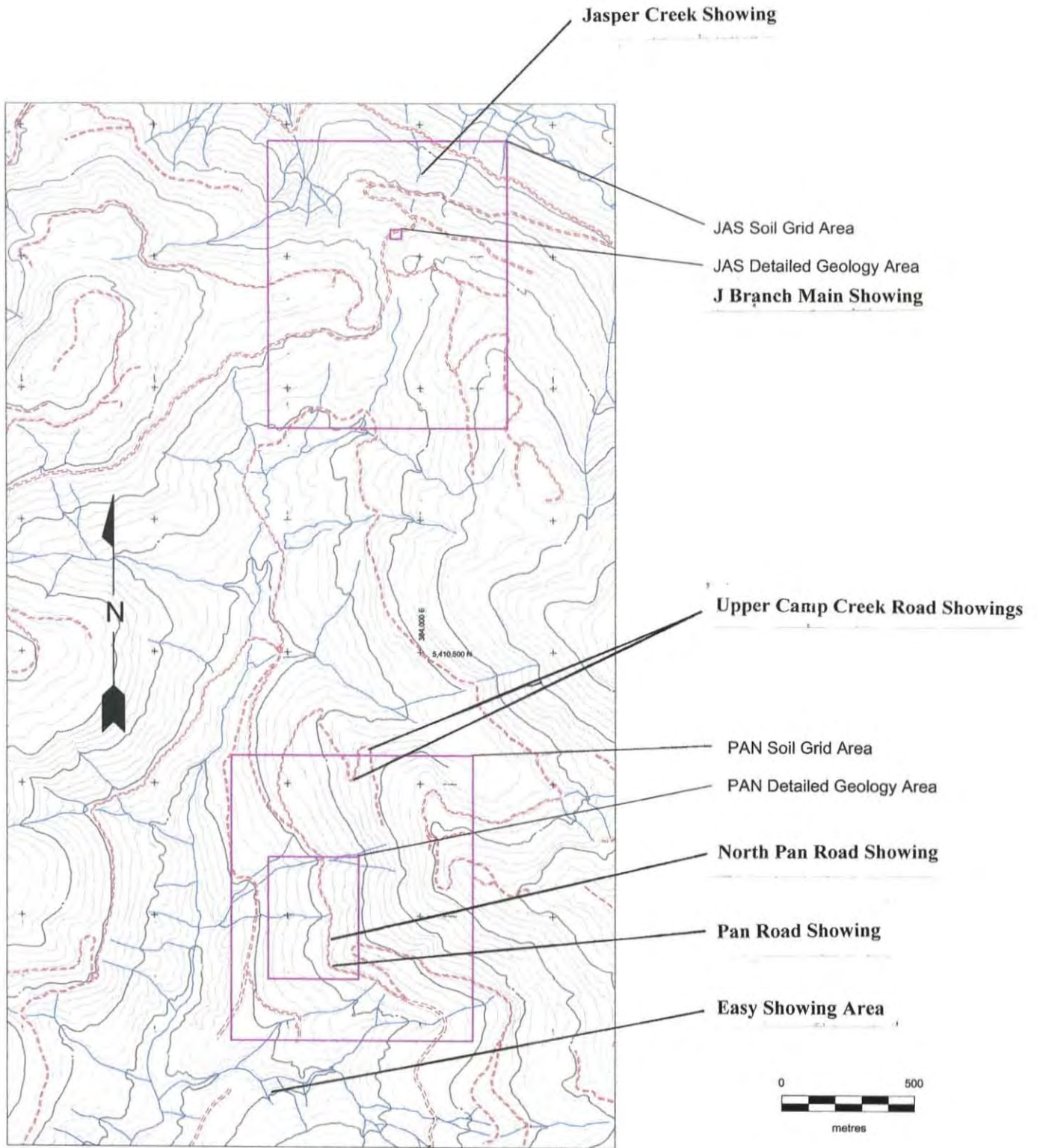
Six high-grade Cu, Zn +/- Pb sulphide showing areas have been sampled by the Arnex-Inspiration programs carried out between 1994 to 2000 (Figure 14). Summary widths and grades are contained in Sections 6.2.8 and 6.3 of this report.

The two showings of principle interest are the Jasper J-Branch Main Showing and Pan Road Showing.

#### 4.1.1. Mineralization – Description – J-Branch Main Showing

At the J-Branch Showing, semi-massive to massive pyrite, chalcopyrite, sphalerite and minor galena outcrops in logging road-cuts on Jasper Ridge. Two massive sulphide bands of true width between 0.4 and 1.3 metres separated by 5 metres of chloritic mafic volcanics outcrop over a strike length of 44 metres (Figure 13).

Twelve channel samples were taken during the 1994 program from the massive sulphide lenses that returned a weighted average grade of 2.1% Cu, 3.2% Zn and 304 ppb Au over an average true width of 0.8 metres.

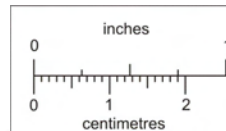


Base Map:

Projection: UTM Zone 10  
 Datum: NAD83  
 Original Scale: 1:20,000  
 Contour Interval: 20m



*A. O. Birkeland*  
 May 8, 2001



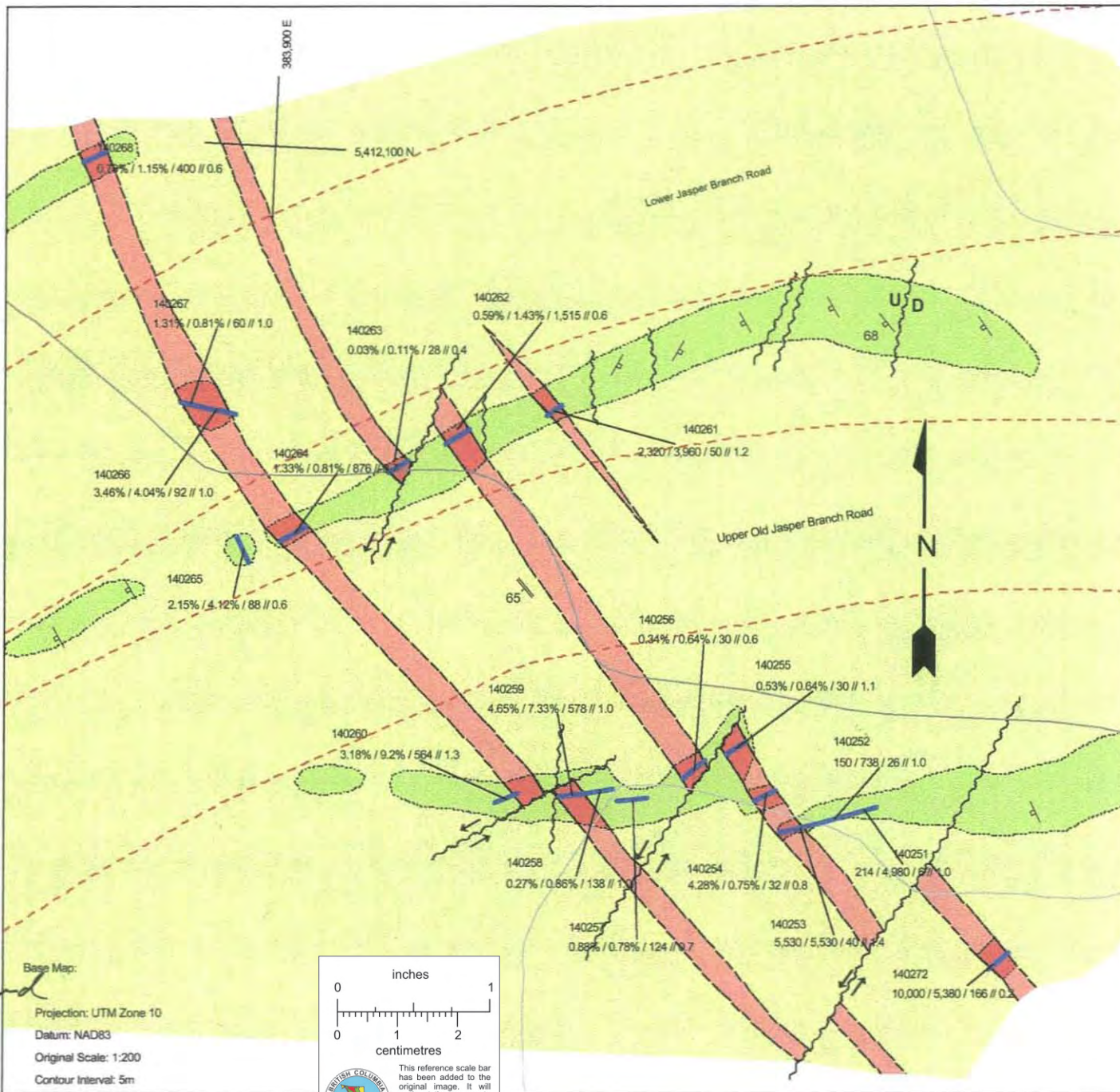
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**Inspiration Mining Corp**  
**Jasper Property**  
 Location Map  
 JAS and PAN Grids & Detail

April 2001

Fig: 14

GIS and Compilation by Cyberquest Geoscience Ltd  
 for Amex Resources Inc.

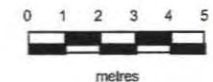


**Legend**

- Inferred
- Outcrop
- Unit 2
- Massive sulphide

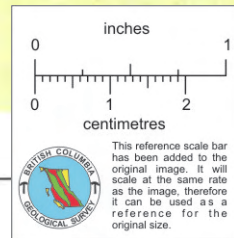
**140261**  
Cu / Zn / Pb // m

- chip sample trace with sample data
- fault
- foliation
- contact attitude



*A. O. Birkeland*  
May 8, 2001

Base Map:  
Projection: UTM Zone 10  
Datum: NAD83  
Original Scale: 1:200  
Contour Interval: 5m



**Inspiration Mining Corp**  
**Jasper Property**  
Chip Sample Locations  
Detailed JAS Geology & Sampling  
April 2001 Fig. 13  
GIS and Compilation by Cyberquest Geoscience Ltd  
for Amex Resources Inc.

