TOTAL-FIELD MAGNETOMETER SURVEY REPORT

on the

ASHTON GROUP MINERAL CLAIMS

NTS 92I/6W & 92I/3W
KAMLOOPS MINING DIVISION

LATITUDE:	**50°14'52" NORTH**
LONGITUDE:	**121°23'45" WEST**
OWNERS:	**J.M. ASHTON** **S.E. APCHKRUM**
OPERATORS:	**J.M. ASHTON** **J.M. ASHTON & ASSOCIATES LTD.** **S.E. APCHKRUM**
AUTHOR:	**J.M. ASHTON, P.Eng.**
GEOPHYSICIST:	**D.G. MARK, P.Geo.**
SUBMITTED:	**24 September, 2001**

Prepared by:

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V6E 2X5

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SECTION 1.0 — INTRODUCTION

The Ashton Copper Prospect, located about 12 miles due east of the Village of Lytton, British Columbia, has seen recorded mineral exploration over the area of interest since the discovery of a large, strong, copper-in-soils anomaly in 1969. The anomalous area was re-discovered as a result of a new multi-element soil survey conducted in 1993.

Continuing periodic exploration progress has been made on the prospect since 1990. However it was not until a 7-hole percussion drilling program was completed in 1993 followed by a methodical geological analyses of the cuttings and complementary petrographical study of carefully selected representative rock chip specimens that mineral resource potential was recognized.

The geological work concluded that the large area of interest was pervasively altered and mineralized and contained at least three types of episodically mineralized intrusives; quartz-diorite, diorite and gabbro. Mineralization within these structures occurs as disseminations and veins believed to be deposited along northerly trending structures noted in the area. Widespread alteration in the form of calcite flooding and quartz-carbonate, pyrite-chalcopyrite veining was noted in all of the holes drilled in the area of interest. These structures may play host to economic copper mineralization at depth.

Significant skarnification and marblization is found proximal to the intrusive structures, in drill holes and at surface, within the contact aureole to the east, southeast and south within a meta-sedimentary and meta-volcanic sequence. According to Meinert (1995) "Skarn mineralogy is mappable in the field and serves as the broader 'alteration envelope' around potential orebodies." Copper-rich contact metasomatic massive sulphide deposits can be found within such an environment.

Petrographical work supported the conclusions of the geological work and concluded in addition that plutonic zones of tonalite (quartz-diorite) through to diorite and to gabbro that underlie the area of interest also include their altered equivalents of pyroxene gabbro, pyroxenite, hornblende-diorite and horneblendite. Significant fluid-controlled metasomatic skarn alteration was also identified in three of the drill holes as a result of the petrographical study. The best copper mineralization was found to be spatially related to the altered pyroxene-gabbro and pyroxenite units.

Therefore the area of interest could play host to two types of mineral resources; a porphyry or intrusive hosted low-grade copper deposit at depth; or a skarn-related contact metasomatic copper-rich massive sulphide type deposit in the intercalated meta-sediments and meta-volcanics near the contact with the intrusive complex. An Upper Triassic/Lower Jurassic, or earlier, sedimentary-volcanic pile underlies a late Cretaceous volcanic unit on the east side of the property and possibly surrounds the intrusive complex on its north, and south sides as well. The Mount Lytton Complex on the west side of the intrusive complex may be a lithological contact feature.

Geological logging results from vertical percussion drill hole RC93-3, carried out long after the drilling was completed, was of particular interest because the bottom interval between 430 feet and 500 feet total depth was found to contain a mineralized stockworks zone consisting of quartz-carbonate, pyrite-chalcopyrite veins. It is speculated that this zone could be the roof shatter-zone having formed at the top and at the top sides of a mineralized intrusive system.

The area around drill hole RC93-5 was also of particular exploration interest because surface outcrop and old trenches nearby contain skarn-related copper mineralization and 50 metres to the east of the percussion drill-hole collar is the west edge of a highly anomalous, and distinctly linear, copper-in-soils anomaly with a south-north strike length of at least 1,100 metres (3,600 feet) and up to 300 metres (980 feet) in width. This copper anomaly appears to be a separate and distinct feature from the one which overlies the intrusive complex to the west.

In June 1999 a two-line reconnaissance, deep-probe, induced-polarization (IP) survey was conducted over the area of interest. Two lines 2,100 metres (6,888feet) long were surveyed. One line was positioned to examine a deep section of the area of intersest in an east-west direction over the two distinct target copper-in-soils anomalies and the other line intersected the first line at right angles in a south-north direction over the larger copper in soils anomaly above the intrusive complex. Penetration depth was nominally 424 metres (1,400 feet) along each line; which was about 1,000 feet deeper than thee penetration achieved by the previous shallow IP survey.

The 1999 IP survey identified two separate and large geophysical features that could be economically significant; a large chargeablity anomaly that has the classical cylindrical form expected of a mineralized intrusive system and what is interpreted to be a large metallic conductor within the contact aureole and conformable to favourable host lithology.

The zone of high chargeability (interpreted to be conductive sulphides) extends from 424 metres (1,400 feet) total depth to within less than 100 metres (328 feet) from the surface and is co-incident with a copper-in-soils geochemical anomaly that contains greater than 400 ppm copper. The bottom of percussion drill hole RC93-3 was an estimated 70 metres (230 feet vertically short of this zone and an estimated 40 metres (130 feet) to the east of the zone. Or in summary it was close to, but had not penetrated, the main sulphide (high chargeability) zone.

A high amplitude self-potential anomaly of minus 336 millivolts was measured at the surface above the sulphide zone which confirms the presence sulphides and indicates that the sulphides are closest to the surface near this location.

The large conductive body was found to lie near the contact of the main sulphide zone with an intercalated volcanic-sedimentary pile. The conductor conforms to the dip of the bedding. It is represented by a nominal 12.0 mho conductivity-thickness anomaly as determined from the resistivity data. The conductor top subcrops the surface at about 130 metres (430 feet) depth at Line 4800 North, Station 300 East. The conductor is a well defined and strong structure and almost behaves as a near perfect conductor because of the large contrasting resistivity between if and the confining lithology. It dips about 38 degrees to the east for a minimum projected depth of 400 metres (1,400 feet) along an apparent strike distance of 1,200 metres (4,000 feet) northerly. It could be up to 100 metres thick. This conductor is coincident with a linear copper-in-soils anomaly of more than 800 ppm over its strongest part and a coincident Vey Low Frequency Electromagnetc Anomaly. There is good probability that this conductor could be massive sulphide body.

From the percussion drill-hole logging R.E. Gale reported up to 15% magnetite in the mineralized and altered dioritic and gabbroic phases of the intrusive complex and magnetite also is found in association with the zone of skarnification in surface outcrop.

Hence with magnetite found in association with copper in both the altered intrusive complex and within the zone of skarnification it was believed that a magnetometer survey over this main area of interest might provide further clues as to the extent of the dioritic and gabbroic phases of the intrusive complex; and assist in defining the extent of the skarnification.

However a total-field ground magnetometer survey which covered the area north of Line 5000 North completed in June 1990 also encompassed the area of the long linear coincident copper anomaly with the VLF-EM anomaly thought to relate to the zone of skarnification but did not display any magnetic feature that could be intrepreted as related to these features. Hence this conductive body does not appear to have a magnetic signature yet magnetite is found in the skarn outcropping on the surface which suggests that they are unrelated features.

The area to the south of Line 5000 North which comprises a large surface zone of skarnification with magnetite had yet to be magnetically surveyed and the results from such a survey would undoubtedly prove useful in asssessing the extent of the skarn.

Hence for the two reasons cited a magnetometer survey of the area of interest south of Line 5000 North was implemented, and is the subject of this report.

SECTION 2.0 – SUMMARY & RECOMMENDATIONS

2.1 Summary

Percussion drilling and mapping of surface outcrop in the zone of skarnification in previous exploration programs on the property show that disseminated magnetite is pervasive in the area of interest.

Hydrothermal magnetite is found found in the altered multi-phased intrusive complex in association with gabbro, diorite, diorite porphyry, and quartz diorite and their altered equivalents although much of the hematite found with the alteration could be altered magnetite.

In the few percussion drill intersections where the diorite has been silicified copper values are highest and magnetite is either absent or is found as remnant patches due to alteration.

Where minor skarn was intersected in the drill holes either in or proximal to the intrusive complex, magnetite is absent.

However skarnification mapped in surface outcrop to the east of the percussion drilling disseminated magnetite accompanies the copper mineralization.

From an inspection of the drill hole locations and comparing their locations with the magnetic anomalies identified in this survey none of the holes were found to have tested the magnetic anomalies except possibly one hole, PDH 95-5.

PDH 95-5 was drilled on an azimuth of 270° at -60° and appears to have passed above the pole top depth of Anomaly 2 estimated from the results of this survey.

The ragged profiles of the magnetic high anomalies determined from this survey are almost certain to be made up of a combination of disseminated magnetite found at surface and possibly magnetite bearing dikes and lodes at depth thereby rendering interpretation difficult.

The magnetic low identified just beyond the western margin of the intrusive complex could be representative of another igneous phase of the intrusive complex albeit unmineralized as there is no associated surface copper geochemical anomaly in evidence.

The magnetic relief within the anomalous area is however significant. It shows that along with the significant soluble iron content in the 1995 drill holes the added magnetite content identified from this survey shows that this entire system contains a large amount of total iron, hydrothermally introduced. It is in such iron rich systems that economic mineral deposits are found.

The 1999 reconnaissance deep-probe induced polarization (IP) survey identified a large chargeability anomaly within the intrusive complex interpreted as sulphides and because of the associated copper geochemistry could indicate the presence of an economic copper resource. The areas of high copper in the intrusive complex remain to be explored by drilling.

This single east-west line IP survey across the skarn and intrusive complex also identified a large conductive body, suspected of being massive sulphides, deep within the zone of skarnification. This conductor is also associated with a high amplitude, linear copper anomaly. This magnetic survey appears to have identified a more extensive skarn zone, extending to depth, than previously known and the conductive body by its geophysical size and attitude may be an integral part of the skarn and of commensurate size.

2.2 Recommendations

The following recommendations are made in order of priority:

1. Detailed geological mapping of the property should be completed. R.E. Gale, Ph.D., P.Eng., in his 1994 report recommended that particular attention be paid to mapping the contact zone between the intrusive complex and the volcanic-sedimentary complex. The results of this magnetic survey indicate that the zone of skarnification is much more extensive than previously thought as it is probably open to the south and the east which enlarges the area of the contact zone and increases the area of exploration.

