ASSESSMENT REPORT
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KENT PROJECT

1982 PROGRAM

ASSESSMENT REPORT

(Geological, Geophysical, and Geochemical
Surveys, 11th June to 28th August, 1982)
GE CLAIMS
60° 17' N 128° 55' W
N.T.S. 105-A-2, 3, 6 and 7

David Arscott
for
Kerr Addison Mines Ltd.
12th September 1982

091396

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as exploration work on the account of $ 79,700 —

P. Walker

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

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INTRODUCTION

A 200 square km area in the southeastern Yukon was the scene of a diversified exploration program aimed at the discovery of base metal mineralization. Geological, geophysical, and geochemical, techniques were employed in the effort to locate mineralization or define drill targets. The main impetus for the program was the known presence of an abundance of electrical conductors in the local bedrock. These were suggestive of widespread carbonaceous sediments and the possibility of Pb-Zn sulphide deposits.

The area had been selected by George Kent of George Kent and Associates based on prior experience with the Clear Lake deposit located near the junction of the Pelly and McMillan Rivers. The new area was amenable to airborne survey work and a Questor Mark VI Input system was flown over it (by a previous operator) in May, 1981.

Kerr Addison Mines Ltd. optioned the ground in May, 1982 and commenced, in June, the field program outlined in this report.

HOLDINGS

The large number of electrical conductors indicated by the airborne survey could not be sifted to any degree prior to extensive ground follow-up, and so it was found necessary to stake unusually large blocks of claims as a protective measure between May 1981 and June 1982.

A further 60 claims were staked in August 1982 as a result of ground-regional exploration results. As of the 1st October 1982, the total claim holdings are as follows:

Claim Name	Grant No.	Record Date	Aniversary Date
GE 1 to 311	YA 58305 to 58615	28 May 81	28 Aug
313 to 400	YA 58615 to 58703	28 May 81	28 Aug
401 to 408	YA 58896 to 58903	28 May 81	28 Aug
409 to 600	YA 58704 to 58895	28 May 81	28 Aug
601 to 612	YA 58904 to 58915	28 May 81	28 Aug
613 to 808	YA 67949 to 68144	12 May 82	12 May
809 to 812	YA 68365 to 68368	2 June 82	1 June
813 to 879	YA 68149 to 68215	12 May 82	12 May
881 to 884	YA 68217 to 68220	12 May 82	12 May
891 to 950	Not yet assigned	23/24 Aug 82	23/24 Aug

All these claims, except for the last group of 60, are how held in the name of Kerr Addison Mines Ltd.

Applications for up to two year's assessment work were filed on a large core group of the claims on 13th September 1982. Pending acceptance of this report by the Mining Recorder, no claim should expire prior to 12th May 1983.

LOCATION AND ACCESS

As can be seen in Fig. 1b, access along the southwestern flank of the project area is facilitated by the all-weather Campbell Highway from Watson Lake. Portions of the area distant from the road require a several-hour walk or air-support. Both helicopter and float plane bases are established in Watson Lake. The latter provides a means of access to Scumbag Lake (in and out) and to Pepper Lake (in only, except for light loads). Scumbag Lake is central to the area worked and is adjacent to "A" grid. It is locally known as Bomber Lake. Pepper Lake is further southwest and is also known as Cabin Lake.

The old Bombing Run Road dates to the World War II period when the region was used for bombing practice by military aircraft. It

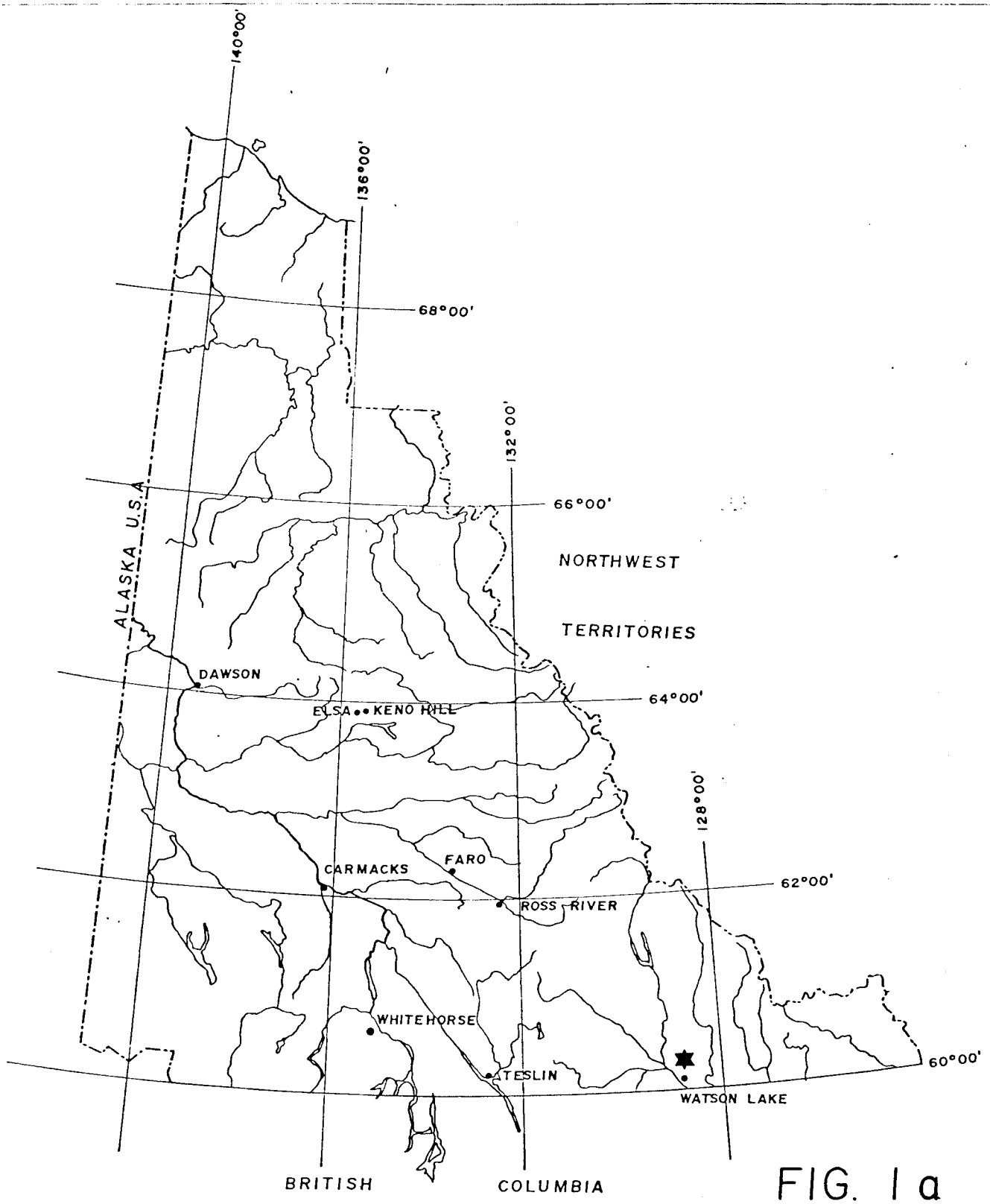


FIG. 1a

KERR ADDISON MINES LTD
KENT PROJECT YUKON TERRITORY
LOCATION MAP

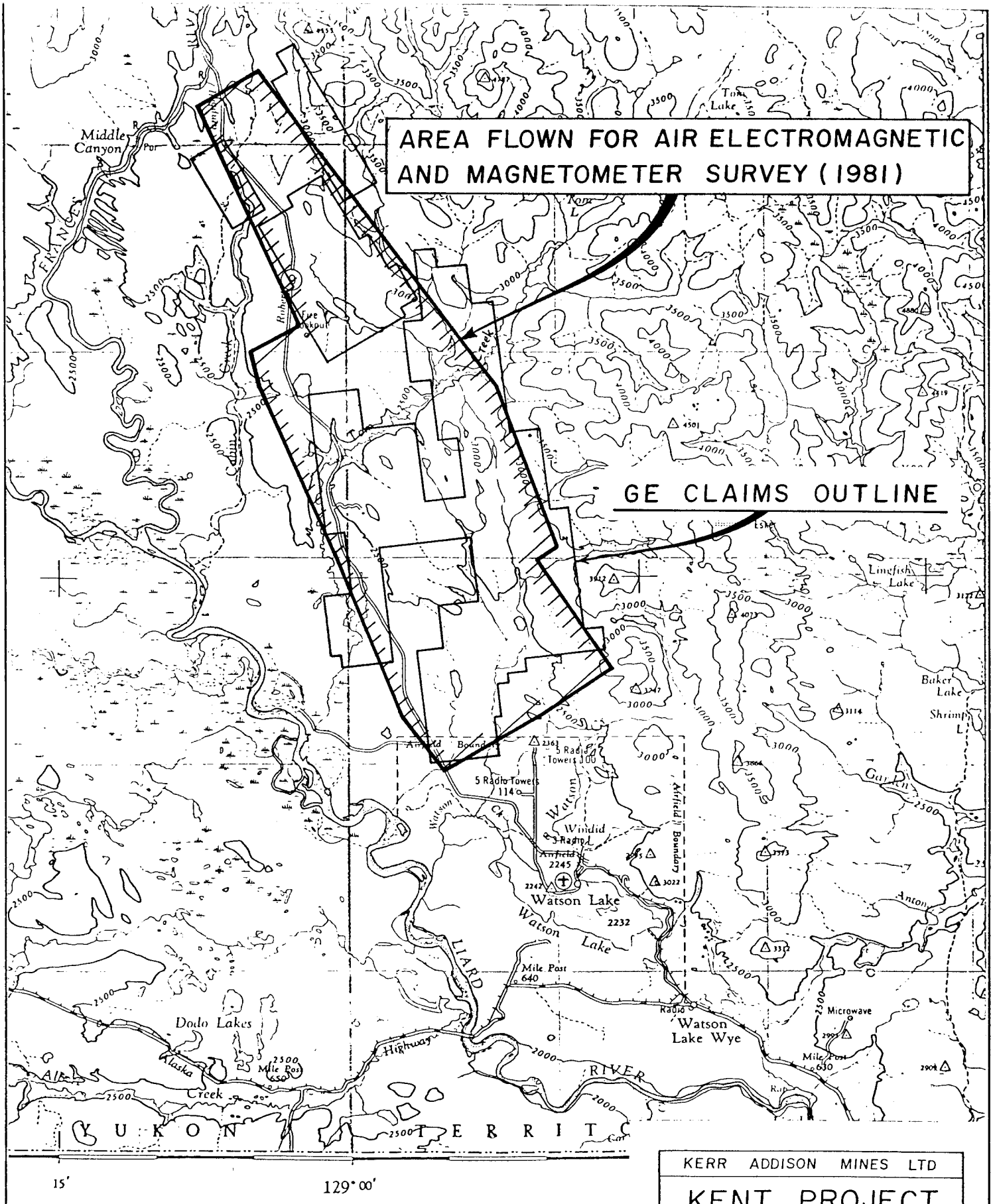


FIG. 1b

KERR ADDISON MINES LTD
KENT PROJECT YUKON TERRITORY
LOCATION MAP
SCALE – 1 : 250 000

crosses the southern portion of our area and was re-opened in June by bulldozers forging access to a major forest fire. There remain, however, major swampy drainages crossing the road and its offshoot to Pepper Lake. These preclude its use by wheeled vehicle until well after freeze up.

There are also several new firebreaks marginal to the burned terrain but an abundance of wood debris makes them unsuitable for access (even walking, except for the one that intersects the highway at km. 23.5).

GEOGRAPHY

The explored region occupies a broad lowland area East of the Liard and Frances Rivers. The average elevation is 850m, slopes are gentle, and relief, except at the northern extremity of the region, does not exceed 350m.

The snow-free period for this area is estimated to be from mid-April to mid-October.

A weakly rectangular drainage pattern is marked by poorly-defined willow-bordered creeks and linear meadow-swamps. Low relief drumlins clothed in jackpine, spruce, and caribou moss, alternate with muskeg lightly covered in spruce and tamerack. The drumlins are underlain by clean well drained silty sands and the muskeg depressions by up to a metre of organic muck and clay.

Terrain negotiability varies from rapid-pleasant to slow-soggy-tangly.

Permafrost was encountered in the soils (particularly in the clays and below the insulation effect of moss) at depths as little as 50 cm in late June. It is possible that the cooling and protective effect of the permafrost was responsible for the extremely rapid re-establishment of plant growth after the forest fire.

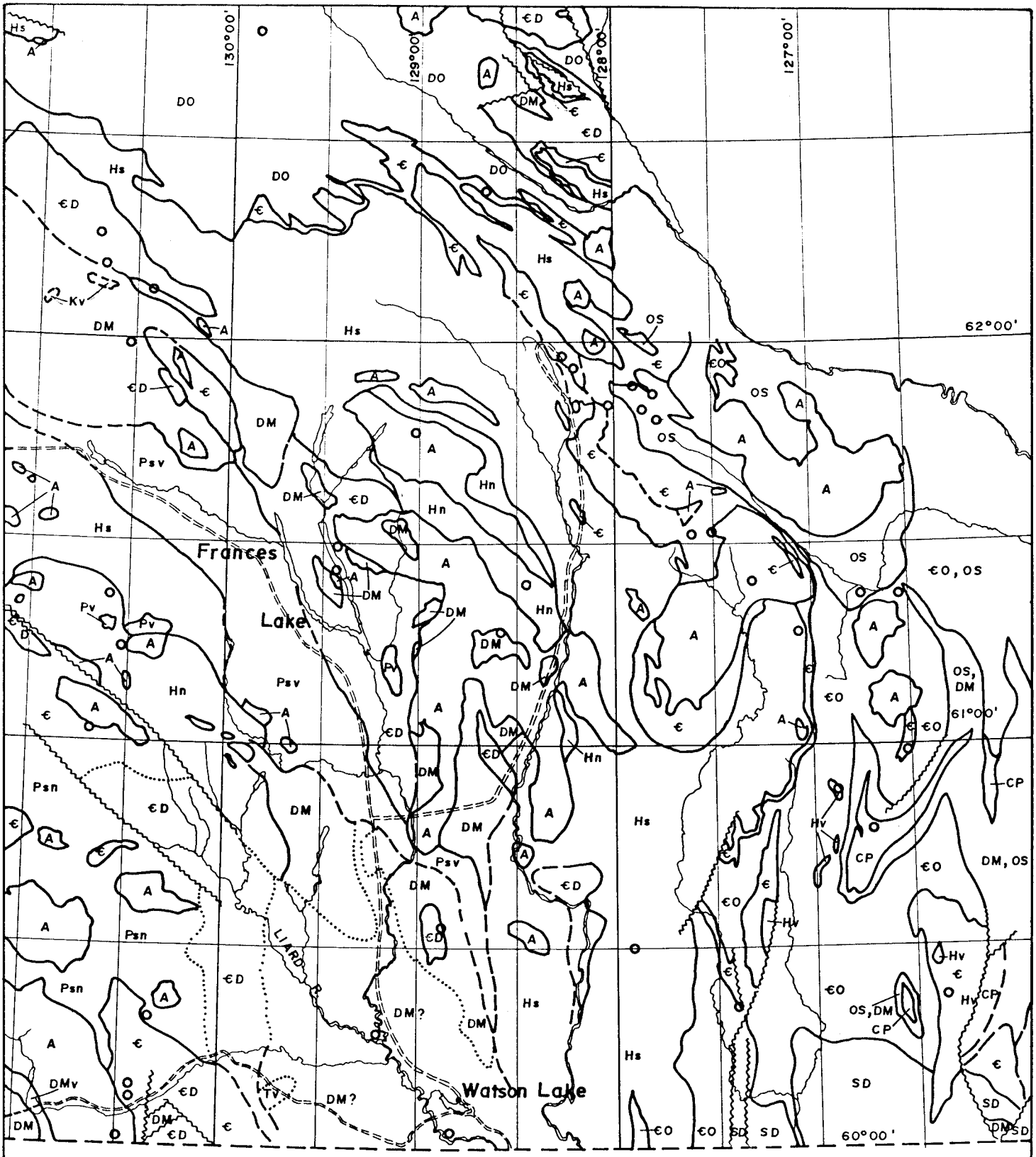
90% of the soils consist of glacial till, largely boulder free, and of highly variable depth. It is reported to consist of two separate till sheets. The glacial direction is indisputable as the drumlin forms are exceptionally clear on airphotographs. They are very straight with their butt ends to the north. Thus the last glacial movement was from north-north west to south-south east. The linear pattern is locally interrupted, as on "A" grid, by what may have been former glacial lakes.

A "geographic" feature of peripheral interest in this report, though of dire interest to the exploration crew that was hounded by it, was the forest fire. It broke out on the 29th June. Sparked by a dry lightening storm and spurred by strong winds after a month of hot, rain-free weather it quickly consumed some 80 square km. of timber, half of which was within the GE claims boundary. It destroyed a portion of the Pepper Lake grid, forced the temporary evacuation of two exploration camps and necessitated expensive flight detours around the restricted zone. It also took the life of a pilot of an A-26 which crashed while engaged in water bombing.

GEOLOGY

General

Broad scale regional mapping was carried out in the area northwest of Watson Lake by H. Gabrielse for the Geological Survey of Canada in 1966. At this time he relegated the dominantly siliceous sedimentary rock assemblage to Mississippian and/or Devonian age but more recent work (by Gabrielse and Tempelman-Kluit, 1977) has re-interpreted the age as Pennsylvanian to Permian and classified these rocks as allochthonous. The later interpretation was confirmed by G. Abbott of the Department of Indian and Northern Affairs when shown a representative suite of rock specimens we had collected during regional traverses this summer. Abbott had mapped the area immediately northwest of our claims in 1977 as part of an MSc. thesis and his judgement is probably accurate. Also a not unreasonable match can be made between our lithologies and those of the Sylvester Allochthon in



-LEGEND-

A	Tertiary to cretaceous (intrusive rocks)	o Cu
Pv,Psv	Permian	o Coal
CP	Permian and Carboniferous	o W(Cu)
DM	Mississipian and Devonian	o Ag,Pb
€O,€D	" " "	o Zn,Pb
OS	Silurian and Ordovician	o Pb,Zn,Ag
€	Cambrian	o Mo
Hs,n,v	Hadrynian	o Au

Note – MAP FROM OPEN FILE 87; MARCH, 1972

KERR ADDISON MINES LTD

GEOLOGY & MINERAL DEPOSITS YUKON TERRITORY

WATSON LAKE & FRANCES LAKE AREA

SCALE – 1"=20 miles	DATE – April, 1982
DATA – Open File 87 map	FIG. 1c
NTS – 105 A, H	

the McDame Map Area 100 km to the southwest. Certainly the few ultramafic rocks and cataclastic quartz prophyries of the eastern side of our area have to be allochthonous (Gordey, 1982 and Tempelman-Kluit, 1977). Nevertheless a small uncertainty remains.

The distinction is of considerable economic importance since no known ore deposits of any significance are hosted by the younger rocks (locally known as the Anvil Allochthonous Assemblage) whereas the Devonian-Mississippian rocks of the Selwyn basin have hosted Pb-Zn deposits in the McMillan Pass and Gataga areas, to name only two.

In the Mt. Hundere area (the one mapped by Abbott) there has been major Cretaceous intrusion accompanied by doming and uplifting of fault-bounded blocks. The result has been that there the allochthonous material has been eroded away, exposing underlying strata as old as Cambrian.

It was hoped that older rocks might in the same way outcrop within our own area. They do not. However, a slight possibility remains that they sub-outcrop beneath the extensive overburden in the central and southern sections of our area.

Our work indicates that most of the GE claims are underlain by a cherts. By and large it can be considered a low-energy, deep sea depositional environment.

Structure

The regional geological picture (see Fig. 4) is dominated by the steep Tintina Fault with it's presumed 400 km right lateral displacement and by a major gently warped, shallow dipping thrust sheet. The Tintina Fault strikes northwesterly and lies somewhere between the Liard River and the Campbell Highway. A gently east-dipping limb of the thrust outcrops about 12 km east of our area. A west dipping limb would in theory have to outcrop immediately east of our work area in order to expose Anvil Assemblage rocks, but according to G. Abbott's mapping, this limb has been replaced or displaced

locally by a major northwest trending steep fault along our eastern boundary. Thus the thrust sheet lies at some uncertain depth beneath the GE claims.

We have not been able to map more than two faults with any certainty on a more local scale, but geophysical evidence (mainly air E.M.) is strongly suggestive of two dominant fault directions, northwest and northeast. In one case (along the east margin of "L" grid) the implied fault is virtually confirmed by a classic step-shaped gravity profile on three adjacent survey lines. A similar profile exists 13 km to the northwest and on the same trend, so the possibility exists of a major fault through these points. (See "L" grid).

It is of special interest that the two dominant fault directions indicated are parallel to those which were mapped in the Mt. Hundere area and which are an integral part of the doming there.

Folding, in the detail areas mapped, varies from open to almost isoclinal and has occurred in at least two distinct phases. Geophysical data from unmapped areas suggests that this pattern is pervasive. The general cleavage, mainly evident in the phyllites and schists, trends north westerly to north-northwesterly, with dips as shallow as 50° to either side. Bedding, only evident in the cherts, is "all over the place", but locally the folding and later folding of fold-axes can be clearly distinguished (see Fig. 9a).

Lithologies

Our regional mapping has indicated that cherts, greywackes and phyllites, with a minor siltstone and argillite components (less than 10%) underlie most of the region. Detailed mapping on the Cabin Creek and "J" grids revealed these same rocks in similar relative proportions in two areas which are 20 km apart.

Other lithologies appear to be restricted to the central and eastern sections of the survey area. They comprise a variety of schists and gneisses, occasional andesite and ultramafics, felsic

intrusive (3 outcrops), volcanic breccia (2 outcrops), limy siltstone (2 float occurrences), and felsic volcanics (1 outcrop).

Age relationships between rock types are difficult to establish because of the paucity of outcrop, widespread interbedding, and complex deformation. The felsic intrusives appear to cut across cherts and gneisses. The volcanic breccias contain fragments of almost all other rock types and must therefore be younger than all the others. In addition they appear to have an andesitic matrix. We can then infer that the andesites are also young and that they are the probable source of the unusually linear magnetic highs which cut across several of the grids. The felsic intrusives (quartz porphyries including a quartz-monzonite) could correlate with the same rock types north of Mt. Hundere and therefore be Cretaceous, but the cataclastic nature of at least one of them suggests that they are more likely a part of the allochthonous assemblage (Tempelman-Kluit, 1977).

The two specimens of limy siltstone have a special significance. They best fit Abbott's "triassic and Older' rock group and hence could indicate the presence of pre-allochthonous rocks in the overburden covered central claims area.

Some generalized descriptions of rock types follow. Thin section reports and specific descriptions of more significant specimens are included in the Appendix.

The cherts are green to grey, massive to weakly bedded, and resistant to both cleavage development and erosion. Thin section studies show them to be 98% or more silica with 1 to 2% white mica. In many cases they have been recrystallized and have the appearance of quartzites. Locally they show brecciation and/or crackling, with or without hematitic alteration. A rare but important sub-type of this chert is black, graphitic, and seen only in the vicinity of other carbonaceous rocks. It may be rarely, as in the case of specimen A-6(A), base metal rich.

The greywackes are brown to grey, gritty, blocky-fracturing rocks with no obvious bedding and have an uninspiring appearance. A diagnostic feature in the field is the presence of rounded quartz fragments up to 4mm in diameter in a somewhat finer grained matrix. Thin section study reveals that the greywackes are composed of quartz fragments (50%) within an argillaceous matrix. Some of the quartz appears to have had an origin in metamorphic terrane. Lithic fragments are lacking. Rarely, as in part of the Cabin Creek area, feldspar fragments occur in place of the quartz. One notable greywacke specimen is RD-878. It has a relatively high base metal content along with 1% pyrrhotite, 2% calcite, and nearly 20% chlorite.

The phyllites are highly cleaved, fine grained, soft, pale green to grey rocks of unknown origin. They have a highly variable chlorite and carbon content and exhibit both relatively sharp and broad contacts with the cherts, greywackes, and siltstones.

The siltstones appear similar to the greywackes and may simply be a fine grained version of them. The limy siltstones on the other hand are quite distinct. These are grey, gritty, differentially weathered, and weakly pyritic. One piece has a minor carbonaceous content.

The andesites tend to be porphyritic, even melanophyric, and seem to be of intrusive origin rather than volcanic. The so-called volcanic breccias may have an andesitic matrix, but contain almost every type of rock fragment - sedimentary, metamorphic, and igneous. They might better be referred to as a melange. They probably have an igneous rather than structural origin.

The schists and gneisses comprise a heterogeneous suite, generally high in quartz, but with highly variable biotite, chlorite, and sericite content. A few are high enough in hornblende to be termed amphibolite. Some have an indistinct foliation and granular texture and have been described as granulites.

The felsic intrusives are medium to coarse grained, porphyritic, multi-hued and blockily fractured. They show moderate alteration (chlorite and sericite) as well as some recrystallization and/or cataclastic deformation. Both quartz monzonite and quartz diorite are present.

A unique outcrop of felsic metavolcanic (A-223) consists of a brown to pink, orange-brown weathering, altered schistose rock. A thin section study indicates that it probably derives from a quartz porphyry and is now well sericitized.

PROGRAM DESCRIPTION

Preparation

Prior to commencement of the 1982 field programs the earlier airborne geophysical results were re-interpreted to reduce the possible targets to a manageable number. The INPUT Mark VI E.M. system had produced 649 conductor-intersections on 700 km of flight line. Initially, and with some hesitation, 480 of these conductors were discarded for having insufficient conductivity-widths (less than 5 mhos) and/or an insufficient number of reponding channels (less than 6). Of the remaining 169 conductors, 16 were selected as having some singular feature or aberration in the hope that these might represent sulphide rather than graphitic sources. Such aberrations included features like restricted strike length, magnetic correlation, or distinctive profile shape. The detail grids were designed to cover as many of the 169 favoured conductors as possible, including the 16 aberrant ones. Little attention was given at this stage to anomaly amplitude as it was considered to be more influenced by shallowness of source than by any other factor. This choice was questionable inasmuch as shallower sources would have perhaps had better definition by our geochemistry and relatively surficial ground E.M. techniques. Whatever the case, amplitude became the prime criterion later in the program when areas were selected for gravity coverage.

General Outline

A combination of conventional surface exploration techniques were used to narrow down the broad array of targets. These included stream sediment sampling, soil sampling, lake bottom sediment sampling, and electromagnetic and magnetic methods, as well as geological mapping and prospecting.

All the above were conducted by Kerr Addison personnel from a base camp near the Liard River and to a lessor extent from a fly camp at Scumbag Lake.

The field work was split into regional and detail modes. These were carried out more or less concurrently depending on the state of the forest fire, helicopter availability, and optimum aircraft use.

Selected areas were also covered by an Ager, Berretta & Ellis Inc. gravity survey crew.

The regional work included traversing most of the drainages in the region, and was of necessity mainly geochemical in nature. Soils and stream sediments were collected at intervals averaging 300 m. The intent of analysing soils as well as stream sediments was mainly to provide comparative soil/stream sediment metal content profiles, but it also served to maximize the data collected by the 2-person crews. The regional traverses were begun in many instances well into the hills east of the claims in order to gain additional geological information, outcrop being more plentiful at the higher elevations. In all, 886 soils and silts (stream sediments) were collected during this regional work. It required some 92 person-days of work and 154 km of traverse, not including access walking.

In addition, 28 lake bottom sediments were collected using a helicopter and sampling "torpedo".

TABLE I

SUMMARY OF GRID WORK

Kent Project - 1982

GRID	LINES km.	SOIL SAMPLING No. of samples	SOIL SAMPLING km.	C(J)EM km.	VLF km.	Magne-tometer km.	Gravity km.(stas)	Mapping days
A	29.6	575	29.6	29.6	28.6	28.6	1.0 (21)	--
B	4.7	99	4.7	4.7	--	--	--	--
C	9.4	197	9.4	9.2	9.4	9.4	--	--
D	3.6	77	3.6	3.6	--	3.3	--	--
E	3.7	78	3.7	3.7	3.7	3.7	--	--
F	3.5	74	3.5	--	--	--	--	--
G	2.8	60	2.8	2.4	--	--	--	--
I	6.6	145	6.6	6.6	6.6	3.1	3.9 (80)	--
J *	12.6	263	12.6	2.8	2.6	--	1.2 (25)	3
K	4.9	124	5.4	4.4	1.3	--	3.3 (68)	3
L	3.7	75	3.7	--	--	--	4.5 (93)	--
M	4.6	84	4.6	4.6	--	--	5.3(108)	--
N	7.1	148	7.1	--	--	--	--	1
P	4.9	103	4.9	4.9	--	--	--	--
Cabin	7.9	134	6.4	5.4	6.1	4.2	--	10
Pepper *	19.0	361	17.4	14.7	10.2	--	6.5(133)	--
TOTALS	128.6	2597	126.0	96.6	68.5	52.3	25.7(528)	17

* These figures include several 21 person days of work carried out after the claims anniversary date (28th August)

The detail work was conducted on 16 separate grids including a total of 128.6 km of marked or cut line. The distribution of the different types of work on each grid is summarized in Table I.

Control

The program began with the establishment of a "master" grid control consisting of 40 km of well-cut line. This preparatory work was carried out by a contract crew (Donegal Developments Ltd.).

Detail grids were then set-up on a 200 m by 25 m basis, the lines being marked by survey flagging only, with an absolute minimum of "brushing out". Distance measurement was by hip-chain with slope-corrections where (rarely) necessary, and line orientations by compass.

1:50,000 scale toporgraphic maps, supplemented by government air photography, were used for regional traverse control.

Some 17 person days were used in detail mapping as well as perhaps 10% at the regional effort in regional mapping. Particular attention was paid to Cabin grid in that it offered the best opportunity to glean an understanding of the region's structure and stratigraphy. Mapping was carried out at scales of 1:50,000, 1:5000, and (in the case of Cabin grid) at 1:2000.

The mapping was supplemented by thin section studies. These were done by Vancouver Petrographics Ltd., and their reports are included in the Appendix.

Geochemistry

Soil samples were collected at depths of 5 to 30 cm. Preference was given to sampling "B" horizon clays and well decayed humus in lieu of the clean looking glacial silts and sands. As in many other parts of the Yukon a thin layer of grey clay is present at the top of the "B" horizon. It is known to be a weak metal collector and this was often the material sampled.

Stream sediment samples were retrieved from a variety of depths both above and below water level. The organic content proved to be quite variable. Stream acidity was measured in a few locations and found to be fairly uniform at pH 5.8 to 6.0.

All samples were treated by Vangeochem Lab Ltd. of North Vancouver using standard atomic absorption techniques. All were analysed for Cu, Pb, Zn, Ag, and Ba. A portion of them were also analysed for Au or Hg.