The best (weighted) intervals include the following:

Sample Number	True Width (metres)	Cu %	Zn %	Au ppb	Ag ppm
140254	0.8	4.3	0.8	245	24
140257 to 140259	2.7	2.1	3.2	284	13
140260	1.3	3.2	9.2	125	12
140265	0.6	2.2	4.1	165	6
140266 to 140267	2.0	2.4	2.4	70	7

The mineralization consists of 70% to 90% pyrite, 5% to 20% sphalerite, 1% to 5% chalcopyrite and minor amounts of galena. The sulphides are medium to coarse grained and commonly display crude banding imparted by compositional and textural variations. In places, large crudely banded massive sulphide fragments and volcanic wallrock fragments are contained within a finer grained massive sulphide matrix.

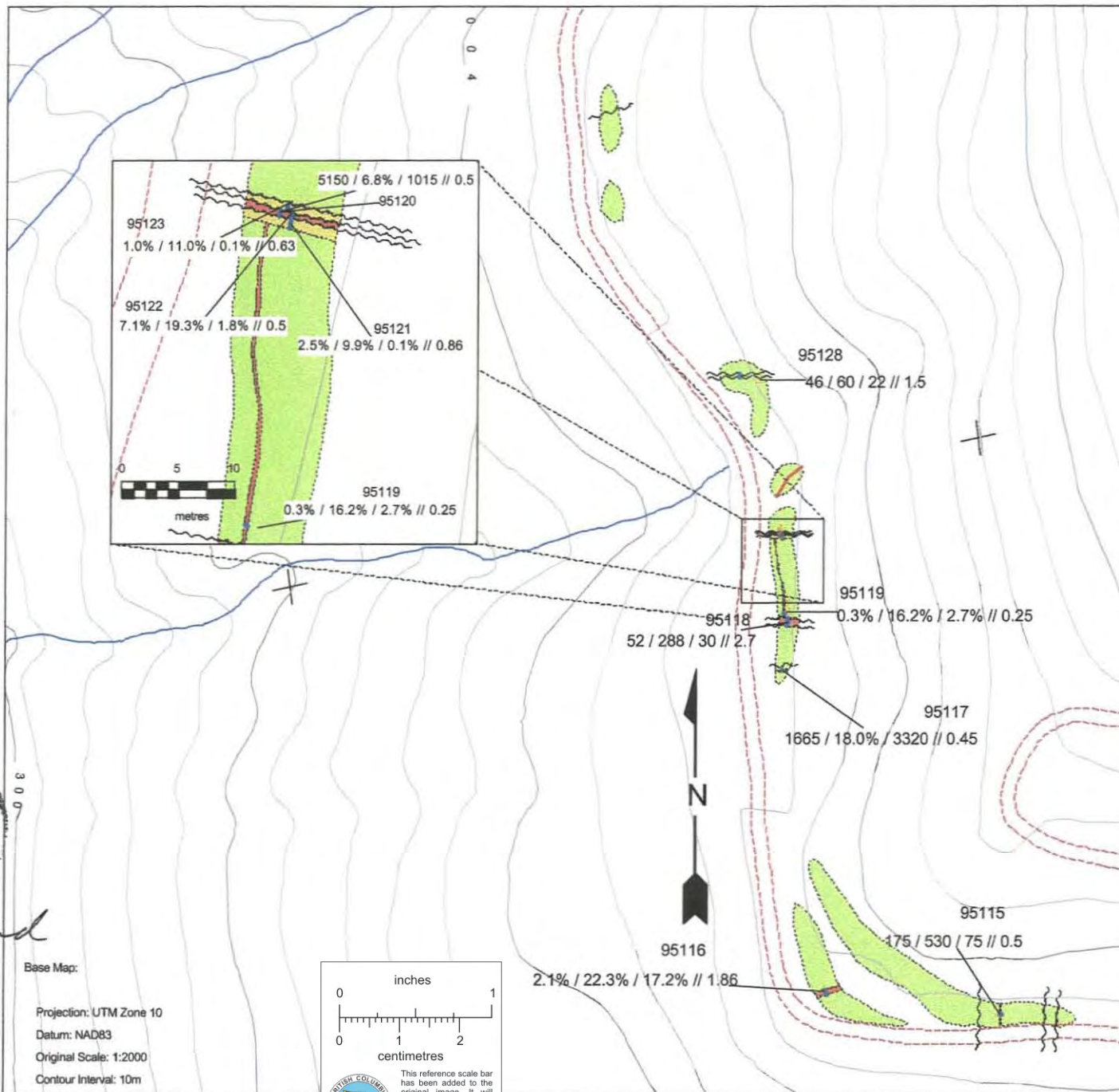
The mineralization is hosted in feldspar phyric mafic flows. The massive sulphide bands are generally concordant to jointing, and to the contact between intermediate and mafic volcanic units.

Although the massive sulphide bands are commonly offset by north and northeast trending fractures and small displacement faults, there is good continuity to the mineralization over its exposed 44 metre strike length. The southeastern strike extension of the mineralization is covered by till which contains blocks of semi-massive to massive sulphides. The northwest strike extension is covered by colluvium and trends down the slope towards Zinc Creek.

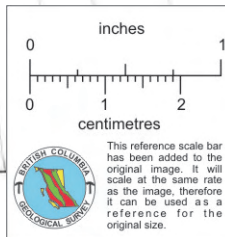
#### **4.1.2. Mineralization – Description – Pan Road Showing Area**

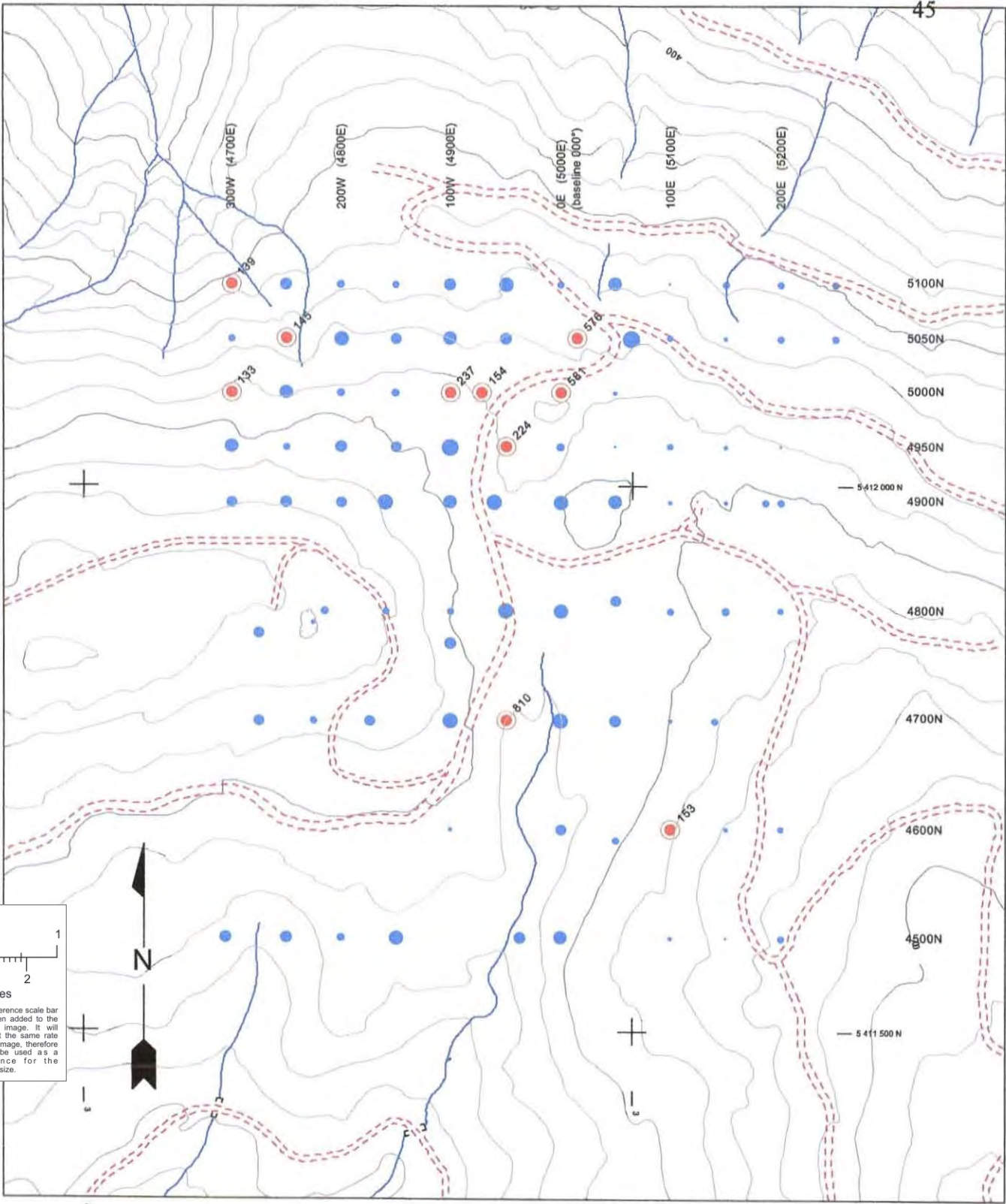
Two showings outcrop in Caycuse Main road-cuts at the Pan Road Showing (Figure 21, Detailed Pan Geology and Sampling).

At the northern showing, massive stringer style mineralization is present in a crosscutting sheared alteration zone. The up-slope trend of the zone is covered by ferrocrete and gossanous till that returned highly anomalous soil geochemical results and the down-slope trend is covered by the roadbed.