2. Additional magnetometer surveying to the south and east of the present survey is required to define the limits of skarnification. This work could be done at the same time as the geological mapping as the results could assist in the geological interpretation in the zone of skarnification.

3. The IP report (1999) of J.M. Ashton, P.Eng. recommended additional deep-probe induced polarization surveying to include the entire intrusive complex area and its contact aureole which now includes the extensive zone of magnetic anomalies. The recommendation which included a deep-probe IP survey the survey of at least 19 deep-probe lines, 100 metres apart between Lines 4,000N and 5,800N extending from about 800E to 600W is now supported by the results of this magnetic survey. The survey lines should be cut and carefully surveyed. A total IP survey distance of not less than 30 km is justified.

   The results of this survey will provide a three-dimensional pseudosection of the intrusive complex and contact aureole and could possibly re-define the drill targets recommended herewith to higher priority ones.

4. Additional drilling, as Gale (1994) also recommended, should be with a diamond drill in order that the complex geological relationships between the multiple-phased intrusive complex and the limestones, skarns, and other lithologies of the volcanic and sedimentary pile can be properly interpreted.

5. Diamond drilling of the two major targets defined in the deep-probe IP survey remain priority items; i.e., the zone of high chargeability centered near Line 4800 North, Station 100 West, and the large conductive body found subcropping Line 4800 North, 300 East which is an estimated 130 metres below the surface and dips to the east conforming to the attitude of the sedimentary-volcanic lithology.

6. The contact aureole at depth shows two other very low resistivity or excellent conductivity-thickness anomalies along the south contact aureole and north contact aureole. These high conductivity-thickness anomalies could also represent massive sulphides and should be tested; contingent upon the outcome of drilling Primary IP Anomaly II.

7. A recommendation for additional drilling should be held in abeyance depending on the outcome of the geological mapping, expanded magnetic survey and expanded induced polarization survey.

SECTION 3.0 — LOCATION AND ACCESS

The Ashton Group of mineral claims is located approximately 19 km (11.8 miles) south of Spence's Bridge, British Columbia, near the confluence of the Nicoamen River and Thompson's River where this river turns sharply west towards Lytton. Spence's Bridge is located approximately 109 km (118 miles) by air northwest of Vancouver, British Columbia, on Trans-Canada Highway 1.

The Canadian Pacific Railway parallels the Trans Canada Highway at this location.

Locally, the northwest corner of the claim group is located about 1,000 metres from the confluence of the Nicoamen River where it enters the Thompson River.

A good all-weather forest service road provides immediate and easy access to the central part of the claims southward from the paved Trans-Canada Highway near the confluence of the Nicoamen and Thompson Rivers. Several old logging roads with secondary tree growth cross the property and intersect with the main access road, thereby providing the potential for road access to most every sector of the property through a minimum of rehabilitation.

The rehabilitation of pre-existing logging roads by the removal of trees and brush carried out in 1993, to provide drill and truck access to the seven drill holes completed at that time, facilitated vehicle access to the main areas of geophysical interest for this program of magnetic surveying.

SECTION 4.0 – PROPERTY AND OWNERSHIP

The Ashton Group is comprised of the following mineral claims with expiry dates as shown subject to acceptance of this report:

Mineral Claim	Units	Tenure No.	Expiry Date
Rebecca 2	15	369944	17 July 2004
Rebecca 3	20	369945	17 July 2004
Rachel 1	1	311562	17 July 2006
Rachel 2	1	311563	17 July 2006
Rachel 3	1	311564	17 July 2006
Rachel 4	1	311565	17 July 2006
Mellisa	8	318692	17 July 2005
Total	47		

The Rachel 1 to Rachel 4 inclusive, Mineral Claims, and the Mellisa Mineral Claim, are held by record in the name of J.M. Ashton, of Vancouver, British Columbia.

The Rebecca 2, and Rebecca 3, Mineral Claims are held by record in the name of Sylvia E. Apchkrum of White Rock, British Columbia.

SECTION 5.0 - EXPLORATION HISTORY

The first recorded work on the Ashton Prospect was directed by Alfred A. Burgoyne, M.Sc., in October 1969. His work included a single element copper in soils survey which resulted in the delineation of a large area of highly anomalous copper in soils.

Burgoyne's work was followed up by J.W. Antal, P.Geol. (Alberta) with a program of limited surface trenching, geological assessment and intrepretation. The trenching showed shear zone hosted copper mineralization in skarn within part of the large copper anomaly. There was no mention of local intrusive activity. Antal concluded in his November 1969 report that the prospective area had the potential for hosting a large low-grade copper deposit at depth.

In 1989-90, the former Rebecca 1 to 6, inclusive, and Sheryl mineral claims were staked and following that a Magnetometer and VLF-EM survey was carried out over what was believed to be the area of interest under the direction of J.M. Ashton, P.Eng.

The 1990 magnetometer survey identified a prominent magnetic anomaly north of Line 5200N. Its long axis is about 100 metres west of the baseline with an amplitude response greater than 3,000 gammas (Nanoteslas) above background. Its half space strikes north for 450 metres (1,400 feet) and is 200 metres (660 feet) in width. It parallels a greater than 400 ppm linear copper-in-soils anomaly which is 200 metres to the east which is average about 300 metres in width. This copper anomaly was located in 1993, or 3 years after the first magnetometer survey which covered this area.

The 1990 VLF-EM survey located a number of electromagnetic conductors which had a characteristic north-south strike. One of the more prominent electromagnetic conductors identified had its highest dip angle amplitude on Line 5000N at Station 400E where the south extension of the survey terminated. This anomaly continued with increasing attenuation for 400 metres (1,300 feet) to the north.

In 1990, a petrographical study by P. Reid, Ph.D., of GeoTex Consultants Limited, of a representative rock sample taken by J.M. Ashton within the area of the magnetic anomaly showed that the rock was "a heavily altered fine-grained pyroxene diorite ? with the alteration assemblage consisting of calcite, chlorite, epidote, sphene, pyrrhotite, and hematite. The original rock has been nearly obliterated by alteration facies. The tourmaline, a major part of the alteration assemblage, indicates that hydrothermal solutions causing the alteration contained significant volatiles."

In August 1992, R.E. Gale, Ph.D., P.Eng., examined the prospect and confirmed the skarnification reported by J.W. Antal, and confirmed the presence of altered an unaltered diorite reported by J.M. Ashton.

In April 1993, Kingston Resources Ltd. optioned the property from the recorded owner, S.E. Apchkrum, and in June 1993 carried out a geochemical sampling and limited mapping program to confirm the copper-in-soils anomalies identified by Burgoyne in 1969.

Kingston's geological mapping also confirmed that heavily altered diorite was associated with the copper-in-soils anomaly and the diorite contained significant disseminated magnetite.

A further expanded soil survey conducted by Kingston in June, 1993 showed a much larger area of anomalous copper than had been identified through their initial work. They concluded that the copper-in-soils anomaly was closed to the west, south and east. The copper anomaly may be open to the north but could also represent downslope mechanical dispersion.

An induced polarization survey using the Pole-Dipole Array was conducted by Lloyd Geophysics Inc. in July 1993, using a Huntec Mark 2 Model 7500 Transmitter and an EDA Model IP-6 Receiver. A 50-metre electrode spacing was used with 4-levels surveyed. Maximum depth of penetration is estimated to be variably between 100 metres and 140 metres (460 feet).

A significant chargeability anomaly of classic character was found to be co-incidental with the southwestern quadrant of the copper-in-soils anomaly and the altered diorite sporadically exposed at surface. This ellipsoidal anomaly using the 7.5 millisecond chargeability isogon covers about 320,000 m^2 (80 acres). Its major axis strikes about 290° azimuth. The high chargeability in this anomalous area is indicative of an anomalous suphide content which could be a zoning feature subcropping mineral resource.

The Induced Polarization survey results were encouragement enough for Kingston Resources Ltd. to complete a 7-hole percussion drill program to test the anomalous chargeability features. However the assay results from the drilling were considered disappointing as only a very-low grade copper deposit averaging about 600 ppm copper was indicated from the holes drilled; with the consequence that they dropped their option in 1994.

In February, 1994, R.E. Gale, Ph.D., P.Eng., re-logged the drill cuttings from a suite of representative samples saved from the drilling. Part of Gale's report summary included the following:

"The limy diorite and skarn-marble and their contact areas appear to be the best host rocks for copper mineralization."

"It is apparent from the occurrence of at least 3 types of mineralized intrusives: diorite, gabbro and quartz diorite; that there are multiple intrusive phases present in the altered and mineralized system on the property. Mineralization occurs both as disseminated zones and as mineralized vein systems, probably along the predominant northerly trending structures noted in the area. Alteration in the form of calcite flooding and quartz and calcite veining was noted all of the southernmost holes, RC93-1 through RC93-5 and therefore is widespread in the area."

In January, 1995, at the recommendations of R.E. Gale; P.B. Read, Ph.D. completed a petrographical study of drill chips selected by Dr. Gale. Dr. Read's conclusions included but are not necessarily limited to the following:

"The thin-sectioned rock chips generally support Gale's 1994 logging of the reverse-circulation drill holes but carry the implication that the widespread intrusions include pyroxene gabbro, pyroxenite and horneblendite in addition to the horneblende diorite which Gale noted."

Dr. Read acknowledged the presence of the altered equivalents to all of these rock types and verified the marble and calcsilicate skarn logged by Gale. He further concluded that metasedimentary rocks are another new element that must be included in the north end of the Mount Lytton Batholithic Complex. He further concluded that the best mineralization appears to be spatially related to pyroxene gabbro and pyroxenite.

In June 1999, J.M. Ashton, P.Eng. assisted by D.G. Mark, P.Geo, Geophysicist and geophysical technicians carried out a two-line reconnaissance deep-probe induced polarization (IP) survey designed to cross the area of interest in an east-west direction and orthogonally in an south-north direction. The survey used a dipole-dipole array with an 'a' spacing of 100 metres. Six (6) levels were surveyed which represents a nominal survey depth of 420 metres (1,400 feet). Each survey line length was 2.2 km (6,888 feet).

The deep-probe IP survey results showed two significant anomalies. Anomaly I is a large polarizable body which subcrops the area underlying the largest copper geochemical expression on the west central part of the claims. The geochemical expression is about 800 metres long in an east-west direction and 600 metres in a south-north direction. The subcropping IP anomaly may be as large, or larger, in areal extent and may be just below the surface and extend to 420 metres in depth, and is open to depth.
What is interesting about this anomaly is that it has a corresponding 'Self-Potential' anomaly measuring a total of minus 336 millivolts below its east limb. This magnitude of self-potential is due to a strong oxidation-reduction electrochemical effect at depth caused by the oxidation of sulphides.