In lieu of more direct or pragmatic ways of estimating geochemical thresholds, a statistical study was carried out on the Cu, Pb, Zn, and Ba analyses. Table II summarizes the results of cumulative logarithmic probability plots (not reproduced here) for each of five metals. Several conclusions or speculations result from this study.

1. All background and most "anomalous" values are low, and are remarkably similar for stream sediments and soils. The sediments look simply like displaced soils, and this implies that no solution or chemical processes are occuring during erosion. The exception to the rule is Ba which where anomalous is higher in the soils.

2. On the graphs all five metals show evidence of two background populations of more or less equal size, the higher one having a narrower distribution of values. One can speculate that these represent the residual and transported components of the soils (the two populations are not as clearly defined in the stream sediments).

3. The thresholds are not clear cut, and in several cases had to be assumed to be at or above the 98% probability point (the upper limit of the graphical plots). The only thresholds well defined statistically are for Cu in regional soils and silts (this probably reflecting the enhanced Cu in the Frances River area) and for Cu in the Cabin Creek grid soils. In both these cases, residual soil predominates.

TABLE II

GEOCHEMICAL STATISTICS

(Derived from Log-probability Plots)

	Stream Sediments	Soils (Grid + Regional)
Sizes of batches statistically treated	155 to 332	532 to 1086
Median values, ppm		
Cu	12	12
Pb	13	13
Zn	65	50
Ba	43	45
Hg*	--	46
Thresholds, ppm		
Cu	32	44
Pb	>30	25
Zn	>150	>140
Ba	90	140?
Hg	--	110
% anomalous (relative to above threshold)		
Cu	7	3
Pb	<2	4
Zn	<2	<2
Ba	20	12?
Hg	--	3

* "A" and Pepper grids only, total 314 samples

No statistical study was attempted on Au or Ag values because of their low amplitude, and none on rocks in general because of the small population, heterogeneity of source, and biased selection. 20 ppb and above was considered of some interest for Au; 1.0 ppm and above for Ag.

Although background values were not particularly enhanced in areas of least overburden (e.g., "J" grid, Cabin grid, and "N" grid), the best anomalous results nevertheless came from these areas. It is worth emphasizing that there is a real risk of masking or thorough "dilution" of anomalous sources by the extensive transported overburden covering much of the area explored.

For want of a broader data base, the same generalized thresholds were used in selecting significant rock sample results. The selections are in this case clearly on the low side.

Shootback E.M. Surveying

Both Shootback E.M. and V.L.F. - E.M. techniques were employed to confirm the location of the INPUT conductors and further define their characteristics.

Two types of Shootback equipment were used, Crone J.E.M. and Crone C.E.M., and these can be considered equivalent from the point of veiw of interpretation.

A total of 96.6 km of line was traversed with a loop spacing almost entirely at 50 m and a reading interval of 50 m. Readings were taken everywhere at frequencies of 1800 Hz (J.E.M.) and 1830 Hz (C.E.M.). The lower frequencies (390 Hz and 480 Hz) were used more selectively.

The overall result of the type of equipment and spacing was a low resolution, low penetration method with the ability to distinguish conductive overburden effects from bedrock effects (by means of the

amplitude ratio at two frequencies, henceforth to be referred to as the ARF).

V.L.F. - E.M. Surveying

The principle interpretation difficulty with the Shootback methods, in view of the characteristic variety of anomalous profiles and the possible anomaly source orientations in deformed bedrock was that of accurately locating the up-dip end of the conductors. The V.L.F. equipment is more precise in this respect and formed a useful supplement to the Shootback method.

The equipment used was a Ronka EM-16, responding to the Seattle transmitter (at 18,600 Hz). A total of 68.5 km of line was surveyed with it, readings being taken at 25m intervals. Fraser filtering of the data was considered unnecessary in view of the gentle topography on most of the grids.

Magnetometer Surveying

A total field measuring proton magnetometer (Geometrics G-816) was used initially on all grids, then only where a magnetic electromagnetic correlation seemed possible, and finally not at all. In view of the lack of contributary geological data, imprecision of readings and lack of correlations, it was not felt to be useful in this setting. The imprecision resulted from frequently turbulent diurnal corrections, and difficulties with the digit lighting system on the instrument. Although this instrument in theory allows a 1 gamma sensitivity, our field readings can only be considered accurate within 20 gammas (most grids) and within 50 gammas (on "A" grid).

52.3 km of line were traversed with the magnotemeter. Readings were at intervals of 25 m (or closer where there were anomalous indications).

Gravity Surveying

The gravity field was measured at approximately 528 stations 50 m apart using a La Coste and Romberg Model G gravity meter. This

work was carried out by Ager, Berretta & Ellis Inc. and is the subject of a separate report by that company.

RESULTS

Regional (Figs. 4 and 5)

The regional exploration results were generally disappointing, with one main exception.

In the Frances River Area a broad but erratic spread of moderately anomalous values from all three sampling media is underlain by massive to brecciated cherts with occasional interbeds of siltstone and black chert and/or argillite, all highly deformed.

About 30% of 150 samples collected over a 15 km^2 area are anomalous in one way or another - mainly in Cu, but to a lesser extent in Pb, Ag, Ba and Au. Their distribution is such that it is impossible to make any generalization as to strike or zonal relationships, but there does appear to be one main concentration. This is in the area now partly covered by "N" grid (see page 28).

The Frances River Area is at high elevation (1000 to 1500 m), steeply sloped and relatively well exposed. Further work would best be undertaken on or near "N" grid, with emphasis on prospecting and rock sampling prior to embarcation on a more regional examination of the zone. Sixty new claims were staked during August to protect the area as a whole.

One other area that has some grouping of anomalous regional samples is in Central Cabin Creek, 5 km north of the Tom Creek bridge. Here a small number of soils over a 2 km stretch of creek show peak values of 89 ppm Cu, 101 ppm Pb, 1.3 ppm Ag, and 50 ppb Au.

Few other areas yielded more than single sample highs. In particular, an attempt to locate the source of the Tom Creek Gossan, 1 km upstream from the Liard River, proved unsuccessful. No origin has

been found for the abundant limonitic seeps which enter Tom Creek from broad beaver-dam-flooded banks on both sides of the creek.

"A" (or "Scumbag") Grid (Fig. 6)

"A" grid embraces an area of low relief terrain immediately north of Scumbag Lake in which the 1981 airborne survey indicated an abundance of conductor-intercepts arrayed along four main north-south trending zones. Most of the conductivity-widths of these intercepts, as calculated by Questor, fall within the 6 to 19 mho range and are therefore permissive of a sulphide source within the conductors. E.M. anomaly amplitudes are fairly high, between 1500 and 2500 ppm, but some overburden response is suggested by the asymmetry of profile plots (staggering of peaks) and "ragged" Channel 1 response.

Resultant dip angles in the shootback response were highly negative with low ARF (see page 15) over most of the grid. This fact, supported by V.L.F. profiles which were asymmetric across the V.L.F. datum, confirms the presence of an overburden conductivity higher than almost anywhere else in the region. The overburden response failed however to mask bedrock conductors which can be grouped in 4 or possibly 5 zones.

Zone I appears to be the most promising. It is 800 m or more long, with a geophysical character suggestive of a narrow west-dipping source at some intermediate depth. The ARF is good (0.75) indicative of graphite or sulphides, and there is a fair V.L.F. and Ba in soil correlation with the Shootback response. An interesting feature of the Ba, in view of the overburden, is its narrow linear shape. It peaks at 570 ppm.

Zone II is less interesting. Although there is a weak Cu and and Ba correlation the conductor is not well defined by the Shootback profile, and its V.L.F. response can be explained away by its location - on a creek draining into Scumbag Lake.

Zone III comprises a complexly shaped set of Shootback profiles correlated with soil Ba up to 400 ppm. It is not dissimilar to Zone I, but with most dip indicators in the opposite direction, i.e., to the east.

Zone IV has no direct geochemical or V.L.F. correlation but this may not be surprising in that the Shootback profiles suggest a wide flat-lying source at some depth. The ARF is quite high.

Zone V is also broad, but a low ARF implies that its source is strictly within overburden.

There is no outcrop whatsoever in the grid area, or for that matter, within 3 km of it. In fact, the unusual E.M. profiles, the predominance of clays in the soil samples collected, and the lack of drumlin forms in this area all point towards the possibility that this was orginally the site of a glacial lake.

Little more could be said of this grid except for a discovery of some importance in the form of anomalous float 2 km to the south on the shore of Scumbag Lake, or more exactly, in the down-ice direction from Zone I. The float included a graphitic quartzite (sample A-6A), pyritic chert (A-5) and carbonate rich quartz (A-4A). All three are highly anomalous in Cu, Pb and Zn.

The most interesting sample is A-6A. It has sufficient graphite to be conductive (as determined by voltmeter) and yielded 1910 ppm Cu, 5100 ppm Pb, 1090 ppm Zn, 8.4 ppm Ag and 38 ppm Ba. Thin section study indicates that it has a complex deformational history but probably began life as a carbonaceous chert.

Furthermore it was in the Scumbag Lake area that limestone float was discovered - circumstantial evidence of pre-allocthonous rocks being present. And finally, moderately abundant black shale and/or chert was encountered in the creek draining the south end of Scumbag Lake (see Fig. 4).

These discoveries are intriguing in that they provide a possible explanation of the multiple conductor zones, i.e., repeated sub-outcropping of folded graphite sediments, and suggest that these sediments are locally metal-rich.

And so, with some caution deriving from the implied conductivity of the overburden and the circumstantial nature of the lithological evidence, it can be said that the western side of "A" grid is a very interesting (if diffuse) target.

"B" Grid (Fig. 7)

This is the beginning of a lengthy account of less impressive results. An impatient reader should leap ahead to the section on Pepper grid, with a backward glance at "J", "N", and "C" grids if time permits.

"B" grid was designed to cover a group of airborne survey conductor intercepts similar to those on "A" grid, but with conductivity-widths at half the "A" grid levels. The regional magnetic background is also somewhat different, i.e., higher.

Detailed ground examination yielded virtually no positive results. Except for a group of soil Ba values in the 300 to 600 ppm range, the geochemical results are only spottily enhanced. A marginally high Cu value (61 ppm) is close to a short-strike Shootback anomaly but this has a generally poor ARF.

"C" Grid (Fig. 8)

The intention with "C" grid was to cover two unusual INPUT conductor intercepts marginal to the "A" grid zones. The 4 channel intercepts were of interest because of a short indicated strike length and suitable conductivity-widths.

Ground follow-up showed that these conductors were both part of a 1200 m long zone well represented by the V.L.F.-E.M. survey but barely evident on the Shootback. The profiles would be compatible with

a near-vertical elongate lens of conductive material with a maximum width of perhaps 35 m.

At its north end this zone enters an area of generally enhanced soil Ba (values up to 300 ppm) and very mildly elevated Cu (36 ppm). The Ba is easily contoured to produce an anomaly, curious in that it is parallel to the conductive zone, but displaced 180 m east of it.

A second conductor (V.L.F. only) correlates at one point on line 116N with a magnetic "spike" profile. One can guess that this might represent an andesite dyke with attendant shearing but there is no outcrop anywhere in the grid area to verify this.

"C" grid does not qualify for further work unless drilling on other similar zones in the area produces mineralization.

Cabin Grid (Fig. 9)

Two sets of INPUT conductor intercepts near the headwaters of Cabin Creek were considered distinctive in that they were seen to have a near magnetic correlation as well as a wide range of conductivity widths and anomaly amplitudes (1 to 19 mhos and 728 to 5690 ppm respectively).

This area is blessed with abundant rock exposure on the immediate banks of the creek and has good access. Considerable attention was given to it for these reasons, with the expectation that the information derived would be useful in deciphering other less well exposed anomalous areas. A quite detailed scale of 1:2000 was used. It proved excellent for the mapping, but our failure to adjust the vertical plotting scale on the E.M. maps resulted in highly smoothed and therefore misleading E.M. profiles.

The grid is underlain by highly deformed sediments - mainly cherts, phyllites, greywackes, and argillites. These have much the same appearance as they do elsewhere in the region, but locally the

greywackes are quite feldspathic and/or coarse grained. There is in addition just south of the grid one small outcrop of medium grained quartz prophylry - one of only four such occurrences in the entire region.

Despite the detailed nature of the mapping it has not been possible to assemble a stratigraphic column or even guess at the true thickness of the larger rock units. Interbeds are common and as little as 0.5 m thick in some areas. Contacts are both gradational and abrupt. Lithologies of intemediate composition (i.e., difficult to classify) are present.

Weak bedding in the cherts, well developed cleavage in the phyllites, and the occasional presense of lineations, allowed us to assemble a clear picture of the style of deformation. An early phase of folding is moderately open to moderately tight with some fold wavelengths of the order of 100 m across. The axes of these folds are now themselves folded by some later phase of less intense folding.

Of particular note is that the argillite interbeds, though common, rarely exceed 10 m in thickness and often lack strike-continuity. The argillite is grey to black and variably graphitic.

Shootback anomalous dip angles of minus 30° are present on seven of the eight lines surveyed. Most of the ARFs are in the 0.5 to 0.8 range. Indications of source thickness and orientation vary considerably. Despite the fact that there is little overlap between the mapping and the Shootback profiles it seems likely that all the anomalies originate in the argillites. Their characteristics are certainly commensurate with a folded and/or multiple-horizoned graphitic source.

The V.L.F. - E.M. is similarly responsive. Together the two types of E.M. profile suggest a semi-continuous source horizon and perhaps also broad scale folding.

Ba is weakly anomalous in soil at the site of a V.L.F. conductor in argillite (174N, 5W). Cu does show fairly good values (up to 106 ppm) in soils close to the argillites, but other metals are lacking. Particularly discouraging are the rock samples. Of approximately 25 collected from the grid, nearly half of which were argillite, peak values were 63 ppm Cu, 37 ppm Pb, and 106 ppm Zn. The better samples were cherty argillite with a very minor pyrite content.

The airborne survey indicated magnetic high was located clearly by ground magnetometer. It shows no relationship however to any other feature except a gentle topographic low. In view of the fact that it is a very linear feature and 600 m or more long, we may speculate that it reflects a late, probably andesitic, dyke.

"D" & "E" Grids (Fig. 10)

These two grids were designed to cover two unusual conductor-intercepts in a narrow conductive belt on the northeastern edge of the region explored - an area of high magnetic background. The conductors have conductivity widths of 1 and 6 mhos, amplitudes of 344 and 338 mhos, a 4 and 5 channel response and direct magnetic correlation. A "herring bone" pattern in the INPUT plan plot is suggestive of a horizontal sheet source.

A generally high ARF on the "E" grid Shootback profiles suggests that the presumed horizontal sheet is not an overburden response (except for the single strong conductor at 157N, 47+50E whose ARF is 0.2). Also this grid is on a relatively steep side-hill with consequently less chance of thick and/or clay-rich soils.

With the exception of the above conductor the Shootback profiles on both grids are fairly uninspiring and correlations poor. The best conbinations are 1) a low amplitude high ARF anomaly which coincides at 155N, 41E with a 53 ppm soil Cu value and 2) a magnetically active area on the west side of "D" grid coinciding with a soil Cu anomaly and central to a large soil Ba anomaly. This last is 900 m or more long, up to 300 m wide, and peaks at 500 ppm Ba.

It is impossible to know what to make of these responses. There is no outcrop to provide a foundation for interpreting them. Any further work here, as on "C" grid, would best await the discovery of bona fide mineralization elsewhere in the region.

"F" Grid (Fig. 11)

This grid was aimed at an INPUT conductor-intercept unusual in having a double peak on channels 5 and 6, and asymmetric profile. Unfortunately, the ground follow up was not completed and the only result in hand is a weak Cu and Ba anomaly from soil sampling.

"G" Grid (Fig. 12)

A completely isolated 3-channel, low amplitude, low conductivity-width conductor was given a one crew-day intensive treatment.

The result was several not well defined Shootback conductor-intercepts, a broad soil Ba anomaly, and a weak soil Cu anomaly - none of which showed any correlation with any other.

No further work is indicated.

"I" Grid (Fig. 13)

This grid was principally designed to evaluate a unique INPUT conductor-intercept (10351A) or more accurately a close pair of intercepts, one showing a response on channels 1 to 4 and the other immediately to the east on channels 2 to 6. Both are on the high gradient flank of local magnetic high. The conductivity-width (calculated on the western one) is 6 mhos, the amplitude 1012 ppm.

The grid was later modified and extended in preparation for gravity coverage.

The INPUT anomaly was located without difficulty by Shootback E.M. and less clearly by V.L.F.-E.M. It turned out to lie in a well defined but broad swampy drainage. The ARF (unfortunately measured at only one location) is 0.4, implying that the shootback profile is

overburden generated. This explains away both the 1 to 4 channel segment of the INPUT conductor and the uniqueness of the overall INPUT response.

A second conductor, identified by V.L.F. alone, converges on the first. This convergence may explain the dual nature of the airborne response.

A third conductor could exist at 2S/14+50W. It has 7° Shootback dip angle and better ARF. The probable up-dip end of this conductor, as pinpointed by the V.L.F. survey, coincides with a soil sample yielding 84 ppm Cu and 11.0 ppm Ag. This correlation would be interesting but for the complete lack of any gravity response along the same line. But inasmuch as this is a single line anomaly, open on both sides it can be relegated to one more area that may be followed up if and when encouraging mineralization is found elsewhere in this regional setting.

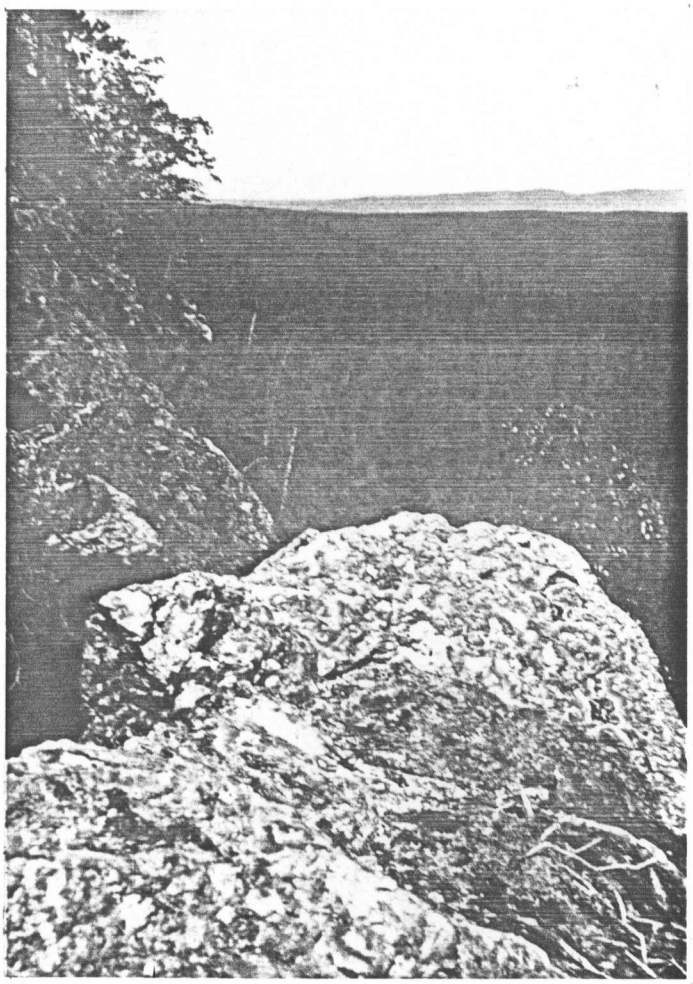
A fairly active magnetic pattern on the grid is without known significance. There is no outcrop in the area.

"J" and "K" Grids (Fig. 14)

This area was initially considered low priority because of low conductivity-widths calculated from the INPUT data. However, the outlook improved somewhat with the discovery of Cu bearing float on the highway adjacent to "J" grid, and the relatively abundant outcrop made it a useful study area.

The airborne E.M. plan map shows an interesting semi-circular symmetry when trend lines are drawn through the conductor-intercepts, "J" grid being on the west side and "K" grid on the east. The two sides have similar INPUT characteristics, and flank a weak magnetic high.

"J" grid has more character and potential. It is underlain by massive to weakly bedded highly resistant cherts, blocky homogenous



RESISTANT CHERT, 'J' GRID

nondescript greywackes, chloritic phyllites, and minor siltstones and argillites. Carbonaceous material is found within several rock types, including an unusual breccia, in a narrow north south zone through the centre of the grid. The breccia is enigmatic. It lies close to a fairly major fault zone but has a somewhat stratabound appearance. It is incipiently schistose, and in addition to highly angular chert and argillite fragments contains at least one very well rounded cobble of siltstone. A thin section study of this rock (A-225A) revealed tht it is actually a very coarse grained lithic wacke, hence a sedimentary breccia.

It is possible to envision small amounts of light organic debris being settled in a quiet water clean chert basin, especially at a time of influx of silt size material, but the presence of a carbonaceous "high energy" rock like this breccia over a very restricted area is incongruous.

The carbonaceous trend incorporating the breccia produces a very good E.M. response but no significant rock metal values. Several other rocks did however. Two samples from a very narrow silty to argillaceous interbed (G-100 and A-218) yielded 140 and 206 ppm Cu and 29 and 70 ppm Pb. A selected sample of rusty grey to white chert from talus beneath a sheared zone in the chert at cliff 26N, 70W and which showed hematitic and sericitic alteration, yielded 140 ppm Pb. Similar specimens from shear zones on "K" grid yielded up to 83 ppm Cu and 275 ppm Zn. More striking however were three samples of float, highly selected, but of probable local origin, within the greywackes on the west side of "J" grid (A-1A, Rd-878, and L-300). These carried 910 to 3480 ppm Cu, up to 157 ppm Pb, up to 340 ppm Zn, and up to 2.9 ppm Ag.

A-1A is a somewhat schistose greywacke with about 5% disseminated pyrite and one 5 mm thick bed of massive pyrite. The source area could then be electrically conductive.

Unfortunately the ground geophysical work was only commenced near the end of the field season, was not completed, and did not extend to cover the possible source area for the Cu-rich float.

The geophysical and geological mapping results could be matched quite well, even to the extent of placing a fairly major shear zone-fault. The soil sampling results did not fit so well, despite the thinness of overburden. They imply sources of metal other than those mapped.

A single gravity line along 37N on "J" grid and two within "K" grid, yielded no anomalies.

Minor additional work is recommended to attempt to locate the source of the anomalous greywackes.

"L" Grid (Fig. 15)

Three gravity survey lines were designed to cross a high amplitude conductive belt adjacent to the highway south of Tom Creek.

The survey was negative in that it revealed three parallel correlatable fault or fault-scarp type profiles. The interpreted feature has some size. It's main interest to us is that it could represent either a fault associated with the Tintina Trench or a major fault block margin, similar to those evident in the Mt. Hundere vicinity. A similar gravity profile is present on line 83N, 13 km to the north and on strike with "L" grid profiles. This is rather far to extrapolate the fault and it would presumeably have destroyed the apparent symmetry of "J" and "K" grids, between which it would have to pass.

Soil sampling results on "L" grid were also negative. Since the west side of the implied major fault could consist of up to 100 m of overburden (see gravity report), this is not surprising.

"M" Grid (Fig. 16)

"M" grid was designed to examine an area of very high amplitude INPUT anomalies within a broad regional magnetic "embayment".

The gravity profiles have high relief over a broad area but much of this relief could have been generated by overburden thickness variations. In any case, subsequent Shootback E.M. located only two conductors and both were in areas of least gravity reponse. The Shootback profiles tended to be more negative (with low ARF) in the vicinity of the gravity lows suggesting deeper or more conductive overburden at these points, reinforcing the idea that the gravity profiles are bedrock-relief generated.

The eastern of the two Shootback anomalies has slightly greater potential. It more or less coincides with an INPUT intercept with a conductivity-width of 17 and amplitude of 482 ppm (on channel 2 as usual). Weak soil geochemical highs (2 to 3 times background for Cu and Zn, 5 times background for Ba) lie close to it.

"N" Grid (Fig. 17)

This grid lies just outside the area flown by airborne geophysics. It was emplaced in an attempt to follow up on promising regional traverse results, or more specifically, these rocks:

B-81 Float. A black chert partly recrystallized to quartz with notable carbonate and sericite content. Cu-21,500 ppm, Pb-16,500 ppm, Zn-12,000 ppm, Ag-92.7 ppm and Ba-1800 ppm.

B-80 Outcrop near B-81. Recrystallized chert, rusty and yellow weathering, with carbonaceous partings. Cu-96 ppm, Pb-166 ppm, Ag-2.2 ppm and Ba-440 ppm.

B-83 Outcrop near B-81. Pale grey, rusty and yellowish green weathering chert. Cu-70 ppm, Pb-125 ppm, and Ba 900 ppm.

These rocks came from close to the confluence of two creeks on a steep hillside, and the grid was centred on this confluence rather than up-hill or up-ice direction from it. The choice of centre turned out to be fortunate in that the best soil anomaly appeared both down-hill and down-ice from the confluence!

The southeast side of the grid is especially anomalous with peak values of 145 ppm Cu, 45 ppm Pb, 170 ppm Zn, 4.1 ppm Ag, and 830n ppm Ba. Some outcrop was noted in this vicinity by the soil samplers but it has not been mapped or sampled. Obviously there is justification for further work here, perhaps as part of an overall evaluation of the Frances River anomalous zone within which this grid lies.

"P" Grid (Fig. 18)

The intent of "P" grid was to provide assessment work in an area where the claims would not otherwise be renewable. It was placed over some poor quality airborne indicated conductors. Ground survey results were likewise poor.

Pepper Grid (Fig. 19)

The initial Pepper grid layout was designed to cover some favourable INPUT anomalies in the immediate vicinity of Pepper Lake. This area is characterized by an abundance of conductor-intercepts with good conductivity-widths (7 to 24 mhos) and moderately high amplitudes (1200 to 2200 ppm on Channel 2).

The grid was later extended northeastwards into an area featuring lower conductivity-widths (3 to 8 mhos) and higher amplitudes (1800 to 4800 ppm) and it was this latter area that yielded the best ground geophysical response.

A gravity high is located at 61S,79W. Depending on the level at which the regional background is interpreted, this anomaly has an amplitude between 0.8 and 1.6 mgals. It is located squarely over a large swamp and it seems unlikely that the anomaly source could be

derived from bedrock topography alone. The anomaly would be a high priority target but for one failing. This is that an INPUT flight line (#10140) passes right over the centre of the gravity high with virtually no indication of the presence of any conductor. Assuming the validity of the data we can infer that the gravity source is non-metallic, or largely sphalerite, or at great depth, i.e., greater than 150 m (the probable penetration of the INPUT field). At least part of the response however, (a local peak superimposed on a broad one) is likely to have a quite shallow origin.

A possible southward extension of the gravity anomaly is represented by another high at 81W on line 65S, which has an amplitude of 0.8 m gals. It looks like either the same source at greater depth or an end-effect - that source not reaching as far south as line 65S.

In this case, there was ground E.M. surveying along the same line but no response at the site of the gravity high.

An additional peculiarity is that the tie line gravity survey along 82W crosses the most singular Shootback anomaly in the area with no indication of locally increased density. This inverse relationship between dense sources and conductive sources is matched not only in the general pattern of geophysical responses on Pepper grid but elsewhere in the region (as on "M" grid). The significance of this general rule is not understood, unless it reflects increased overburden over recessive graphitic sediments.

It seems probable in view of results elsewhere in our region that the E.M. profiles do reflect folded graphitic sediments, but the origin of the gravity anomaly is less clear. Some of the possibilities are:

1) A felsic or ultramatic intrusion, deep with narrow NE-SW horizontal section or shallower with broader section.
2) A mixed-sulphide body at some depth.
3) A sphalerite-rich sulphide body at shallower depth.
4) Bedrock topography.
5) Some combination of the above.

It is not possible to be more precise without geologic or more definitive geophysical control, and it would seem unwise to drill before refining the latter. A lengthy program could result from probing the separate gravity and E.M. targets as they now stand. In the first case the source may be deep and may even be displaced laterally from the survey line. In the second there is an inherent imprecision of positioning. In both cases, we have to consider the wide line spacing, the unknown geometry of the source and the openness of the anomalous area northwards. Refinement of the surface data could markedly reduce the cost of drilling.

Most soil samples from the grid yielded metal values low even for this region. It can be presumed that masking by transported overburden is to blame and that the sampling therefore has neutral significance. There is one interesting exception. Several individual samples in the general vicinity of the gravity high yielded Hg values which can be considered anomalous against the local background. The peak value is 330 ppb at 78+50W on line 63S, close to the gravity peak. The median value for Hg in this area is 16 ppb.

CONCLUSIONS

1. On the basis of our own work and recent regional mapping by G. Abbott, the GE claims area appears to be covered by an overthrust assemblage of Post Upper Devonian rocks. The thrust plate may however be thin, and windows of older, more favourable rock may be exposed beneath the commonly pervasive transported overburden. The evidence for this is limited and mixed.

2. Ground follow-up of the airborne survey has indicated that a large proportion of the air E.M. anomalies are almost certainly derived from carbonaceous sediments.

3. Favourable economic features include the abundance of carbonaceous sediments suggested by the airborne E.M. survey, a structural style permissive of doming and therefore of the presence of windows of

favourable host rocks, and geochemiclly significant metal values in several specific areas.

4. Unfavourable features include evidence of a quiet depositional environment in the exposed (probably allochthonous) outcrops - specifically the abundance of chert and relative lack of high energy clastics that would be characteristic of an active basin margin. There is also a general lack of Ba, a common "pathfinder" element in productive Pb-Zn regions.

5. From the correlated results of the various field procedures it is possible to select two main zones of interest, one on "A" grid and the other on Pepper grid. These zones have been brought nearly to drill - target stage but some extension and refinement of the surface datat is desirable prior to drilling.

Several other areas, particularly on "J" and "N" grids, merit minor follow-up work.