*A. O. Birkeland*  
*May 8, 2001*





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centimetres

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Base Map:  
 Projection: UTM Zone 10  
 Datum: NAD83  
 Original Scale: 1:5,000  
 Contour Interval: 20m

50 0 50 100

PROFESSIONAL  
 PROVINCE OF  
 A. O. BIRKELAND  
 BRITISH COLUMBIA  
 ENGINEER

Cu in ppm

237	≥ 130
●	129
●	65
●	13

**Inspiration Mining Corp  
 Jasper Property**

Copper in Soils  
 Combined JAS grid

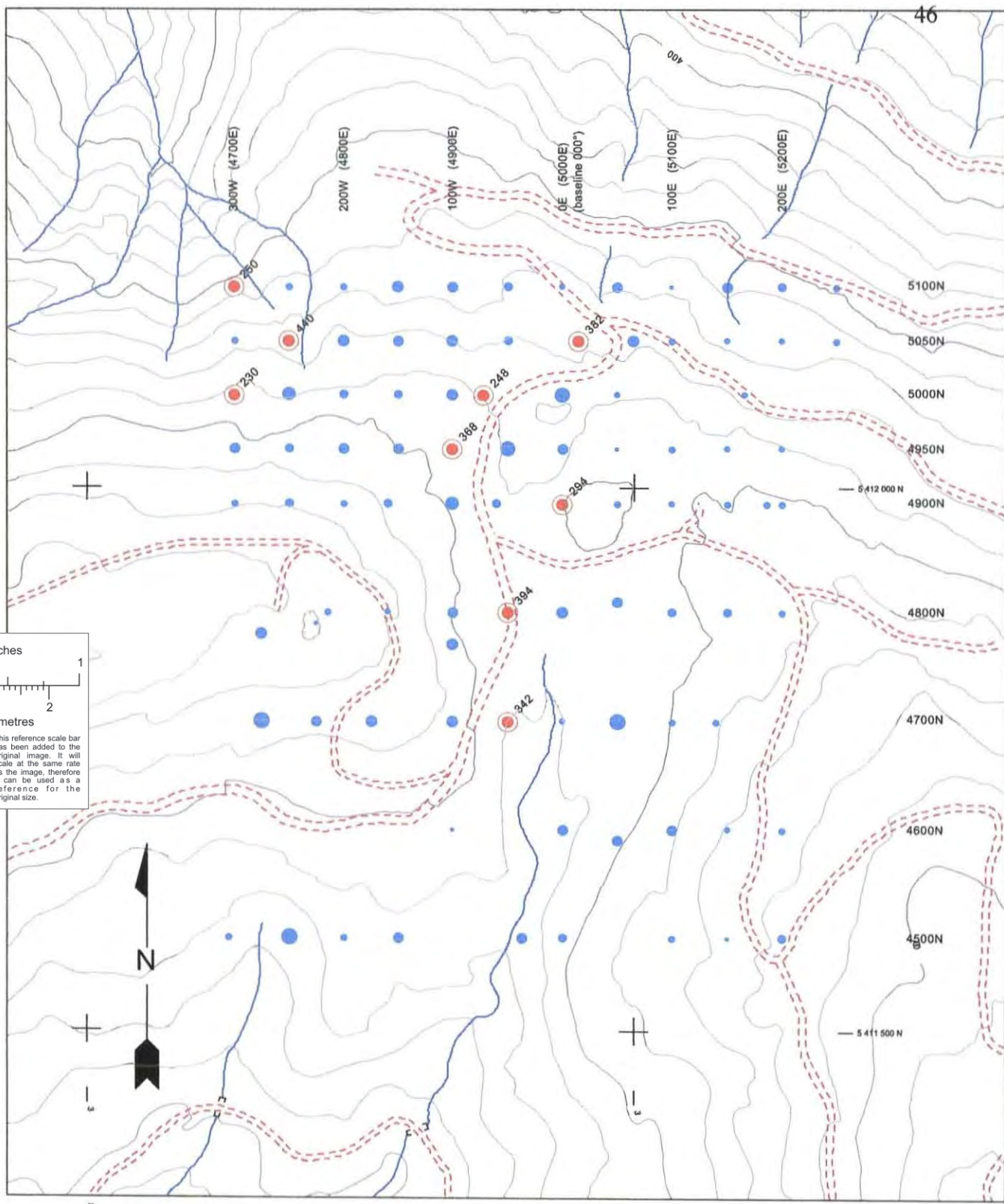
April 2001

Fig: 16

GIS and Compilation by Cyberquest Geoscience Ltd  
 for Amex Resources Inc.

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 May 8, 2001*





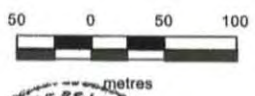
inches  
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Base Map:

Projection: UTM Zone 10  
Datum: NAD83  
Original Scale: 1:5,000  
Contour Interval: 20m



*A. O. Birkeland*  
*May 8, 2001*

Zn in ppm

237 >= 220

219

107

21

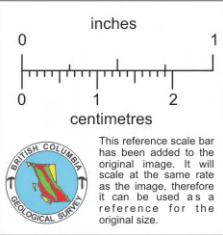
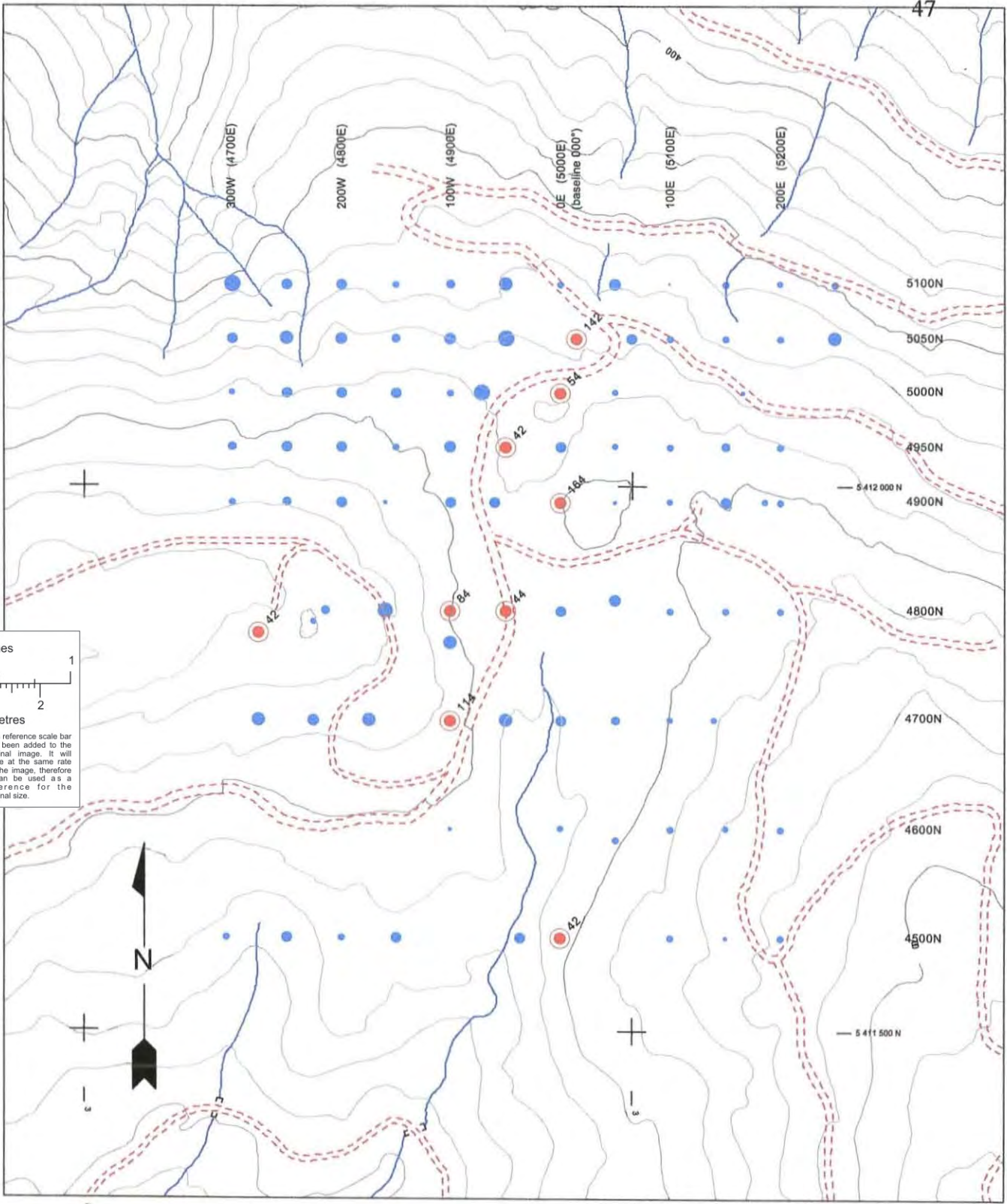
**Inspiration Mining Corp  
Jasper Property**

Zinc in Soils  
Combined JAS grid

April 2001

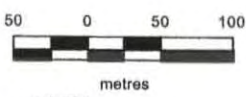
Fig: 17

GIS and Compilation by Cyberquest Geoscience Ltd  
for Amex Resources Inc.



Base Map:

Projection: UTM Zone 10  
 Datum: NAD83  
 Original Scale: 1:5,000  
 Contour Interval: 20m



Pb in ppm



**Inspiration Mining Corp  
 Jasper Property**

Lead in Soils  
 Combined JAS grid

April 2001

Fig: 18

GIS and Compilation by Cyberquest Geoscience Ltd  
 for Amex Resources Inc.