Anomaly II is a very low resistivity anomaly measuring an average of about 8 ohm-metres. It is interpreted to be a conductivity thickness anomaly measuring 12 mhos over an apparent width of up to 100 metres. A 12 mho conductivity thickness anomaly It dips to the east at about 40 degrees and its top subcrops the surface possibly at 110 metres depth. Strangway (1966) concluded in his paper that "typical values for sulphide deposits range between 1 and 300 mhos." A long linear copper-in-soils anomaly striking south-north overlies this conductor. And 200 metres to the north of the conductor axis a 2-station VLF-EM anomaly would appear to represent the strike extension of this same conductor.

The geological and petrographical evaluations by Dr. Gale and Dr. Read, respectively, made as a result of examining the cuttings from the 1993 reverse circulation drilling program, coupled with a detailed review of the historical geochemical, geological, geophysical data and the positive results of the deep-probe IP survey provided the incentive to carry out this total-field magnetometer survey over this part of the zone of interest previously unsurveyed.

SECTION 6.0 – PHYSIOGRAPHY AND OUTCROP

The claims cover an area of moderate to steep topographical relief. The central and western part of the claims are traversed by a multiple switchback road that climbs the east side of Thompson's River canyon rising from the canyon bottom at 700 feet (213 m) elevation to a saddle between two peaks at 3,500 feet (1,070 m) elevation within a distance of 2 miles (3.2 km). This represents an average mountain slope of 26.5%. Locally the relief is moderate to steep in the area of interest, yet easily accessible by foot from the switchback road.

The area of interest is part of the Cascade Mountains which are separated from the Coast Mountains to the west by the Fraser's River. Thompson's River meets Fraser's River at Lytton about 8 miles (13 km) west from the property.

The Cascade Mountains are lower and less rugged than the Coast Mountains and generally consist of rolling and rounded summits, which is the case at the higher elevations on this property.

Southern and western exposures on the property tend to be open areas and easily traversed, whereas northern and eastern slopes are much more heavily wooded. The area of interest on the property is a westerly-facing slope that has been logged of most of its old growth conifers. New growth is represented by denser deciduous trees and in places dense underbrush which makes it difficult to traverse.

Conifer species in the area include Douglas Fir, Balsam, Spruce and Lodgepole Pine.

Outcrop is generally lacking throughout the area of interest, so trenching is required to access the bedrock for mapping and sampling. Exposed outcrop over the entire property is estimated at not more than 15% of the surface area.

SECTION 7.0 — REGIONAL GEOLOGY

The regional geology is more recently described in the Geological Survey of Canada *Geology of Hope and Ashcroft Map Areas, British Columbia* by J.W.H. Monger and is shown on Map 42-1989, Ashcroft, British Columbia. The salient features are shown on **Figure 3** of this report.

S.W. Smith, Geologist, 1993, provided a geological description of the property as straddling the boundary between the older (Upper Triassic) Mount Lytton Complex on the west part and the younger (Middle and Upper Cretaceous) Spences Bridge Group to the east.

Monger interpreted the Mount Lytton Complex as being part of the roots of the Late Triassic Nicola arc. The complex is fault bounded, on the west by the Fraser River fault system, and on the east by normal faults along the Thompson River. The Mount Lytton Pluton that is part of the complex has been age-dated at 212 ± Ma (Parrish and Monger, 1992), which is very close to the dates reported from the central Guichon Batholith, located about 40 km to the northeast which were the source rocks for the world-class Highland Valley ore bodies. Parrish and Monger offer an interpretation that the Mount Lytton Complex and Guichon Batholith bodies to be part of the Upper Triassic magmatic arc complex that characterizes Quesnellia terrane, but state that they were probably emplaced at different structural levels, as suggested by their contrasting settings.

Monger speculates that the major structures that form the Guichon Batholith and the Mount Lytton Complex are related to early Mesozoic subduction/arc activity; those in the Guichon Batholith having formed in the upper part of the upper plate and those in the Mount Lytton Complex having formed in the lower part of the upper plate.

The Middle and Upper Cretaceous Spences Bridge Group unconformably overlies and is in fault contact with the older Mount Lytton Complex.

In the area of the property, the Spences Bridge Group is relatively unaltered and consists of intermediate, locally felsic and mafic flows and pyroclastics along with sandstone, shale and conglomerate. It unconformably overlies an Upper Triassic/Lower Jurassic sequence of metasediments and metavolcanics believed to be part of the Mount Lytton Complex.

SECTION 8.0-LOCAL GEOLOGY, ALTERATION & MAGNETIC FEATURES

A detailed geological map of the property surface geology is lacking; as is the subcropping geology in the area of the percussion drill holes because percussion drilling cannot provide the detail required to interpret structure. Hence very little is known of lithologic structure, mineralogic zoning, alteration facies zoning and the real extent of the zoning features. Surface mapping itself would provide helpful information as a prelude to further drilling. The most comprehensive and reliable geological mapping and identification of alteration is found in the drill hole logging undertaken by R.E. Gale, Ph.D., P.Eng. (1994) and the petrographical study of chips taken from cuttings from this drilling by P.B. Read, Ph.D. (1995).

The property appears to be bifurcated by Cretaceous volcanics to the east and Triassic intrusives to the west.

Some geological information that represents useful information was reported on by S.W. Smith, Geologist, in his 'Assessment Report', *Geological Mapping and Geological Sampling on the Ashton Property* of 20 September, 1993:

"On the east side of the property, the rocks are reddish coloured andesitic flows and pyroclastics of the Spences Bridge Group. They are relatively unaltered."

The rocks on the west side of the property where the copper in soils geochemistry was found to be significantly anomalous are believed to be part of the Mount Lytton Complex and were cursorily mapped as interbedded limestone and volcanic sediments with intrusive plugs or dykes of fine-grained diorite.

Smith (1993) reported: "The limestone varies from a clean white crystalline variety with a massive appearance to a thinly bedded grey silty variety. The limestone beds were noted to be from 0.5 m to 5 m thick. Interbedded with the limestone was fine to medium-grained green volcanic tuff that was much wider in width. The volcanics were commonly limy. Locally these rocks were very strongly altered and fractured, with the strongest alteration seen in the vicinity of the old trenches in the northwestern portion of the Sheryl claim". (now the Rebecca 2 claim)

Diorite found in surface outcrop on Line 5400 North, 250 West, by the writer is dark grey to black, is intensely altered and was found to contain magnetic minerals. Read identified the magnetic mineral as pyrrhotite. A petrographic study of a representative sample was undertaken in 1990 by P.B. Read, Ph.D. and the results were summarized as follows:

> "Alteration (about 75%)
>
> Opaques (5%)
>
> Equant, inclusion-filled grains, 0.4 to 0.6 mm on edge. In hand specimen wome are pale brass and slightly magnetic-pyrrhotite, and the remainder are metallic grey with a red-brown streak - hematite."
>
> Conclusions
>
> "The original rock may have been a fine-grained pyroxene ? diorite but this rock has been nearly obliterated by an alteration assemblage of tourmaline-epidote-calcite-chlorite-sphene-pyrite which is cut by a few albite-calcite veinlets. The tourmaline is a major part of the alteration assemblage and indicates the presence of significant volatiles in the solutions causing the alteration"

The above sample was taken about 200 metres west of the half space contour of 58,500 gammas of a moderately strong 3,000 gamma total field magnetic anomaly whose maximum amplitude above the mean background of about 57,000 gammas is 61,600 gammas. This magnetic feature has a north-south strike of 450 metres by 200 metres in width as measured by it half space dimensions.

According to Smith (1993), hydrothermal alteration of the volcanics was seen on a wide scale causing bleaching and quartz/carbonate veining within them. Epidote is the most common alteration mineral. Locally the diorite is so strongly altered that only epidote and magnetite can be seen. Secondary chlorite and calcite are also quite prevalent throughout the complex. The propylitic alteration (epidote, chlorite ± pyrite) identified in the volcanics and diorite provides surface indication that a significant porphyry style intrusive system underlies the area.

The 1993, 7-hole percussion drilling program provided a suite of typical drill-cuttings taken at 10 foot intervals for each hole. These cuttings were meticulously logged by R.E. Gale (1994) using a binocular microscope to provide some semblence of the subcropping lithology and alteration facies. This was the first opportunity to initiate an in-depth study of property geology.

Gale observed that there were at least three (3) distinct types of mineralized and altered intrusives within the subcropping area that include: diorite, gabbro and quartz diorite.

Gale observed magnetite throughout each intrusive phase in association with both pyrite and chalcopyrite with up to 10% magnetite in the diorite, including the leucocratic phase, and up to 15% magnetite in the quartz-diorite.

The gabbroic phases were also observed to contain magnetite, pyrite and chalcopyrite

Part of Reid's (1995) petrographical study conclusions included " the drill chips indicate that pyroxene gabbro, pyroxenite and their altered equivalents are as widespread as horneblende diorite, horneblendite and their altered products. Gale's identifications (1994) of marble and calcsilicate skarn are verified and mean that metasedimentary rocks are another element that must be included in the north end of the Mount Lytton Complex".

Gale stated that mineralization occurs both as disseminated zones and mineralized vein systems, probably along the predominent northerly trend of structures noted in the area. Alteration in the form of calcite flooding and quartz and calcite veining was noted in all of the southernmost holes, RC93-1 through 93-5 and therefore is widespread throughout the latter area.

The marblization and skarnification in the drill holes appears to increase easterly and southeasterly from the 1993 IP chargeability anomaly, and at depth.

Skarnification with significant copper mineralization is found in surface outcrop along the old logging cut east of drill hole RCA93-5 and and is also found sporadically in outcrop up to 600 metres southeasterly. Magnetite is found in the skarn. The geochemical survey of 1969 also indicates small northerly striking anomalous copper-in-soils zones striking northerly within this 600 metre interval to the southeast.

Monger (1989) mapped a major normal-fault that strikes about north-south and appears to pass through Station 700 of the Deep-Probe IP survey Line 100-S. The fault extends northward to the Thompson River and coincides with it in undulating fashion with the northward extension of the river. The east side of the fault is down-thrown. No information on the fault's displacement is given.

A second major north-south striking normal-fault may lie between the west side of the intrusive complex and the Mount Lytton Batholith Complex in which case the altered intrusive complex which is the target area may be bounded on each side by major fault structures.