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ANOMALOUS ROCK SAMPLE LIST

KENT PROJECT

SAMPLE NO.	LOCATION	TYPE	DESCRIPTION
A-1 A	Road quarry, "J" grid	Grab of rubble	QUARTZ CHLORITE FELDSPAR SCHIST or METAMORPHOSED GREYWACKE 5 % quartz eyes in rusty, corroded matrix. 5% disseminated pyrite. 1-5 mm bed of massive pyrite Minor chalcopyrite Cu-1060 ppm, Pb-157 ppm, Zn-340 ppm
A-4A	Small creek effluence on S. shore Scumbag Lake	Float, sub-angular	QUARTZ, with abundant brown carbonate Cu-343 ppm, Pb-100 ppm, Zn-154 ppm
A5	S. shore of Scumbag Lake	Float, rounded	CHERT, black, bedded, with abundant (20%) concentrations of medium grained pyrite. Somewhat rhyolitic in appearance Cu-304 ppm, Pb-410 ppm, Zn-275 ppm, Ag-2.5 ppm
A-6A	S. shore of Scumbag Lake	Float	QUARTZITE (recrystallized chert), black massive, with local wavy slightly conductive carbonaceous bedding. (See thin section report) Cu-1910 ppm, Pb-5100 ppm, Zn-1090 ppm, Ag-8.4 ppm
A-123	Frances River Bridge Area	Outcrop	CHERT, pale green to white, rusty weathering. Has irregularly shaped black shale interbed Cu-1171 ppm
A-124	Frances River Bridge Area	Outcrop	CHERT BRECCIA, white, rusty weathering, with abundant shaley fragments. Manganiferous? Cu-89 ppm
A-164B	9 km NE of Pepper Lake	Outcrop	SLATE, dark grey, rusty. Cu-95 ppm, Pb 40 ppm

ANOMALOUS ROCK SAMPLE LIST

KENT PROJECT

SAMPLE NO.	LOCATION	TYPE	DESCRIPTION
A-191	9 km ESE of Tom Creek bridge	Outcrop	QUARTZITE, grey, cherty, locally rusty, with carbonaceous and/or manganiferous fractures. 1/2% disseminated pyrite. Cu-76 ppm
A-218	"J" grid. Line 26N	Outcrop	SILTSTONE, grey to green with hematitic seams and scattered pyrite cubes. Locally phyllitic Cu-206 ppm, Pb-29 ppm, 118 ppm
B-44	Vicinity of Fire Tower 2 km S. of Tom Creek bridge	Outcrop	CHERT, bedded to highly brecciated with strong hematitic weathering Cu-146 ppm
B-80	4 km E of Frances River bridge ("N" grid)	Outcrop	QUARTZITE (recrystallized chert?) with carbonaceous partings. Locally rusty and locally yellow weathering Cu-96 ppm, Pb-166 ppm, Ag 2.2 ppm, Ba 440 ppm
B-81	4 km E of Frances River bridge ("N" grid)	Float Angular	CHERT, black, with 2 mm thick malachite - calcite - quartz vein Cu-21,500 ppm, Pb-16,500 ppm, Zn-12,000 ppm, Ag-92.7 ppm, Ba-1800 ppm (see thin section report)
B-83	4 km E of Frances River bridge ("N" grid)	Outcrop	CHERT, pale grey, slightly recrystallized, rusty and yellowish-green weathering Cu-70 ppm, Pb-125 ppm, Ba-900 ppm
B-110	9 km ENE of Tom Creek bridge	Outcrop	ANDESITE? Green, weakly foliated rock with minor disseminated pyrite Zn-235 ppm, Ba-215 ppm
G-31	2 km NE of Tom Creek bridge	Outcrop	CHERT, pale green, thinly laminated, phyllitic Cu-156 ppm, Pb-265 ppm, Zn-195 ppm, Ag-11.5 ppm

ANOMALOUS ROCK SAMPLE LIST

KENT PROJECT

SAMPLE NO.	LOCATION	TYPE	DESCRIPTION
G-100A	"J" grid. Line 26N	Outcrop	SILTSTONE, phyllitic, green, locally hematitic, with several 1/2 cm deformed pyrite cubes LCu-141 ppm, Pb-46 ppm, Zn-159 ppm
G-100B	"J" grid. Line 26N	Outcrop	ARGILLITE, black, with thin quartz layers. Yellow and brown weathering. Intensely deformed Cu-100 ppm, Pb-70 ppm, Zn-151 ppm
H-44	Frances River Area	Float and outcrop	ARGILLITE and rusty CHERT Cu-95 ppm
H-46	Frances River Area	Outcrop?	CHERT, black, graphitic, rusty, grading towards argillite Cu-185 ppm
H-57	"K" grid	Sub-outcrop	CHERT BRECCIA with fragments 1 to 3 mm in diameter Cu-99 ppm, Zn-174 ppm
H-79	10 km NE of Pepper Lake	Float angular	CHERT PEBBLE CONGLOMERATE or BRECCIA dark grey with chert pebbles 2 to 5 cm in diameter. Minor boxwork in banks. Minor sericite and quartz veining. Ba-390 ppm
H-133	"K" grid. Line 27N	Float	CHERT, grey, very rusty, with crackled appearance Cu-83 ppm, Zn-275 ppm
H-134	"K" grid. Line 22N	Outcrop	CHERT, pale green, intensely brecciated, very rusty Cu-70 ppm, Zn-189 ppm
L-300	"J" grid, by highway	Float sub-angular	GREYWACKE, pale green, rusty to yellowish weathering, weakly brecciated appearance. 5% pyrite cubes to 3 mm in diameter Cu-910 ppm, Pb-125 ppm

ANOMALOUS ROCK SAMPLE LIST

KENT PROJECT

SAMPLE NO.	LOCATION	TYPE	DESCRIPTION
RD-878	"J" grid, gravel pit	Float sub-angular	HORNBLENDE - CHLORITE - QUARTZ SCHIST (GREYWACKE?), rusty (see thin section report) Cu-3480 ppm, Zn-120 ppm, Ag-2.9 ppm, Au-30 ppb

Vancouver Petrographics Ltd.

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

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

PHONE (604) 888-1323

Mr. D. Arscott
Kerr-Addison Mines Ltd.
Bag 1600
Watson Lake; Y.T.

15-07-'82

Inv. # 3354

Dear Sir:

Enclosed please find petrographic descriptions for 9 rock specimens sent to us earlier this month. The thin sections and remaining sample material have been sent to Mr. Sirola in Vancouver.

All specimens appear to have been subjected to shearing stress, to varying degrees, and it seems likely, from microscopic examination, that they occur in the vicinity of a fault zone (thrust?). Specimens A1-B, A-20, A-26 and A-33 appear to be closely related wackes which were deformed to varying degrees. Specimens A-7, A-9 and A-14 are recrystallized cherts (quartzites). A6-A is a graphitic phyllonite, which shows signs of a rather complex deformational history, and may be compositionally similar, apart from the presence of graphite, to specimens A-7, A-9 and A-14. Specimen A2-E stands apart, compositionally, in being the only member of this suite of rocks which may be of igneous origin. It is a cataclastic pyroxenite which contains large amounts of greenish diopside.

Hopefully the descriptions are satisfactory and of some help to you in your investigations. If you have any further questions about these rocks, please contact me at 888-1323.

Sincerely,

Peter van der Heyden

cc. W.M. Sirola

Vancouver Petrographics Ltd.

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

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SEP 7 1982
KERR ADDISON MINES LTD.
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Report for: David Arscott,
Kerr Addison Mines Ltd
703 - 1112 West Pender,
VANCOUVER, B.C.

Invoice 3455

Samples: 10 samples from same area as those in report 3354.

Summary

Samples are grouped into the following types:

1. Metamorphosed Plutonic Rocks (Quartz Diorite-Quartz Monzonite)

B-112 meta quartz monzonite, slight cataclastic deformation.
A-110 cataclastically deformed quartz diorite, ragged fragments of quartz and plagioclase in a groundmass of crushed and recrystallized quartz-plagioclase-sericite; several late quartz±K-feldspar veins

2. Metamorphosed? Altered Volcanic Breccia

B-72 a wide variety of mafic to intermediate volcanic and subvolcanic rock fragments, and several types of exotic quartz-plagioclase and quartz-mica metamorphic rocks in a sparse groundmass probably of andesitic composition. Volcanic fragments contain the secondary mineral assemblage: actinolite-epidote-chlorite-quartz; plagioclase is present in a few. The quartz-plagioclase fragments are metamorphosed quartz diorites, possibly of the same unit as sample A-110.

3. Metasedimentary Rocks

a) partly recrystallized chert (generally high S.G.)

B-99 silty chert, with abundant detrital quartz grains in a cherty groundmass; veins of quartz-hematite-kaolinite and seams of hematite.

B-81 chert recrystallized in part to veinlets and veins of quartz; chalcopyrite with lesser sphalerite and pyrite occur in veins and rock; moderately abundant malachite in veins. The rock contains seams of opaque (hematite)-sericite.

H-7 carbonaceous chert (very high S.G. suggests presence of barite but this could not be confirmed); abundant recrystallization to veinlets of quartz with minor dolomite and chlorite, and a trace of barite; opaque-sericite seams common (original sedimentary layers separating coarser chert layers).

b) quartz sandstone to quartz-fragment greywacke

G-101 detrital quartz grains in much finer groundmass of quartz and lesser sericite; a few large fragments of quartzite; second layer? with no coarser detrital grains.

G-104 detrital quartz in much finer grained groundmass of quartz-sericite-(biotite-chlorite), possibly some barite in groundmass, as suggested by high S.G.

RD-878 similar to G-104, but more strongly recrystallized with partial destruction of original detrital grain borders; groundmass is quartz-chlorite. Sulfides are mainly pyrrhotite with minor chalcopyrite and pyrite.

c) fossiliferous limy siltstone, pyritic

M-164 quartz fragments dominant in a groundmass of calcite and lesser cherty silica. Fossils mainly brachiopods.

Most of the coarser clastic rocks of groups 3b and 3c contain minor detrital grains of tourmaline, zircon, feldspar, quartzite, and muscovite-sericite.

It was suggested to Bill Sirola by telephone, that sample H-7 should be analysed for Ba, to test for the possibility that the high specific gravity of this and other samples might be due to barite in the extremely fine grained chert. If barite is not present, the high specific gravity cannot be explained in terms of the petrographic study.

John Payne,
September 1982.

Vancouver Petrographics Ltd.

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

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PHONE (604) 888-1323

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OCT 27 1982
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PER

J.K. Mortensen,
October 25, 1982.

Mr. D. Arscott,
Kerr Addison Mines Ltd.,
703 - 1112 West Pender St.,
Vancouver, B.C.

Dear Sir:

Enclosed please find petrographic descriptions for three rock specimens that you recently submitted to us. The thin sections, stained blocks, and remaining hand samples are being shipped to you separately.

The compositions of the three specimens are summarized below:

A223: felsic metavolcanic, derived from a quartz porphyry.

A225A: coarse-grained lithic wacke, very poorly sorted. Two metamorphic foliations are present, both formed after the deposition of the clasts.

A225B: foliated, well-sorted quartz sandstone. One metamorphic foliation. The rock was recrystallized at middle greenschist facies.

If you have further questions about these specimens, please contact me at Vancouver Petrographics, or phone 228-2804.

Yours truly,

J.K. Mortensen

Specimen # : A1-B (Float)

Classification : Quartz greywacke (weakly deformed, locally cataclastic)

Mode :

Quartz	55-60%
White mica	30%
Chlorite	10%
Calcite	3%
Zircon	tr
Opaques	1-2%

Handspecimen : Grey, medium grained, firmly indurated (crystalline texture) rock composed of quartz grains set in a dark, chloritic/micaceous matrix. The specimen is cut by a few limonite stained fractures.

Thin section : Detrital quartz grains (size range 0.1-1.0 mm) are set in a microcrystalline matrix composed of white mica (muscovite or illite) and minor chlorite.

The quartz grains were originally subrounded to well rounded and commonly show relic authigenic quartz overgrowths; at present most grains have more or less recrystallized borders. The detrital grains were derived from single metamorphic or igneous grains; undulose extinction and local recrystallization are partly due to deformation during deep burial, but because the quartz grains locally have deformation lamellae and are commonly somewhat flattened parallel to the foliation, most of these features are probably due to shearing stresses. On a small scale the texture somewhat resembles that of a protomylonite.

The matrix consists almost entirely of fine grained micas and chlorites. The micas are mostly randomly oriented, but locally define a foliation which wraps around detrital quartz grains. Chlorite forms aggregate clots (up to 0.3 mm across) and thin seams. Small amounts of interstitial calcite (up to 0.26 mm across), disseminated opaques (up to 0.25 mm) and trace amounts of detrital zircon (up to 0.1 mm) make up the remainder of the specimen.

On account of it's hardness, dark colour, low porosity and firmly indurated matrix of argillaceous composition, this rock is classified as a greywacke. However, this classification bears no genetic significance, as no dark, lithic fragments are present; the term is here used in a textural sense.

Location: Gravel pit, 'J' grid

Specimen # : A 2 E (float)

Classification : Cataclastic pyroxenite(?)

Mode : Diopside 75%
Plagioclase 20-25%
Quartz(?) tr
Zeolites 1%

Handspecimen : (section off-cut only) Irregularly textured (swirly, partly cataclastic) calc-silicate bearing rock (green colour: diopside?)

Thin section : This specimen is composed predominantly of fine to medium grained, subidioblastic diopside aggregates and interstitial, fine grained plagioclase(?? white stain in section cut-off, occasional albite-pericline twins, low birefringence), and is probably a pyroxenite.

Diopside occurs both as fairly large, randomly oriented crystals up to 2.5 mm long, and as fine grained, more or less allotriomorphic-granular patches (some of which may represent nodules), irregularly distributed throughout the specimen. The larger diopside crystals are commonly twinned and many are slightly bent.

Intergranular spaces between diopside are occupied by fine grained agggregates of plagioclase (small grainsize does not permit definate identification) and very minor amounts of clear quartz(?).

At several places the section is traversed by thin seams (up to 4 mm thick) of cryptocrystalline plagioclase(?) and minor pyroxene. These seams have a well defined foliation defined by discontinuous stringers of very fine grained granular material of indefinate composition. The seams locally wrap around small, lenticular aggregates of pyroxene, and are themselves most likely derived from the pyroxenite through intense cataclastic granulation.

A thin veinlet of microspherulitic zeolite (natrolite?) cuts across the left side of the section.

Location: Small creek effluence on south shore of Scumbag Lake

Specimen # : A-7, A-9 & A-14 (outcrops)

Classification : Quartzite (recrystallized chert)

Mode :

Quartz	98-99%
White mica	1-2%
Tourmaline	tr
Limonite & opaques	<1%

Handspecimen : White to light grey, fractured, aphanitic quartzite or chert.

Spec. A-7 is highly fractured, A-14 is least fractured. Note the presence of cubic cavities, which probably originally contained idiomorphic pyrite.

Thin section : All three specimens are composed almost entirely of microcrystalline (grainsize up to 0.2 mm), granoblastic quartz. Spec. A-9 has a few relatively larger grains (up to 0.4 mm across). The quartz grains are more or less equidimensional and mostly have high angle grain boundaries, but local domains with somewhat elongate quartz grains are present as well, pointing to deformation in a dericted stress regime. The equidimensional granoblastic texture is not inconsistent with formation under directed stress, as it may be due to syn- or post-kinematic recovery and recrystallization. The scattered presence amongst the quartz grains of white mica (sericite), commonly with well developped preferred orientation, is a additional indication of the schistose nature of deformation which has affected this rock. This is most clearly evident in Spec. A-14, which was least affected by late, brittle fracturing.

Small aggregates of white mica also form irregular patches and lenticular seams up to 2.5 mm long in Spec. A-7.

Tourmaline is present in all three samples, in trace amounts, as small, idioblastic prisms ranging up to 0.1 mm long.

The specimens are cut by irregular, limonite stained fractures. Fine grained, granular opaque matter (hematite in A-7 ?) is mostly distributed along these fractures.

The fine grained, highly siliceous composition of these rocks suggests cherts as precursors. In their present state however, they should be classified as quartzites.

Locations: Near Tom Creek bridge

Specimen # : A6-A (Float)

Classification : Quartz-graphite-muscovite phyllonite

Mode : Quartz 90-92%
Graphite and other opaques <5%
White mica (muscovite) 3-5%

Handspecimen : Black, graphitic, locally strongly folded, very fine grained schistose rock. Thin, irregular silica veinlets(?) and faint, thin bands in the center of the section, define a primary S-surface. Small scale folding of these S-surfaces has locally progressed to the point at which the limbs of the folds have accomodated minor amounts of slip, producing a typical strain-slip cleavage in the top part of the section. Fine, dusty graphite is drawn out along the slip surfaces. The bottom part of the section shows similar features, but the amount of deformation here appears to have been different; here the (faint) schistosity may be mylonitic in origin. This S-surface is oriented at about 30° to the strain-slip cleavage mentioned earlier, and appears to be an older feature. Evidently this rock has undergone a rather complex deformational history, involving differential movement in well localized planar domains.

Thin section : The observations mentioned above are best viewed in the whole thin section against a light background, and are supported by microscopic examination. No additional information is obtained from the thin section, in terms of textural features, apart from the fine grained, granoblastic mosaic of quartz grains which make up the main portion of this specimen. Compositionally this rock may have been a graphite rich chert; apart from finely disseminated graphite, the composition is rather similar to that of Specimens A-7, A-9 and A-14, although it may be a bit richer in white mica.

Location: South shore of Scumbag Lake.

Specimen # : A-20 (sub-outcrop)

Classification : Quartz wacke

Mode :

Quartz	60-65%
White mica (muscovite)	25-30%
Plagioclase	3%
Chlorite	3%
Zircon	tr
Tourmaline	tr
Limonite	1%
Opaques	<1%

Handspecimen : Brownish-grey, medium to coarse grained sandstone

Thin section : This specimen somewhat resembles A1-B under the microscope, but it's macroscopic character sets it apart. It is clearly a quartz wacke, which has undergone weak cataclastic deformation and recrystallization of the originally argillaceous matrix.

Quartz forms subangular to subrounded detrital grains up to 2.25 mm across. Some grains are composed of aggregates, which may be either original or due to post-depositional recrystallization. Most quartz grains are undulose and have somewhat recrystallized borders.

Plagioclase grains of indeterminate composition form a small portion of the detrital component of this rock. They are mostly angular in shape and are clouded with very fine grained alteration products or are replaced by matrix minerals.

Trace amounts of tourmaline (green, var. schorlite, 0.35 mm) and zircon (up to 0.08 mm) make up the remainder of the detrital portion of this rock.

The matrix is composed of microcrystalline aggregates and randomly oriented flakes of white mica, quartz, feldspar (albite?) and chlorite. Average grain size of the matrix minerals is approx. 0.04 mm. Larger flakes of muscovite, up to 0.4 mm across, are locally present; possibly these represent a original, detrital mica component. A few of these larger grains are bent.

The matrix, which forms about 50% of the rock, is probably a recrystallized, low grade equivalent of original argillaceous matrix; a small portion may represent altered and recrystallized, detrital feldspars or other unstable mineral grains.

The specimen is incipiently cataclastic; this can be seen under unpolarized light by the preferred orientation of the larger mica flakes, by pressure welding of detrital quartz grains, and wrap-around textures of matrix minerals about the detrital grains.

Location: Campbell Highway, near km. 32

Specimen # : A-26 (outcrop)

Classification : Protomylonitic quartz wacke

Mode : as in specimen A-20

Handspecimen : Fine grained, dark grey, holocrystalline rock rich in quartz and mica. A finely developped streaky foliation is visible in the section cut-off.

Thin section : Under the microscope it is evident that this sample is similar, compositionally, to specimen A-20. Texturally however, it is unique in having a fairly well developped catclastic/mylonitic foliation, defined by preferred orientation of matrix micas, by fine grained, recrystallized crush trails of quartz marginal to relict detrital grains of quartz, and by a pervasive fracture cleavage streaked with fine grained, dusty opaques and stained by limonite. In all likelyhood A-20 and A-26 are very similar rocks, deformed to differing degrees; A-26 is somewhat finer grained in its detrital portion compared to specimen A-20.

This specimen is probably from a semi-ductile shearzone (thrust-fault?); on account of its composition it is probably related to specimens A1-B, A-33, and as mentioned above, A-20.

Location: Cabin creek, near headwaters

Sample # : A-33 (outcrop)

Classification : Cataclastic pebbly wacke / microbreccia

Mode :

Quartz	30-40%
Plagioclase	20-25
White mica (muscovite)	30
Chlorite	5
Calcite & siderite	1
Fe-hydroxides	1
Zircon	tr
Opaques	1

Handspecimen : Limonite stained, pale green, quartz rich cataclastic rock with a distinct flaser structure. Coarse grained fragments of quartz are set in a fine grained, pale green matrix. This specimen is clearly from a brittle shear zone.

Thin section : A-33 is composed of fine to coarse grained (0.6-6 mm) fragments (both single grains and aggregates) of quartz and plagioclase, set in a fine grained (0.003-0.6 mm) groundmass of white mica (muscovite), quartz and chlorite.

Although some fragments have well defined detrital characteristics (subangular to rounded pebbles), many have been marginally and internally granulated and all have narrow, more or less recrystallized borders. Plagioclase (composition could not be determined) appears to be particularly recrystallized; twinning has commonly been obliterated. Quartz is typically undulose and locally completely recrystallized, and some grains show characteristic deformation lamellae. Many of the cataclastic fargments have well developped, fine grained, recrystallized crush trails parallel to a clearly defined fluxion/fracture structure in the matrix. These trails are composed predominantly of quartz, which locally has a feathery habit.

Small grains of zircon form the only visible remainder of other detrital grains of this rock.

The fine grained matrix, although in part derived from granulated primary (sedimentary) detrital grains, is largely a low grade, recrystallized equivalent of argillaceous/siltstone matter forming the original sedimentary matrix of this rock. Most of the muscovite flakes show a well defined preferred orientation parallel to the fracture system which forms the prominent flaser structure in handspecimen. These two features, preferred orientation of micas and anastomosing fracture network, lead to the impression of deformation in the brittle to semi-ductile regime; however, since the larger fragments more or less retain their orignal shapes, this rock should be classified as cataclastic rather than mylonitic.

Calcite and siderite occur as scattered grains and aggregates (up to 2 mm across) in the lower right corner of the section. Calcite may have been a primary component of the matrix, but due to its localized occurrance it is more likely to be of secondary origin, having been introduced during deformation.

Likewise, the opaques (mostly pyrite), which occur as euhedral, cubic grains and aggregates up to 2 mm across, appear to have formed during deformation. Fe-hydroxides form thin coatings on brittle fracture surfaces.

The composition of this rock suggests original derivation from a coarse grained quartzo-feldspathic rock such as a granodiorite. This rock may be a pebbly facies associated with finer grained rocks like specimens A1-B, A-20 and A-26.

Location : Cabin creek, Cabin grid vicinity.

B-112 Meta Quartz Monzonite (outcrop)

The sample is a recrystallized quartz monzonite composed of about equal amounts of K-feldspar and plagioclase, slightly lesser quartz, and minor biotite. Textures are variable throughout the rock, but the irregular grain relations appear more typical of a metamorphosed igneous rock than a primary igneous texture. Irregular patches of fine grained chlorite are probably of secondary hydrothermal origin.

K-feldspar	30-35%
plagioclase	30-35
quartz	25-30
biotite	2- 3
chlorite	2- 3
Ti-oxide	0.3
calcite	trace
zircon	trace
sphene	trace
hematite	trace (after pyrite or magnetite)

K-feldspar occurs in irrgeular medium to very coarse grains, in part coarsely intergrown with quartz in crude graphic textures. Elsewhere, grain borders are irregular against quartz and plagioclase, and in part are interstitial to locally subhedral plagioclase. K-feldspa commonly is perthitic, with moderately abundant irregular wispy zones of exsolution albitic plagioclase.

Plagioclase forms anhedral to locally subhedral grains averaging 0.3-1 mm in size. It locally shows weak to moderate deformation textures such as bent and slightly broken albite twins. Alteration is weak to moderate to sericite, with grain size of sericite increasing with increasing intensity of alteration.

Quartz occurs in interstitial grains averaging 0.3-0.7 mm in size and in coarser grained patches up to a few mm across. It commonly shows moderately strained, patchy extinction typical of weak to moderate deformation.

Biotite forms ragged to locally subhedral flakes up to 1 mm long. The mineral is pleochroic from pale green to light brown, and appears to be partly altered to muscovite. The pervasive loss of Fe from the biotit gives the mineral the anomalous light color.

Chlorite forms irregular patches up to 1 mm in size of very fine grained aggregates of pale green flakes with bright blue anomalous extinction.

Ti-oxide occurs in wispy extremely fine grained patches associated with biotite and other accessory minerals.

Calcite occurs locally as irregular grains intimately intergrown with other minerals.

Zircon and sphene each form clusters up to 0.2 mm in size of grains from 0.05-0.1 mm in size. Most grains are anhedral and equant in shape.

Hematite occurs as a few pseudomorphic, subhedral cubic grains up to 0.1 mm in size. It is formed after pyrite and/or magnetite. Hematite is associated with Ti-oxide and biotite.

Location: 8.5 km ENE of Tom Creek bridge

A-110 Cataclastically deformed Quartz Diorite (outcrop)

The rock is a coarse grained quartz diorite which was strongly cataclastically deformed. Ragged fragments consist of crushed and partly recrystallized plagioclase or quartz. The groundmass is very variable, consisting of crushed and recrystallized quartz and plagioclase with moderately abundant secondary sericite and minor Ti-oxide. The rock is cut by several late quartz±K-feldspar veins up to 1.5 mm wide.

fragments	
plagioclase	20-25%
quartz	15-17
groundmass	
quartz-plagioclase	30-35%
sericite	12-15
Ti-oxide	1- 2
pyrite	minor
veins	
quartz	10-12
K-feldspar	0.3

The original rock consisted of a coarse anhedral aggregate of quartz and plagioclase, with grain size from 1 to 3 mm. Plagioclase grains are strongly crushed, broken, and partly recrystallized to groundmass. Quartz grains and aggregates show strongly oscillatory to irregular very fine patchy extinction, and commonly are partly recrystallized to groundmass along grain borders and in irregular patches and fracture zones.

The groundmass contains finer grained fragments of plagioclase and quartz in an irregular matrix of extremely fine to very fine grained quartz and lesser plagioclase (distinction of the two minerals in the fine groundmass is impossible). Sericite forms irregular wispy patches and disseminations in the groundmass; limonite is common in some sericite patches, and gives the mineral a light brown color.

The finest grained groundmass averages 1-2 microns, with coarser zones about 0.03-0.1 mm in grain size.

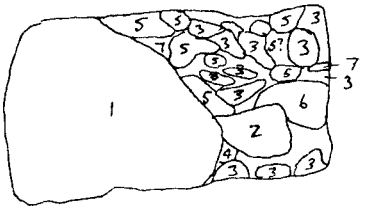
Ti-oxide forms irregular extremely fine grained patches associated with sericite. Pyrite forms scattered subhedral to euhedral cubic grains up to 0.1 mm across.

The rock is cut by several, post-deformation veins from 0.1 to 1.5 mm wide of fine to medium grained quartz showing mosaic textures. Locally, a few veins contain K-feldspar of similar grain size and texture, intergrown coarsely with quartz.

Location: Frances River Bridge Area.

B-72 Volcanic Breccia

The rock is a volcanic breccia with a wide variety of intermediate to mafic volcanic and subvolcanic rock fragments, and several varieties



of exotic metamorphic fragments (see sketch). The sketch does not exactly depict all the fragments, some of which are difficult to distinguish in the hand sample.

Type 1 Amphibolite

This large fragment is a medium grained amphibolite dominated by hornblende (30-35%) replaced moderately by actinolite (40-45%), and with patches of epidote (10-15%), sphene (4-5%) in part altered to leucoxene or Ti-oxide, scattered quartz (2-3%), plagioclase (minor) and calcite (minor). The fragment is cut by a calcite veinlet.

Type 2 Metamorphosed Quartz Diorite

This large fragment is dominated by coarse patches of quartz (65-70%) which are recrystallized to irregular fine grained aggregates, lesser plagioclase grains (20-25%), some showing cataclastic deformatio textures, and patches of chlorite (3-4%), actinolite (minor) and apatite (minor).

Type 3 Altered Aphanitic Andesite

Several fragments have an extremely fine grained texture and consist of secondary aggregates of actinolite, chlorite, quartz, and epidote.

Type 4 Cataclastically Deformed Quartz Diorite

Two fragments consist of strongly cataclastically deformed rock, probably quartz diorite.

Type 5 Foliated Andesite

Several fragments consist of altered foliated fine grained andesite, composed of secondary assemblages of actinolite, epidote, chlorite and quartz.

Type 6 Gabbro

One large fragment consists of altered gabbro, with moderately abundant plagioclase (fine to medium grained) with a groundmass of very fine grained epidote, actinolite, and chlorite (possibly some plagioclase).

Type 7 Quartzite

Two fragments consist of foliated metamorphic rocks dominated by very fine grained quartz with lesser chlorite or muscovite.

The groundmass is sparse and variable, possibly consisting of very fine grained fragments. Some is fine grained plagioclase and lesser secondary mafic minerals (actinolite,epidote, chlorite).

Location: 6 km E. of Frances River bridge

B-99 Silty Chert (outcrop)

The rock contains detrital grains of quartz, minor muscovite-sericite, and trace tourmaline, microcline, and zircon in a groundmass of extremely fine grained cherty silica. The rock contains recrystallized veins of quartz-hematite, and late seams rich in hematite with moderately abundant sericite in halos about some of these.

detrital grains			
quartz	17-20%		
muscovite	2- 2½		
microcline	a few grains		
tourmaline	a few grains		
groundmass			
chert	70-75 (includes minor recrystallized quartz)		
opaque	minor		
veins			
quartz	5- 7		
hematite	1- 1½	kaolinite	0.3
seams			
hematite	1½-2		
sericite	0.3		

Detrital quartz grains are subangular in outline and average 0.02-0.04 mm in size. Grain borders are sharp against the groundmass. Muscovite forms flakes averaging 0.02-0.05 mm long, with a few up to 0.1 mm long. Microcline forms a few subangular grains averaging 0.05-0.1 mm in size; the largest grain shows well developed cross-hatched twins. Tourmaline forms several anhedral to subhedral equant to prismatic grains up to 0.03 mm long. Pleochroism is from plae or light to medium or medium-dark green.

The groundmass is dominated by extremely fine grained chert (0.002-0.005 mm), with gradations to patches and single grains averaging 0.05-0.1 mm in size. Locally slightly coarser grained quartz appears to be of recrystallization origin; these grains have irregular outlines against the groundmass in contrast to the sharp outlines of the detrital grains. The groundmass contains disseminated dusty opaque.

The rock is cut by veins up to 0.7 mm wide dominated by fine to medium grained quartz with patches of extremely fine grained hematite. Some of the veins occur in a subparallel set. * (see below)

A few irregular seams, some of which cut the quartz veins, cut across the rock. These commonly are braided and average 0.05-0.15 mm in width. They consist mainly of very fine grained aggregates of hematite. Along the borders of some are concentrations of very fine grained sericite.

* A few of the veins contain patches up to 0.3 mm long consisting of extremely fine grained kaolinite.

Location: 10 km. ENE of Tom creek bridge

B-81 Chert, partly recrystallized (with Cpy±Sl,Py)
(Float)

The sample is an extremely fine grained chert which was partly recrystallized to coarser grained veinlets and veins of quartz. Sulfides occur in the host and vein; chalcopyrite is dominant with minor sphalerite and pyrite. Secondary limonite-hematite occurs around some chalcopyrite aggregates, and secondary malachite and limonite occur in late veins and fractures.

detrital grains	
quartz	a few
dacite	one
groundmass	
cherty silica	65-70% (includes 10-15% recrystallized quartz)
sericite	4- 5
calcite	1½-2
dusty opaque	minor
opaque-mica seams	1-2%
veinlets	15-20 (quartz, minor dolomite, calcite, sulfides)
chalcopyrite	1½-2 (including that in veinlets)
sphalerite	minor
pyrite	minor
malachite	1½-2
limonite-hematite	½-1
barite	trace

Detrital quartz grains are subangular and range from 0.07-0.4 mm in size. They have sharp boundaries against the groundmass in contrast to those of the recrystallized quartz. One fragment 1 mm across appears to be an original dacite. It consists of a submosaic aggregate of grains averaging 0.05 mm in size (mainly plagioclase) which have been partly recrystallized to extremely fine grained aggregates of plagioclase-quartz.