*A. O. Birkeland*  
 May 8, 2001

A composite weighted interval across the stringer zone returned the following values:

Sample Number	True Width (metres)	Cu %	Zn %	Pb %	Au ppb	Ag ppm
95121 to 95123	2.0	4.6	17.4	0.9	152	58

Of geological significance is a massive sulphide layer emanating from the stringer zone that is exposed in the road-cut over a strike length of approximately 30 metres. The massive sulphide band consists of coarse "black-jack" sphalerite containing lesser amounts of galena. The sulphide layer is hosted in, and is concordant to, argillically altered intermediate flows and tuffs. The sulphide band is faulted off to the south by a second crosscutting stringer zone containing anomalous base metal values. A channel sample across the sphalerite layer assayed 16.2% Zn and 2.7% Pb over 0.25 metres.

At the southern Pan Road Showing, a massive sulphide lense outcrops in the logging road-cut and roadbed. Massive sphalerite and galena occur in highly argillically altered and pyritized mafic (?) flows. The up-slope eastern extension of the lense is faulted off. The massive sulphides outcrop in the roadbed and then are covered by road-fill on the western down-slope trend of the zone.

The massive sulphides occur as massive sphalerite and galena containing up to 5% chalcopyrite. The sulphides are capped by a thin 0.25 metre thick barite-chert exhalite horizon. A 2.0 metre massive sulphide boulder on the west side of the road also has a barite exhalite cap preserved intact.

A representative channel sample across the sulphide lense assayed as follows:

Sample Number	True Width (metres)	Cu %	Zn %	Pb %	Au ppb	Ag ppm
95116	1.9	2.1	22.3	17.2	15	26

## 5. EXPLORATION

### 5.1. Consolidated Taywin Resources (Inspiration Mining Corp) – 1995

A 38 man-day field exploration program was conducted on the Jasper and Pan prospects during August, 1995. The fieldwork consisted of geologic mapping, rock, soil and stream sediment sampling. Thirty nine rock chip samples, 133 soil and 40 stream sediment samples were taken.

Figures 16 to 20 show results for selected elements from the combined 1995-1996 soil grids for the Jasper J Branch Main Showing area.

Table 3 is a Statistical Summary of Sediment Samples taken as part of the BC MEMPR Regional Geochemical Survey (RGS 24) conducted in 1988. Extensive soil and stream sediment sampling from western Vancouver Island has demonstrated continuity between hydromorphically transported elements in both stream sediment and soil sample mediums. Thus Threshold Values for determining soil anomalies at the Jasper and Pan Grids can be established as defined by the regional sediment values listed in Table 3.

**Table 3**

**Statistical Summary of Sediment samples – 599 Samples  
BC MEMPR RGS 24 – GSC OF 2128  
Anomalous threshold values for lower Jurassic Bonanza Group**

<b>Element</b>	<b>90th percentile</b>	<b>95th percentile</b>	<b>99th percentile</b>
Gold	70 ppb	200 Ppb	680 ppb
Copper	74 ppm	111 Ppm	129 ppm
Lead	9 ppm	11 Ppm	41 ppm
Silver	0.1 ppm	0.2 Ppm	0.3 ppm
Zinc	124 ppm	170 Ppm	215 ppm

The 99<sup>th</sup> percentile was used to determine anomalous values for Cu, Zn, Pb, Au and Ag. Normally the 90<sup>th</sup> or 95<sup>th</sup> percentile would be used to establish thresholds. However, soil values are so high on the Jasper Property, particularly at the Pan grid that the 99<sup>th</sup> percentile was used.

In terms of soil geochemical dispersion, Zn is most mobile and forms soil anomalies furthest from the mineralized source. Cu and Ag are less mobile, and Pb and Au anomalies are closest to source.

Anomalous polymetallic soil values were delineated by the soil grid at the J-Branch Main Showing area. Values of up to 810 ppm Cu and four samples >248 Zn occur within a +400 metre long anomalous area associated with the Four Mile alteration zone and the J Branch Main Showing area. Ag and Pb anomalous values are also present. The Pb anomalies are considered to be most proximal to source. Strongly anomalous Pb-Zn-Ag values at Jasper grid co-ordinates 4900N and the Baseline (5000E) indicate mineralization similar to the J Branch Main Showing (100 metres to the north) is present in this area.

Strongly anomalous Cu-Zn-Ag soil values area also present in the headwaters of Zinc Creek on the northwest corner of the soil grid.

Rock chip sampling during 1995 of a massive sphalerite showing outcropping in a logging road-cut at the Pan Road Showing returned values of 4.6% Cu, 17.4% Zn and 17.2% Pb over a 2.0 metre width (Figure 21 and Table 6). A massive sphalerite lense outcropping in the logging road and road-cut approximately 100 metres to the south assayed 2.1% Cu, 22.3% Zn and 17.2% Pb over a width of 1.9 metres (Detailed Map, Figure 21). Approximately 700 metres to the north, anomalous Cu and Zn values are exposed over a 3.6 metre width. Stream sediment and road bank soil sampling were highly anomalous in this area.

## **5.2. Consolidated Taywin Resources (Inspiration Mining Corp) – 1996**

A 123 man-day field exploration program was conducted by Arnex Resources Ltd. on the Jasper Property during the period December, 1995 to June, 1996. The fieldwork consisted of grid linecutting, geologic mapping in selected areas over a 1,000 hectare area, rock chip sampling, grid soil geochemical sampling, and stream sediment sampling. Fifty three rock chip and 84 soil and stream sediment samples were taken. Table 7 lists 1996 Analytical Results for Soil and Stream Sediment Geochemistry and locations and results are plotted on Figures 15 to 20.

In addition to the geochemical surveys, geophysical orientation surveys were conducted by S J Geophysics Ltd consisting of Magnetometer, VLF-EM, Horizontal Loop EM and Induced Polarization Test Surveys on the Jasper prospect.

Anomalous soil geochemical values were extended to the south on the combined soil grid at the Main Showing. Also verified was a cluster of anomalies occurring at the northwestern most extent of the grid. Values of up to 145 ppm Cu, 440 ppm Zn and 0.6 ppm Ag are present in four strongly anomalous sites over 100 m.

Stream sediment sampling in Zinc Creek down drainage from the soil anomalies returned anomalous values of up to 215 ppm Cu and 1545 ppm Zn. Stream sediment sampling in Jasper Creek also returned significant results extending the potential mineralized zone to the north. Au is anomalous at 5 sample sites with Cu - Zn values as high as 103 and 218 ppm respectively.

Massive sulphide float boulders and new mineralized showings (plotted on Figure 14, Location Map) were discovered by following up previous anomalous results and are summarized as follows:

### **5.2.1. Jasper Creek Showings**

Anomalous Cu-Zn-Ag values are associated with narrow veinlets containing massive pyrite in Jasper Creek. Veinlets and chloritized mafic volcanic host rocks suggest stringer style mineralization is present. A 0.3 m angular massive sulphide float bou' der, probably originating from the nearby canyon wall on the north side of the creek, contained crudely banded pyrite and chalcopyrite and returned values of >1% Cu and 120 ppb Au.

### 5.2.2. Upper Camp Creek Road Showings

Several new showings were found by prospecting the road-cuts of Upper Camp Creek in the vicinity of the Easy and Pan occurrences. Both footwall stringer zone mineralization and massive sulphide float boulders are present. Two massive pyrite - chalcopyrite lenses are present at the lower switchback at an elevation of 550 metres and returned assays of up to 8.9% Cu with anomalous Zn - Au - Ag over a 0.4 metre width. The lenses strike southeasterly, stratabound with the silicified tuff or silica exhalite host.

Approximately 100 metres away on strike, seven narrow massive polymetallic sulphide showings occur over an additional strike length of 100 metres. Best results include 2.3% Cu over 0.7 metres and 1.0% Cu over 0.8 metres and anomalous Zn, Au (to 136 ppb), and Ag.

Approximately 200 metres further along the general south east trend, a narrow 1.0 metre wide massive pyrite showing contains anomalous Ba, Ag, Pb, and Mo. Narrow polymetallic massive sulphide showings are indicated over a total strike length of at least 400 metres and are oriented stratabound to the felsic volcanic sequence and the main Four Mile Alteration Zone.

### 5.2.3. Pan Road Showing Area

Two narrow massive pyrite - chalcopyrite lenses occur 100 metres east of the Pan Road Showing and probably represent the strike extension of the Pan Road zone. Values of 1% Cu over 0.2 metres with anomalous Zn, Au, Ag, and Mo are present. Verification sampling from the massive sulphide lense at the Pan Road Showing returned assays of 0.5% Cu, 10.2% Zn, 12.6% Pb and 45 ppb Au over a true width of 0.8 m.

### 5.2.4. Easy Showing Area

Narrow pyrite breccia zones were mapped at the Easy showing approximately 400 metres north of the Pan showings. A massive sulphide float boulder contained 1.8% Cu was found in the same area.

Geophysical orientation Test Surveys were conducted by S J Geophysics on the Jasper prospect area as part of the 1995-1996 program. It should be noted that the geophysical surveys were carried out over some very rugged terrain in winter and weather conditions (snow) prevented completion of the HLEM survey. In addition, indistinct VLF-EM anomalies may be due to the poor direction to both VLF-EM stations used. There is very limited interpretation and detail contained in the Conclusion section of the report.

In part, the report concludes the following:

*"There is an HLEM and IP chargeability anomaly located at the baseline on 5000N (centered on the J Branch Main Showing). Both the HLEM and the IP indicated that the good part of the anomaly has no apparent depth extent or strike extent."*

Based on a review of the maps and profiles, the author offers the following observations and interpretations:

1. The Main Showing lies immediately to the west of a strong magnetic anomaly  $>55100\text{nT}$  that extends from at least Line 4800N to line 5100N (Total Field Magnetics, Colour Contours, and Compilation Map, Mag – VLF-EM). The contrast between high magnetic values on the east and low on the west may represent a geological contact between felsic volcanics (containing sulphides and magnetite) to the east and mafic volcanics to the west. The massive sulphide showings may be associated with the geological contact. The contrasting magnetics can be used to extrapolate drill targets on Lines 4800 N to 5100N.
2. IP chargeability and resistivity profiles and a HELM and IP Survey Compilation Map are contained in Appendix B. At the Main Showing on Line 5000 N, a strong chargeability and resistivity anomaly is present and persists to depth with an apparent dip to the east. The same feature is moderately anomalous on Line 4950 N and to a lesser extent on Line 5050 N. The profiles define drill targets on the three lines surveyed.
3. Very strongly anomalous IP values are present on the western border of the grid. The IP anomalies are coincident with Cu-Zn-Ag soil anomalies. As recommended in the geophysical report, the grid should be expanded in this area.