SECTION 9.0 TOTAL-FIELD MAGNETOMETER SURVEY

9.1 Introduction

The magnetometer survey was designed to be cost effective and only cover the area of interest where magnetic data was deficient. The area of interest is that which overlies both the large chargeability anomaly and the high-conductivity thickness anomaly identifed by the deep-probe reconnaissance induced-polarization survey conducted in 1999.

The chargeability anomaly was interpreted to be a disseminated sulphide deposit with a depth extent of at least 1,400 feet occupying the subcropping area between Lines 4600 North and 5000 North Between Stations 250 East to 500 West.

Whereas the high-conductivity thickness (conductive body) anomaly lies along the east flank of the chargeability anomaly east of Station 250 East and is believed to extend from Line 4700 North to Line 5600 North. The area between 5000 north and 5600 North was surveyed in 1990. Hence the area of interest in this survey was between 4500 North and 5000 North.

Geological evidence also supports the possiblity that two styles of mineral resource could underly the area of interest, a large-tonnage low-grade porphyry style copper deposit within the altered and mineralized intrusive system and a skarn-type massive sulphide copper deposit along the contact aureole with the volcanic-sedimentary complex to the east; and possibly to the north and south as well. The lithology to the west is part of the Mount Lytton Plutonic Complex.

The total-field magnetometer survey was designed to cover that area of the property in which the large IP Anomaly I and the separate feature a large conductive body Anomaly II was discovered both as a result of the deep-probe IP survey. Large mineralized diorite dikes are thought to intrude the area and their resultant magnetic signatures may provide a clue to their extent and spatial relationship in relation to the known copper-in-soils anomalies.

Therefore the survey area covered was between 4700 North and 5000 North over the chargeability anomaly on the west side of the new baseline and the area between 4500 North and 5000 North on the east side of the new baseline.

9.2 Personnel

The following personnel were involved in this total-field magnetometer survey:

Personnel	Duties
J.M. Ashton, P.Eng.	Project Manager
D.G. Mark, P.Geo.	Geophysicist & Magnetometer Operator
C. Mark	Survey Control and Grid Layout

9.3 Survey Grid

During the field work it was attempted to follow the old grid that was established eight years ago in 1993 for a soil sampling program and completion of a shallow induced polarization survey to facilitate correlation of the new data with the data obtained in the surveys of 1993.

The old lines were followed for the most part but there were locations where no identifiable signs of the old grid could be found. Correlation between the old geochemical survey grid and the new grid could not be reliably confirmed.

A new baseline was established which was the well blazed claim line which separates the east boundary of the Melissa Claims on the west side of the property and west boundary of the Rebecca 2 and Rebecca 3 Claims to the east.

The new grid was established with compass and chain with each station marked with a blaze and orange flagging tape. Compass declination used was 22 degrees east as defined by N.T.S. Map Sheet 94D.

The survey lines were perpendicular to the baseline on an azimuth of 90 degrees (due East) and 270 degrees (due West). The lines were placed 100 metres apart, north-south, and stations established at 25 metre intervals along each line. The northern-most line re-established was 5000 North which is teh common boundary of the Rebecca 2 and Rebecca 3 Mineral Claims.

Line intercepts at the baseline are identified as Station 0 E/W. Stations to the East are marked with the suffix East and stations to the West are marked with the suffix West.

The east side of the grid was extended to 650 metres east of the baseline and the west side of the grid was extended 1,000 metres to the west of the baseline.

Lines placed and surveyed were 4500 North to 5000 North inclusive, at 100 metre intervals between Stations 1,000 West and Stations 650 East with the exceptions that Lines 4500 North and 4600 North between 1,000 West and the baseline were not placed or surveyed because this area is presently not part of the area of interest.

A total of 7.9 km (26,000 feet) of ground magnetometer survey was completed.

9.4 Instrumentation

The portable magnetometer used was a total-field measuring instrument of the nuclear-precession type Model GSM-9 Overhauser unit, as manufactured by GEM Systems Inc. of Richmond Hill, Ontario. The magnetometer is complete with a memory system capable of storing 8,000 data points consisting of Total Field, X & Y co-ordinates and Time of reading. Total field and time of reading is entered with an accompanying co-ordinate reference manually with a membrane type keyboard.

A total-field GSM-9 Overhauser recording unit similar to the portable unit was used to record the diurnal variation as the survey progressed. The instrument does not record continuously as it requires a second or more between readings but a uniform smooth time varying characteristic is produced.

Both magnetometers read directly in nanoTeslas (nT) the Earths's total magnetic field to an accuracy of 0.20± nT over a range of 20,000 to 120,000 nT; unit sensitivity is 0.05 nT. (1.0 nanoTesla = 1.0 gamma)

9.5 Magnetometer Survey Procedure

Before proceeding with the survey, the Pacific Geoscience Centre at Victoria, British Columbia was consulted with to determine whether the diurnal magnetic field would be in a disturbed mode or relatively unaffected due to solar activity. It was determined that the planned survey period would be relatively quiesent.

Magnetometer readings were taken at each grid line station which were 25 metres apart. Each total field magnetic reading was entered into the magnetometer memory accompanied by a manually entered co-ordinate reference.

The portable magnetometer is complete with a magnetic sensor supported by a 1.5 metre aluminium pole cable connected to the magnetometer unit. Hence each magnetic reading is consistently taken at 1.5 metres above the ground surface.

A recording magnetometer, also complete with a sensor mounted on a 1.5 metre aluminium pole was set up as a base station at a secure location near the baseline on Line 5100 North close to one of the drillsite access roads. Base station readings were automatically taken at 4.0 second intervals and recorded. Each reading was accompanied by a fiducial reference.

9.6 Data Recovery and Compilation

Before the magnetic data was processed and plotted, the recorded diurnal variations were inspected and found to be of the order of 100 gammas or less, hence magnetic reading results were not corrected for diurnal variation because 100 gammas is within the magnetic noise envelope in this local geological environment due to significant disseminated magnetite within the intrusive complex and contiguous skarn zone.

By inspection of the Total Field Profiles, **Figure 6** (also Map 6) showing each survey line's magnetic profile the average magnetic relief is about 56,000 gammas (nT) hence determination of anomalous character was based upon this value. A Total Field Plan, **Figure 5**, and Total Field Profiles, **Figure 6** of the survey area were plotted at a scale of 1:2,500. The contour interval chosen for the magnetic field plan was 1,000 gammas (nT) as representing a good fit for interpretation purposes; given the high magnetic relief found in the target area and the fact that the magnetic anomalies of interest were expected to be high amplitude short wavelength features.

9.7 Some Practical Aspects of Magnetic Theory

The magnetic field as measured in the vicinity of geological structures may have two component vectorial parts, an induced part which is dependent on the ambient magnetic field and a permanent magnetization or remanent part that is independent of the ambient field and is dependent upon the magnetic history of the rock and is known as natural remanent magnetization (NRM).

The induced magnetization is parallel to the ambient magnetic field and its strength is proportional to this field. The constant of proportionality, μ, is known as the susceptiblity; i.e., if a material is placed in the earth's magnetic field of strength H_o it becomes magnetized according to the relationship $\beta = \mu H_o$. Where β, the induced magnetization is a vector quantity and represents the magnetic flux density arising from the ambient field acting on the material. As long as the field is kept small the strength of the magnetization induced is proportional to the field.

However the total magnetic effect or induction effect in the presence of an external field must add the effect of the primary field H_o plus the magnetization M it induces in geology.

$M \alpha H_o$ or, M is proportional to the primary field.

The constant of proportionality, the susceptibility μ equals 1 in free space.

Hence the total induced field is therefore related to the combination of the following:

$$\beta_T = \mu H_o + \mu H_m$$

Natural Remanant Magnetization (NRM) is that magnetization which is fixed permanently in the rock as a result of several possible processes. It can take two forms; that which is parallel to the applied field and that which is not parallel to the applied field. NRM is formed in a direction of the applied field that was applied to the rock at the time of its formation.

The NRM of most rocks lies in a direction quite different from the direction of the present earth's field. The earth's magnetic field changes from time to time and indeed the process geological terrains as in the case of British Columbia may have formed several hundreds or even thousands miles form their present locations where they have been accreted to the North American Craton. The earth's magnetic field where these terrains originally formed could be in the reverse direction or even horizontal hence it is not an understatement that magnetization is one of the most complex properties that the geoscientist can study in rocks.

Induced magnetism requires the presence of an applied field whereas NRM does not. The most important mechanism to account for permanent magnetism of rock is Thermo-Remanant Magnetism (TRM). As rock cools in the earth's magnetic field it will spontaneously magnetize at or below the Curie temperature T_c (at and below 700°C) and the resultant magnetic field produced is generally aligned with the field present at that time in geological history that produced it. The magnetically susceptible elements in the rock even in a weak primary magnetic field will acquire a strong and very stable remanence.

The major portion of natural remanent mgnetization measured in igneous rocks appears to be due to TRM.

It is the presence of minor amounts of a few magnetic mineral species contained with rocks that commonly account for their magnetic characteristics. These few minerals are of considerable importance in magnetic surveying techniques.

Specific rock types are known to contain more magnetic minerals than others; hence magnetic anomalies can be indicative of these rock types with the consequence that the magnetic anomalies can be of assistance in mapping the position of subcropping geology. And commonly, economic minerals are found either in direct association with magnetic minerals or magnetic minerals accompany economic mineral deposits as zoning features.

For the purpose of understanding the relative effects of magnetic minerals and rocks on the earth's ambient magnetic field the following are orders of magnitude their average magnetic susceptibilities:

Average magnetic susceptibilities of various minerals:

Pyrrhotite =	125,000 units
Ilmenite =	150,000 units
Magnetite =	500,000 units

Average magnetic susceptibilities of various rocks:

Sedimentary =	75 units
Granite =	200 units
Metamorphic =	350 units
Porphyry =	5,000 units
Gabbro, basalt and diorite =	6,000 to 7,000 units
Pyroxenite =	10,500 units
Peridotite =	13,000 units
Andesite =	13,500 units

Generalization can be made as to why mafic rocks are more magnetic than felsic rocks is that they contain larger quantities of iron oxides than silicic rocks.

Generally speaking only magnetite, ilmenite, and pyrrhotite are strongly magnetized and the magnetic survey predominantly is used to detect concentrations of these minerals with the probability that they may be directly or indirectly accompanied by economic mineralization as they frequently are.

Also many rock forming minerals are known to have varying amounts magnetic minerals such as magnetite and pyrrhotite in them and it is sometimes possible to separate different lithologies by their relative intensities of magnetism.

Areas of hydrothermal activity and the resultant alteration can also be discerned by their associated magnetic lows caused by the chemical conversion of the iron oxides, i.e., magnetite will oxidise to non-magnetic haematite.