The groundmass is dominated by cherty silica, with grain size from 2 to 10 microns. Disseminated through the rock are sericite flakes averaging 0.02-0.03 mm in length, with a few up to 0.1 mm long. Calcite occurs in irregularly distributed clusters of grains intimately intergrown with chert and slightly recrystallized quartz. The groundmass is recrystallized in irregular patches averaging 0.05-0.1 mm in size to very fine to fine grained anhedral quartz aggregates. Minor dusty opaque is present throughout the cherty groundmass.

The rock contains several irregular seams rich in micas and opaque, in part altered to limonite.

The rock is moderately recrystallized to veinlets, irregular patche and a few veins of coarser grained material dominated by quartz. Minor carbonate (dolomite and calcite) is present in some veinlets, and dolomite is abundant in the coarse veins. Sulfides occur throughout the veins as does malachite.

The dominant sulfide is chalcopyrite, which forms irregular patches up to 0.5 mm in size, both in the veins and in the groundmass. Some patches are unaltered, and others are moderately altered to hematite-limonite on patch borders and fracture zones. Sphalerite forms irregular patches, generally less than 0.1 mm in size, commonly associated with chalcopyrite, and locally containing moderately abundant inclusions of chalcopyrite. Pyrite forms scattered subhedral to euhedral cubic grains averaging 0.05-0.1 mm in size. Pyrite is moderately altered to limonite-hematite, with alteration intensity ranging from none to strong.

Malachite occurs in extremely fine grained patches up to 0.5 mm in size, mainly in the veins, but locally in the chert groundmass. Most patches represent remobilized copper, as they are not adjacent to

(continued)

chalcopyrite. A few show radiating botriodal structures. Limonite forms a few irregular veinlets as well as occurring as a replacement of chalcopyrite and pyrite.

A few grains up to 0.15 mm across may be barite. The have moderate relief and low birefringence.

Location: 4 km. E. of Frances River bridge.

H-7 Carbonaceous Chert (with Barite?)

The sample is dominated by beds up to 1 cm thick of extremely fine grained chert containing abundant dusty carbonaceous material minor sericite flakes, and possibly minor to moderately abundant barite. The presence of barite is suspected because of the high specific gravity of the rock; however, no barite could be identified. The layers are moderately to strongly recrystallized to veinlets and minor patches of coarser grained quartz with scattered grains and patches of dolomite, minor chlorite, and a trace of barite.

These layers are separated by thin selvages containing much more abundant carbonaceous opaque and sericite.

chert layers		93-95%
silica	40-45%	
opaque	4- 5	
sericite	2- 3	(possibly includes some chlorite)
barite?	possibly up to 20%	
veinlets	30-35	
quartz		27-32
dolomite		1- 1½
chlorite		0.5
barite		trace
opaque-sericite seams		7-10%
opaque	4- 5	
quartz	2- 3	
sericite	2- 3	

Chert layers contain interlocking to subgranular aggregates of silica (and barite?) averaging 0.002-0.005 mm in grain size. Abundant dusty opaque gives the hand sample a black color, and gives the rock in thin section an apparent high relief (also possibly due in part to barite). Sericite forms scattered slender flakes averaging 0.02-0.05 mm long.

The chert layers are abundantly recrystallized to thin veinlets and a few thicker veins dominated by very fine grained (0.02-0.05 mm) quartz in slightly interlocking aggregates. Thicker veins commonly have coarser quartz grains up to 0.3 mm across; these commonly show undulatory extinction and appear in part to be recrystallized to the finer grained aggregates. Dolomite forms scattered patches of irregular grains of similar to finer grain size than the quartz (0.01-0.05 mm), and locally forms euhedral rhombohedral grains up to 0.2 mm in size. Some of these are altered to limonite, suggesting that the dolomite is ankeritic. Chlorite forms scattered flakes averaging 0.02-0.03 mm in length, and a few flakes up to 0.1 mm across. The mineral commonly has a brownish hue. Barite occurs in one vein as a few anhedral grains averaging 0.05-0.1 mm in size. It is tentatively identified on the basis of refractive index, and moderately low birefringence.

The opaque-rich seams range in composition from almost pure opaque to compositions not much different from the main chert layers. Generally opaque is more abundant as dusty disseminations, but locally it forms dense aggregates with little other minerals. Sericite forms clusters of flakes, in places elongate parallel to bedding and elsewhere patchy. Quartz occurs interstitial to these minerals as anhedral aggregates averaging 0.01-0.03 mm in grain size.

Location: Upper Cabin creek

G-101 Meta Quartz Sandstone with coarse fragments (outcrop)

The rock is mainly a meta-quartz sandstone with subangular to well rounded detrital grains in a much finer grained groundmass of quartz and minor sericite. The rock contains a few coarse fragments of metamorphic quartzite. Near one end is a patch (probably a second sedimentary layer) with no coarser detrital grains.

detrital grains	
quartz	50-55%
quartzite	5- 7 (large fragment with border of muscovite-opaque)
plagioclase	one grain
tourmaline	trace
zircon	trace
muscovite	trace
groundmass	
quartz	25-30
sericite	5- 7
opaque	0.5
second layer at one end, dominated by groundmass	5- 7%

Detrital quartz grains average 0.2-0.7 mm in size, with a few up to 1.3 mm across. Most show moderately to strongly undulatory extinction, and many show deformation lamellae. Grain borders are mainly preserved, but in places borders are recrystallized against groundmass minerals and partly destroyed. A few grains contain inclusions of zircon up to 0.07 mm long.

Several grains averaging 0.7-1 mm in size consist of metamorphic quartz-rich aggregates, commonly with minor sericite-muscovite. Some are aggregates of equant grains with a submosaic texture; others show a weak to moderate foliation. Grain size ranges from 0.03-0.15 mm. A few larger fragments consist of very fine grained quartzites with minor disseminated sericite flakes. The largest fragment contains a prominent zone along one side composed mainly of muscovite with abundant dusty opaque.

Plagioclase forms one grain about 1 mm in size. It is strongly altered and replaced by extremely fine grained silica.

Tourmaline forms a few anhedral equant grains averaging 0.1 mm in size; pleochroism is from light to medium green.

Zircon forms a few grains up to 0.15 mm in size.

The groundmass is dominated by variable, extremely fine to very fine grained aggregates of quartz with lesser sericite and minor to locally moderately abundant dusty opaque. Opaque-bearing zones generally are the finest grained parts of the groundmass, and have textures simila to comparable zones in G-104 and H-7.

The second layer at one end contains anhedral quartz grains averaging 0.05-0.1 mm in size surrounded by finer grained groundmass as in the main layer.

Location: 'J' grid

G-104 Quartz greywacke (outcrop)

The sample contains abundant detrital quartz grains in a much finer grained groundmass of quartz, sericite, and biotite-chlorite. Pyrite forms scattered grains and clusters of grains, and opaque (probably carbonaceous) is common in wispy seams parallel to a weak foliation.

detrital grains	
quartz	40-45%
tourmaline	trace
zircon	trace
groundmass	
quartz	20-25
sericite	17-20
biotite-chlorite	7-10
opaque	1- 2
pyrite	minor

Quartz grains are subangular to well rounded, and average 0.2-0.4 mm in size, with a few coarser grains up to 0.7 mm across. Most are single grains showing slightly undulatory extinction, and some show weakly developed deformation lamellae.

Tourmaline forms a few anhedral, light olive green grains averaging 0.03-0.05 mm in size. Zircon forms subrounded to subangular equant grains averaging 0.05-0.07 mm across.

The groundmass varies moderately in composition, with quartz-rich and mica-rich patches. Quartz forms anhedral aggregates averaging 0.02 mm in grain size. Intergrown with quartz are anhedral aggregates of sericite flakes averaging 0.03-0.05 mm long. Biotite and chlorite form aggregates and patches up to 0.2 mm in size in part intergrown with sericite and in part alone. Much of the biotite has been altered to pale brown chlorite.

Carbonaceous opaque occurs in wispy seams parallel to foliation, commonly associated with sericite. Patches rich in opaque have an apparent higher R.I. than those with more quartz and less opaque. Locally the rock contains patches and disseminated zones of extremely fine to fine grained pyrite; the largest of these in the hand sample is up to 0.7 mm across.

The sample is similar to specimen A1-B in the previous study.

The specific gravity of the sample appears to be too high for the minerals identified, suggesting the presence (as in sample H-7) of extremely fine grained barite associated with quartz and opaque in the groundmass.

Location: 'J' grid

RD-878 Meta-quartz greywacke (with Po-Cpy±Py) (Float)

The sample is grossly similar in texture to G-104, but has been more strongly recrystallized, and chlorite is much more abundant than sericite in the groundmass.

detrital grains	
quartz	50-55%
plagioclase	1- 2
zircon	trace
groundmass	
quartz	15-20
chlorite	17-20
sericite	1½-2
biotite-limonite	1- 1½
Ti-oxide	0.5
calcite	1½-2
pyrrhotite	1- 1½
chalcopyrite	minor
pyrite	trace

Quartz forms subangular to rounded detrital grains from 0.1-1 mm in size. These are moderately recrystallized, such that original grain borders are generally destroyed. Most show moderately undulatory extinction, and many show weakly developed deformation lamellae.

Plagioclase forms a few detrital grains from 0.5-1 mm in size. They are anhedral to subhedral in outline, and are moderately altered to very fine grained chlorite, calcite, and quartz.

Zircon forms a few equant anhedral to subhedral grains averaging 0.05 mm in size.

The groundmass is dominated by irregular patches of very fine grained quartz and chlorite (0.02-0.03 mm) in widely varying amounts. Chlorite has anomalous bright blue extinction and a light green color. Sericite occurs as scattered flakes and as irregular clusters of flakes intergrown with quartz; these patches generally have an extremely fine grain size of quartz (0.005-0.02 mm). Ti-oxide occurs in irregular patches up to 0.15 mm in size of extremely fine grained aggregates, mainly associated with chlorite.

Calcite occurs as irregular very fine grains intergrown with groundmass quartz. A few coarser grains and patches are up to 0.2 mm across.

Biotite(and/or limonite) occur in irregular seams, and probably are of secondary origin. The identity of the mineral is uncertain; the brown color may be because of original biotite or may be limonite altered sericite.

Sulfides occur in irregular patches up to 1.5 mm in size. Most patches are of very fine grained pyrrhotite. A few contain patches up to 0.15 mm across of chalcopyrite. Pyrite occurs in the core of one patch as subhedral grains up to 0.15 mm across.

Location: 'J' grid, gravel pit.

M-164 Fossiliferous Limy Siltstone (Float)

Location: N. shore of Scumbag Lake.

The sample is a fine grained siltstone with fragments dominated by quartz in a groundmass dominated by calcite. Scattered coarser fragments are of plagioclase, quartz, and metamorphic rocks. The rock contains moderately abundant carbonate fossil fragments, most of which are of brachiopods. The origin of some smaller fragments cannot be determined.

fragments (coarse)	
brachiopod shells	3- 4%
quartzite	1- 2
plagioclase	0.3
quartz grains	minor
fragments (fine)	
quartz	30-35
sericite	7- 8
tourmaline	minor
zircon	trace
secondary grains, patches	
pyrite	1- 1½
chlorite-Ti-oxide	0.3
groundmass	
calcite	30-35
cherty silica	10-15
carbonaceous opaque	minor
pyrite	minor

Brachiopod shells are more obvious in hand sample than in thin section. They consist of dense aggregates of extremely fine grained calcite, and are up to 0.2 mm thick and 2 cm across. Most in thin section are broken fragments averaging 0.5-1 mm in size. Other fossil types may be present; some calcite aggregates are more equant, but have no distinctive shape or internal texture.

A few subrounded to subangular grains up to 1 mm in size consist of a variety of quartz-rich metamorphic rocks, commonly with minor sericite-muscovite flakes. Some are composed of very fine grained aggregates of equant quartz grains showing a preferred orientation. Others are of submosaic aggregates of grains showing moderately undulatory extinction. A few fragments are of single quartz grains. Plagioclase forms a few angular fragments up to 1 mm in size. These are moderately to strongly altered to extremely fine grained calcite, opaque, and locally to kaolinite?.

Fine fragments are dominated by subangular quartz averaging 0.03-0.1 mm in size. Most are single grains. Sericite occurs as stubby to locally elongate flakes from 0.03-0.1 mm in length. Tourmaline forms anhedral to locally subhedral prismatic grains averaging 0.03-0.05 mm in size; color is pale to light olive green. Zircon forms a few anhedral grains up to 0.04 mm in size.

The groundmass is dominated in much of the rock by very fine to fine grained calcite. Less abundant are patches averaging 0.03-0.05 mm in size of extremely fine grained cherty silica. Carbonaceous opaque occurs throughout, and is concentrated in the silica patches. Pyrite dorms disseminated extremely fine to very fine grained grains and patches with subhedral to euhedral cubic outlines.

The rock contains several patches and lenses of coarser grained pyrite; these may be of secondary origin. A few of these show recrystallized quartz in pressure shadows along one side of the grain or patch. One patch up to 2 mm long contains a few coarse flakes of biotite? completely altered to chlorite with abundant Ti-oxide, the latter in pseudohexagonal crystal directions. This patch is associated with finer grained chlorite, pyrite, and calcite.

Sample No. A223 (outcrop)

mode:		
	quartz	60-65%
	sericite	20-25%
	carbonate	8-10%
	limonite	1-2%
	K-feldspar	trace
	chlorite	trace
	zircon	trace
	opaques	trace

The rock is a felsic metavolcanic. It consists of anhedral to euhedral quartz phenocrysts to 2 mm in diameter in a very fine-grained, phyllitic groundmass of quartz, sericite, carbonate, and traces of chlorite and K-feldspar. The phenocrysts are strained, but generally not recrystallized, and several are somewhat corroded. Many show narrow inclusion-rich overgrowths along their rims. They make up roughly 10% of the rock. Several large composite grains of quartz are also present. These appear to have been incorporated grains of quartzite rather than recrystallized phenocrysts. The average grain size in the groundmass is less than 0.04 mm. Sericite flakes are randomly oriented except in sericite-rich bands, which are highly schistose. Several relatively large (to 1.5 mm diameter) oblong masses of sericite may be pseudomorphs after primary K-feldspar phenocrysts. Traces of accessory zircon are present in the groundmass.

Fine-grained irregular opaque minerals are present throughout the groundmass. Limonite occurs along a series of fractures that crudely parallel the foliation.

It is impossible to determine in thin section whether this rock was tuffaceous. The high quartz content and overgrowths on quartz phenocrysts suggests that it has been silicified after deposition.

Location: Km. 36, Campbell Highway

Sample No. A225A (outcrop)

chert	55-60%
single quartz grains	30-35%
very fine-grained quartz-sericite-epidote (±chlorite) phyllite	8-10%
mature quartz sandstone	3-4%
sutured polycrystalline quartz grains	trace

The rock is very poorly sorted, with clast size ranging up to 2 cm in diameter, but averaging about 1 mm. The chert and quartz sandstone clasts are generally the largest. Clast shape is also extremely variable. Quartz clasts and the quartz sandstone clasts are sub-rounded to rounded, and the chert clasts are angular to sub-rounded. The phyllite clasts are deformed and do not preserve their original shape. The rock was originally clast-supported, with less than 10% matrix present. The matrix is a very fine-grained, phyllitic mass of quartz, sericite, epidote, and minor chlorite and opaques. The quartz grains are strained, and the chert clasts are recrystallized and contain extremely fine-grained grains of randomly-oriented sericite.

Two metamorphic foliations are present in the rock, both of which are post-deposition. The first fabric is defined by a strong foliation in the more phyllitic portions of the matrix. This fabric can in many cases be traced from the matrix into some of the clasts. A second fabric is present as a poorly developed crenulation cleavage that cuts the earlier foliation at a low angle (20-40). The crenulation is somewhat irregular, and often bends around clasts.

The composition of the rock fragments and their shape suggests deposition near a source of chert clasts, with mature, strained, and locally polycrystalline quartz grains and rounded quartz sandstone clasts being fed in from a more distant source.

Mineral assemblages in the rock do not permit precise determination of metamorphic conditions, but they appear to have been in the greenschist facies.

Location: 'J' grid

Sample No. A225B (outcrop)

mode:		
	quartz	85-90%
	sericite	6-8%
	biotite	2-3%
	chlorite	2-3%
	epidote	1-2%
	opaques	1-2%

The rock is a well-foliated, well-sorted quartz sandstone. Sub-rounded to angular grains of quartz to 1 mm in diameter (average 0.3 mm) make up the majority of the rock, along with rare grains of recrystallized chert. All of the quartz grains are strongly strained, and many show incipient recrystallization. Several sub-rounded masses of fine-grained fine-grained sericite, quartz, epidote, and carbonate about 0.4 mm in diameter are probably altered feldspar grains. Pressure shadows of quartz and minor sericite are commonly developed adjacent to the quartz grains.

The clasts are set in a strongly foliated, fine-grained mass of roughly equal proportions of sericite, chlorite, biotite, and quartz. Opaque minerals (probably mainly graphite) are very finely disseminated throughout the matrix.

Scattered large euhedral cubes of limonite (after pyrite) to 2 mm in diameter are present in the rock. Spectacular pressure shadows of quartz and sericite up to 0.2 mm wide are developed adjacent to these grains.

Mineral assemblages in this sample indicate metamorphism at middle greenschist facies.

Location: 'J' grid

1982 Kent Project

Statement of Costs

(11th June to 28th August, 1982)

Wages: (669 person days)		$ 75,325
Camp Costs: Groceries		10,501
Supplies (lumber, fuel, etc.)		3,640
Field Equipment: Geophysical (equipment rentals)		3,000
Flagging, thread, etc. est.		1,500
Air Charter: Helicopter, approx. 95.4 hours		52,499
Fixed wing		2,560
Trucks, rental and running costs		8,570
Travel: Lodging		1,424
Meals		3,436
Freight:		2,214
Analyses: 2765 samples @ 7.20 (Pb, Zn, Ag, Cu, Ba)	)	
357 samples @ 11.50 (pb, Zn, Ag, Cu, Au, Ba)	>	24,224
111 rock preparations @ 1.90	)	
Miscellaneous: (Radios, telephone, expediting fees, etc.) est.		3,000
TOTAL		$ 188,893

Portion used for representation work:

607 claim years @ 100	60,700
+ 95 claims for 2 years @ 100	19,000
	$ 79,700

The above costs are as accurate as possible and represent the true value of work carried out as shown.

David Arscott

David Arscott, P. Eng.

Personnel Employed

Kent Project - 1982

Name	Function	Period Employed (on site)
F. Chow	Manager	11 June - 14 August
D. Arscott	Geologist	11 June - 13 September
J. Harrop	Geological Assistant	11 June - 26 August
M. Lowrie	Geophysical Assistant	11 June - 2 September
P. Gregory	Field Assistant	11 June - 2 September
D. Bennett	Field Assistant	11 June - 1 September
B. Coates	Field Assistant	11 June - 2 September
M. Baknes	Field Assistant	11 June - 1 September
M. Levy	Cook	11 June - 9 August
B. Mason	Cook	11 Aug. - 4 September

David Arscott

CERTIFICATE

I, David Philip Arscott, am a Professional Engineer, registered in British Columbia.

I have 16 years experience in various aspects of Mineral Exploration.

I personally supervised and took part in the technical work during the 1982 Kent Program, as described in this report.

David Arscott

David Arscott, P. Eng.

9th November 1982

129°00'

128°45'

60° 30'

60°15'

60°00'

N

N grid

G grid

E grid

D grid

Cabin Creek grid

F grid

C grid

B grid

M grid

Scumbag A grid

Grungebag Lake

SCUMBAG LAKE

Target Lake

I grid

J grid

K grid

Hangdog Lake

Wounded-ear Lake

Extent of fire burn

Fire Tower

105-A-6

105-A-3

105-A-7

105-A-2

L grid

P grid

Pepper grid

Pepper Lake

Fire Breaks

KERR CAMP (1982)

CAMPBELL HIGHWAY

MacDonald Creek

Radio Tower

Radio Tower

WATSON LAKE AIRPORT

Watson Lake

Liard River

WATSON LAKE TOWN

Frances River

CABIN CREEK

CREEK

Watson Creek

FIG. 2

0 500 1000 2000 3000 4000

METRES

KERR ADDISON MINES LTD

KENT PROJECT

YUKON TERRITORY

INDEX OF GRIDS

SCALE – 1 50,000	DATE – Sept. – Oct., 1982
DRAWN BY – P. Hallot	DATA – D. Arscott
NTS – 105 A	FIG. No.

091396

(H) – Helicoptere landing sites


FRANCES RIVER
GE 891 to 950 inclusive
'N' grid
'G' grid
Cabin grid
'E' grid
'F' grid
'D' grid
'A' grid
'C' grid
Campbell Highway
Cabin Creek
'B' grid
'M' grid
'J' grid
Tom Creek
'I' grid
'K' grid
105-A-6
105-A-3
'L' grid
Tom Creek
105-A-7
105-A-2
'P' grid
Pepper grid
Watson Lake 15km
Cut lines
Detail grids
Regional Traverses
GE claim
Claim group No.(1982)
Fig 3
KERR ADDISON MINES LTD
CLAIMS
KENT PROJECT
Sept 1982
091396

LEGEND

ROCK TYPES

C	CHERT		
P	PHYLLITE		
A	ARGILLITE or SHALE		
W	WACKE		
Q	QUARTZITE		
G	GNEISS		
S	SCHIST		
L	LIMESTONE		
T	SILTSTONE	M, U	Mafic Volcanics, Ultramafics
N	SANDSTONE	I	Quartz Porphyry

SUFFIXES

r	Rusty
a	Argillitic
c	Cherty
f	Feldspathic
p	Phyllitic
w	Wackey
s	Schistose
e	Eyes
i	Fine grained
x	Coarse grained
!	Large, major, definite
( )	Locally
^v	Vein
#	Breccia
cl	Chlorite
hem	Hematite
ser	Sericite
q	Quartz
b	Black
g	Grey
n	Green
h	Hornblende
py	Pyrite
cp	Chalcopyrite

STRUCTURE

- Bedding
- Foliation
- Fold axis, lineation
- Synform
- Antiform
- Faulting
- Major lineaments from geophysics

- (H) Helipad
- ○ Rock sample (on outcrop)
- △ Float
- Outcrop
- Geological Contact

FIG. 4

0 500 1000 2000 3000 4000 metres

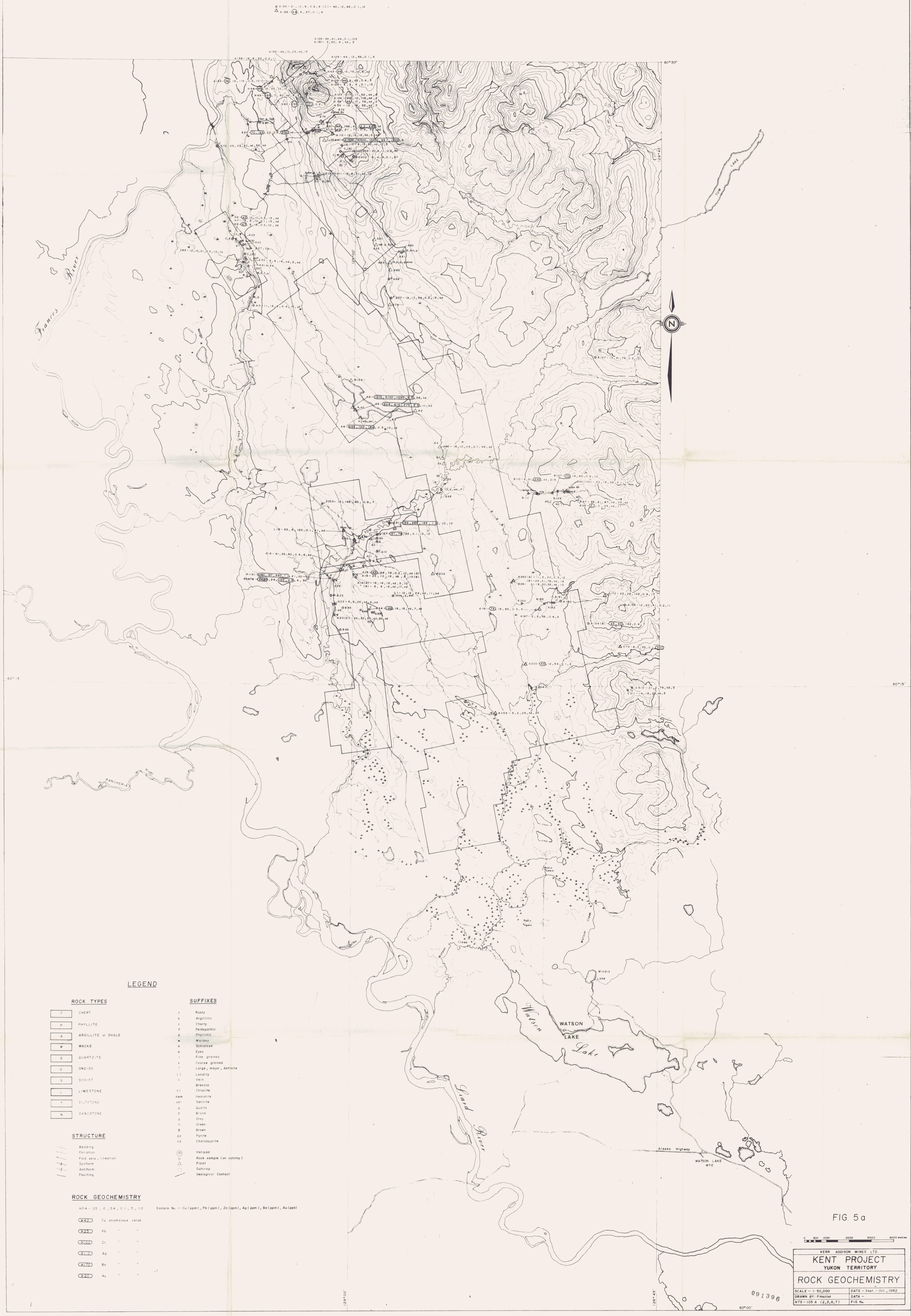
KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

REGIONAL GEOLOGY

SCALE – 1:50,000	DATE – Sept.– Oct., 1982
DRAWN BY: P. Haillot	DATA – D. Arscott
NTS – 105 A (2,3,6,7)	FIG. No.

091396



LEGEND

ROCK TYPES

- C — CHERT
- P — PHYLLITE
- A — ARGILLITE or SHALE
- W — WACKE
- Q — QUARTZITE
- G — GNEISS
- S — SCHIST
- L — LIMESTONE
- T — SILTSTONE
- N — SANDSTONE

SUFFIXES

r	Rusty
a	Argillitic
c	Cherty
f	Feldspathic
p	Phyllitic
w	Wackey
s	Schistose
e	Eyes
i	Fine grained
x	Coarse grained
!	Large, major, definite
( )	Locally
v	Vein
	Breccia
chl	Chlorite
hem	Hematite
ser	Sericite
q	Quartz
b	Black
g	Grey
n	Green
B	Brown
py	Pyrite
cp	Chalcopyrite

STRUCTURE

- Bedding
- Foliation
- Fold axis, lineation
- Synform
- Antiform
- Faulting

- (H) Helipad
- ○ Rock sample (on outcrop)
- △ Float
- Outcrop
- Geological Contact

ROCK GEOCHEMISTRY

H54 - 25, 6, 54, 0.1, 5, 10 — Sample No. – Cu (ppm), Pb (ppm), Zn (ppm), Ag (ppm), Ba (ppm), Au (ppb)

- (>49) Cu anomalous value
- (>25) Pb " "
- (>100) Zn " "
- (>1.9) Ag " "
- (>170) Ba " "
- (>25) Au " "

FIG. 5a

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

ROCK GEOCHEMISTRY

SCALE – 1: 50,000	DATE – Sept. – Oct., 1982
DRAWN BY: P. Hallot	DATA –
NTS – 105 A (2,3,6,7)	FIG. No.

091396

129°00'
128°45'
60°30'
60°15'
60°00'

Frances River

SCUMBAG LAKE

CABIN CREEK

TOM CREEK

Laird River

Watson Lake

WATSON LAKE AIRPORT

WATSON LAKE TOWN

Radio Tower

Radio Tower

N

FIG. 5b

0 500 1000 2000 3000 4000
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

REGIONAL GEOCHEMISTRY SOIL SAMPLE LOCATIONS

SCALE - 1:50,000	DATE - Sept. - Oct., 1982
DRAWN BY - P.Haillot, F.Chow	DATA - D. Arscott
NTS - 105 A	FIG. No.

091396

129°00'
128°45'
60°30'
60°15'
60°00'

Frances River

Liard River

Watson Lake

CABIN CREEK

GRUNGEBAG LAKE

SCUMBAG LAKE

TARGET LAKE

TOE CREEK

WATSON LAKE AIRPORT

Radio Tower

Radio Tower

WATSON LAKE TOWN

N

LEGEND

18,145,20 Pb (ppm), Zn (ppm), Ba (ppm)

> (25) Pb anomalous value

> (150) Zn " "

> 170 Ba " "

o Soil sample site

FIG. 5c

0 500 1000 2000 3000 4000

METRES

KERR ADDISON MINES LTD

KENT PROJECT

YUKON TERRITORY

REGIONAL GEOCHEMISTRY
SOIL - Pb, Zn, Ba

SCALE - 1 50,000	DATE - Sept. - Oct., 1982
DRAWN BY - P. Haillot, F. Chow	DATA - D. Arscott
NTS - 105 A	FIG. No.

091396

129°00'
128°45'
60°30'
60°15'
60°00'

Frances River

SCUMBAG LAKE

CABIN CREEK

CREEK

Radio Tower

Radio Tower

WATSON LAKE AIRPORT

Watson Lake

Liard River

WATSON LAKE TOWN

LEGEND

8,0.4,10 Cu (ppm), Ag (ppm), Au (ppb)

(≥40) Cu anomalous value

(≥1.0) Ag " "

≥20 Au " "

o Soil sample site

FIG. 5 d

0 500 1000 2000 3000' 4000

MET,RES

KERR ADDISON MINES LTD

KENT PROJECT

YUKON TERRITORY

REGIONAL GEOCHEMISTRY SOIL - Cu, Ag, Au

SCALE - 1 50,000	DATE - September, 1982
DRAWN BY - P.Haillot, F.Chow	DATA - D. Arscott
NTS - 105 A	FIG. No.