Based on the 1995-1996 work, assessment Report 24716 concludes:

*“A northerly trending extensive argillic pyritic alteration zone with a strike length  $>5$  km extends up the drainage of Four Mile Creek and crosses the height of land at the J Branch Main Showing and extends northwesterly down Zinc Creek. Within the alteration zone, three documented Minfile occurrences are present which have seen historical geological, geochemical and prospecting programs conducted with encouraging results and at least seven mineralized showing areas are known to exist.”*

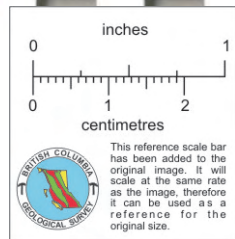
### **5.3. Inspiration Mining Corp – 1998**

A grid based exploration program was conducted on the Pan prospect area by Arnex for Inspiration during December, 1998. Seventy soil samples and six rock chip samples were taken from the “South Grid” area.

Numerous poly-metallic soil geochemical anomalies were detected by the grid, many of which were from orange coloured gossanous soils associated with the alteration zone (Figures 22 to 27).

The geochemical values for all elements with the exception of Zn appear to be increasing to the north. The most anomalous soil sample result returned 2590 ppm Pb, 2460 ppm Cu, 480 ppm Zn and 185 ppb Au. Other high values for several samples for selected elements include ranges for Cu between 200 – 750 ppm, for Zn between 314 – 536 ppm and for Pb between 200 – 424 ppm.

Four showings were sampled in outcrop. Values ranged between 2.0% to 4.9% Cu, 4.5% to 17.0% Pb, and 18.0% to 32.0% Zn with values of up to 76.8 ppm Ag and 315 ppm Au over widths between 0.4 to 2.1 metres. A continuous chip sample from a large float boulder on the other side of the road from the Pan Road Showing that appears to have come from the

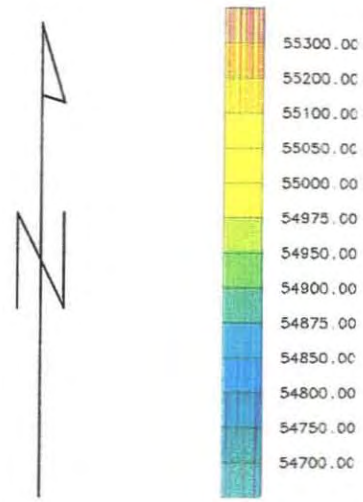
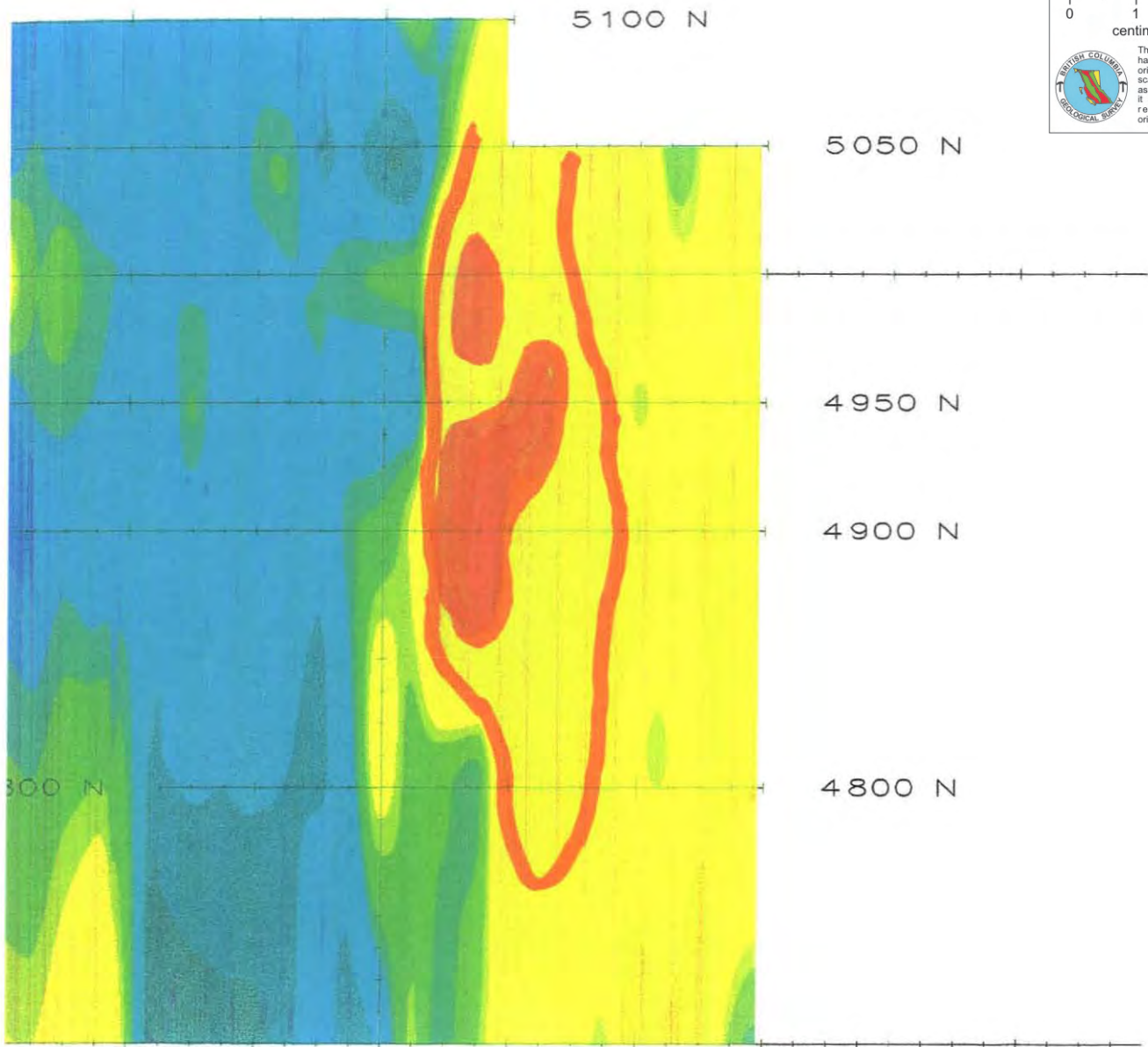


FIELD UNIT: EDA OMNI PLUS Proton Magnetometer  
and VLF-EM System

MAGNETICS:

MAXIMUM VALUE: 55641.04 nT

MINIMUM VALUE: 54691.30 nT



# ARNEX RESOURCES LTD JASPER PROPERTY

NTS: 92C/15

Victoria M.D., B.C.

## TOTAL FIELD MAGNETICS COLOUR CONTOURS



SCALE AS SHOWN

*SJ Geophysics Ltd.*

December 1995

Plate C

1 00 W      50 W      0      50 E      1 00 E      1 50 E      2 00 E      2 50 E      3 00 E

3 00 N

5 100 N

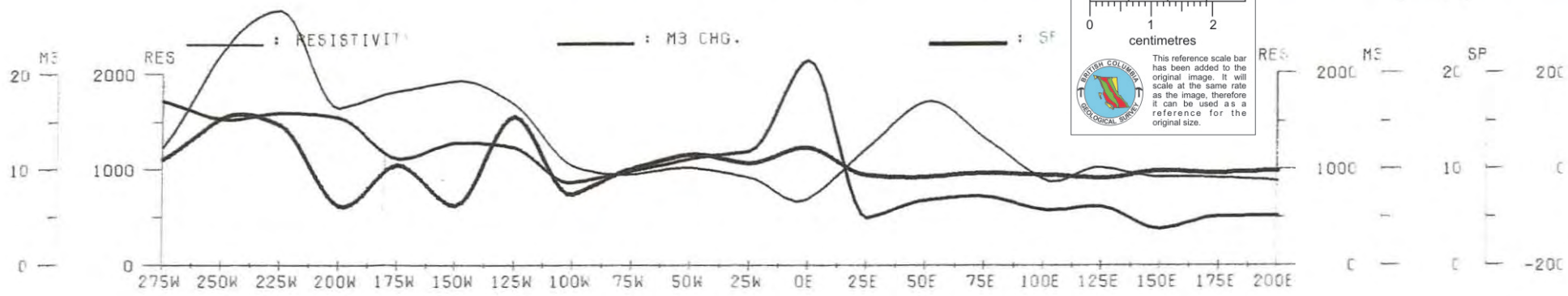
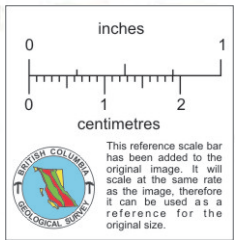
5 050 N