9.8 Interpretation of Results

Results of the total-field ground magnetic survey are depicted in **Figures 5, 6 and 7** which display the anomalous patterns made up of several specific magnetic highs in a relatively high magnetic relief which occur over the area of interest, the altered and mineralized intrusive complex and area of skarnification. This area of high magnetic relief compares with the relatively low magnetic relief found in the survey in the area to the west which is believed to be part of the Mount Lytton Batholithic Complex.

Total magnetic relief from the total field magnetic survey ranges between a low of 53,948 gammas and 60,071 gammas. The average magnetic relief by inspection is about 56,000 gammas. Magnetic values above and below this datum are of interest.

By inspection 57,000 gammas and above; and 55,000 gammas and below are considered magnetically anomalous.

Generally there is one large magnetically anomalous area extending from Line 5000 North, Station 300 West in an oblique fashion southeasterly across the area of interest to Line 4500 North, Station 400 East, a distance of approximately 1 km (3,300 feet) which is composed of two or three distinct linear high-amplitude short wavelength magnetic anomalies striking northerly with strike lengths of about 400 metres with each one open to the south. These anomalies represent near surface magnetic apophyses with significant widths. There is one distinct circular feature at the northwest corner and a similar feature east of the southeat corner. The distinct anomalies are themselves superimposed upon an anomalously high background. All anomalies appear to be contiguous.

The magnetic highs occur in the areas where skarnification has been found at surface and in drill holes.

Each distinct anomaly has a maximum amplitude ranging between 3,500 gammas and 4,000 gammas above the 56,000 gamma datum.

Two prominent magnetically low areas were identified by the survey. The low magnetic feature found on Lines 4700 North to 5000 North between Stations 225 West and and about 750 West in an oblique fashion northwest to southeast has a maximum low value of 53,906 gammas or about 2,100 gammas below the 56,000 gamma datum.

The low magnetic feature found on Lines 5000 North to 4500 North between Stations 125 East and about 575 East in an oblique fashion northwest to southeast has a maximum low value of 53,948 gammas or about 2,000 gammas below the 56,000 gamma datum.

Comparing the magnetic survey results with the results of the geochemical survey of 1993 and the locations of the 1993 percussion drill holes the following is evident:

1. There is no clear correspondence of high-magnitude short-wavelength magnetic anomalies indicative of subcropping magnetic bodies with the highest magnitude copper geochemical anomalies. The general pattern is that these copper anomalies are in the proximity of the high-amplitude magnetic anomalies but not directly superimposed. However the magnetic high area which appears to correspond with the area of interest does correspond with both the known mineralized intrusive complex and the general area of copper bearing skarn. The copper mineralization could therefore be a zoning feature to the magnetite bodies.

2. There does not appear to be any clear correlation of the anomalous magnetic features of this survey with the large conductive body, Anomaly II, shown in **Figure 8** "Pre-Magnetometer Survey, Anomalies Compilation Map" which was found as a result of the deep-probe IP survey in 1999. This conductive body is located below Lines 4700 north and 4800 North near Stations 250 E and 300 E, respectively. Therefore the conductive body could be a mineralized zoning feature of the magnetite bodies.

3. The 1993 percussion drilling appears to have not tested either the high amplitude copper anomalies or the high amplitude magnetic anomalies identified in this survey.

4. The large mineralizing event associated with both the altered intrusive complex and the infiltration skarn has a significant magnetite component, and if the system included a copper-rich fluid-phase then there is the probability of finding one or more copper rich mineral resources within the confines of the respective alteration zones.

SECTION 10.0 – EXPLORATION POTENTIAL

10.1 General

Monger (1997) speculates that the Mount Lytton Complex and the Guichon Batholith were formed from the same subducted section of Oceanic Crust with the Guichon Batholith, a differentiate from the upper part of the upper plate of subducted crust and the Mount Lytton Complex representing the lower part of the upper plate. This leads to the interesting speculation that this intrusive event could have concentrated copper minerals from a copper-enriched crustal element in a similar fashion, as it stoped its way up towards the surface.

According to Meinert (1993) **in** 'Igneous Petrogenesis and Skarn Deposits':

"Skarns are characterized by their mineralogy and can be host to a variety of mineralization and alteration styles. Skarn mineralogy is mappable in the field and serves as the broader 'alteration envelope' around potential orebodies. Systematic mineralogical variations among skarn classes provide a predictive method for evaluating prospects. As a class, skarn deposits serve as one of the clearest examples of ore deposits directly related to emplacement, crystallization and hydrothermal evolution of magmatic systems

There appears to be a distinct class of plutons associated with copper skarns, particularly copper skarns associated with porphyry copper deposits. These are strongly oxidized magnetite-bearing I-type plutons associated with subduction-related magmatic arcs.

According to Meinert, "The solubility relations of water in silicate melts and the probability of rapid shifts from lithostatic pressure to hydrostatic pressure in the near-surface environment make it extremely likely that shallowly emplaced magmas will generate <u>large amounts</u> of hydrothermal fluids prior to complete crystallization. This explains the abundance of large skarn deposits in shallow settings."

Such plutons are emplaced at shallow levels in the Earth's crust and tend to be porphyritic, implying fluid separation before the magma had crystallized to a high degree."

"The large size of copper skarns formed this way may be due to separation of a hydrothermal fluid <u>before</u> loss of water, sulphur and ore metals to continued crystallization."

According to Gale (1993) and Reid (1994) the plutonic rocks at Ashton Copper include a range of episodic hypabyssal quartz diorite; including horneblende diorite and horneblendite; diorite porphyry; and gabbro including pyroxene gabbro and pyroxenite. These rocks contain significant disseminated magnetite much of which has undergone oxidation to hematite.

Although a formal confirmation that these rocks belong to the I-type plutonic class has yet to be made, the intrusive style appears to fit Meinerts thesis.

Reid (1990) also described the area of alteration "as having experienced the passage of large quantities of hydrothermal fluids, containing significant volatiles, through the host rocks" whereas Meinert states that "of particular importance to skarn formation are the segregation and release of an aqueous phase from the crystallizing melt". What Reid may have observed are the effects of this aqueous phase as there is very little copper metal associated with the alteration and upper sections of the drill holes. Hence this effect observed by Reid may be reminiscent of the effect of hydrothermal fluid loss reported by Meinert, due to partitioning of the aqueous phase from the metal-rich phase, before complete crystallization of the metal-rich phase.

The geology at Ashton Copper possesses several similarities to Meinerts model hence a large-tonnage massive sulphide skarn-type copper deposit could be a possibility having formed within the carbonate rich rocks of the meta-sediments within the aureole of the intrusive complex.

10.2 Magnetite; Its Significance with Copper & Copper-Gold Deposits Regionally

Magnetite associated with rocks of the intrusive complex and in the skarnification is of hydrothermal origin. In the zone of intrusive alteration it is widespread.

Its significance both in the intrusive complex and the skarn is not yet understood on this property except that many ore deposit environments; i.e., porphyry and skarn related are known to contain significant hydrothermal magnetite.

Generally it may occur as massive replacement bodies in sediments in contact with intrusive bodies, as disseminations within the intrusive bodies and associated with skarnification formed proximal and distal to the heat and solution source which provided the fluids for the skarnification process.

A few regional examples of magnetite occurences and magnetite in skarn occurrences which are economically significant include Mount Polley (Mine), Afton (Mine), Craigmont (Mine), Mount Milligan (Prospect), and Island Copper (Mine).

Magnetite skarn occurs adjacent to the Mt. Polley alkaline Cu-Au porphyry deposit and is found pervasively throughout the core of the Island Copper porphyry Cu-Au-Mo deposit in association with quartz-albite and amphibole.

Magnetite is a zoning feature to the Afton porphyry Cu-Au deposit. The Afton deposit included diorites, gabbros and other basic intrusive rocks believed to be similar to those same rock types found at Ashton Copper. Afton contained 30 million tonnes of ore at an average of grade of 1.0% copper and 0.015 ounces of gold and is now mined out.

The nearby Craigmont Mine was a copper-magnetite-skarn deposit that graded into a copper-specular-hematite-skarn deposit. Craigmont formed in meta-sediments along the south margin of the Guichon Creek Batholith and contained more than 40 million tons of 1.9% copper ore.

At the Mount Milligan Cu-Au porphyry deposit a circular zone of magnetite surrounds the deposit as a zoning feature.

The local area also hosts the giant world-class Valley Copper Mine which is located 23 miles (37 km) northeasterly from the Ashton Copper Prospect. It is hosted by the Guichon Batholith which is geologically related to the Mount Lytton Complex the large batholithic structure which is contiguous to the Ashton Copper Prospect to the west.

The Valley Copper Mine is an integrated operation that consists of the former Lornex orebody and the Valley Copper orebody which were once connected but were separated by post ore faulting. This mine produces an estimated 1.4 million pounds of copper in concentrate daily; when operating.

SECTION 11.0 — COST STATEMENT

11.1 Summary

1.	Personnel -	6,350.00
2.	IP Equipment Rental -	1,080.00
3.	Room & Board -	500.00
3.	Field Expense -	371.50
4.	CAD Processing & Report Reproduction -	283.55
	TOTAL $	**8,585.05**

11.2 Personnel

1.	Project Evaluation & Review of Data; 17 June 2001	
	J.M. Ashton, P.Eng. ½ day	250.00
	D. Mark, P.Geo. ½ day	250.00
2.	Property Inspection 28 June 2001	
	J.M. Ashton, P.Eng.	500.00
3.	Mobilization & Demobilization Vancouver to & from Lytton Base 26 July & 30 July, 2001 D. Mark, P.Geo. C. Mark	
	1 day @ $700 -	700.00
4.	Magnetometer Survey 3rd, 4th & 5th of July, 2001 D. Mark, P.Geo. C. Mark	
	3 days @ $700 -	2,100.00
5.	Data Preparation D.G. Mark, P.Geo.	
	1 day @ $500.00	500.00

6.	Report Preparation July/August 1999 J.M. Ashton, P.Eng. 2½ days @ $500 per day -	1,250.00
7.	CAD Drawing Preparation E.B. Catapia, C.Tech 8 hours @ $50.00	400.00
8.	Word Processing, Collation Reproduction Costs, Binding S. Apchkrum: 10 hours @ $40.00 -	400.00
	Sub-Total	**6,350.00**

11.3 Equipment Rental

1.	Geophysical Equipment Portable Magnetometer Recording Base Station 4 days @ $150/day	600.00
2.	4-Wheel Drive Truck & Fuel 4 days @ $120/day	480.00
	Sub-Total-	**1,050.00**

11.4 Room (3 nights) & Board (4 days)

D. Mark, P.Geo.
C. Mark,

3 days @ $140.00	420.00
1 day @ $80.00	80.00
Sub-Total -	**500.00**

11.5 Field Expense

4 May 2001, Determination of Survey Site

1.	Vehicle Charge & Gasoline -	234.00
2.	Meals -	40.00
3.	Motel -	57.50

3 July, 2001 to 6 July 2001

1.	Field Supplies -	40.00
	Sub-Total -	**371.50**

11.6 CAD Processing & Report Reproduction

1.	CAD Processing & Report & Drawing Reproduction	375.80

SECTION 12.0 – CERTIFICATION OF J.M. ASHTON, P.Eng.