001206

129°00'
128°45'
60° 30'
60°15'
60°00'
N
Frances River
CABIN CREEK
TOM CREEK
SCUMBAG LAKE
Radio Tower
Radio Tower
Watson Lake
WATSON LAKE AIRPORT
Liard River
WATSON LAKE TOWN
091396
FIG. 5e
0 500 1000 2000 3000 4000
METRES
KERR ADDISON MINES LTD
KENT PROJECT
YUKON TERRITORY
REGIONAL GEOCHEMISTRY
SILT SAMPLE LOCATIONS
SCALE - 1:50,000
DATE - Sept. - October, 1982
DRAWN BY - P. Haillot, F. Chow
DATA - D. Arscott
NTS - 105 A
FIG. No.

129°00'

128°45'

60°30'

60°15'

60°00'

Frances River

Cabin Creek

Scumbag Lake

Watson Lake

Liard River

WATSON LAKE AIRPORT

WATSON LAKE TOWN

Radio Tower

Radio Tower

ALASKA HIGHWAY

ROBERT CAMPBELL HWY

To Whitehorse

To Ft. Nelson

LEGEND

16,100,138 Pb (ppm), Zn (ppm), Ba (ppm)

>(25) Pb anomalous value

(>150) Zn " "

>170 Ba " "

Grid outline

FIG. 5f

0 500 1000 2000 3000 4000

METRES

KERR ADDISON MINES LTD

KENT PROJECT

YUKON TERRITORY

REGIONAL GEOCHEMISTRY

SILT - Pb, Zn, Ba

SCALE - 1 50,000	DATE - September, 1982
DRAWN BY - P. Hallot, F. Chow	DATA - D.A.
NTS - 105 A - 2, 3, 6, and 7	FIG. No.

091396

60° 30'

129° 00'

128° 45'

60° 15'

60° 00'

La Rose River

Frances River

CABIN CREEK

TOM CREEK

SCUMBAG LAKE

Watson Lake

Liard River

WATSON LAKE AIRPORT

WATSON LAKE TOWN

ALASKA HIGHWAY

Robert Campbell Hwy.

Radio Tower

Radio Tower

← to WHITE HORSE

to FT. NELSON →

N

LEGEND

26, 0.4, 10 Cu (ppm), Ag (ppm), Au (ppb)

> (40) Cu anomalous value

> 1.0 Ag " "

> 20 Au " "

Grid outline.

FIG. 5g

0 500 1000 2000 3000 4000

METRES

091396

KERR ADDISON MINES LTD

KENT PROJECT

YUKON TERRITORY

REGIONAL GEOCHEMISTRY

SILT - Cu, Ag, Au

SCALE - 1 50,000	DATE - Sept. - Oct., 1982
DRAWN BY - P. Hallot, F. Chow	DATA - D.A.
NTS - 105 A - 2, 3, 6, 7	FIG. No.

N

105 N
103 N
101 N
99 N
97 N
95 N
93 N
91 N
89 N
87 N
85 N
83 N

20 W
18 W
16 W
14 W
12 W
10 W
8 W
6 W
4 W
2 W
0
2 E
4 E
6 E
8 E
10 E

GRUNGEBAG LAKE

SCUMBAG LAKE (BOMBER)

L 83 N

BASE LINE 0+00 (5W Regional)

GLACIAL DIRECTION

LEGEND

9, 17, 172	Pb (ppm), Zn (ppm), Ba (ppm) Sample site
(25)	Pb anomalous value
[100]	Zn " "
170	Ba " " (Contoured)

FIG. 6a

0 50 100 200 300 400
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

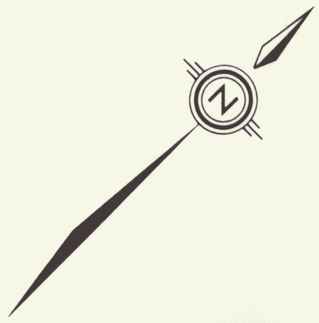
SCUMBAG LAKE A GRID

SOIL GEOCHEMISTRY
Pb, Zn, Ba

SCALE - 1 : 5000

Survey Date - July, 1982	Surveyed By -
Instr. used -	Frequency -
Drawn By -	Date -
NTS - 105-A	MAP No.

091396



105 N
103 N
101 N
99 N
97 N
95 N
93 N
91 N
89 N
87 N
85 N
83 N

20 W
26 W
24 W
22 W
20 W
18 W
16 W
10 W
10 E
L 83 N
BASE LINE 0+00 (5 W Regional)
GLACIAL DIRECTION

GRUNGEBAG LAKE

SCUMBAG LAKE (BOMBER)

LEGEND

34, 0.2 / 65	Cu (ppm), Ag (ppm) / Hg (ppb)
—o—	Sample site
>40	Cu anomalous value (Contoured)
>1.0	Ag " "
	Au not assayed
>110	Hg anomalous value

FIG. 6b

0 50 100 200 300 400
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

SCUMBAG LAKE A GRID

SOIL GEOCHEMISTRY
Cu, Ag, Hg

SCALE - 1:5000

Survey Date - July, 1982	Surveyed By -
Instr used -	Frequency -
Drawn By - P.H., D.A.	Date -
NTS - 105 A	MAP No.

001396

KERR ADDISON MINES LTD	
KENT PROJECT	
YUKON TERRITORY	
SCUMBAG LAKE "A" GRID	
SHOOTBACK E.M.	
SCALE - 1 : 5000	
Surveyed by -	Surveyed date - July , 1982
Instruments - CEM & JEM	Revised -
Drawn by - FHalliot	Date -
NTS - 105 A	MAP No.

METRES

0 50 100 200 300 400

FIG. 6c

NOTE - GRID HAS AN EXPANDED NORTHERLY AXIS TO ACCOMODATE THE HIGH PROFILES

LEGEND

- JEM, HIGH FREQUENCY - 1800 Hz
- " , LOW FREQUENCY - 480 Hz
- CEM, INTERMEDIATE FREQUENCY - 1830 Hz
- " , LOW FREQUENCY - 390 Hz
- LOOP SEPARATION - 50m
- VERTICAL SCALE RESULTANT ANGLES IN PERCENT
- CONDUCTOR TRENDS
- OTHER TRENDS

L 83 N

16 W 18 W 20 W 22 W 24 W

LINE EXTEND TO 26W

83 N 85 N 87 N 89 N 91 N 93 N 95 N 97 N N 66 N 101 103 N 105 N

-10° -20° -30° -40°

VI V IV III b III a II I

BASE LINE 0+00 (5+00W Regional)

1100 E 1000 E 900 E 800 E 700 E 600 E 500 E 400 E 300 E 200 E 100 E BASE 100 W 200 W 300 W 400 W 500 W 600 W 700 W 800 W 900 W 1000 W 1100 W

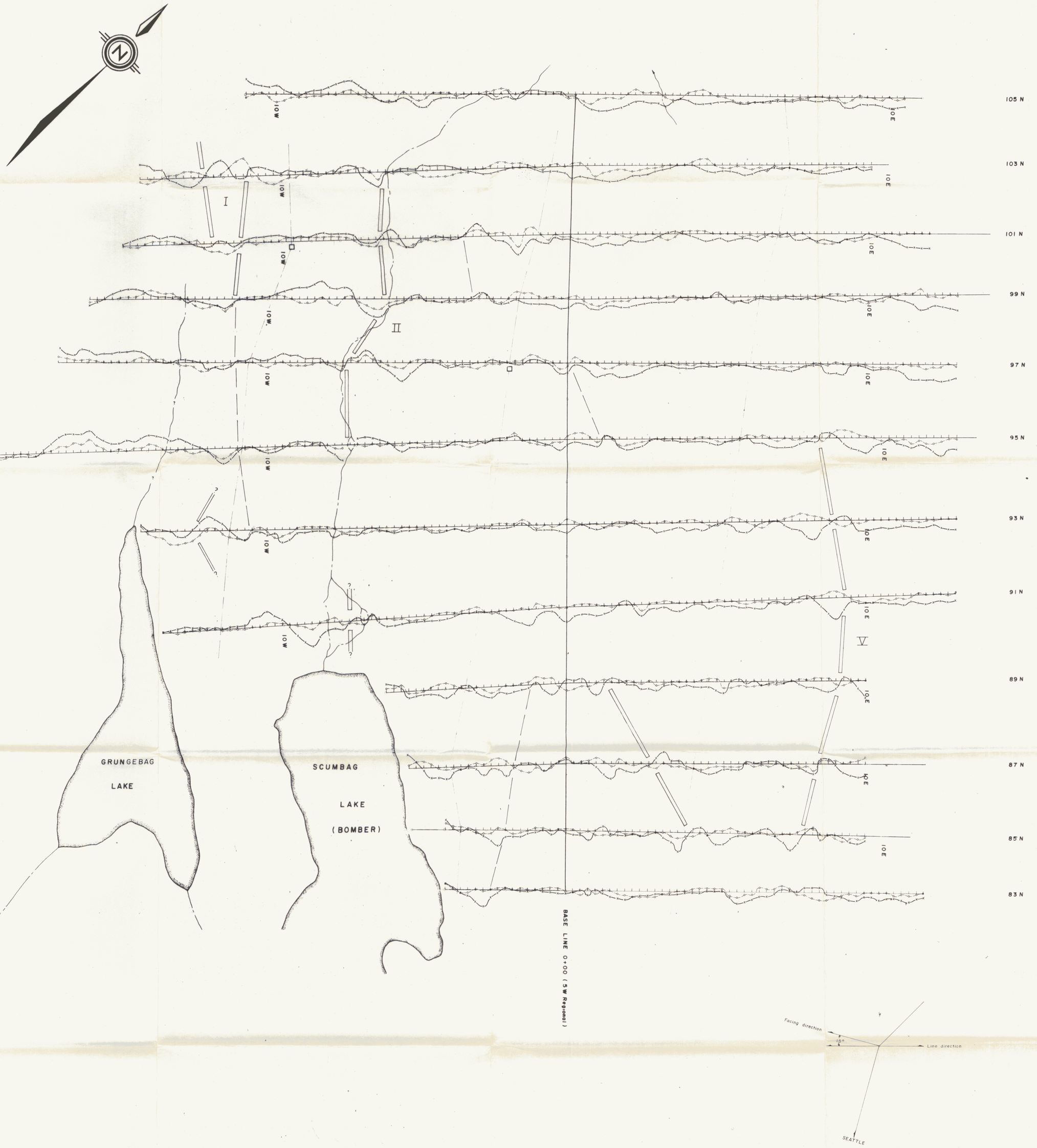


FIG. 6d

0 50 100 200 300 400
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

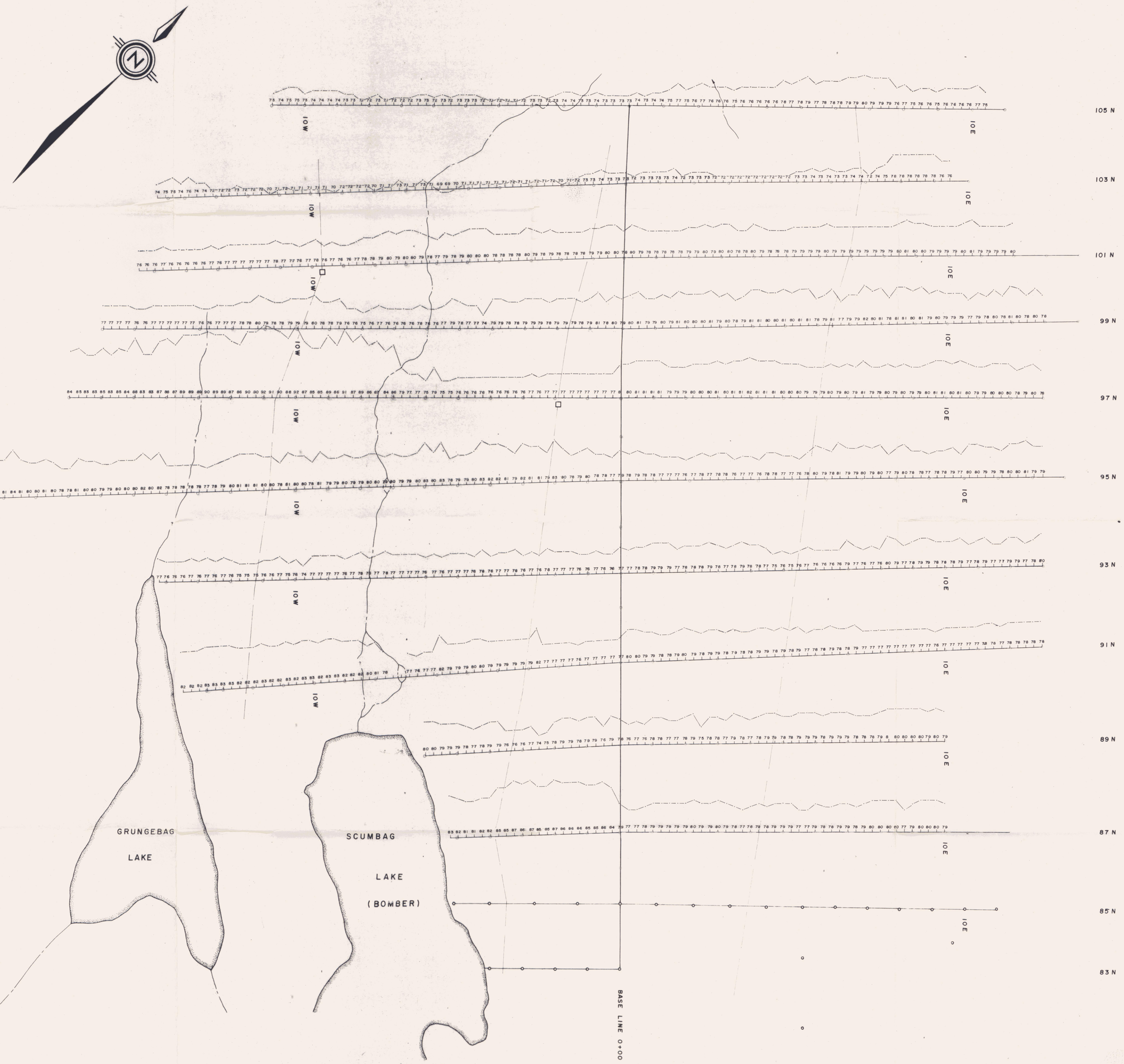
SCUMBAG LAKE "A" GRID

VLF-EM SURVEY

SCALE - 1:5000

Survey Date -	Surveyed By -
Instr. used - EM-16	Frequency -
Drawn By - P.Haillot	Date -
NTS - 105-A	MAP No.

091396



FIELD MEASURED - TOTAL
PLOTTING - ONLY SIGNIFICANT DIGITS PLOTTED
72 means 58,720 gammas

FIG. 6e

0 50 100 200 300 400
METRES

KERR ADDISON MINES LTD
KENT PROJECT
YUKON TERRITORY
SCUMBAG LAKE "A" GRID
MAGNETIC SURVEY
SCALE - 1 : 5000

Survey Date - July, 82	Surveyed By -
Instr. used - Geometrics G-816	Frequency -
Drawn By - P-Hallot, b. A.	Date -
NTS - 105 - A	MAP No.

091396



LEGEND

14,44,118	Pb (ppm), Zn (ppm), Ba (ppm)	
≥ 25	Pb anomalous value	
≥ 150	Zn " "	
≥ 170	Ba " "	(Contoured)

FIG. 7a

0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

"B" GRID

SOIL GEOCHEMISTRY
Pb, Zn, Ba

SCALE - 1 : 5000

Survey date - July, 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P. Haillot, D. Arscott	Date - Sept.-Oct., 1982
NTS - 105 A	MAP No.

091396



FIG. 7b

0 50 100 200 300 400

METRES

LEGEND

15,0.2,10	Cu (ppm), Ag (ppm), Au (ppb)
≥40	Cu anomalous value
≥1.0	Ag " "
≥20	Au " "

091396

KERR ADDISON MINES LTD

KENT PROJECT

YUKON TERRITORY

"B" GRID

SOIL GEOCHEMISTRY

Cu, Ag, Au

SCALE - 1:5000

Survey date - July, 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P. Haillot, D. Arscott	Date - Sept.-Oct., 1982
NTS - 105 A	MAP No.

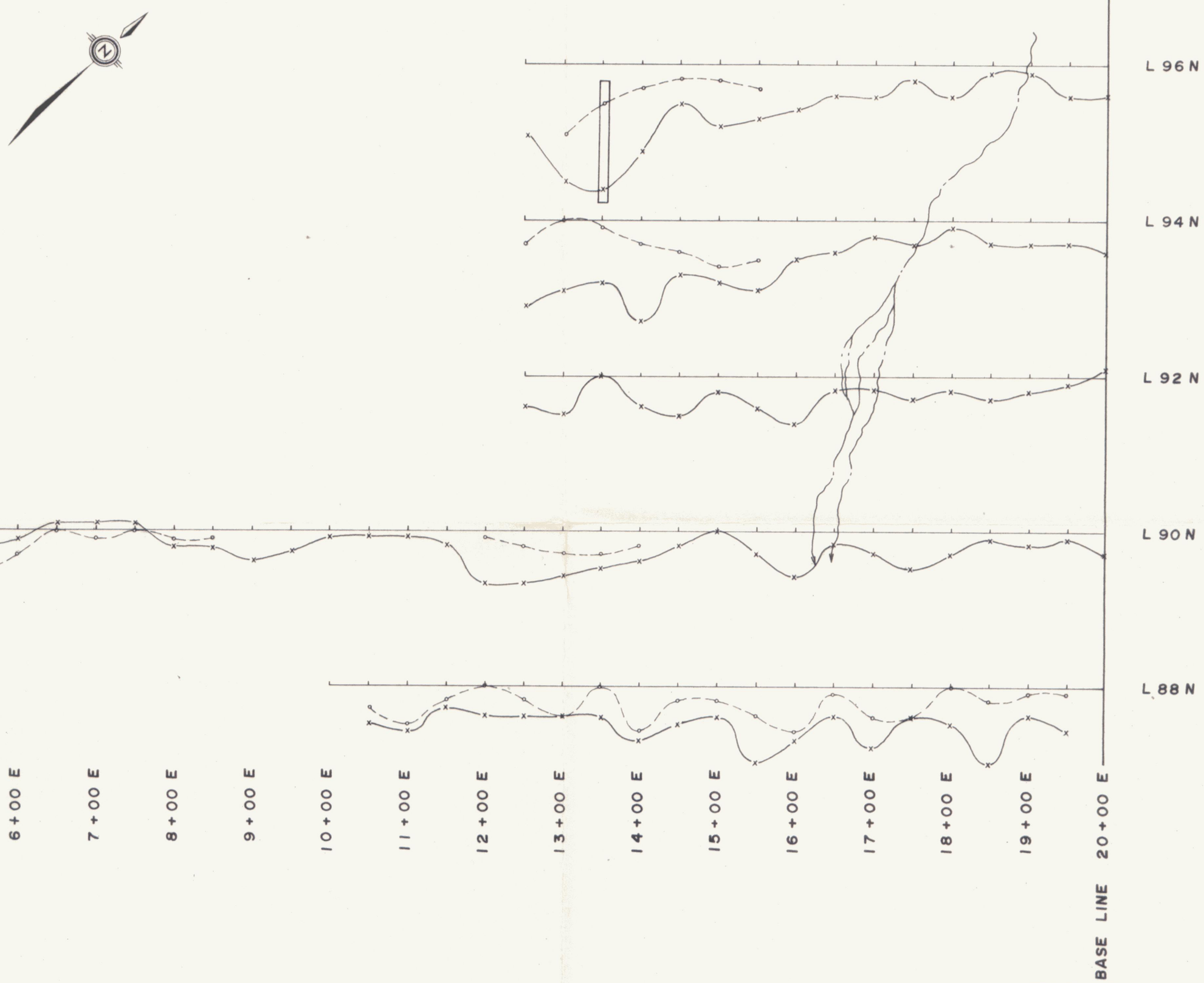


FIG. 7c

0 50 100 200 300 400

METRES

LEGEND

- CONDUCTOR TRENDS
- OTHER TRENDS
- x——x INTERMEDIATE FREQUENCY - 1830 Hz
- o– –o LOW FREQUENCY - 390 Hz
- LOOP SEPARATION - 50 m
- VERTICAL SCALE RESULTANT ANGLES IN DEGREES

+5°
0°
-5°

091396

KERR ADDISON MINES LTD	
KENT PROJECT YUKON TERRITORY	
"B" GRID	
SHOOTBACK E.M.	
SCALE - 1 : 5000	
Survey date - July, 1982	Surveyed by -
Instruments - C.E.M.	Revised -
Drawn by - P. Haillot, D. Arscott	Date - Sept. - Oct., 1982
NTS - 105 A	MAP No.

L 126 N

L 124 N

L 122 N

L 120 N

L 118 N

L 116 N

L 114 N

L 112 N

L 110 N

L 108 N

BASE LINE 20E

10+00 E | 11+00 E | 12+00 E | 13+00 E | 14+00 E | 15+00 E | 16+00 E | 17+00 E | 18+00 E | 19+00 E | 20+00 E | 21+00 E | 22+00 E | 23+00 E | 24+00 E | 25+00 E | 26+00 E | 27+00 E

LEGEND

18,45,17 Pb (ppm), Zn (ppm), Ba (ppm)

≥ 25 Pb anomalous value

≥ 150 Zn " "

≥ 170 Ba " " (contoured)

FIG. 8a

0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

"C" GRID

SOIL GEOCHEMISTRY
Pb, Zn, Ba

SCALE - 1 : 5000

Surveyed date - July, 1982	Surveyed by -
Instrument -	Revised -
Drawn by - P. Haillot, D.A.	Date - Sept. - Oct., 1982
NTS - 105 - A	MAP No.

091396



FIG. 8b

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

"C" GRID

SOIL GEOCHEMISTRY
Cu, Ag, Au

SCALE - 1:5000

Surveyed date - July, 1982	Surveyed by -
Instrument -	Revised -
Drawn by - P. Haillot, D.A.	Date - Sept. - Oct., 1982
NTS - 105 - A	MAP No.

091396

L 126 N

L 124 N

L 122 N

L 120 N

L 118 N

L 116 N

L 114 N

L 112 N

L 110 N

L 108 N

BASE LINE 20E

10+00 E
11+00 E
12+00 E
13+00 E
14+00 E
15+00 E
16+00 E
17+00 E
18+00 E
19+00 E
20+00 E
21+00 E
22+00 E
23+00 E
24+00 E
25+00 E
26+00 E
27+00 E

LEGEND

INTERMEDIATE FREQUENCY – 1830 Hz or 1800 Hz.
LOW FREQUENCY – 390 Hz or 480 Hz.
CONDUCTOR TRENDS
OTHER TRENDS
LOOP SEPARATION – 50 m
VERTICAL SCALE RESULTANT ANGLES IN DEGREES

+5°
0°
–5°

FIG. 8c

0 50 100 200 300 400
METRES

091396

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

"C" GRID

SHOOTBACK E.M.

SCALE – 1 : 5000

Surveyed date – July, 1982	Surveyed by –
Instrument – CEM & JEM	Revised –
Drawn by – P. Haillot, D.A.	Date – Oct., 1982
NTS – 105 – A	MAP No.

L 126 N

L 124 N

L 122 N

L 120 N

L 118 N

L 116 N

L 114 N

L 112 N

L 110 N

L 108 N

BASE LINE 20E

10+00 E | 11+00 E | 12+00 E | 13+00 E | 14+00 E | 15+00 E | 16+00 E | 17+00 E | 18+00 E | 19+00 E | 20+00 E

21+00 E | 22+00 E | 23+00 E | 24+00 E | 25+00 E | 26+00 E | 27+00 E

LEGEND

- IN PHASE
- QUADRATURE
- CONDUCTOR TRENDS
- OTHER TRENDS

TRANSMITTER - SEATTLE, Wa., USA

VERTICAL SCALE IN PERCENT

+20 %
+10 %
0
-10 %
-20 %

Facing direction

Signal direction

FIG. 8d

0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

"C" GRID

VLF-EM SURVEY

SCALE - 1:5000

Surveyed date - July, 1982	Surveyed by-
Instrument - EM-16 (unit 54)	Revised -
Drawn by - P. Haillot, D.A.	Date - Oct. 1982
NTS - 105-A	MAP No.

091396

L 126 N

L 124 N

L 122 N

L 120 N

L 118 N

L 116 N

L 114 N

L 112 N

L 110 N

L 108 N

BASE LINE 20 E

10+00 E
11+00 E
12+00 E
13+00 E
14+00 E
15+00 E
16+00 E
17+00 E
18+00 E
19+00 E
20+00 E
21+00 E
22+00 E
23+00 E
24+00 E
25+00 E
26+00 E
27+00 E

LEGEND

INSTRUMENT - GEOMETRICS G-816 (PROTON)
FIELD MEASURED - TOTAL
ACCURACY OF READING WITHIN ABOUT 30 GAMMAS
VERTICAL SCALE IN 10's OF GAMMAS

890 gammas
885 "
880 "
875 " — LINE

FIG. 8e

0 50 100 200 300 400
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

"C" GRID

MAGNETIC SURVEY

SCALE - 1 : 5000

Surveyed date - July, 1982	Surveyed by -
Instrument -	Revised -
Drawn by - P Haillot, D A	Date - Oct., 1982
NTS - 105 - A	MAP No.

091396

15+00 W | 14+00 W | 13+00 W | 12+00 W | 11+00 W | 10+00 W | 9+00 W | 8+00 W | 7+00 W | 6+00 W | 5+00 W | 4+00 W

174 N | 172 N | 170 N | 169 N | 168 N | 167 N | 166 N | 165 N | 164 N | 163 N | 162 N | 160 N

BASE LINE 10+00 W (Cut)

Outcrop

No

Creek

Cabin

TRAIL TO HIGHWAY (BLAZED)

GE 592 GE 593 | GE 479 GE 480 GE 477 GE 478

LEGEND

ROCK TYPES

C	CHERT
P	PHYLLITE
A	ARGILLITE or SHALE
W	GREYWACKE
Q	QUARTZITE
G	GNEISS
S	SCHIST
I	QUARTZ PORPHYRY
T	SILTSTONE
N	SANDSTONE
M or U	MAFIC VOLCANICS or ULTRAMAFICS

STRUCTURE

- Bedding
- Foliation
- Fold axis, lineation
- Synform
- Antiform
- Faulting

SUFFIXES

r	Rusty
a	Argillitic
c	Cherty
f	Feldspathic
p	Phyllitic
w	Wackey
hor	Hornblende
bio	Biotite
s	Schistose
e	Eyes
f	Fine grained
x	Coarse grained
!	Large, major, definite
( )	Locally
v	Vein
br	Breccia
k	Blocky
m	Massive
cl	Chlorite
hem	Hematite
q	Quartz
b	Black
g	Grey
n	Green
B	Brown
py	Pyrite
Cpy	Chalcopyrite

- (H) Helipad
- o Rock sample (on outcrop)
- △ Float
- Outcrop
- Geological contact

FIG. 9a

0 50 100 150
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

CABIN CREEK GRID

GEOLOGY

SCALE – 1: 2000

Survey Date – July, 1982	Surveyed By – D. Arscott, J. Harrop
Instrument –	Frequency –
Drawn By – D. Arscott, P. Hallal	Date – Sept, 1982
NTS – 105 A-5 E	MAP No.

091396

15+00 W | 14+00 W | 13+00 W | 12+00 W | 11+00 W | 10+00 W | 9+00 W | 8+00 W | 7+00 W | 6+00 W | 5+00 W | 4+00 W

6,43,5 | 8,46,11 | 7,44,10 | 6,44,14 | 15,65,18 | 11,117,8 | 8,29,10 | 11,45,14 | 10,45,11 | 6,27,27 | 7,41,17 | 8,39,12 | 8,34,181 | 9,40,16 | 18,124,10 | 6,25,10 | 11,92,8 | 19,127,5 | 11,46,32 | 4,4,190 | 12,6,260 | 63,81,23 | 20,94,10 — 174 N

10,47,6 | 10,45,9 | 10,42,22 | 11,43,16 | 19,127,5 | 9,34,14 | 10,33,20 | 15,105,10 | 11,44,19 | 11,48,36 | 11,41,59 | 14,46,20 | 9,34,19 | 10,45,38 | 12,73,12 | 12,40,10 | 9,36,20 | 11,38,28 | 11,42,20 | 14,46,21 | 7,3, | 13,124,29 — 172 N

6+00 W

15,111,10 | 14,62,10 | 16,50,18 | 10,44,11 | 14,45,10 | 12,65,14 | 9,47,16 | 9,39,15 | 14,108,10 | 12,84,10 | 11,55,6 | 10,64,7 | 8,36,6 | 14,74,10 | 11,48,8 | 12,48,43 | 12,39,15 | 16,60,14 | 12,71,10 | 18,215,6 | 21,245,8 | 10,40,9 | 11,100,4 — 170 N

6+00 W

169 N

6+00 W

GE 592 | GE 593

14,43,15 | 11,58,10 | 12,54,12 | 15,47,10 | 15,40,14 | 11,24,24 | 12,42,10 | 12,55,11 | 14,46,8 | 10,44,10 | 11,68,5 | 12,37,12 | 15,56,10 | 13,88,13 | 13,40,17 | 9,52,10 | 8,26,26 | 15,88,8 | 14,70,15 | 23,73,10 — 168 N

9+00 W

167 N

8+00 W

12,60,15 | 8,31,20 | 12,56,15 | 12,92,9 | 9,28,11 | 14,50,10 | 8,47,5 | 19,122,12 | 12,41,10 | 7,45,10 | 10,71,20 | 5,2,400 | 14,71,10 | 23,68,24 — 166 N

TRAIL TO HIGHWAY (BLAZED)

165 N

8+00 W

GE 479 | GE 480 | GE 477 | GE 478

17,60,33 | 12,69,18 | 15,49,31 | 18,74,22 | 13,52,15 | 21,158,10 | 16,51,20 | 29,75,57 | 18,42,9 | 21,76,92 | 12,13,115 | 21,68,24 | (44),66,25 | (44),76,15 — 164 N

(H)

163 N

Creek

(25),76,13 | 24,67,25 | 21,98,14 | 16,50,12 | 22,73,12 | 23,49,17 | 21,45,20 | 17,143,33 | 24,70,5 | (26),76,5 | 17,18,10 — 162 N

Cabin

19,47,75 | 16,76,12 | 17,35,20 | 22,89,18 | 18,46,20 | 16,42,18 | 24,70,57 | 11,4,45 — 160 N

15+00 W | 14+00 W | 13+00 W | 12+00 W | 11+00 W | 10+00 W (Cut) BASE LINE

LEGEND

11,4,45	Pb (ppm), Zn (ppm), Ba (ppm)
25	Pb anomalous value
150	Zn " "
170	Ba " "

FIG. 9b

0 50 100 150
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

CABIN CREEK GRID
SOIL GEOCHEMISTRY
Pb, Zn, Ba

SCALE - 1:2000

Survey Date - July, 1982	Surveyed By -
Instrument -	Frequency -
Drawn By - P. Hallet	Date - Sept., 1982
NTS - 105A-6E	MAP No.