4 950 N

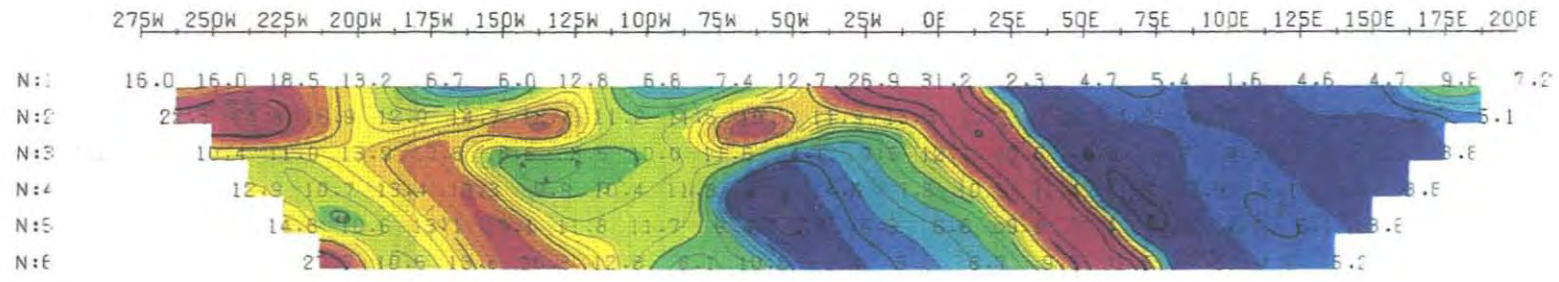
4 900 N

4 800 N

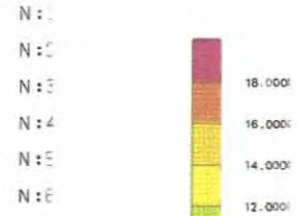




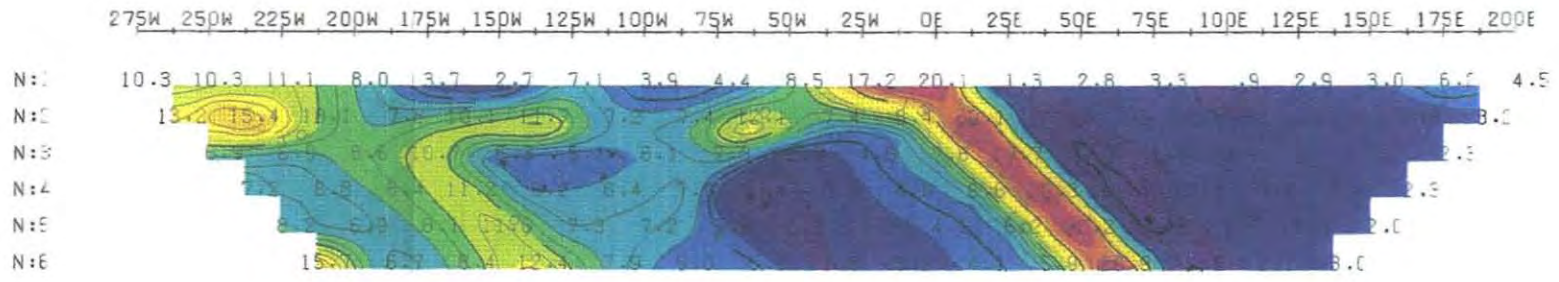
G.



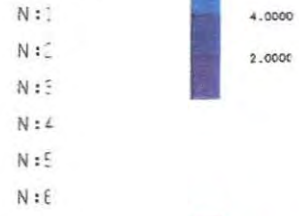
M3 CHG.



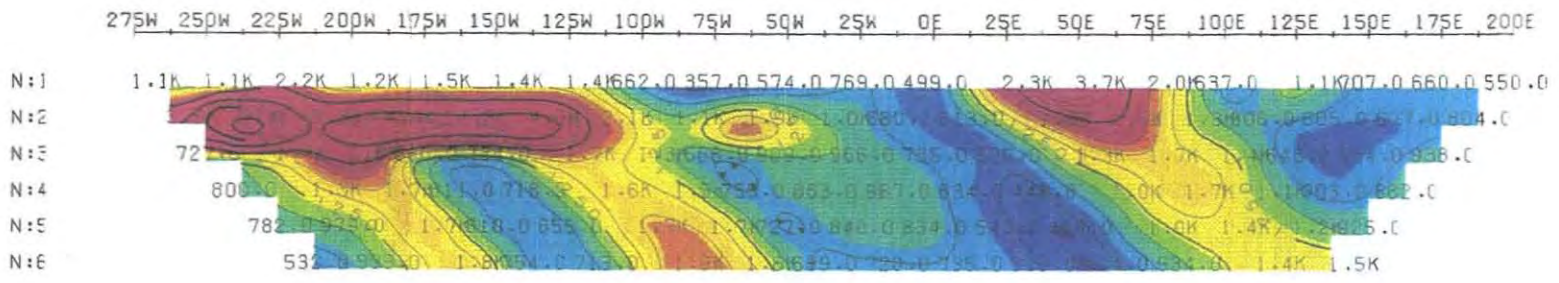
G.



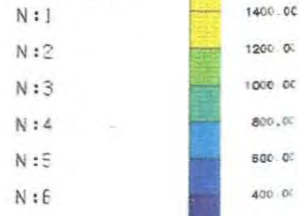
M6 CHG.



TIVITY



RESISTIVITY



mineralized outcrop or from beneath the road-bed returned 2.7% Cu, 17.0% Pb and 31.7% Zn over an apparent width of 1.2 m. Massive sulphide was observed outcropping in the roadbed.

Assessment Report No. 24232 concludes:

*“The numerous poly-metallic soil geochemical anomalies detected by the soil grid indicate base metal mineralization is present within the intense alteration zone that partly underlies the soil grid upslope from the anomalies.”*

*Values for most elements generally increase to the north and are highest on the northern most line. Intense alteration and massive sulphide feeder style mineralization is present in road-cuts stratigraphically beneath the covered hillside where the geochemical anomalies are present. A buried northward striking massive sulfide lense or bed may be present beneath or up-slope from the geochemical anomalies.”*

It was recommended that the soil grid should be extended to the north and up-slope to the east to close off the soil anomalies.

#### **5.4. Inspiration Mining Corp – 2000**

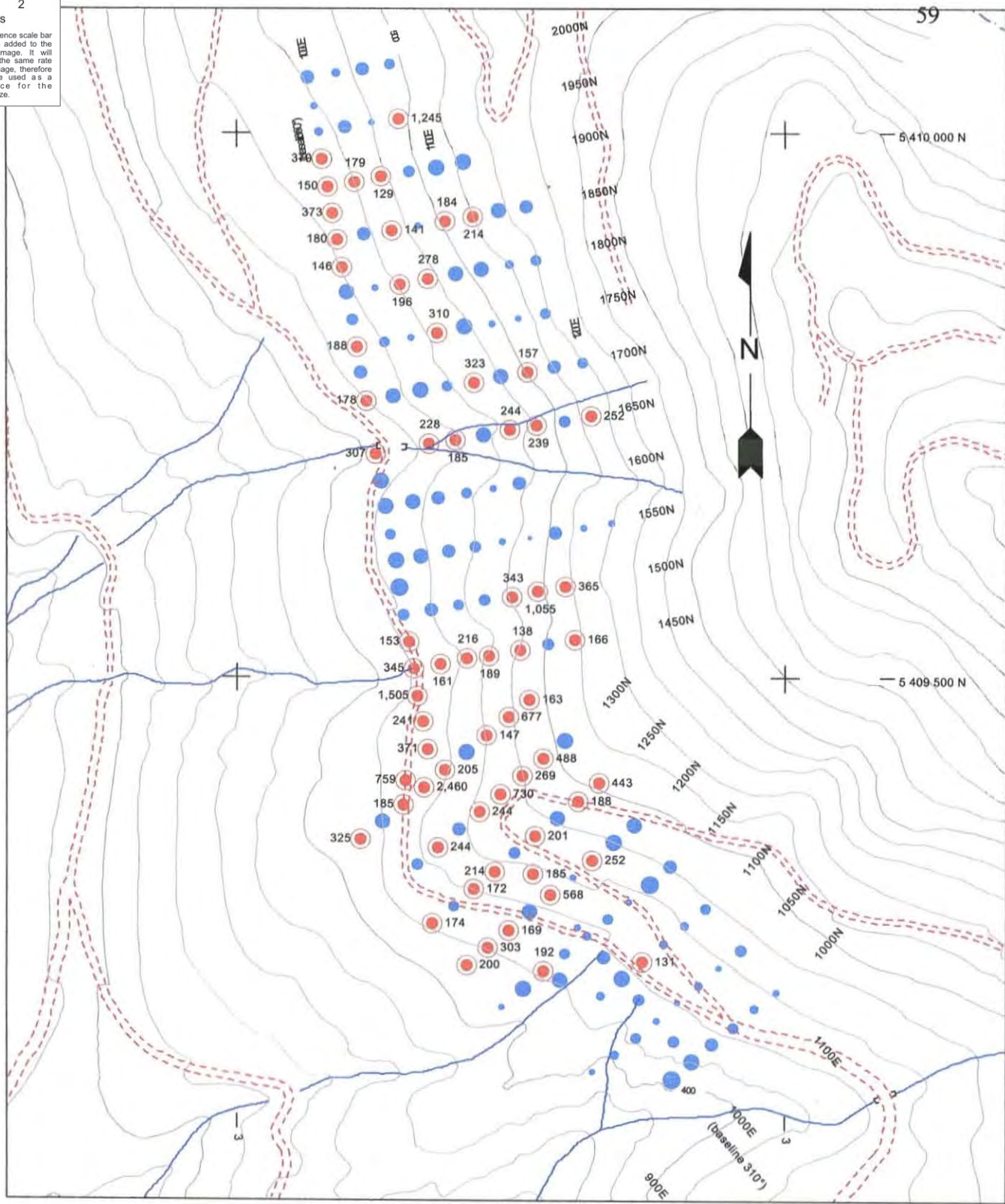
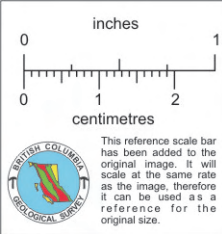
A grid geochemical exploration program was conducted on the “Central” and “North” Pan Soil Grids by Arnex for Inspiration during October, 2000. One hundred soil, four moss mat and six rock chip samples were taken over a 650 metre by 200 metre grid (Figures 22 to 27).