I, J.M. Ashton, of Suite 112, 1157 Melville Street, Vancouver, British Columbia, hereby certify that:

1. I am a Consulting Electrical Engineer and principal in J.M. Ashton & Associates Ltd., Consulting Electrical Engineers. I also provide professional services in mineral exploration.

2. I am a graduate of the University of British Columbia with a B.A.Sc. in Electrical Engineering (1966).

3. I am a member in good standing, as a Professional Engineer, in the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

4. I am a member of the Canadian Institute of Mining and Metallurgy.

5. I have practised as a mineral explorationist, with significant work related to geophysics; and as consulting electrical engineer, since 1969.

6. This report was prepared by me.

J.M. Ashton, P.Eng.

Dated this 22nd day of September 2001
Vancouver, British Columbia

SECTION 13.0 — CERTIFICATION OF D.G. MARK, P.Geo.

I, David G. Mark, of the City of Surrey, in the Province of British Columbia, do hereby certify:

1. I am a consulting Geophysicist and principal of Geotronics Surveys Ltd., with offices located at 6204 - 125th Street, Surrey, British Columbia.

2. I am a graduate of the University of British Columbia with a Bachelor of Science in Geophysics (1968).

3. I am a member in good standing, as a Professional Geoscientist, in the Association of Professional Engineers and Geoscientists of British Columbia.

4. I have been practising my profession for the past 33 years and have been active in the mining industry for the past 36 years.

5. The field work and data processing for the total-field magnetometer survey described in this report was carried out by myself as Party Chief with total field magnetometer and total field recording magnetometer base station equipment supplied by Geotronics Surveys Ltd.

6. I provided data preparation services and technical consulting services to J.M. Ashton, P.Eng., pursuant to the preparation of this report.

PROFESSIONAL PROVINCE OF D.G. MARK BRITISH COLUMBIA GEOSCIENTIST

David G. Mark, P.Geo.

Dated this 22nd day of September, 2001.
Vancouver, British Columbia

SECTION 14.0 -- REFERENCES

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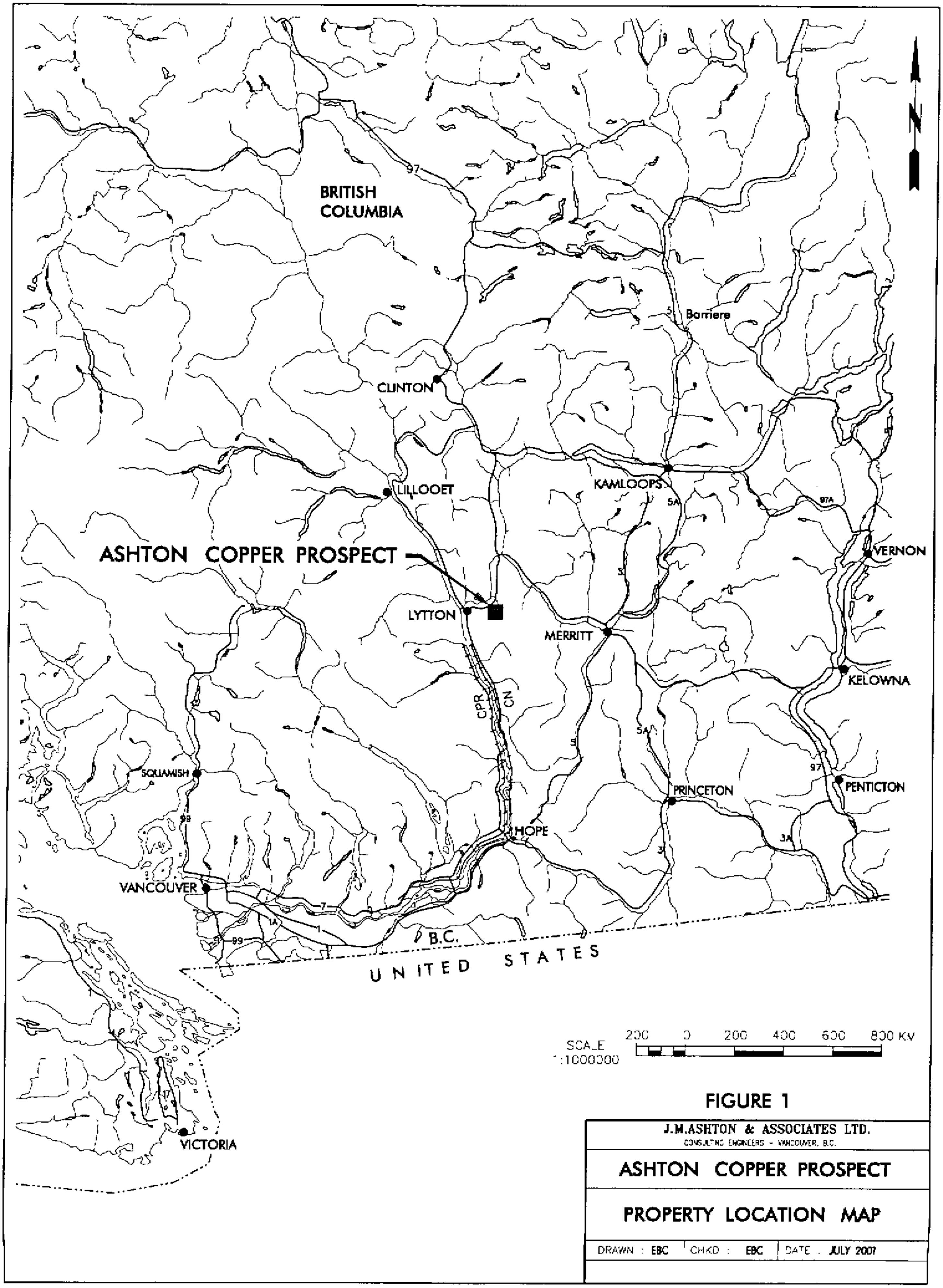


FIGURE 1

J.M.ASHTON & ASSOCIATES LTD.
CONSULTING ENGINEERS – VANCOUVER, B.C.