091396

15+00 W | 14+00 W | 13+00 W | 12+00 W | 11+00 W | 10+00 W | 9+00 W | 8+00 W | 7+00 W | 6+00 W | 5+00 W | 4+00 W

174 N: 6,0.1,10 | 10,nd,nd | 6,nd,10 | 5,0.2,5 | 19,0.1,10 | 9,0.1,nd | 4,0.1,nd | 5,nd,10 | 11,0.3,nd | 2,nd,5 | 4,nd,5 | 10,nd,5 | 20,0.3,10 | 9,0.2,nd | 14,0.3,nd | 10,0.2,15 | 6,0.1,20 | 6,0.2,20 | 19,nd,15 | 12,0.1,15 | (68),nd,5 | (59),0.3,nd | 18,nd,15

172 N: 6,0.1,5 | 10,0.2,nd | 10,nd,nd | 11,0.1,5 | 10,nd,5 | 6,nd,5 | 8,nd,15 | 6,0.1,5 | 15,0.2,10 | 21,nd,nd | 16,0.9,5 | 9,nd,5 | 6,0.1,nd | 14,nd,5 | 10,0.1,nd | 9,nd,nd | 10,0.1,nd | 10,nd,nd | 8,0.3,10 | 9,0.2,nd | 15,0.3,nd | 17,0.2,nd

170 N: 9,0.3,10 | 6,0.1,5 | 14,nd,nd | 6,nd,nd | 4,nd,5 | 7,nd,nd | 10,0.3,20 | 6,0.1,10 | 10,0.1,5 | 8,0.3,5 | 9,0.1,nd | 5,nd,nd | 6,0.1,nd | 11,nd,nd | 6,0.2,nd | 3,nd,nd | 5,nd,5 | 8,0.1,nd | 6,0.2,nd | 14,0.2,nd | 23,0.5,10 | 15,nd,5 | 10,nd,nd

169 N

168 N: 9,0.1,nd | 4,0.2,5 | 8,0.3,nd | 9,0.1,15 | 13,0.2,15 | 5,0.2,10 | 6,0.1,10 | 13,0.1,10 | 10,0.1,10 | 8,nd,10 | 12,0.2,15 | 10,nd,10 | 8,0.2,10 | 9,0.3,nd | 8,nd,10 | 6,0.1,5 | 11,nd,10 | 14,0.3,15 | (66),0.5,nd | (106),0.1,nd

167 N

166 N: 14,nd,nd | 10,nd,15 | 6,nd,nd | 9,0.1,15 | 8,nd,15 | 9,0.1,10 | 7,0.2,10 | 15,nd,nd | 9,nd,nd | 6,0.1,nd | 14,nd,nd | 13,nd,5 | 7,0.1,5 | 16,nd,10

165 N

164 N: 10,0.1,- | 7,nd,- | 18,0.3,- | 12,0.2,- | 6,nd,- | 9,0.2,- | 10,0.1,- | GE 479 / GE 480 / GE 477 / GE 478 | 13,0.1,- | 20,nd,- | 15,0.1,- | 11,0.1,- | 11,0.2,- | (128),0.2,- | (129),0.2,-

163 N

162 N: 12,0.3,- | 14,0.2,- | 12,0.4,- | 7,0.1,- | 8,0.3,- | 11,0.1,- | 11,0.2,- | 7,nd,- | 9,nd,- | 18,0.4,- | (95),0.2,-

160 N: 8,nd,- | 9,0.4,- | 5,0.4,- | 15,0.5,- | 12,0.2,- | 7,0.2,- | 26,0.4,- | 28,0.6,-

Cabin Creek

GE 592 / GE 593

TRAIL TO HIGHWAY (BLAZED)

BASE LINE 10+00 W (Cut)

LEGEND

7,0.1,5	Cu (ppm), Ag (ppm), Au (ppb)
40	Cu anomalous value
1.0	Ag " "
20	Au " "

FIG. 9c

0 50 100 150
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

CABIN CREEK GRID

SOIL GEOCHEMISTRY
Cu, Ag, Au

SCALE - 1: 2000

Survey Date - July, 1982	Surveyed By -
Instrument -	Frequency -
Drawn By - P. Haillot	Date - Sept., 1982
NTS - 105 A-6-E	MAP No.

091396

15+00 W | 14+00 W | 13+00 W | 12+00 W | 11+00 W | 10+00 W | 9+00 W | 8+00 W | 7+00 W | 6+00 W | 5+00 W | 4+00 W

BY CEM – 100 m LOOP SPACING

BY CEM – 50 m LOOP SPACING

BY JEM – 100 m LOOP SPACING

174 N
172 N
170 N
169 N
168 N
167 N
166 N
165 N
164 N
163 N
162 N
160 N

6+00 W
8+00 W

Shallow dip

GE 592
GE 593
GE 479
GE 480
GE 477
GE 478

TRAIL TO HIGHWAY (BLAZED)

Creek
Cabin

BASE LINE 10+00 W (Cut)

Note – The vertical scale is very attenuated relative to the horizontal.

LEGEND

- 1830 Hz (CEM) or 1800 Hz (JEM)
- 390 Hz (JEM) or 480 Hz (CEM)
- CONDUCTOR TRENDS
- OTHER TRENDS
- LOOP SEPARATION – 50 or 100 m
- VERTICAL SCALE RESULTANT ANGLES IN DEGREES

0
-10°
-20°

0 50 100 150
METRES

FIG. 9d

001396

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

CABIN CREEK GRID

SHOOTBACK E.M.

SCALE – 1: 2000

Survey Date – July, 1982	Surveyed By – W. Gregory, M. Bennett
Instrument – CEM & JEM	Frequency –
Drawn By – P. Haillot	Date – Sept - Oct, 1982
N.T.S. – 105 A-6 E	Interpretation – D. Arscott

15+00 W
14+00 W
13+00 W
12+00 W
11+00 W
10+00 W
9+00 W
8+00 W
7+00 W
6+00 W
5+00 W
4+00 W

174 N
172 N
170 N
169 N
168 N
167 N
166 N
165 N
164 N
163 N
162 N
160 N

6+00W
6+00W
6+00W
8+00W
8+00W

GE 592
GE 593
GE 479
GE 480
GE 477
GE 478

TRAIL TO HIGHWAY (BLAZED)

Creek
Cabin

BASE LINE

Facing Direction
Seattle

FIG. 9e

LEGEND

TRANSMITTER - SEATTLE, WASHINGTON, U.S.A
IN PHASE
QUADRATURE
INTERPRETED CONDUCTORS
" TRENDS
VERTICAL SCALE IN PERCENT

+10 %
0
-10 %

0 50 100 150
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

CABIN CREEK GRID

VLF-EM SURVEY

SCALE - 1: 2000

Survey Date - July, 1982	Surveyed By - M. Lourie
Instrument - EM-16, Unit 54	Frequency - Seattle, Wash. 24.8 KHz
Drawn By - D. Arscott, P. Hallet	Date - Sept., 1982
NTS - 105A-6E	Interpretation - D. Arscott

091396

15+00 W
14+00 W
13+00 W
12+00 W
11+00 W
10+00 W
9+00 W
8+00 W
7+00 W
6+00 W
5+00 W
4+00 W

174 N
172 N
170 N
169 N
168 N
167 N
166 N
165 N
164 N
163 N
162 N
160 N

6+00 W
8+00 W
BASE LINE 10+00 W (Cut)

GE 592
GE 593
GE 479
GE 480
GE 477
GE 478

TRAIL TO HIGHWAY (BLAZED)

Creek
Cabin

N

LEGEND

INSTRUMENT – GEOMETRICS G-816 (PROTON)
ACCURACY OF READINGS WITHIN ABOUT 20 GAMMAS
FIELD MEASURED – TOTAL
VERTICAL SCALE IN 10's OF GAMMAS

58900 gammas
58850 "
58800 "
58750 " LINE

FIG. 9f

0 50 100 150
METRES

091396

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

CABIN CREEK GRID

MAGNETIC SURVEY

SCALE – 1: 2000

Survey Date – July, 1982	Surveyed By – B. Coates
Instrument – Model G-816, Inc. H Fld. Geometrics Proton Mag.	Frequency –
Drawn By – P. Hallet	Date – Sept., 1982
NTS – 105A-6E	MAP No.

"E" GRID

"D" GRID

BASE LINE 40+00 E

TIE LINE 140 N

40+00 E
41+00 E
42+00 E
43+00 E
44+00 E
45+00 E
46+00 E
47+00 E
48+00 E
49+00 E
50+00 E
51+00 E

33+00 E
34+00 E
35+00 E
36+00 E
37+00 E
38+00 E
39+00 E

L 157 N
L 155 N
L 153 N
L 151 N
L 136 N
L 134 N
L 132 N
L 130 N
L 128 N

GE 561
GE 562

LEGEND

10,28,10 Pb (ppm), Zn (ppm), Ba (ppm)

> 25 Pb anomalous value

> 150 Zn " "

≥170 Ba " " (contoured)

FIG. 10a

0 50 100 200 300
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

"D" & "E" GRIDS
SOIL GEOCHEMISTRY
Pb, Zn, Ba

SCALE - 1 : 5000

Survey date - Aug., 1982	Surveyed by -
Instrument -	Revised -
Drawn by - P. Haillot, D. Arscott	Date - Sept.- Oct., 1982
NTS - 105 A-7W	MAP No.

091396

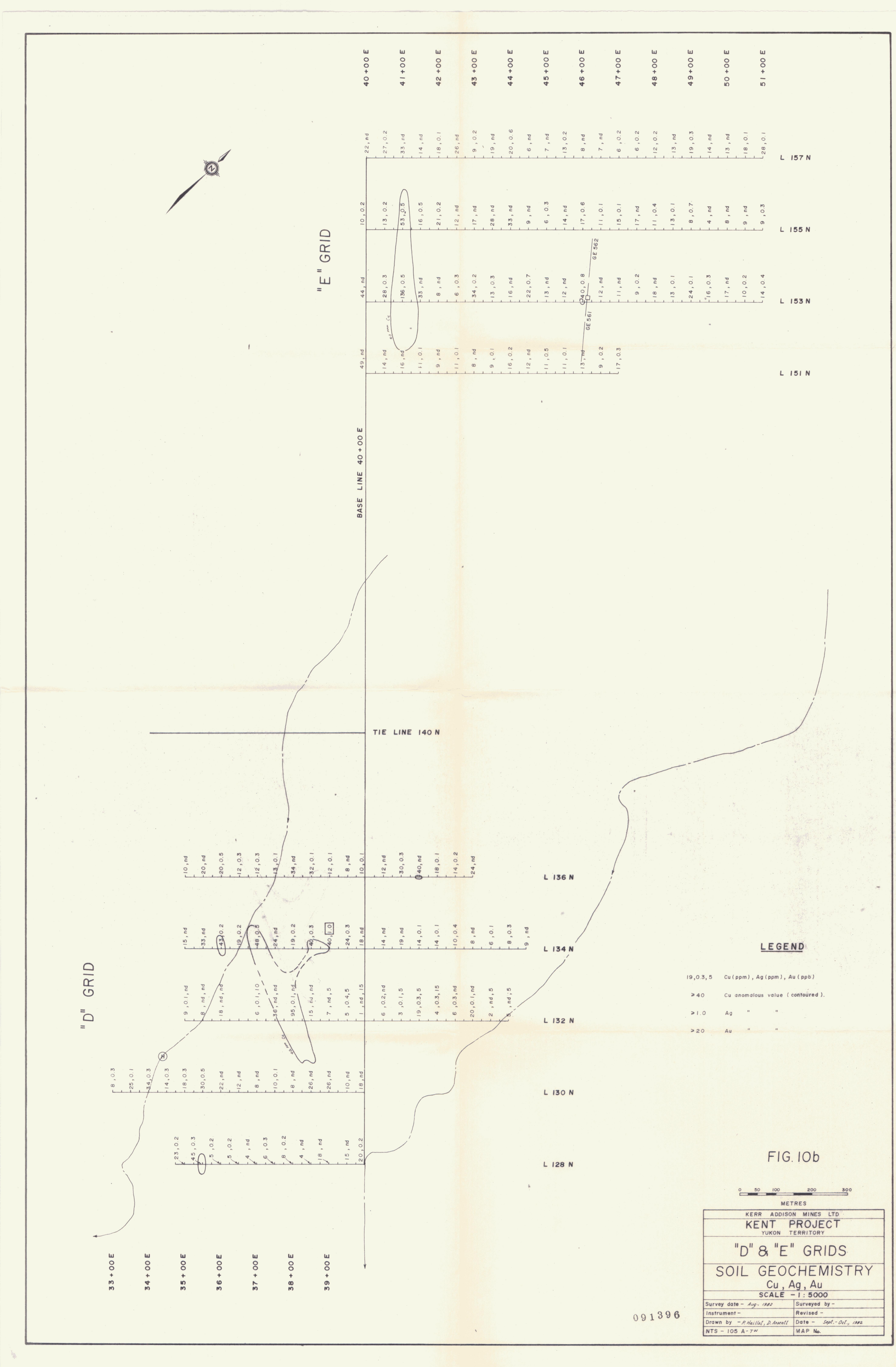

"E" GRID
40+00 E
41+00 E
42+00 E
43+00 E
44+00 E
45+00 E
46+00 E
47+00 E
48+00 E
49+00 E
50+00 E
51+00 E
L 157 N
L 155 N
L 153 N
L 151 N
BASE LINE 40+00 E
"D" GRID
TIE LINE 140 N
L 136 N
L 134 N
L 132 N
L 130 N
L 128 N
33+00 E
34+00 E
35+00 E
36+00 E
37+00 E
38+00 E
39+00 E
LEGEND
19,0.3,5 Cu(ppm), Ag(ppm), Au(ppb)
≥40 Cu anomalous value (contoured).
≥1.0 Ag " "
≥20 Au " "
0 50 100 200 300
METRES
KERR ADDISON MINES LTD
KENT PROJECT
YUKON TERRITORY
"D" & "E" GRIDS
SOIL GEOCHEMISTRY
Cu, Ag, Au
SCALE - 1:5000
Survey date - Aug., 1982
Surveyed by -
Instrument -
Revised -
Drawn by - P. Haillot, D. Arscott
Date - Sept.-Oct., 1982
NTS - 105 A-7W
MAP No.
091396
FIG. 10b



FIG. 10c

091396

KERR ADDISON MINES LTD	
KENT PROJECT YUKON TERRITORY	
"D" & "E" GRIDS	
SHOOTBACK E.M.	
SCALE - 1 : 5000	
Survey date - Aug., 1982	Surveyed by -
Instrument - C E M	Revised -
Drawn by - P. Haillot	Date - SEPT., 1982
NTS - 105 A-7W	MAP No.

40+00 E | 41+00 E | 42+00 E | 43+00 E | 44+00 E | 45+00 E | 46+00 E | 47+00 E | 48+00 E | 49+00 E | 50+00 E | 51+00 E

L 157 N

L 155 N

GE 562

GE 561

L 153 N

L 151 N

Note – Relatively strong topographic effect on VLF profiles.

"E" GRID

BASE LINE 40+00 E

Facing direction

Seattle

TIE LINE 140 N

L 136 N

L 134 N

L 132 N

L 130 N

L 128 N

"D" GRID

33+00 E | 34+00 E | 35+00 E | 36+00 E | 37+00 E | 38+00 E | 39+00 E

LEGEND

- IN PHASE
- QUADRATURE
- CONDUCTOR TRENDS
- OTHER TRENDS
- TRANSMITTER – SEATTLE
- VERTICAL SCALE IN PERCENT

+10 %
0 %
– 10 %

FIG. 10d

0 50 100 200 300
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

"D" & "E" GRIDS

VLF – E.M. SURVEY

SCALE – 1 : 5000

Survey date – Aug., 1982	Surveyed by –
Instrument – Ronka EM-16	Revised –
Drawn by – P. Haillot	Date – Sept.- Oct., 1982
NTS – 105 A-7W	MAP No.

091396

"E" GRID

40+00 E
41+00 E
42+00 E
43+00 E
44+00 E
45+00 E
46+00 E
47+00 E
48+00 E
49+00 E
50+00 E
51+00 E

L 157 N
L 155 N
L 153 N
L 151 N

GE 562
GE 561

BASE LINE 40+00 E

TIE LINE 140 N

"D" GRID

L 136 N
L 134 N
L 132 N
L 130 N
L 128 N

33+00 E
34+00 E
35+00 E
36+00 E
37+00 E
38+00 E
39+00 E

LEGEND

FIELD MEASURED - TOTAL
READING ACCURACY WITHIN ABOUT 20 GAMMAS
VERTICAL SCALE IN GAMMAS

58,850 Gammas
58,800 "
58,750 "
58,700 "

FIG. 10e

0 50 100 200 300
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

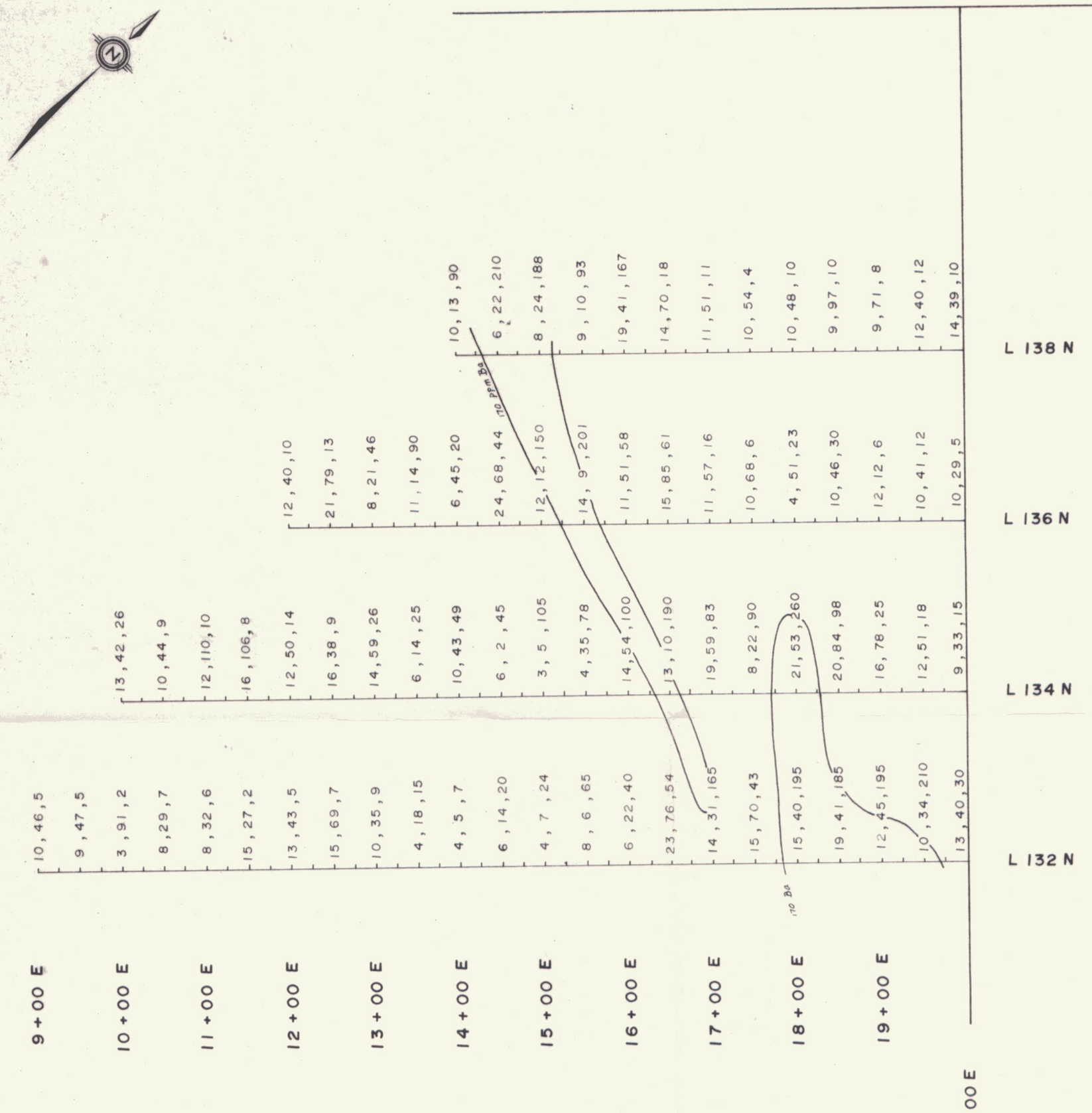
"D" & "E" GRIDS

MAGNETIC SURVEY

SCALE - 1 : 5000

Survey date - Aug, 1982	Surveyed by -
Instrument - Geometric G 816(Pr)	Revised -
Drawn by - P. Haillot	Date - Oct., 1982
NTS - 105 A - 7W	MAP No.

091396



LEGEND

6, 14, 20	Pb (ppm), Zn (ppm), Ba (ppm)
≥ 25	Pb anomalous value
≥ 150	Zn " "
≥ 170	Ba " " (contoured)

FIG. IIa

0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

"F" GRID

SOIL GEOCHEMISTRY
Pb, Zn, Ba

SCALE - 1 : 5000

Survey date - Aug., 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P. Haillot, D. Arscott	Date - Sept. - Oct., 1982
NTS - 105 A	MAP No.

091396

TIE LINE 140 N

L 138 N

L 136 N

L 134 N

L 132 N

BASE LINE 20+00 E

9+00 E
10+00 E
11+00 E
12+00 E
13+00 E
14+00 E
15+00 E
16+00 E
17+00 E
18+00 E
19+00 E

14, nd, nd
19, nd, 10
25, 0.2, 10
16, nd, nd
16, nd, 5
12, nd, nd
9, nd, nd
6, nd, 10
12, nd, nd
12, nd, nd
9, nd, nd
9, nd, nd
12, nd, nd

10, nd, nd
19, nd, nd
10, 0.1, 10
20, 0.3, nd
9, nd, nd
24, 0.6, nd
16, 0.1, 5
20, nd, nd
24, 0.2, 5
41, 0.4, 10
19, nd, nd
10, 0.1, 10
9, nd, nd
22, nd, nd
14, nd, nd
8, nd, 5
5, nd, nd

10, nd, 10
6, nd, nd
10, nd, nd
10, nd, 10
10, nd, nd
13, 0.1, nd
9, nd, nd
7, 0.3, 15
6, nd, 10
7, 0.1, 10
16, 0.2, 10
18, 0.2, nd
36, 0.2, nd
65, 0.5, nd
20, 0.5, nd
6, 0.3, nd
51, 0.8, nd
64, 0.2, nd
17, 0.4, nd
10, nd, 5
10, nd, nd

5, nd, 30
9, nd, 10
4, nd, nd
6, nd, nd
8, nd, nd
6, nd, nd
8, nd, nd
10, nd, nd
8, nd, nd
5, 0.2, nd
2, nd, nd
4, nd, nd
3, nd, nd
36, 11.0, nd
14, 0.4, nd
35, 0.6, nd
20, 0.3, nd
14, 0.1, nd
25, nd, nd
21, nd, nd
23, 0.1, nd
20, nd, nd
9, 0.1, nd

40 ppm Cu

40 Cu

LEGEND

7, 0.1, 10	Cu (ppm), Ag (ppm), Au (ppb)
≥ 40	Cu anomalous value (contoured)
≥ 1.0	Ag " "
≥ 20	Au " "

FIG. 11b

0 50 100 200 300 400

METRES

091396

KERR ADDISON MINES LTD

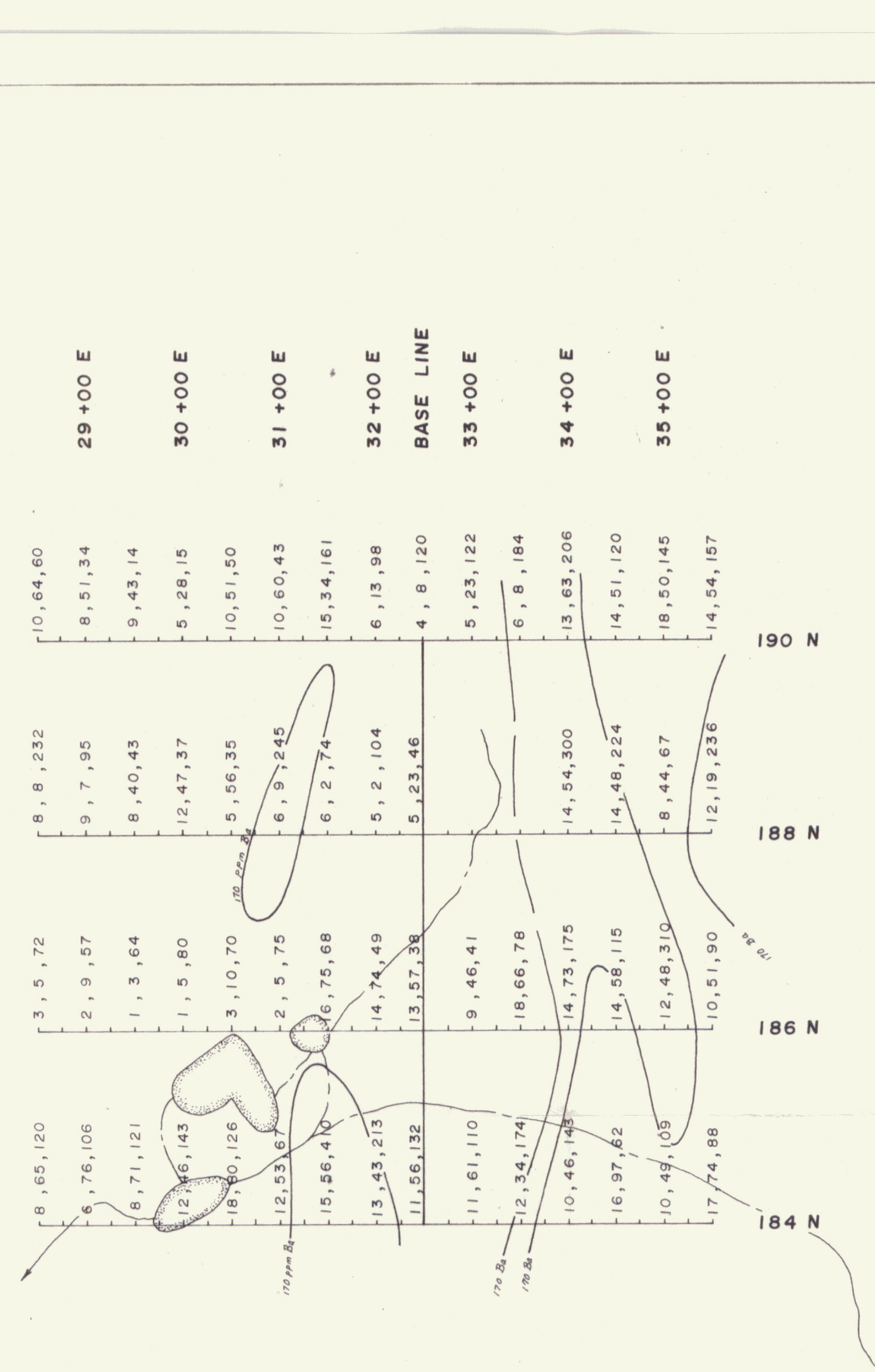
KENT PROJECT
YUKON TERRITORY

"F" GRID

SOIL GEOCHEMISTRY
Cu, Ag, Au

SCALE - 1 : 5000

Survey date - Aug., 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P. Haillot, D. Arscott	Date - Sept. - Oct., 1982
NTS - 105 A	MAP No.



LEGEND

8,65,120 Pb (ppm), Zn (ppm), Ba (ppm)

≥25 Pb anomalous value

≥150 Zn " "

≥170 Ba " " (contoured)

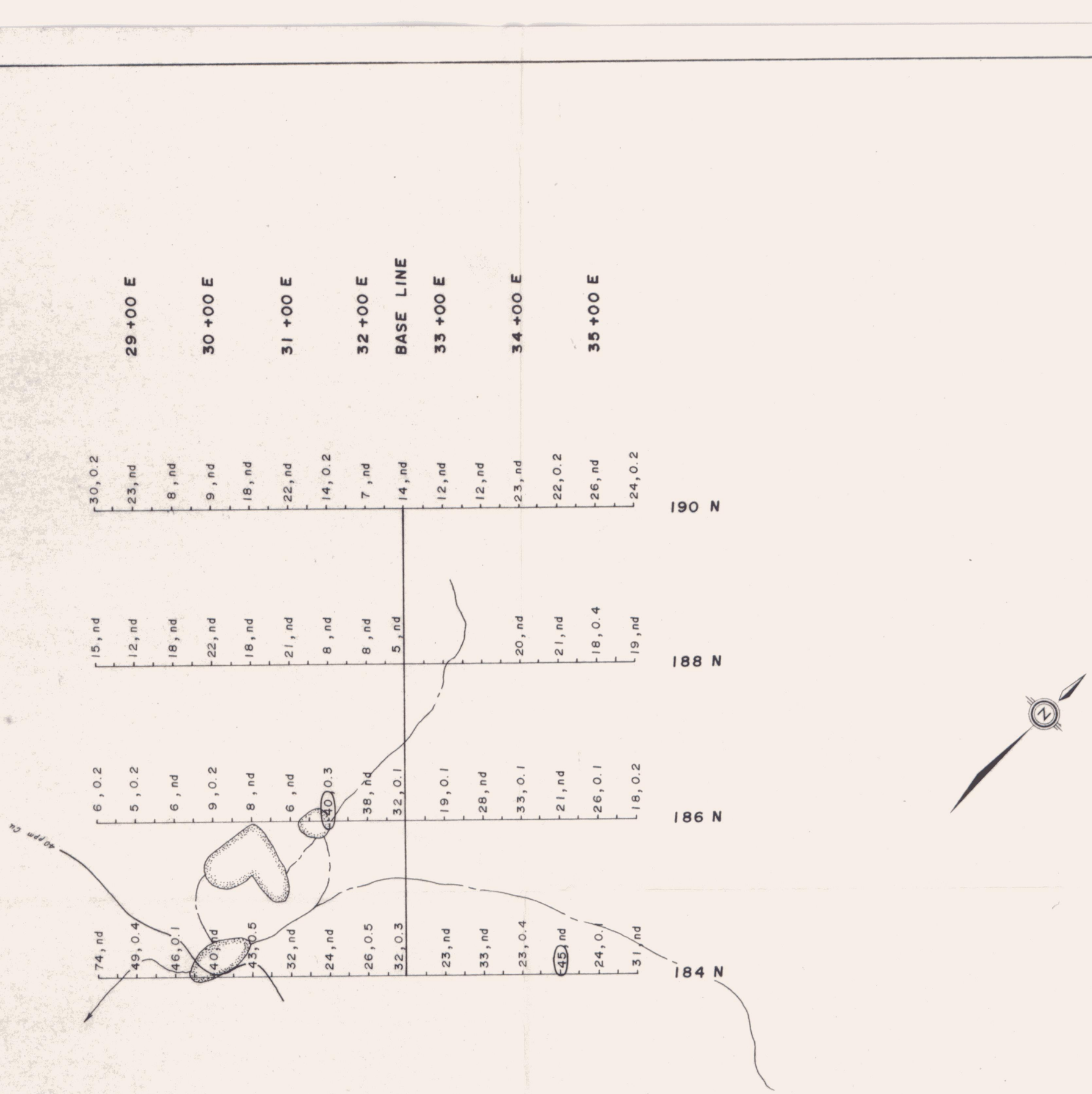
091396

FIG. 12a

0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD	
KENT PROJECT YUKON TERRITORY	
"G" GRID	
SOIL GEOCHEMISTRY Pb, Zn, Ba	
SCALE - 1:5000	
Survey date - Aug., 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P. Haillot, D. Arscott	Date - Sept.-Oct., 1982
NTS - 105 A	MAP No.