The 2000 program extended the 1998 grid 650 metres northward. As was similar to results from the 1998 South Pan Soil Grid, numerous poly-metallic soil geochemical anomalies were detected by the Pan Central and Pan North Grids, many of which were from orange coloured gossanous soils associated with the alteration zone. Three principle anomalous areas were identified. Best results are present in the South Anomaly where soil values of up to +1000 ppm Cu-Zn-Pb and rock values of 1.5% Cu are present. Both the Central and North Anomalies also contain extensive soil anomalies >99<sup>th</sup> percentile that are open up-slope to the east.

The number of soil and moss mat samples, from a total of 104, with results greater than the 99<sup>th</sup> percentile for selected elements are as follows:

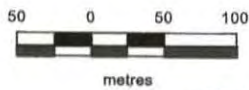
<b>Element</b>	<b>Number of Samples &gt; 99<sup>th</sup> percentile</b>	<b>Highest Values</b>
Copper	38	1505, 1245 ppm
Zinc	19	1095, 1070 ppm
Lead	16	1735 ppm
Gold	0	245 ppb
Silver	21	7 ppm

Only a very restricted number of rock samples were taken as the focus of the Year 2000 program was to conduct grid soil sampling. The most significant rock sample taken was from a location where a very high poly-metallic soil anomaly was found by the 1998 Survey. Several large



Base Map:

Projection: UTM Zone 10  
 Datum: NAD83  
 Original Scale: 1:5,000  
 Contour Interval: 20m



Cu in ppm



**Inspiration Mining Corp  
 Jasper Property**

Copper in Soils  
 Combined PAN grid

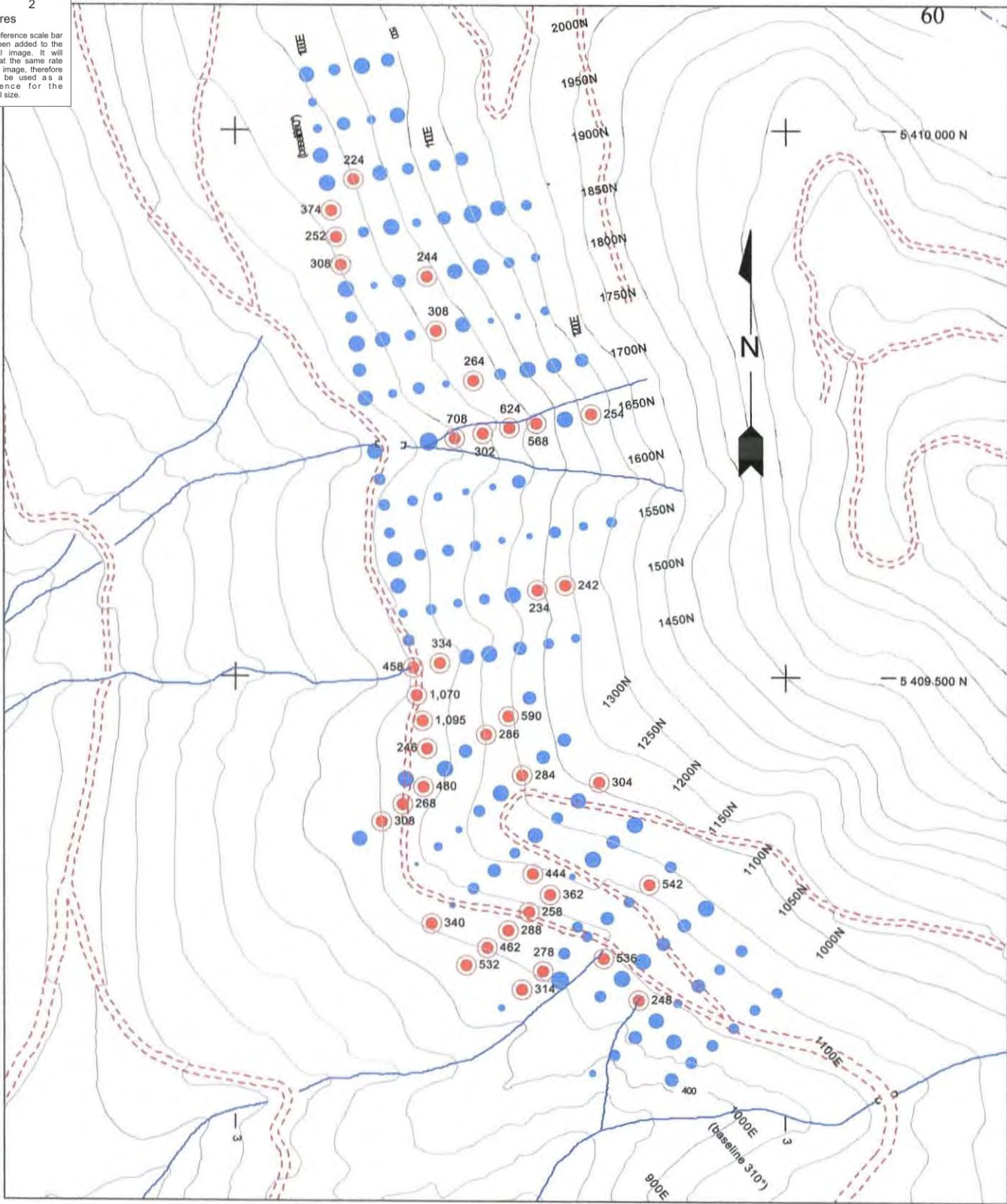
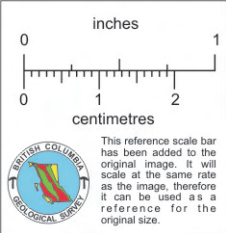
April 2001

Fig: 23

GIS and Compilation by Cyberquest Geoscience Ltd  
 for Amex Resources Inc.



*A O Birkeland  
 May 8, 2001*



Base Map:  
 Projection: UTM Zone 10  
 Datum: NAD83  
 Original Scale: 1:5,000  
 Contour Interval: 20m



Zn in ppm  
 253 (red circle) >= 220  
 (blue circle) 219  
 (small blue circle) 107  
 (dot) 21

**Inspiration Mining Corp  
 Jasper Property**

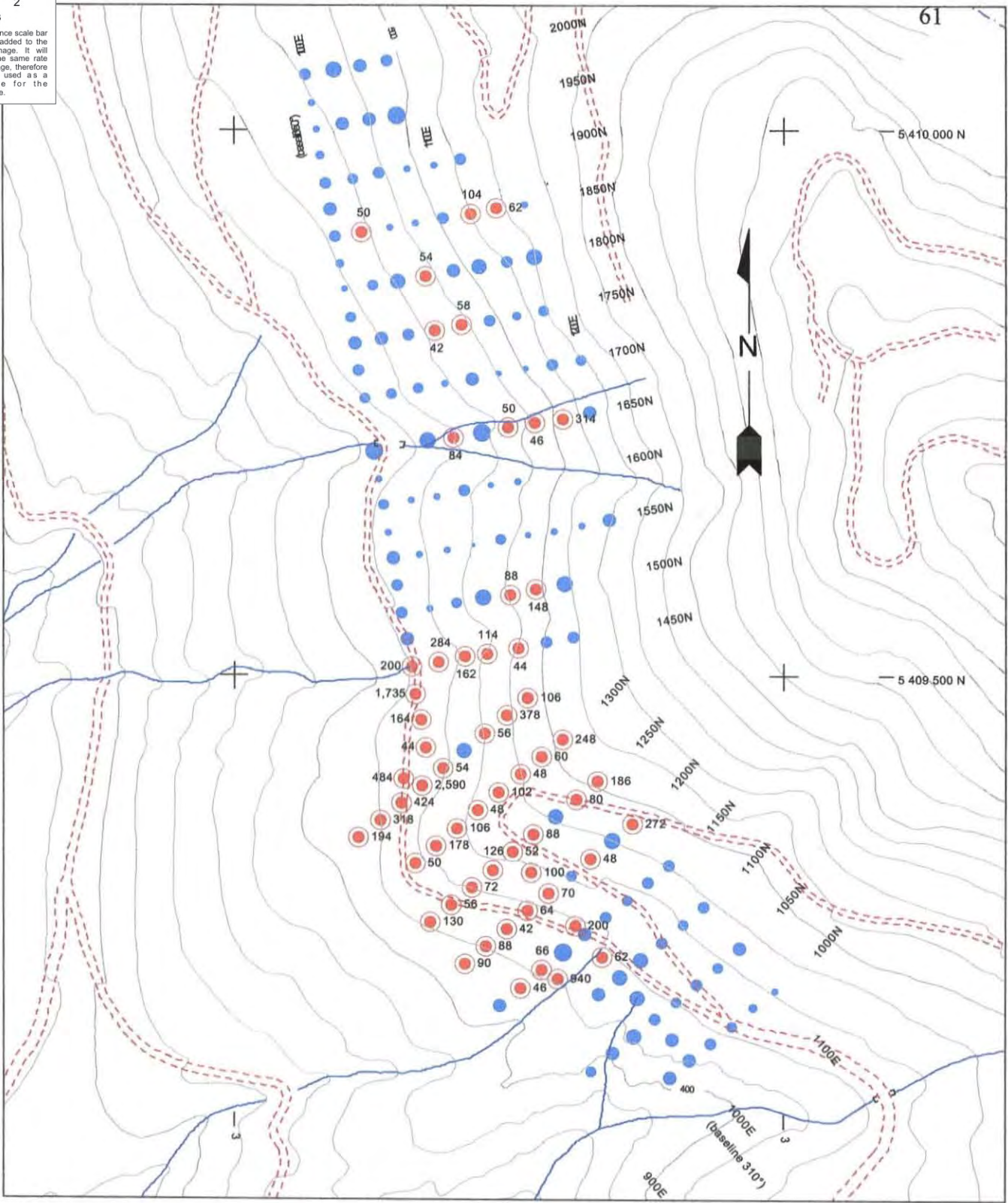
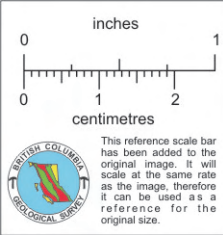
Zinc in Soils  
 Combined PAN grid

April 2001 Fig: 24

GIS and Compilation by Cyberquest Geoscience Ltd  
 for Amex Resources Inc.