ASHTON COPPER PROSPECT

PROPERTY LOCATION MAP

DRAWN : EBC | CHKD : EBC | DATE : JULY 2007

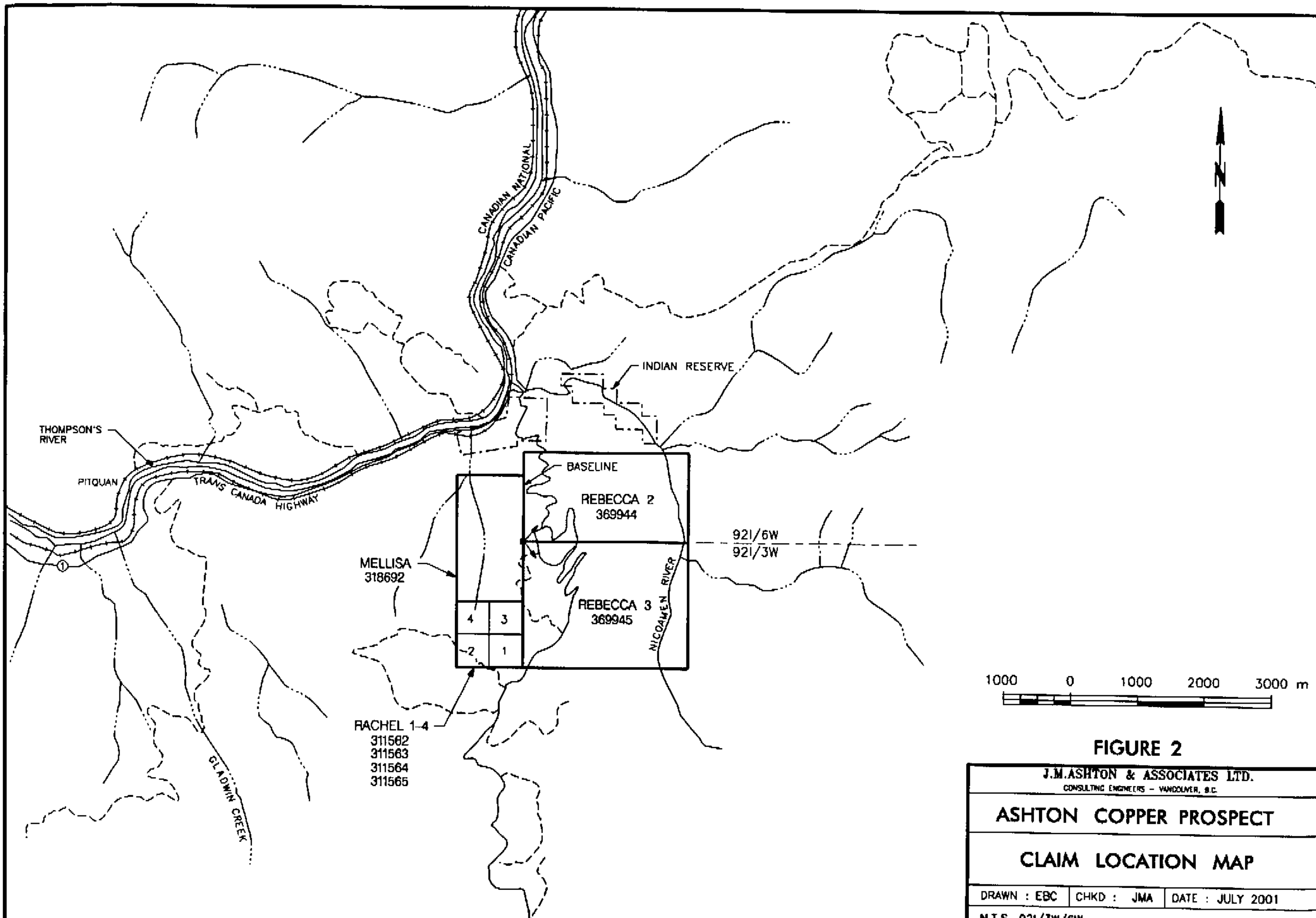
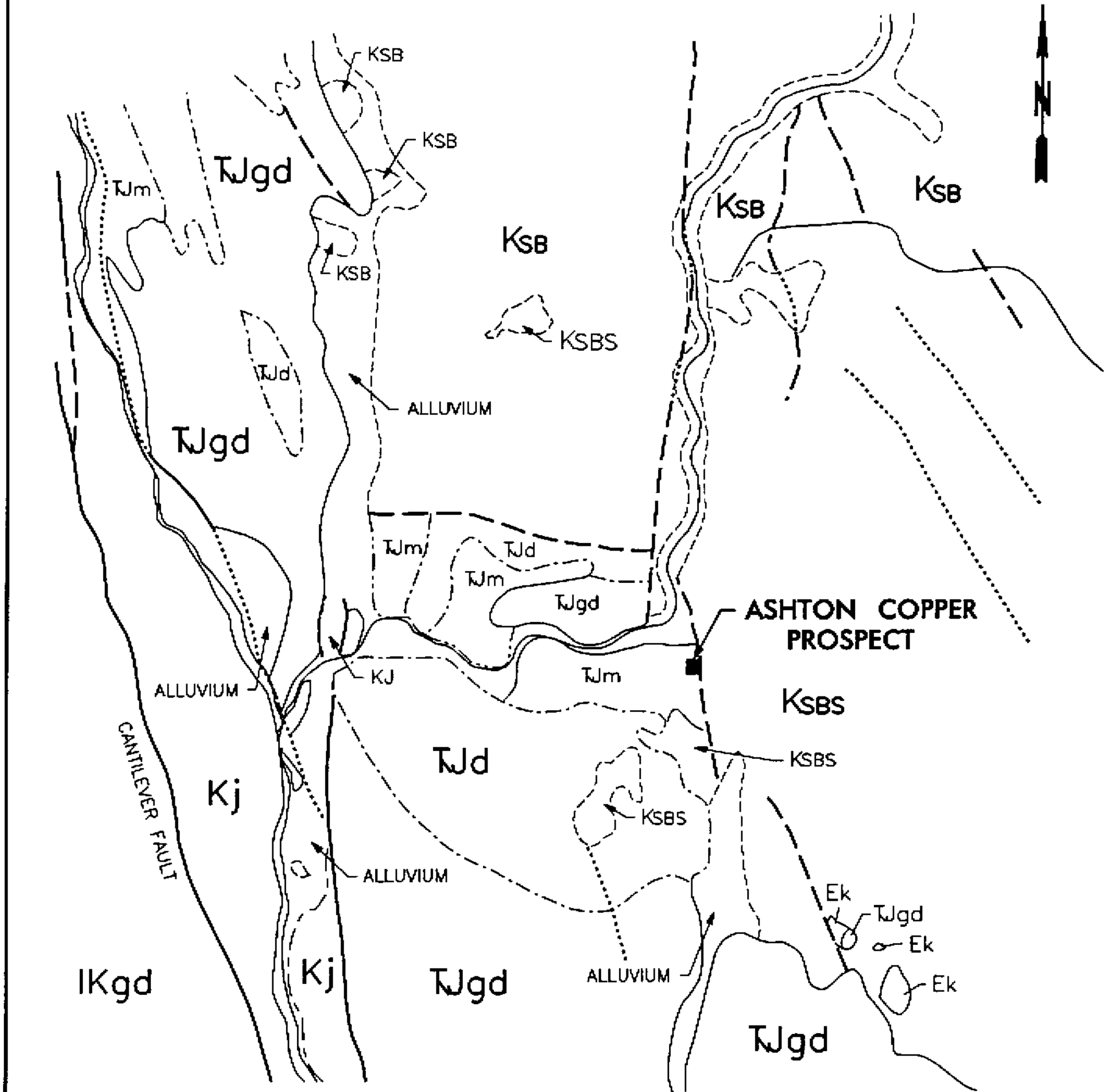


FIGURE 2

J.M.ASHTON & ASSOCIATES LTD. CONSULTING ENGINEERS – VANCOUVER, B.C.		
ASHTON COPPER PROSPECT		
CLAIM LOCATION MAP		
DRAWN : EBC	CHKD : JMA	DATE : JULY 2001
N.T.S. 92I/3W/6W		



LEGEND

FAULT

INFERRED FAULT

LATE CRETACEOUS

lKgd – GRANODIORITE, QUARTZ MONZONITE

SPENCES BRIDGE GROUP

KsB – FELSIC, MAFIC FLOWS AND SANDSTONE – SHALE

KsBs – MAFIC VOLCANICS – CONGLOMERATE

EARLY AND MIDDLE CRETACEOUS

JACKASS MOUNTAIN GROUP

KJ SANDSTONE, ARGILLITE, CONGLOMERATE

TRIASSIC AND/OR JURASSIC

TJd – DIORITE, AMPHIBOLITE MT. LYTTON COMPLEX

TJgd – GRANODIORITE, QUARTZ MONZONITE MT. LYTTON BATHOLITH

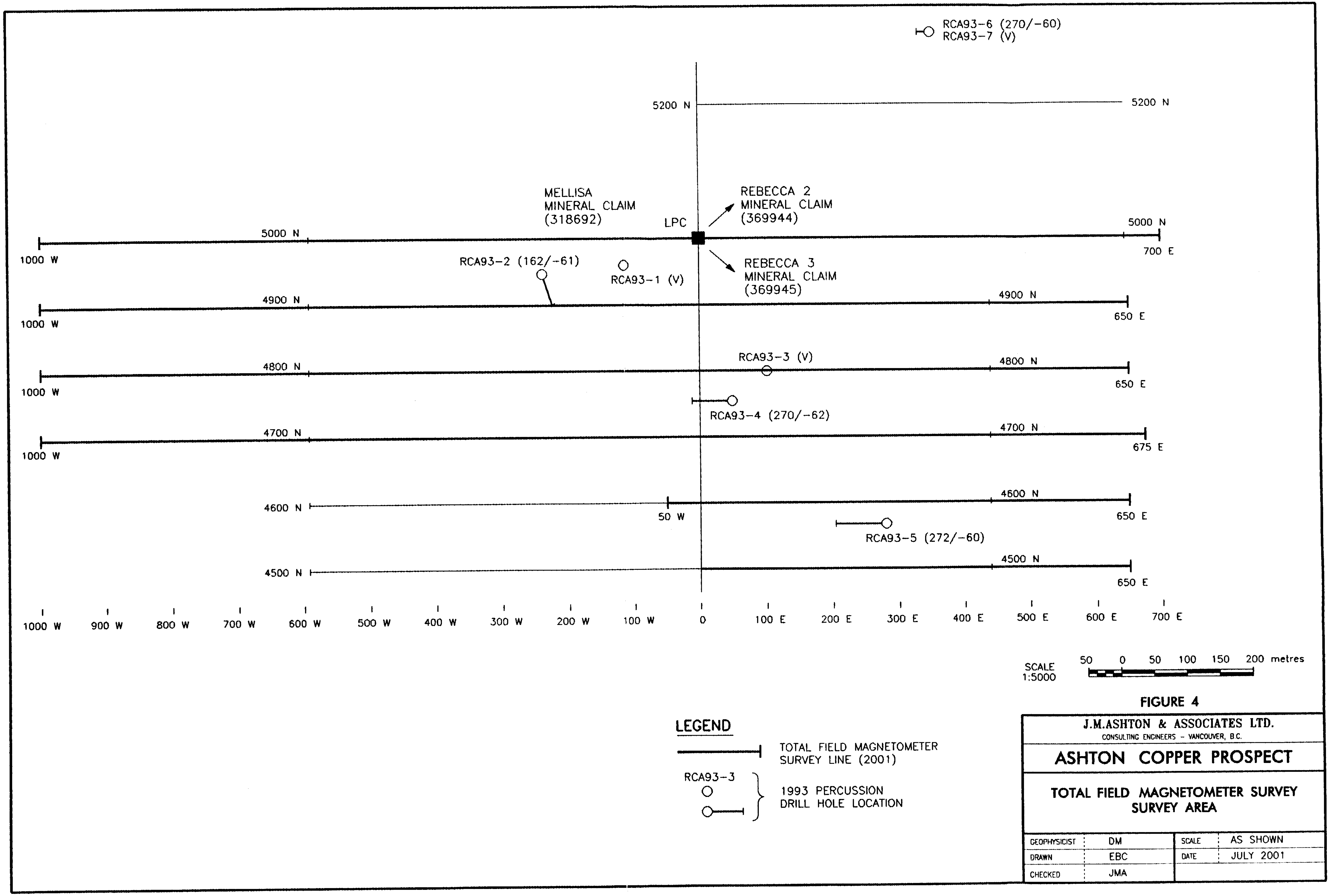
TJm – LAYERED OF ROCK, AMPHIBOLITE, MYLONITE MT. LYTTON BATHOLITH

SCALE 1:200000

4 0 4 8 km

FIGURE 3

J.M.ASHTON & ASSOCIATES LTD. CONSULTING ENGINEERS – VANCOUVER, B.C.		
ASHTON COPPER PROSPECT		
REGIONAL GEOLOGY		
DRAWN : EBC	CHKD : JMA	DATE : JULY 2001
MODIFIED AFTER J.W.H.MONGER GSC MAP 42-1989		



RCA93-6 (270/-60)
RCA93-7 (V)
5200 N
5200 N
MELLISA
MINERAL CLAIM
(318692)
LPC
REBECCA 2
MINERAL CLAIM
(369944)
5000 N
5000 N
1000 W
700 E
RCA93-2 (162/-61)
RCA93-1 (V)
REBECCA 3
MINERAL CLAIM
(369945)
4900 N
4900 N
1000 W
650 E
RCA93-3 (V)
4800 N
4800 N
1000 W
650 E
RCA93-4 (270/-62)
4700 N
4700 N
1000 W
675 E
4600 N
4600 N
50 W
650 E
RCA93-5 (272/-60)
4500 N
4500 N
650 E
1000 W
900 W
800 W
700 W
600 W
500 W
400 W
300 W
200 W
100 W
0
100 E
200 E
300 E
400 E
500 E
600 E
700 E
SCALE
1:5000
50 0 50 100 150 200 metres
LEGEND
TOTAL FIELD MAGNETOMETER SURVEY LINE (2001)
RCA93-3
1993 PERCUSSION DRILL HOLE LOCATION
FIGURE 4
J.M.ASHTON & ASSOCIATES LTD.
CONSULTING ENGINEERS – VANCOUVER, B.C.
ASHTON COPPER PROSPECT
TOTAL FIELD MAGNETOMETER SURVEY
SURVEY AREA
GEOPHYSICIST : DM
DRAWN : EBC
CHECKED : JMA
SCALE : AS SHOWN
DATE : JULY 2001

FIGURES

SURVEY LEGEND

Instrumentation:
GEM SYSTEMS, INC.
Magnetometer, Model GSM-19

Survey Date: July 2001

Surveyed by: Geotronics Surveys Ltd.