LEGEND

26, 0.5 Cu (ppm), Ag (ppm), (Au not assayed)

≥40 Cu anomalous value (contoured)

≥1.0 Ag " "

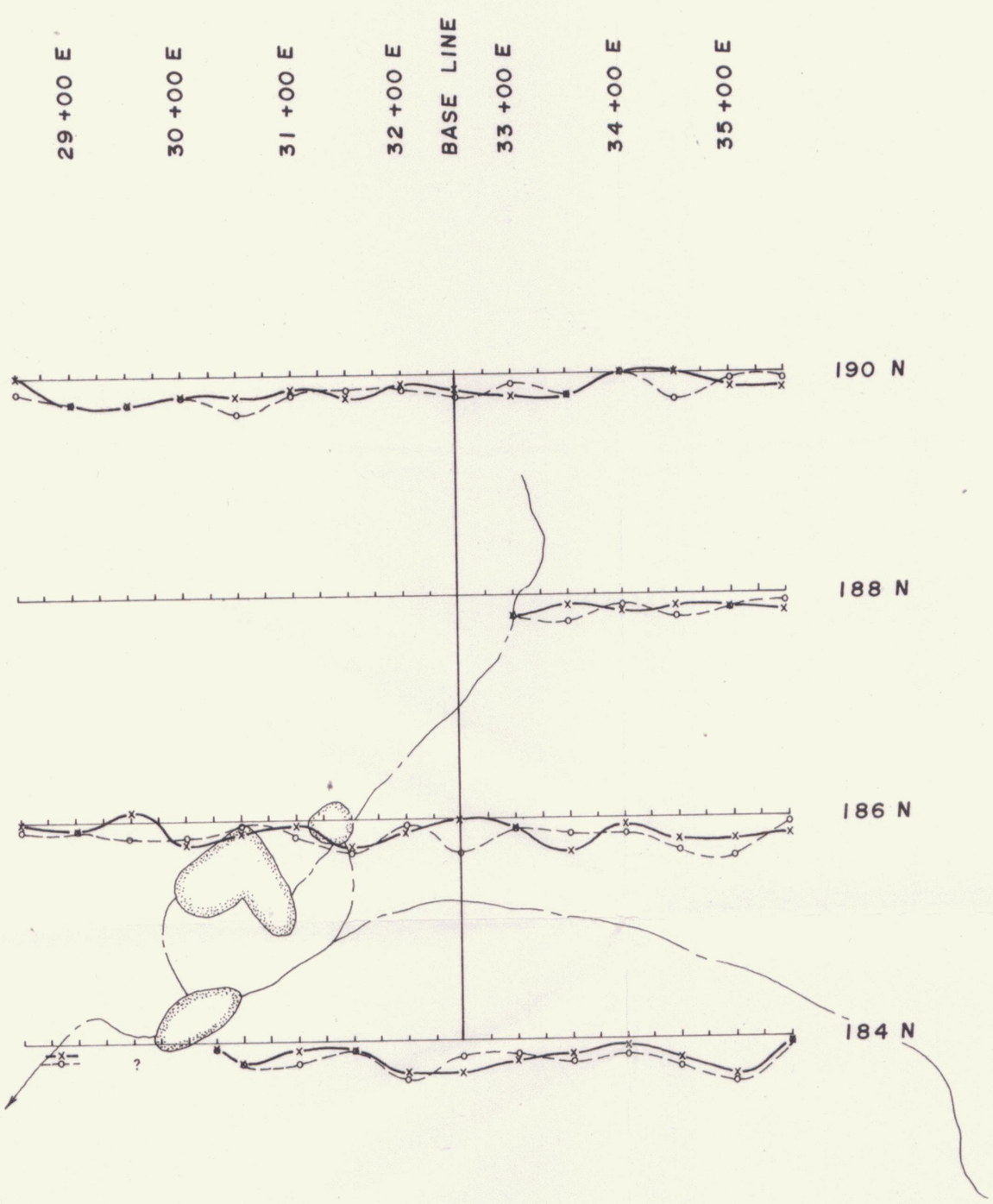
FIG. 12b

0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD	
KENT PROJECT YUKON TERRITORY	
"G" GRID	
SOIL GEOCHEMISTRY Cu, Ag, Au	
SCALE - 1 : 5000	
Survey date - Aug., 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P. Haillot, D. Arscott	Date - Sept. - Oct., 1982
NTS - 105 A	MAP No.

091396



LEGEND

INTERMEDIATE FREQUENCY - 1830 Hz
LOW FREQUENCY - 390 Hz
CONDUCTOR TRENDS
OTHER TRENDS
LOOP SEPARATION - 50 m
VERTICAL SCALE RESULTANT ANGLES IN DEGREES

+10°
0°
-10°

FIG. 12c

0 50 100 200 300 400
METRES

091396

KERR ADDISON MINES LTD

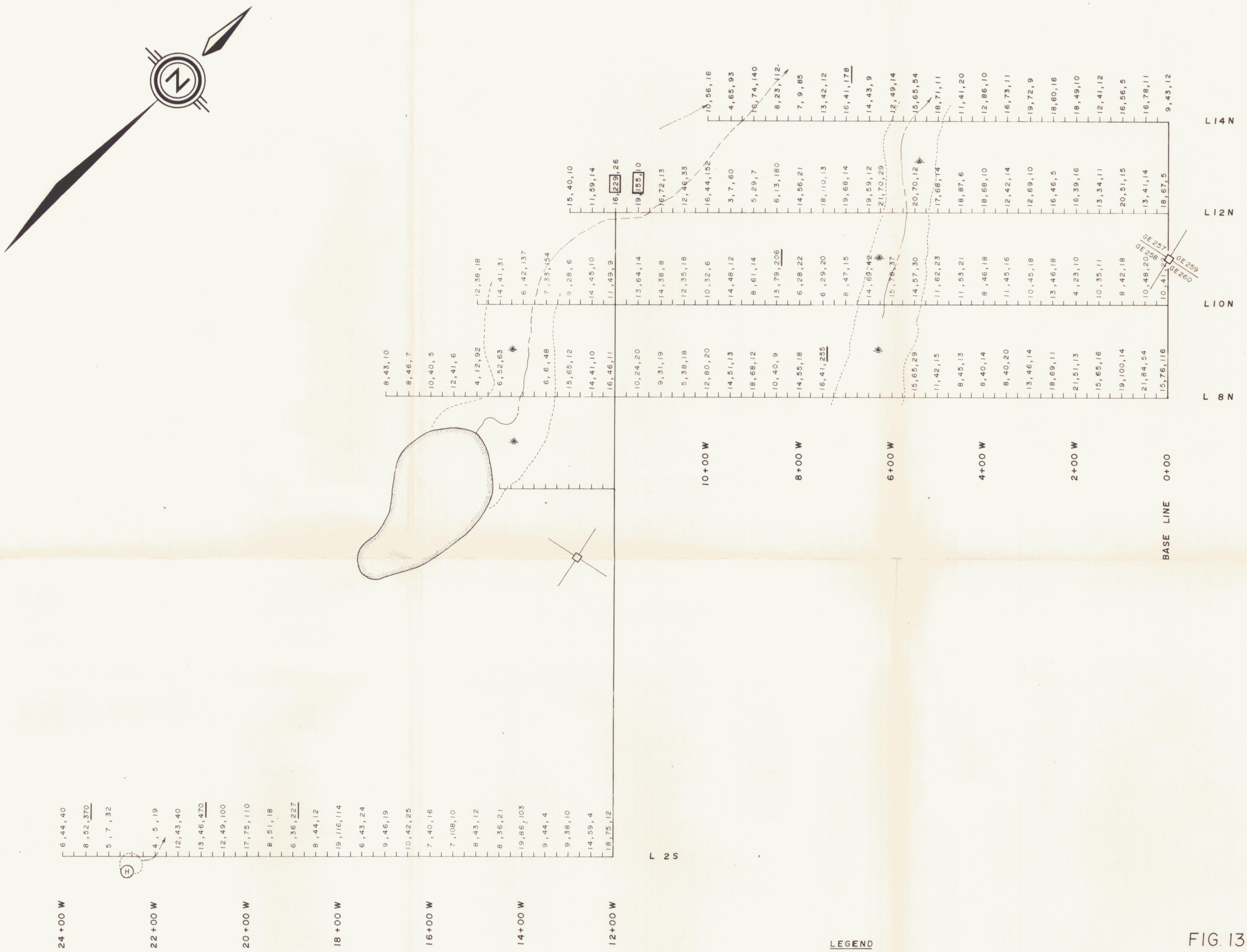
KENT PROJECT
YUKON TERRITORY

"G" GRID

SHOOTBACK E.M.

SCALE - 1 : 5000

Survey date - Aug., 1982	Surveyed by -
Instruments - C.E.M	Revised -
Drawn by - P. Haillot, D. Arscott	Date - Sept. - Oct., 1982
NTS - 105 A	MAP No.



LEGEND

18,75,75	Pb (ppm), Zn (ppm), Ba (ppm)	
> 25	Pb	anomalous value
>150	Zn	" "
>170	Ba	" "

FIG. 13a

0 50 100 200 300 400
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

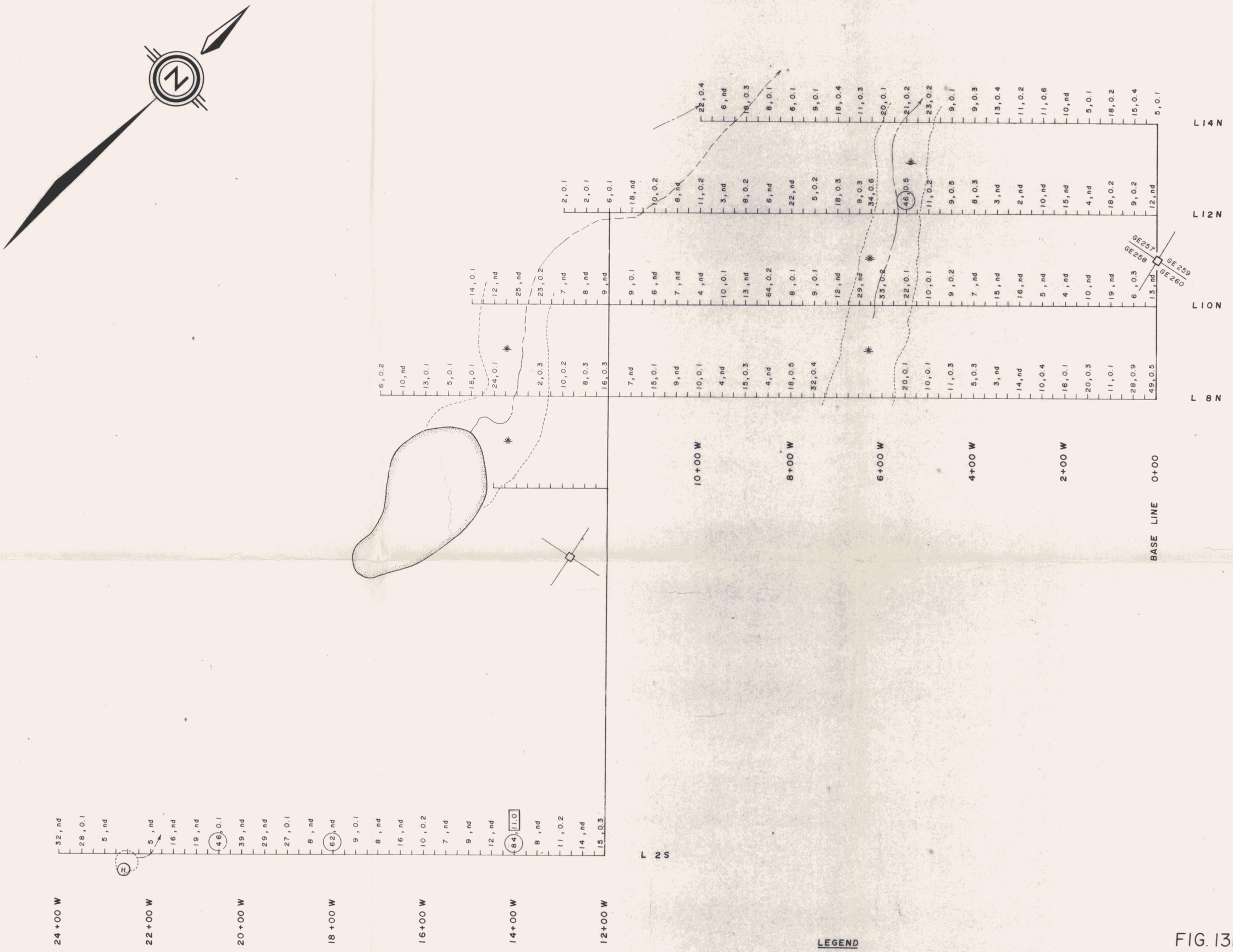
"I" GRID

SOIL GEOCHEMISTRY
Pb, Zn, Ba

SCALE - 1 : 5000

Survey Date - August, 1982	Surveyed By
Instru. used -	Frequency -
Drawn By - P.H., D.A.	Date - October, 1982
NTS - 105 - A	MAP No.

091396



LEGEND

11,0.2 Cu (ppm), Ag (ppm), Au – not assayed.

(≥40) Cu anomalous value

[≥1.0] Ag " "

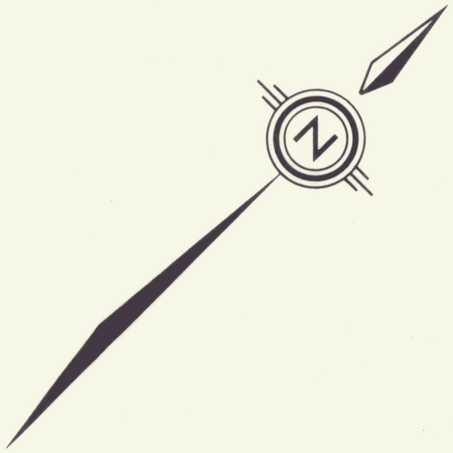
FIG. 13b

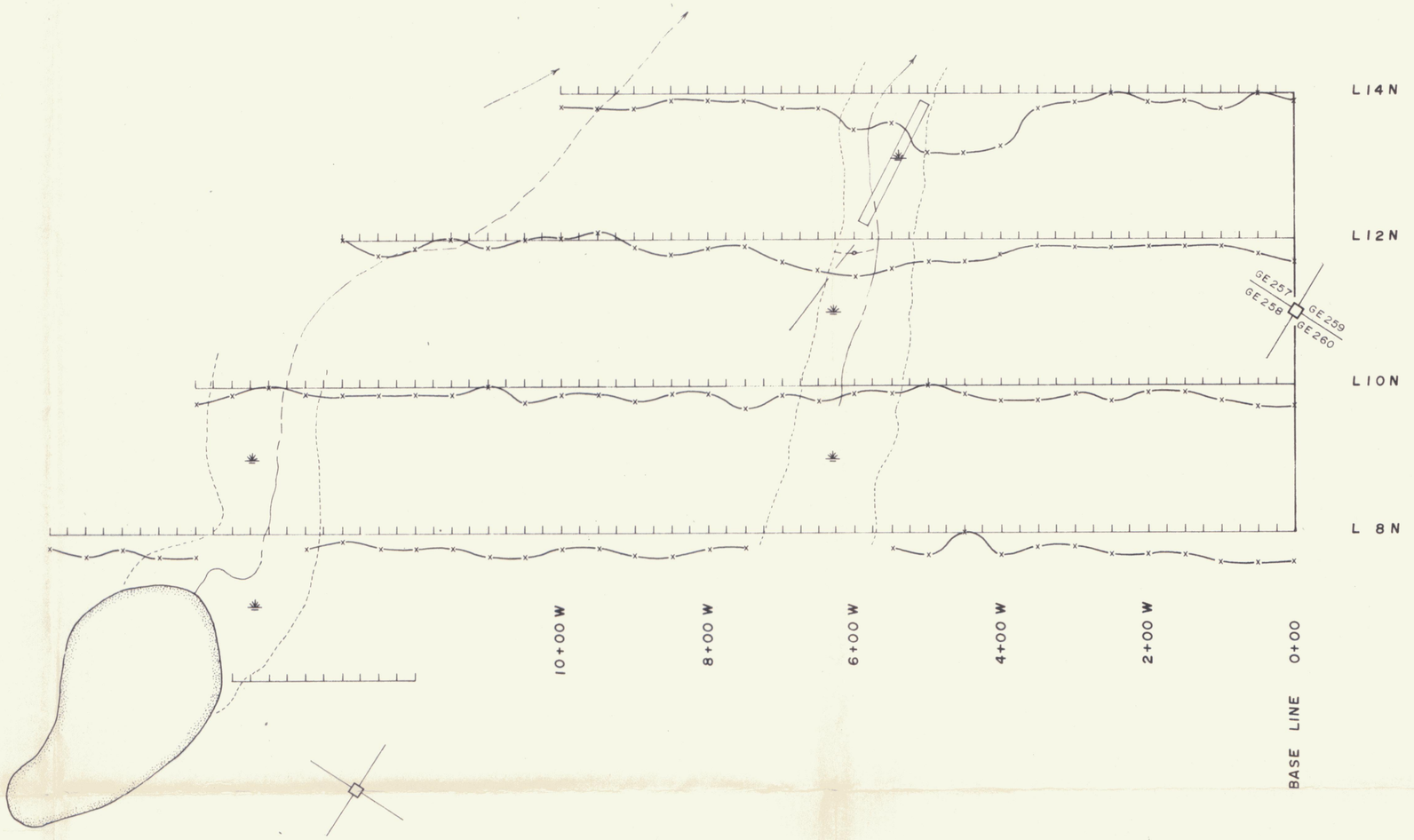
0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD	
KENT PROJECT YUKON TERRITORY	
"I" GRID	
SOIL GEOCHEMISTRY Cu, Ag, Au	
SCALE – 1 : 5000	
Survey Date – August, 1982	Surveyed By
Instru. used –	Frequency –
Drawn By – P.H., D.A.	Date – Sept. – Oct., 1982
NTS – 105 A	MAP No.

091396







L 2S

LOOP SEPARATION - 50 m

INTERMEDIATE FREQUENCY 1830 Hz

LOW FREQUENCY 390 Hz

CONDUCTOR TRENDS

OTHER TRENDS

VERTICAL SCALE RESULTANT ANGLES

+5°
0
-5°

FIG. 13c

0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

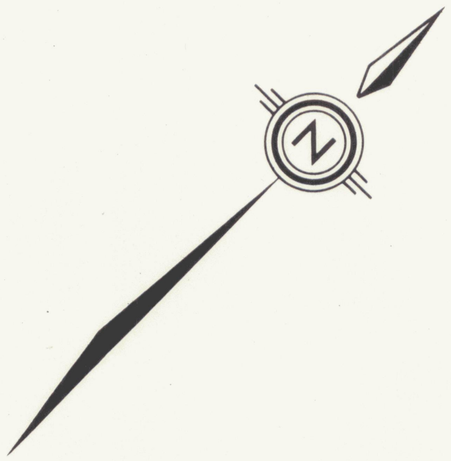
"I" GRID

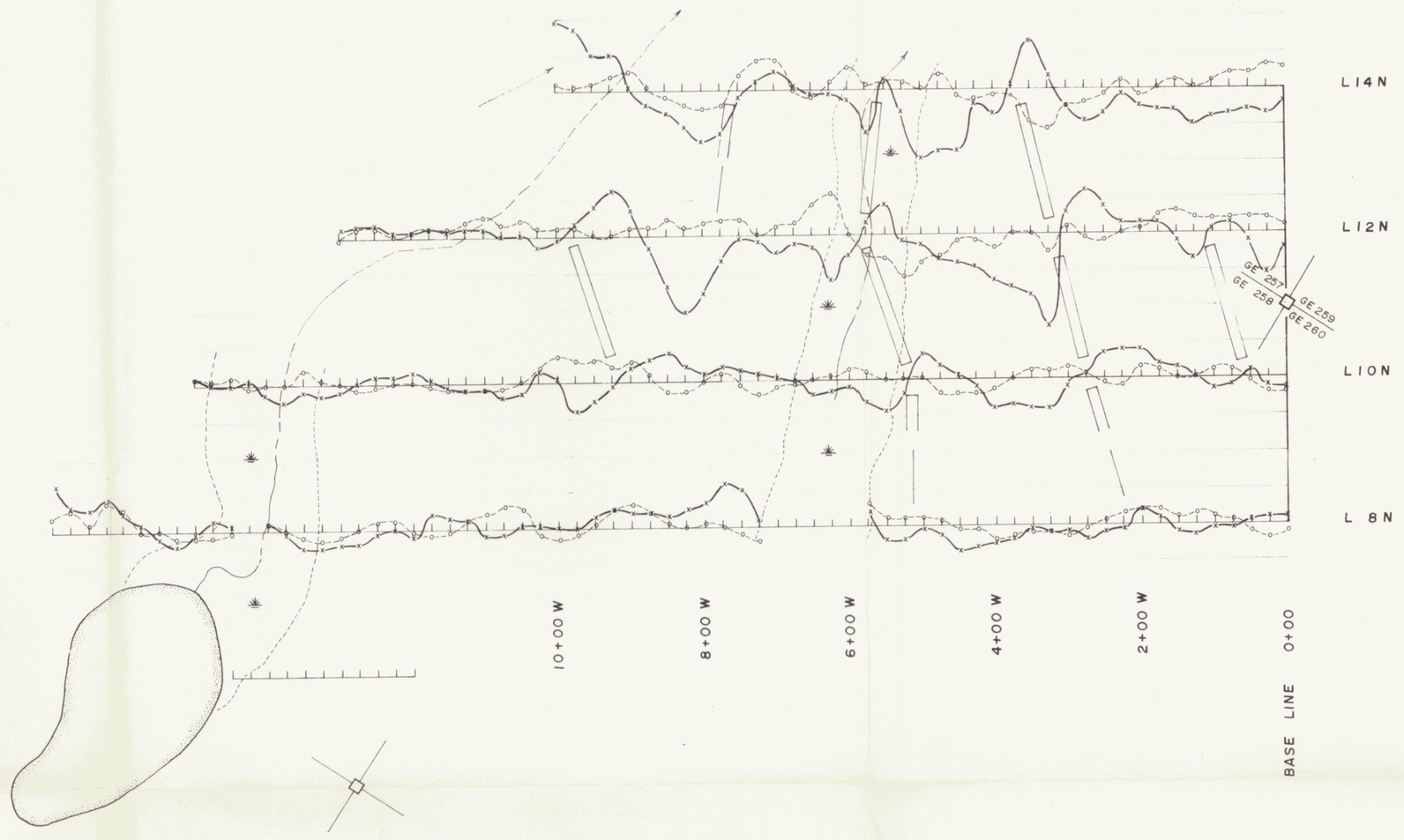
SHOOTBACK E.M.

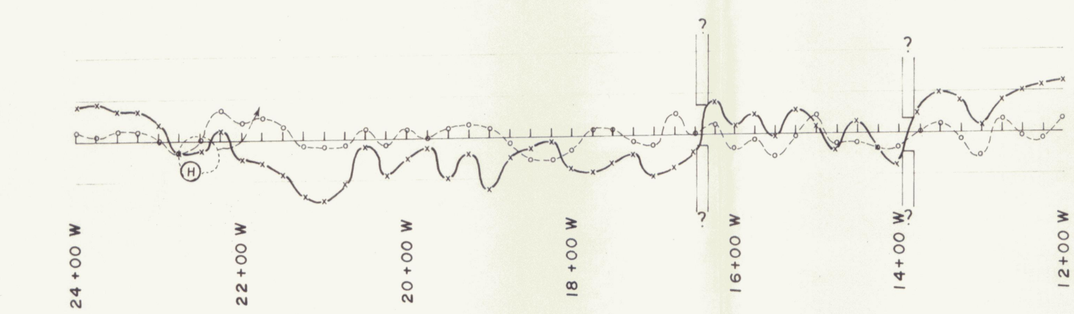
SCALE - 1 : 5000

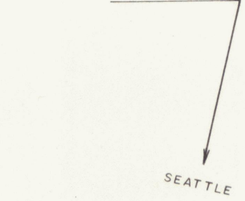
Survey Date - August, 1982	Surveyed By
Instru. used - C.E.M	Frequency -
Drawn By - P.Haillot	Date - Sept. - Oct., 1982
NTS - 105-A	MAP No.

091396









VERTICAL SCALE:

+20%
+10%
0
-10%
-20%

LEGEND

DIP ANGLE
QUADRATURE
CONDUCTORS
TRENDS

TRANSMITTER - SEATTLE, WASHINGTON, U.S.A

FIG. 13d

0 50 100 200 300 400
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

GRID

VLF-EM SURVEY

SCALE - 1:5000

Survey Date - August, 1982	Surveyed By
Instru. used - EM-16	Frequency -
Drawn By - P.H, D.A.	Date - Sept.-Oct., 1982
NTS - 105A	MAP No.

001396



NOTE - ONLY SIGNIFICANT DIGITS ARE PLOTTED E.G.
872 means 58720 Gammas (ADD 50,000 To ALL READINGS)
FIELD MEASURED - TOTAL
VERTICAL SCALE:

58900 gammas
58850 "
58800 "
58750 " - LINE

FIG. 13e

0 50 100 200 300 400
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

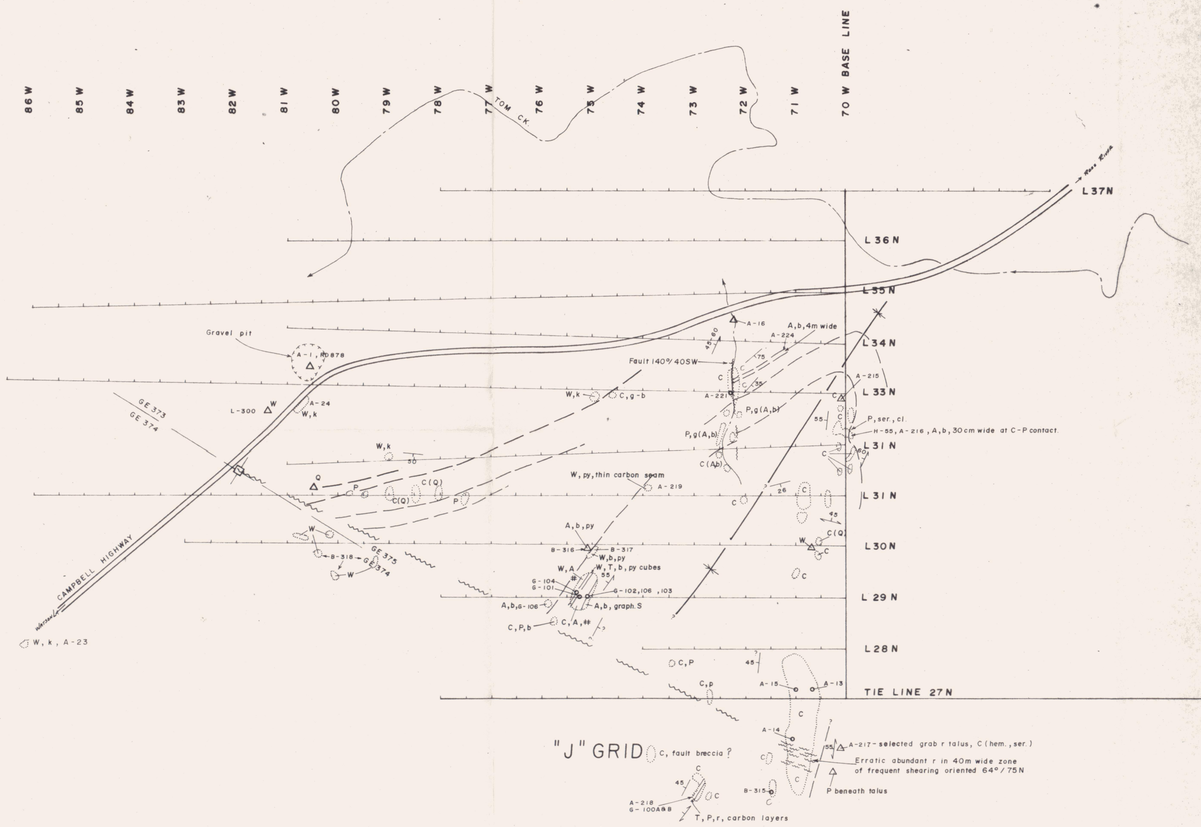
"T" GRID

MAGNETIC SURVEY

SCALE - 1 5000

Survey Date Aug., 1982	Surveyed By - B. Coates
Instru. used - Geometrics G-816 Proton Mag & E/M	Frequency -
Drawn By P. Haillot	Date - Oct., 1982
NTS - 105A-7W	MAP No.