*A. O. Birkeland  
 May 8, 2001*

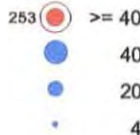


Base Map:

Projection: UTM Zone 10  
 Datum: NAD83  
 Original Scale: 1:5,000  
 Contour Interval: 20m



Pb in ppm



**Inspiration Mining Corp  
 Jasper Property**

Lead in Soils  
 Combined PAN grid

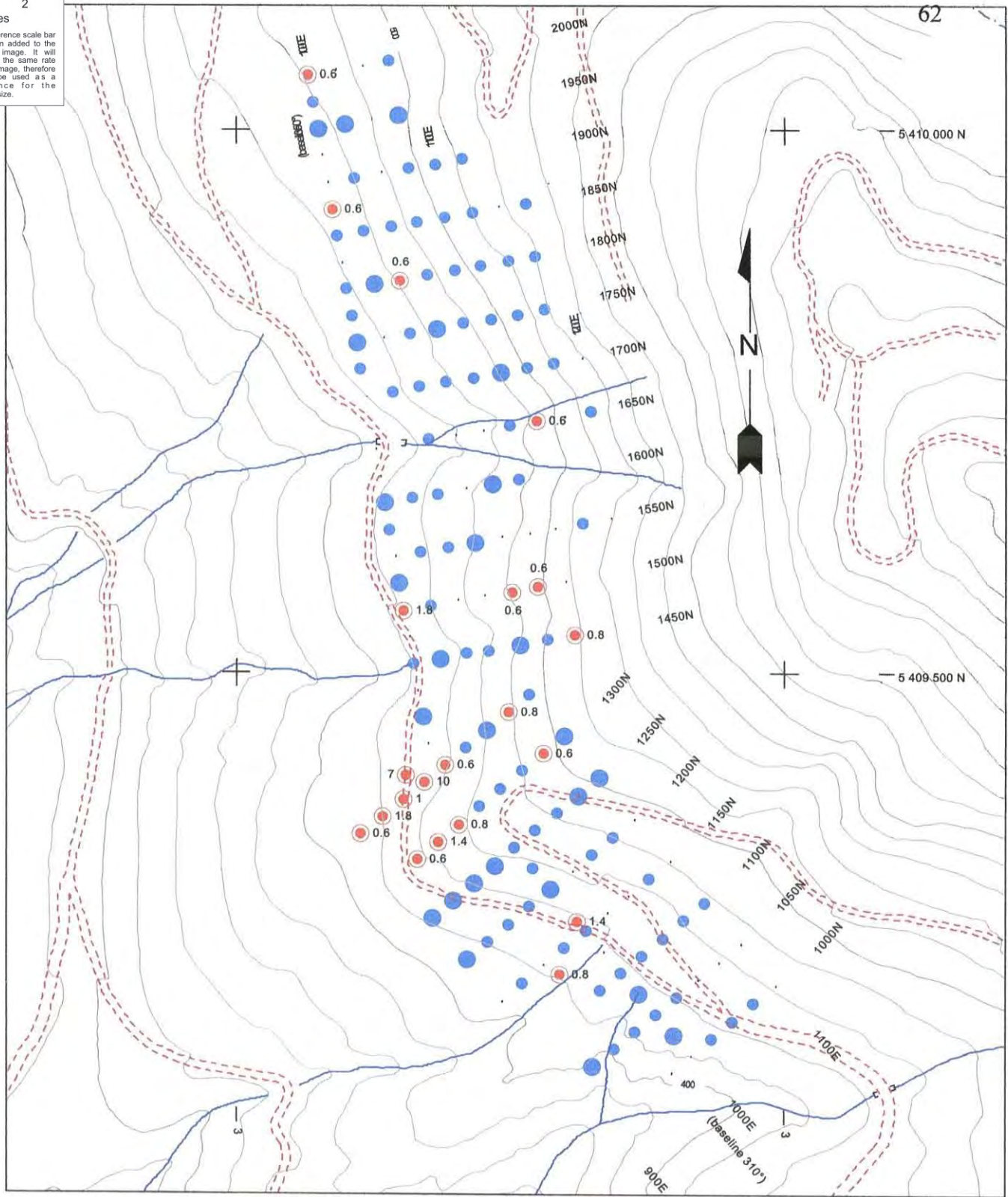
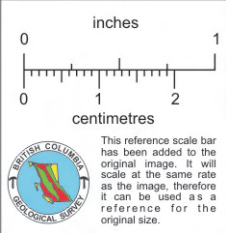
April 2001

Fig: 25

GIS and Compilation by Cyberquest Geoscience Ltd  
 for Amex Resources Inc.

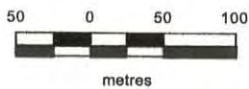


*A. O. Birkeland*  
 May 8, 2001



Base Map:

Projection: UTM Zone 10  
 Datum: NAD83  
 Original Scale: 1:5,000  
 Contour Interval: 20m



Ag in ppm

- 1.8 (red circle) > 0.4
- 0.6 (blue circle) 0.4
- 0.4 (blue circle) 0.2
- 0.2 (blue circle) < 0.2

**Inspiration Mining Corp  
 Jasper Property**

Silver in Soils  
 Combined PAN grid

April 2001

Fig: 26

GIS and Compilation by Cyberquest Geoscience Ltd  
 for Arrex Resources Inc.



*A. O. Birkeland*  
 May 8, 2001

angular float boulders found in an up-turned tree root assayed 1.5% Cu over a 0.5 metre apparent width.

An Assessment Report dated January 17, 2001 states:

*"It is recommended that all anomalous soil grid lines be extended up-slope to define the eastern limit of the soil anomalies. The soil grid should also be extended northward to determine the strike extent of the anomalous alteration zone. Bedrock and surficial geology mapping should be completed accompanied by appropriate grid geophysics to define mineralized targets. Prospecting, hand and/or mechanized trenching should be carried out on the highest priority targets. Subject to results, diamond drill targets should be prioritized and drilled on a phased program basis."*

## **6. CONCLUSIONS AND INTERPRETATIONS**

### **6.1. Conclusions**

The following is concluded based on results of historical exploration programs and programs carried out by Arnex for Inspiration:

1. A major north-south structure transects Vancouver Island and is readily apparent on Landsat and DEM Hillshade imagery. Four Mile Creek and the Jasper Property underlie a portion of the structure.
2. A major pyritic, argillic hydrothermal alteration zone is present along the fault structure in Four Mile Creek and trends to the north towards Jasper Creek.
3. At least eight areas within the alteration zone contain massive sulphide showings.
4. Most showing are exposed in logging roadcuts.
5. Highly anomalous poly-metallic soil geochemical anomalies were reported from grid soil sampling conducted on the Property prior to logging. Recent soil grids established by Arnex after logging at the J-Branch Main Showing and Pan Road Showing areas also returned highly anomalous results.
6. At the J-Branch Main Showing, massive sulphide lenses are hosted in chloritized mafic volcanics. The sulphide lenses are concordant with the local volcanic stratigraphy. The intermediate and mafic volcanics are subaqueous as they contain (minor) intercalated argillite beds. The massive sulphide lenses contain coarse angular massive sulphide and wallrock volcanic breccia fragments hosted in a fine sulphide matrix. Soil grid geochemical anomalies indicate the mineralization trends to the northwest and to the south towards the Pan showing areas. Test geophysical surveys were useful to help define drill targets at the J-Branch Main Showing and elsewhere on the grid.

7. At the Pan Road Showings, both stringer style and bedded mineralization outcrops in roadcuts. Some of the massive sulphide mineralization is capped by a barite and chert exhalite horizon. Highly anomalous poly-metallic soil geochemical anomalies are present in the covered hillside upslope from the feeder zone style mineralization.
8. The Jasper Property is at an early stage of exploration. Additional surface work followed by possible trenching and “discovery” diamond drilling is required prior to the establishment of an economic resource.

Data reliability for the programs conducted by Arnex is considered high. Rock chip sampling at showing areas is considered to be reproducible. Sample density for soil grid geochemistry is considered adequate to define soil anomalies. The exploration programs carried out by Arnex achieved project objectives and indicates more work is warranted.

## **6.2. Interpretations**

Exploration evidence gathered to date indicates the following:

1. The Jasper Property is underlain by a subaqueous Island Arc volcanic assemblage.
2. The major north – south structure that controls the alteration zone on the Property may be a failed rift zone. The rift zone controlled proximal bi-modal volcanic arc build up and possible associated deposition of a cluster of VMS deposits along the rift structure. The ancient rift failed in Tertiary time resulting in an alteration overprint. Massive sulphides were faulted and partially remobilized by the Tertiary “Catface” event.
3. Glacial till and colluvium cover were subsequently deposited over most of the Four Mile Creek basin masking the Island Arc volcanic stratigraphy and possible associated VMS deposits. Geochemical anomalies were formed in the soils by weathering processes downslope of buried sulphide occurrences.
4. VMS mineralization at the J-Branch Main Showing is considered to be proximal Kuroko type (Appendix B). The mineralized lenses contain explosive breccia fragments of massive sulphide and wallrock volcanic fragments hosted in a massive sulphide matrix.
5. VMS mineralization at the Pan Road Showings is considered to be distal Besshi type. Some of the massive sulphide is bedded and some is capped by a barite-chert chemical exhalite horizon.



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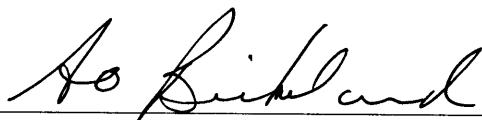
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