Note:
50,000 nT (gammas) has been deducted from each posted value.

Contour Interval: 1000 nT

Data Reduction by:
GEOTRONICS SURVEYS LTD.
VANCOUVER B.C.

Scale 1:2500
25 0 25 50 75 100 125
(metres)

Scale 1:2500
100 0 100 200 300 400 500
(feet)

PROFESSIONAL GEOSCIENTIST
PROVINCE OF BRITISH COLUMBIA
D.G. MARK

GEOTRONICS SURVEYS LTD

J.M. ASHTON & ASSOCIATES LTD.

ASHTON COPPER PROPERTY

Nicoamen River, Lytton Area
Kamloops M.D., B.C.

MAGNETIC SURVEY TOTAL FIELD PLAN (1)

Drawn by:	Job No:	NTS:	Date:	Map No:
DGM	01-07	92I/3W,6W	Aug 01	5

SURVEY LEGEND

Instrumentation:
GEM SYSTEMS, INC.
Magnetometer, Model GSM-19

Survey Date: July 2001

Surveyed by: Geotronics Surveys Ltd.

Note:
50,000 nT (gammas) has been deducted from each posted value.

Profile Scale: 1 cm = 1000 nT

Data Reduction by:
GEOTRONICS SURVEYS LTD.
VANCOUVER B.C.

Scale 1:2500
25 0 25 50 75 100 125 (metres)

Scale 1:2500
100 0 100 200 300 400 500 (feet)

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

26,644

PROFESSIONAL GEOSCIENTIST
PROVINCE OF BRITISH COLUMBIA
D.G. MARK

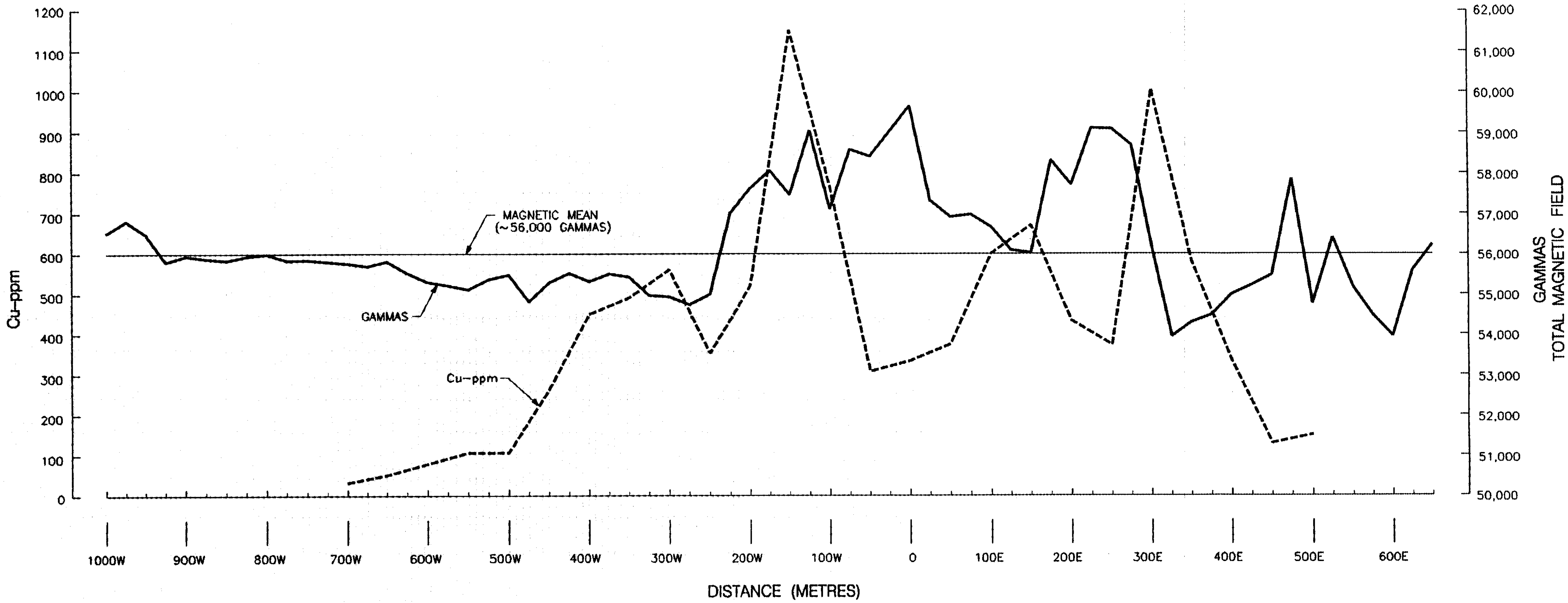
GEOTRONICS SURVEYS LTD

J.M. ASHTON & ASSOCIATES LTD.

ASHTON COPPER PROPERTY
Nicoamen River, Lytton Area
Kamloops M.D., B.C.

MAGNETIC SURVEY TOTAL FIELD PROFILES (2)

Drawn by:	Job No:	NTS:	Date:	Map No:
DGM	01-07	92I/3W,6W	Aug 01	6



PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — J. M. ASHTON

HORIZONTAL SCALE 1:5000 — 50 0 50 100 150 200 250 metres

FIGURE 7

LEGEND

— TOTAL FIELD MAGNETIC PROFILE (GROUND SURVEY) IN GAMMAS (1 GAMMA – 1 NANOTESLA) 25m SAMPLING INTERVAL

- - - COPPER (ppm) IN SOILS 25m SAMPLING INTERVAL

J.M.ASHTON & ASSOCIATES LTD.
CONSULTING ENGINEERS – VANCOUVER, B.C.

ASHTON COPPER PROSPECT

SURVEY LINE 4700 NORTH MAGNETIC & COPPER GEOCHEMICAL PROFILES

BY:	JMA	SCALE	AS SHOWN
DRAWN	EBC	DATE	JULY 2001
CHECKED	JMA	REVISED	

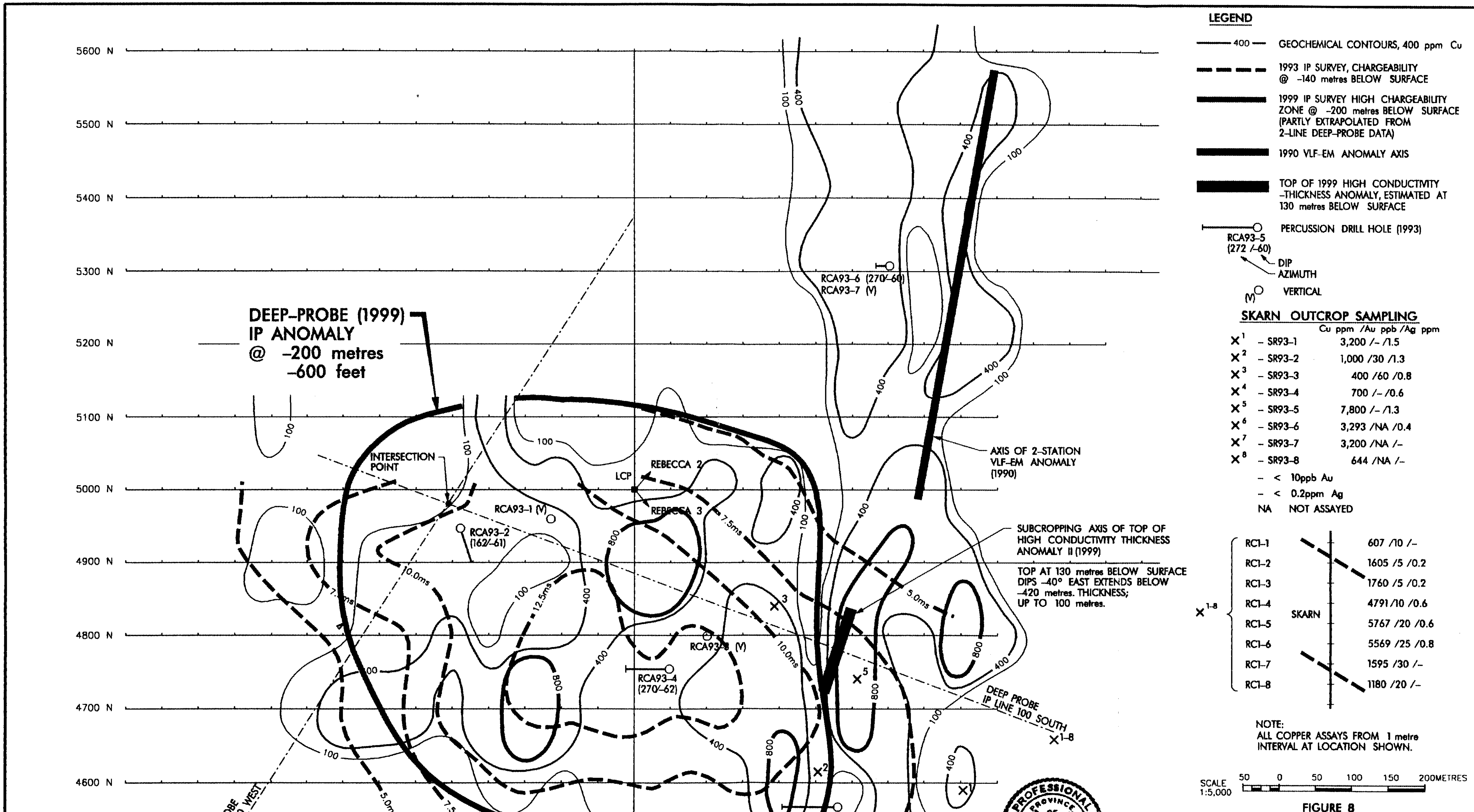


FIGURE 8

J.M.ASHTON & ASSOCIATES LTD.
CONSULTING ENGINEERS - VANCOUVER, B.C.

ASHTON COPPER PROJECT

PRE-2001 MAGNETOMETER SURVEY ANOMALIES COMPILATION MAP

ENGINEER	JMA	SCALE	AS SHOWN
DRAWN	EBC	DATE	JULY 2001
CHECKED	JMA	REVISED	