091396



LEGEND

ROCK TYPES

C	CHERT
P	PHYLLITE
A	ARGILLITE OR SHALE
G	GREYWACKE
Q	QUARTZITE
T	SILTSTONE
M	MAFIC VOLCANICS

STRUCTURE

- Bedding
- Foliation
- Synform
- Faulting

SUFFIXES

r	Rusty
a	Argillitic
c	Cherty
p	Phyllitic
s	Schistose
ll	Breccia
k	Blocky
m	Massive
cl	Chlorite
hem	Hematite
q	Quartz
b	Black
g	Grey
n	Green
B	Brown
py	Pyrite

- (H) Helipad
- o Rock sample (on outcrop)
- △ Float
- Outcrop
- — — Geological contact

FIG. 14a

091396

0 50 100 200 300
METRES

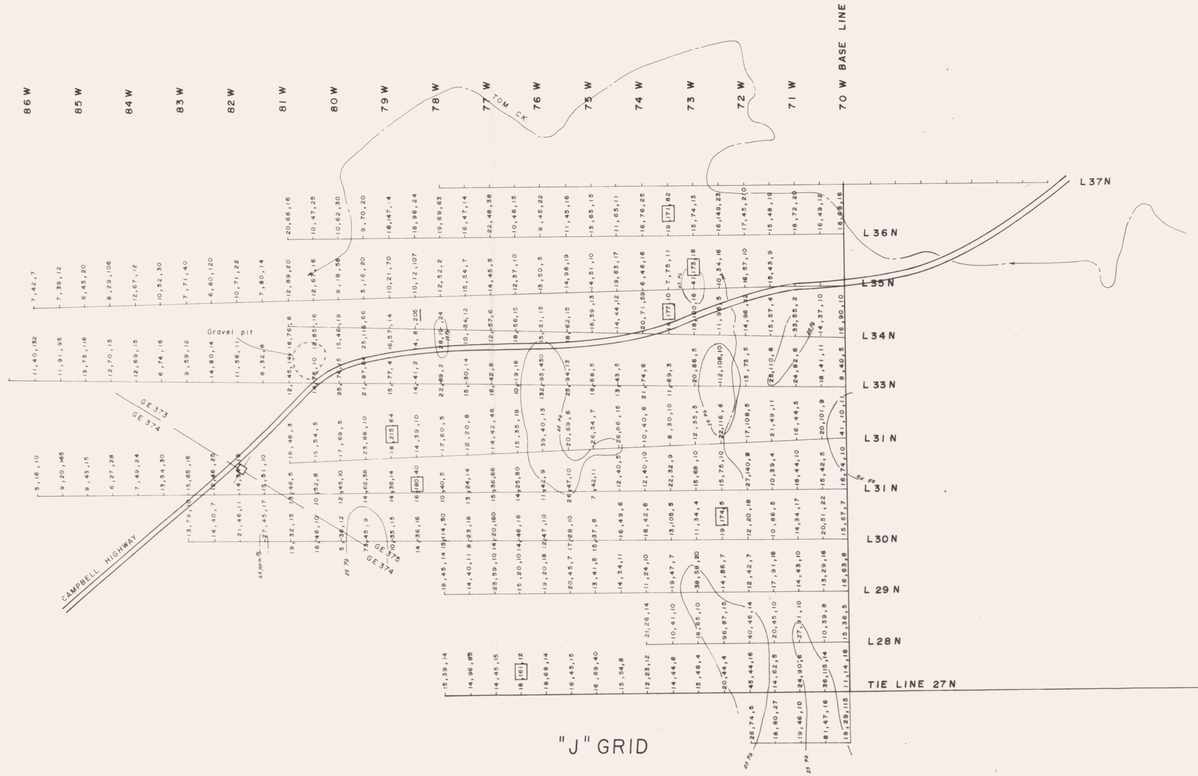
KERR ADDISON MINES LTD
KENT PROJECT
YUKON TERRITORY

"J" & "K" GRIDS

GEOLOGY

SCALE - 1:5000

Survey date - Aug., 1982	Surveyed by - J. Bissett, J. Herring, P. Bourgeois
Instrument -	Revised -
Drawn by - P. Hallal, J. Bissett	Date - Sept - Oct., 1982
NTS - 105 A-E4, 7E	MAP No.





LEGEND

16,46,58 Pb (ppm), Zn (ppm), Ba (ppm)

> 25 Pb anomalous value (contoured)

[>150] Zn " "

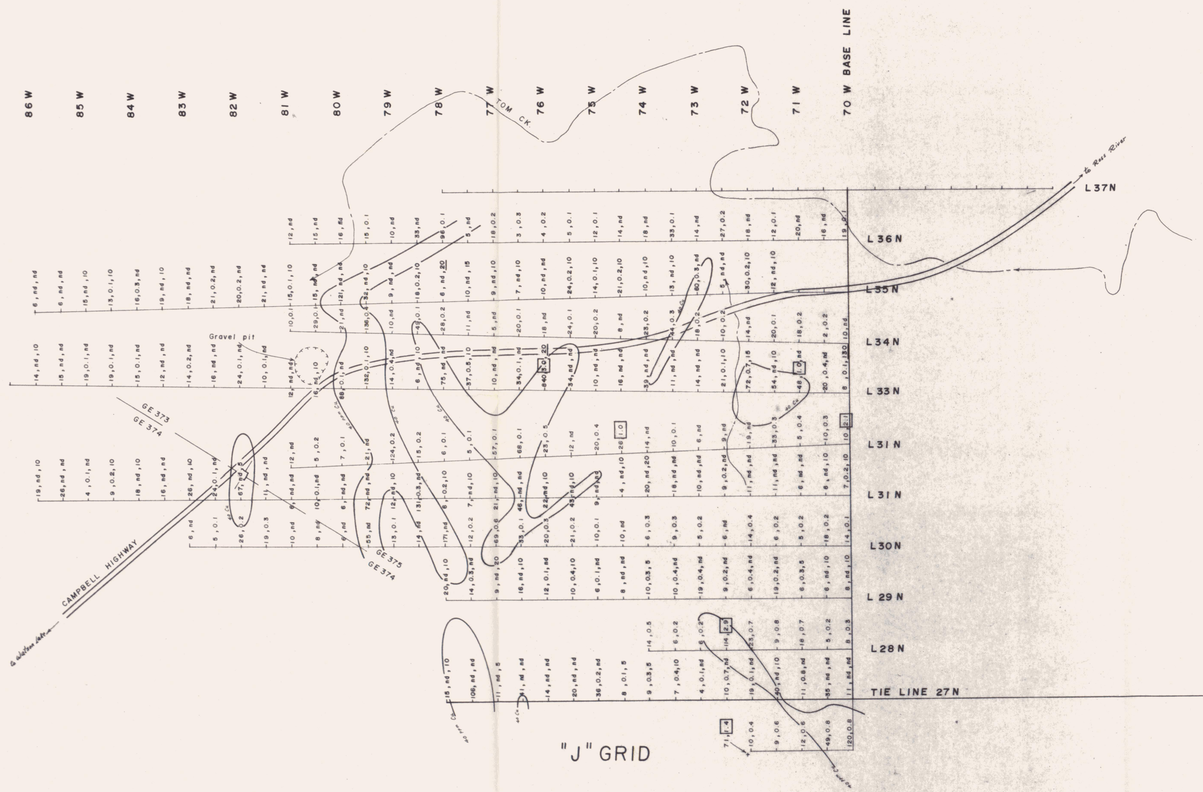
>170 Ba " "

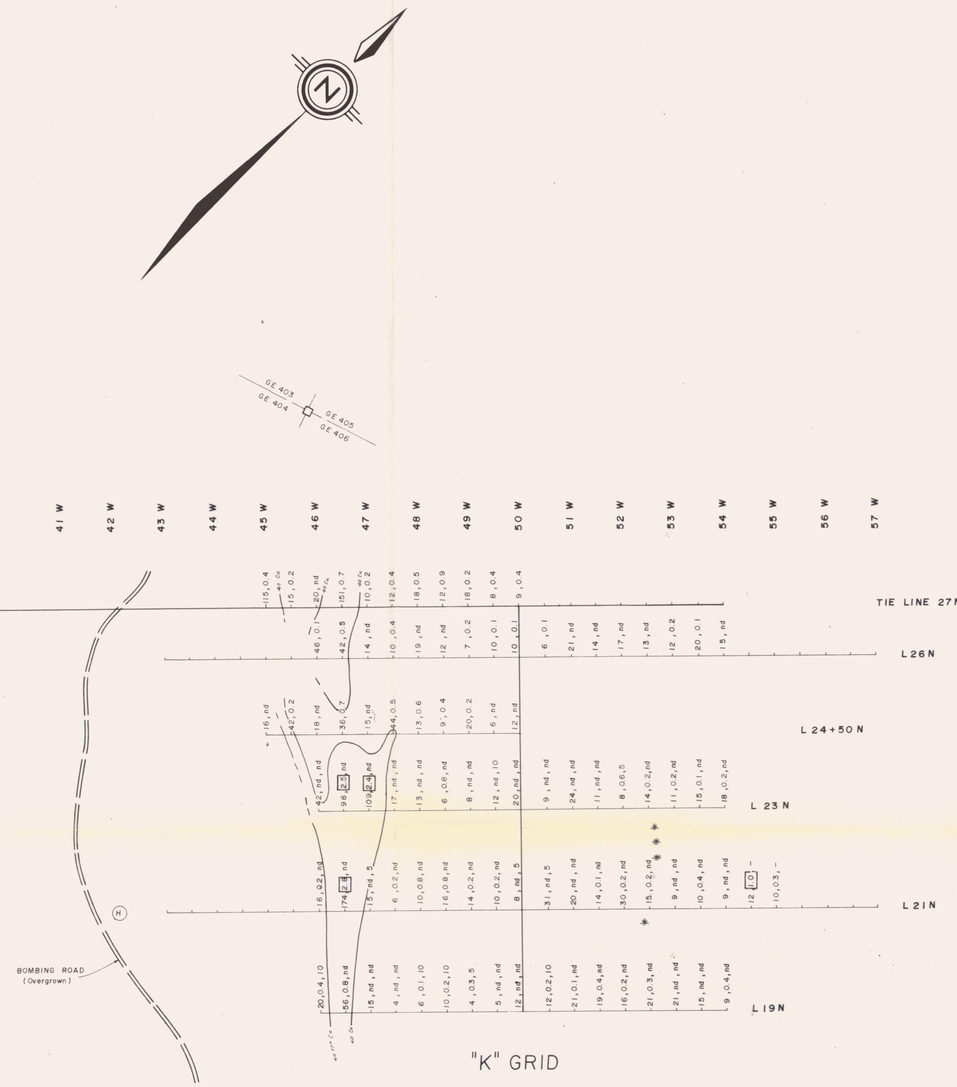
FIG. 14b

0 50 100 200 300
METRES

KERR ADDISON MINES LTD	
KENT PROJECT YUKON TERRITORY	
"J" & "K" GRIDS	
SOIL GEOCHEMISTRY Pb, Zn, Ba	
SCALE - 1:5000	
Survey date - Aug., 1982	Surveyed by -
Instrument -	Revised -
Drawn by - R. Hallet, J. Arnett	Date - Sept. - Oct., 1982
NTS - 105 A - 8 E, 9W	MAP No.

091396





LEGEND

20,04,10 Cu (ppm), Ag (ppm), Au (ppb)

⩾40 Cu anomalous value (contoured)

⊡1.0 Ag " "

⩾20 Au " "

FIG. 14c

0 50 100 200 300
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

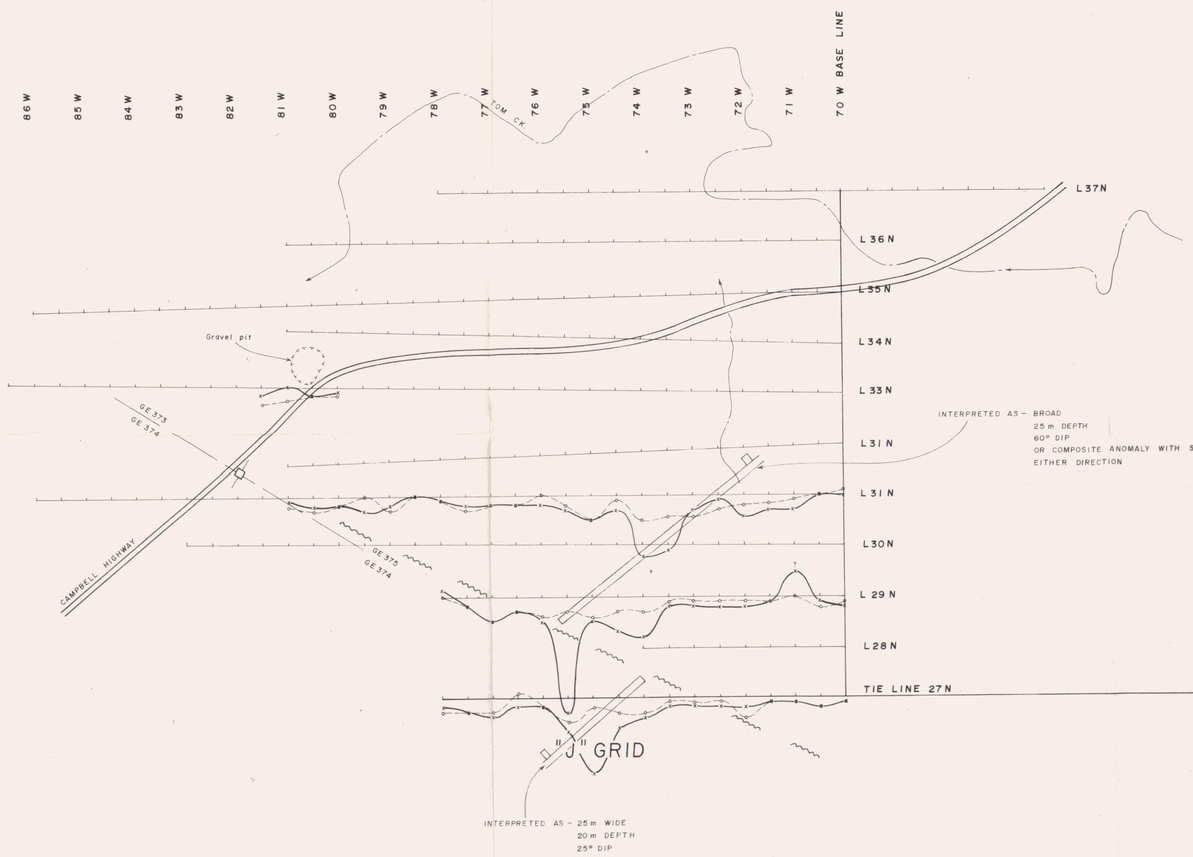
"J" & "K" GRIDS

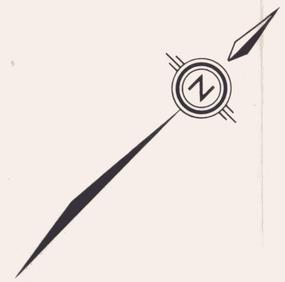
SOIL GEOCHEMISTRY
Cu, Ag, Au

SCALE - 1 : 5000

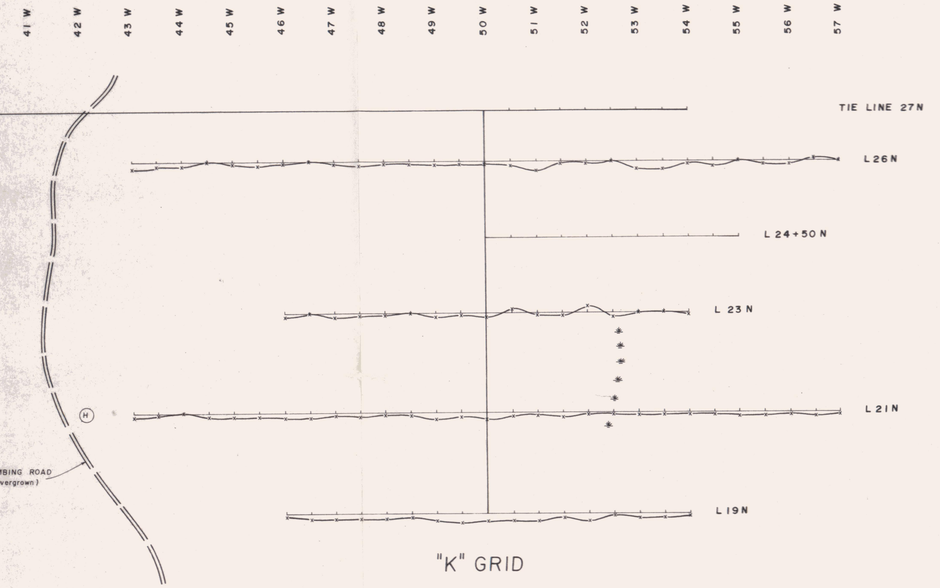
Survey date - Aug, 1982	Surveyed by -
Instrument -	Revised -
Drawn by - P. Hallbal, D. Arscott	Date - Sept. - Oct. 1982
NTS - 105 A - 6E, 7W	MAP No.

091396









LEGEND

- INTERMEDIATE FREQUENCY - 1830 Hz
- LOW FREQUENCY - 390 Hz
- CONDUCTOR TRENDS
- OTHER TRENDS

LOOP SEPARATION - 50m
VERTICAL SCALE RESULTANT ANGLES IN DEGREES
+5°
0°
-5°

FIG. 14d

0 50 100 200 300
METRES

KERR ADDISON MINES LTD
KENT PROJECT
YUKON TERRITORY

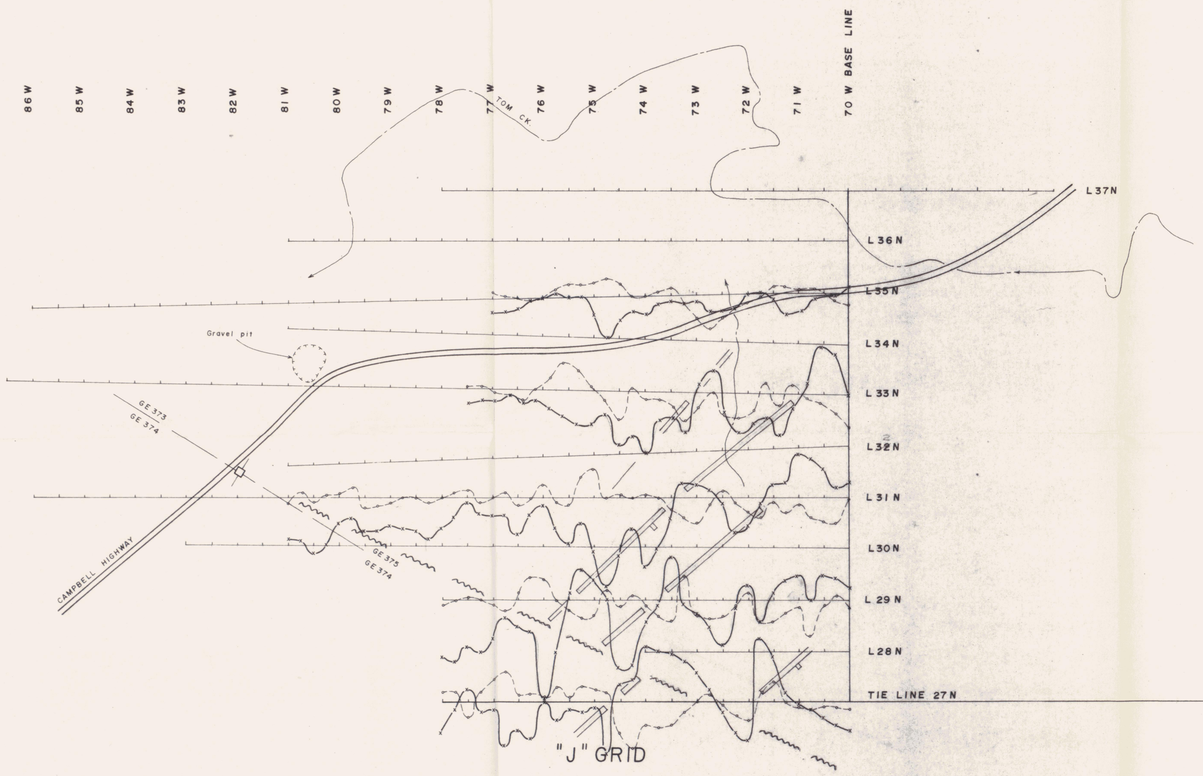
"J" & "K" GRIDS

SHOOTBACK E.M.

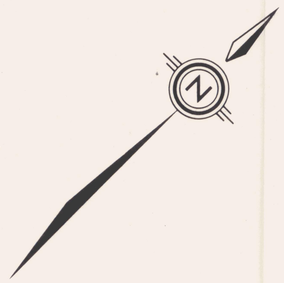
SCALE - 1 : 5000

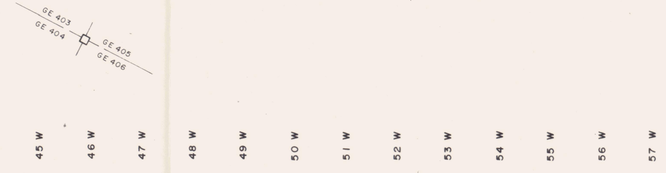
Survey date - Aug., 1982	Surveyed by -
Instrument - CEM	Revised -
Drawn by - K. Hallat, J. Arnell	Date - Sept.-Oct., 1982
NTS - 105 A-6E, 7W	MAP No.

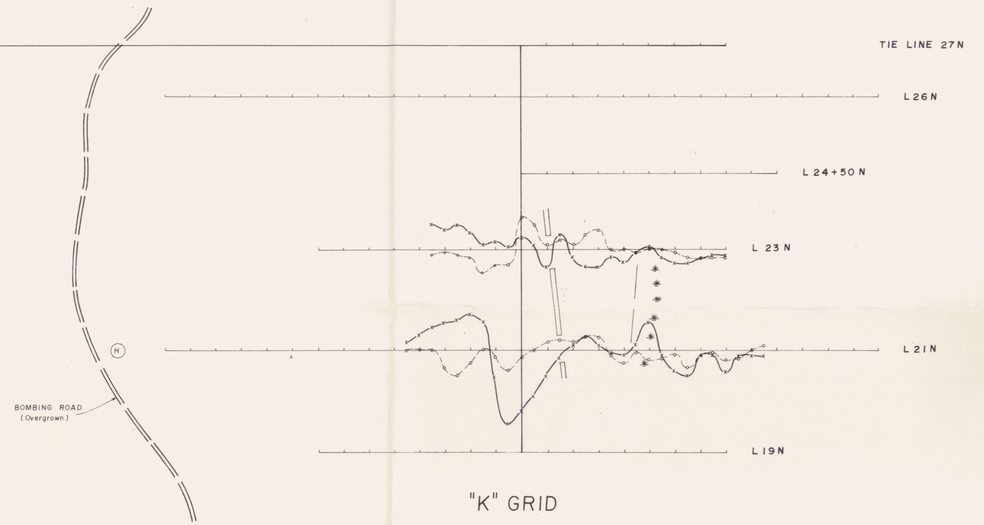
091396



"J" GRID







"K" GRID

LEGEND

- IN PHASE
- QUADRATURE
- CONDUCTOR TRENDS
- OTHER TRENDS
- TRANSMITTER – SEATTLE
- VERTICAL SCALE IN PERCENT
  - +10%
  - 0%
  - -10%

Facing direction

Seattle

FIG. 14e

0 50 100 200 300
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

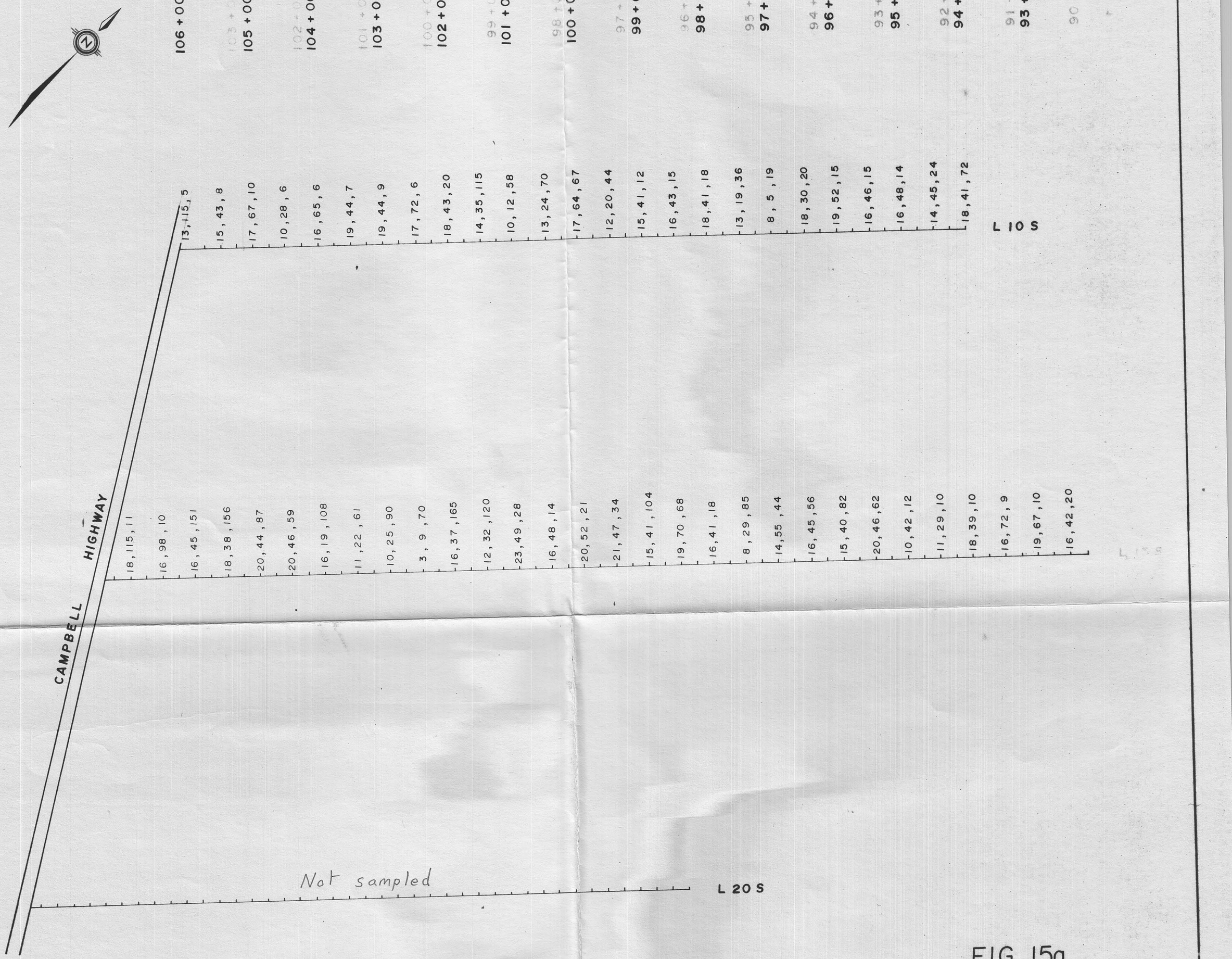
"J" & "K" GRIDS

VLF - E.M. SURVEY

SCALE - 1 : 5000

Survey date – Aug., 1982	Surveyed by –
Instrument – EM-16 (unit 54)	Revised –
Drawn by – P. Hallof, D. Arnell	Date – Sept.-Oct., 1982
NTS – 105 A-6E, 7W	MAP No.

091896



LEGEND

16,19,108	Pb (ppm), Zn (ppm), Ba (ppm)
≥ 25	Pb anomalous value
≥ 150	Zn " "
≥ 170	Ba " "

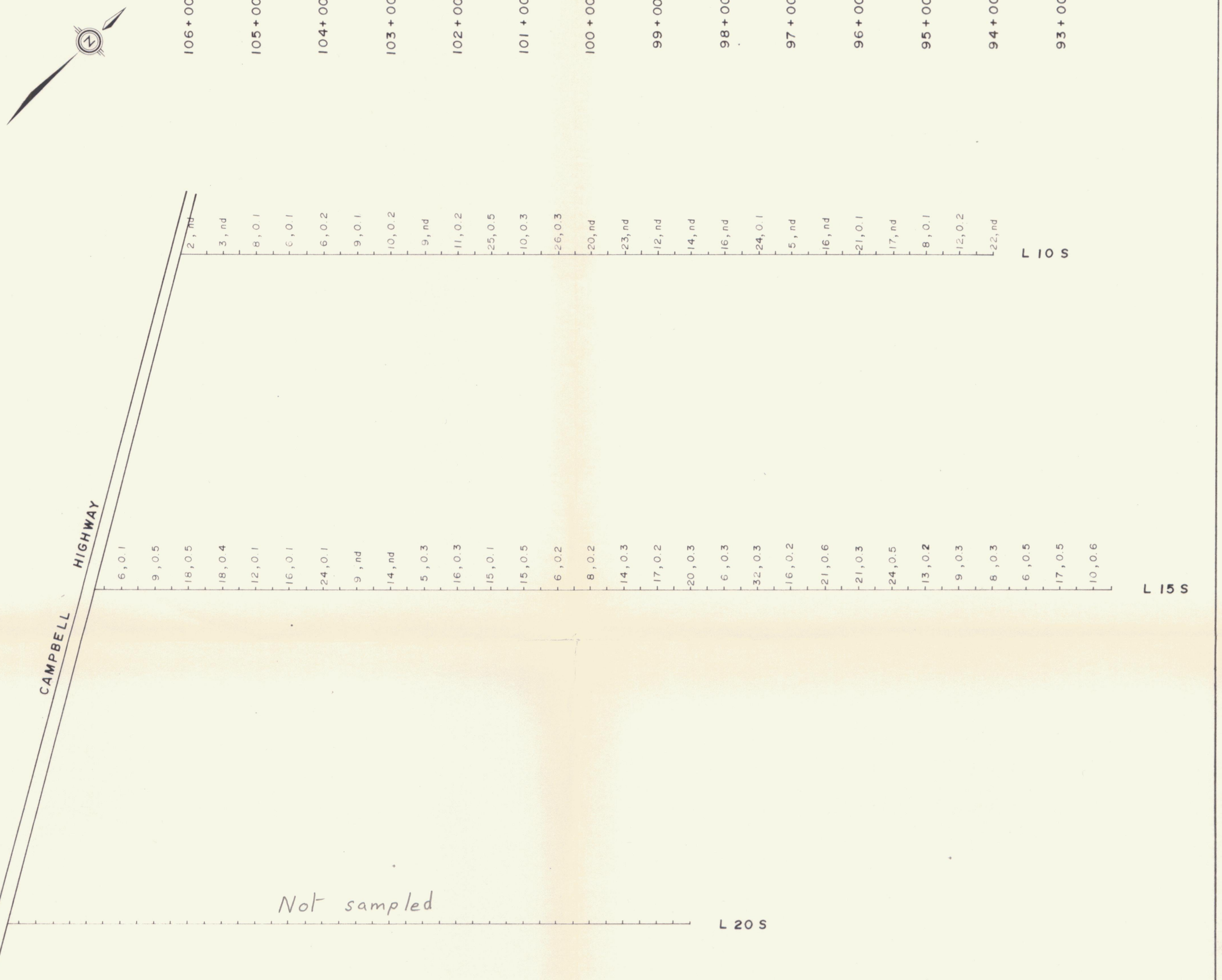
FIG. 15a

0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD	
KENT PROJECT YUKON TERRITORY	
"L" GRID	
SOIL GEOCHEMISTRY Pb, Zn, Ba	
SCALE - 1:5000	
Survey date - Aug., 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P. Haillot, D. Arscott	Date - Sept.-Oct., 1982
NTS - 105 A	MAP No.

091396



LEGEND

16, 0.3	Cu (ppm), Ag (ppm)
≥ 40	Cu anomalous value
≥ 1.0	Ag " "

FIG. 15b

0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

"L" GRID

SOIL GEOCHEMISTRY
Cu, Ag

SCALE - 1 : 5000

Survey date - Aug., 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P Haillot, D. Arscott	Date - Sept. - Oct., 1982
NTS - 105 A	MAP No.

091396

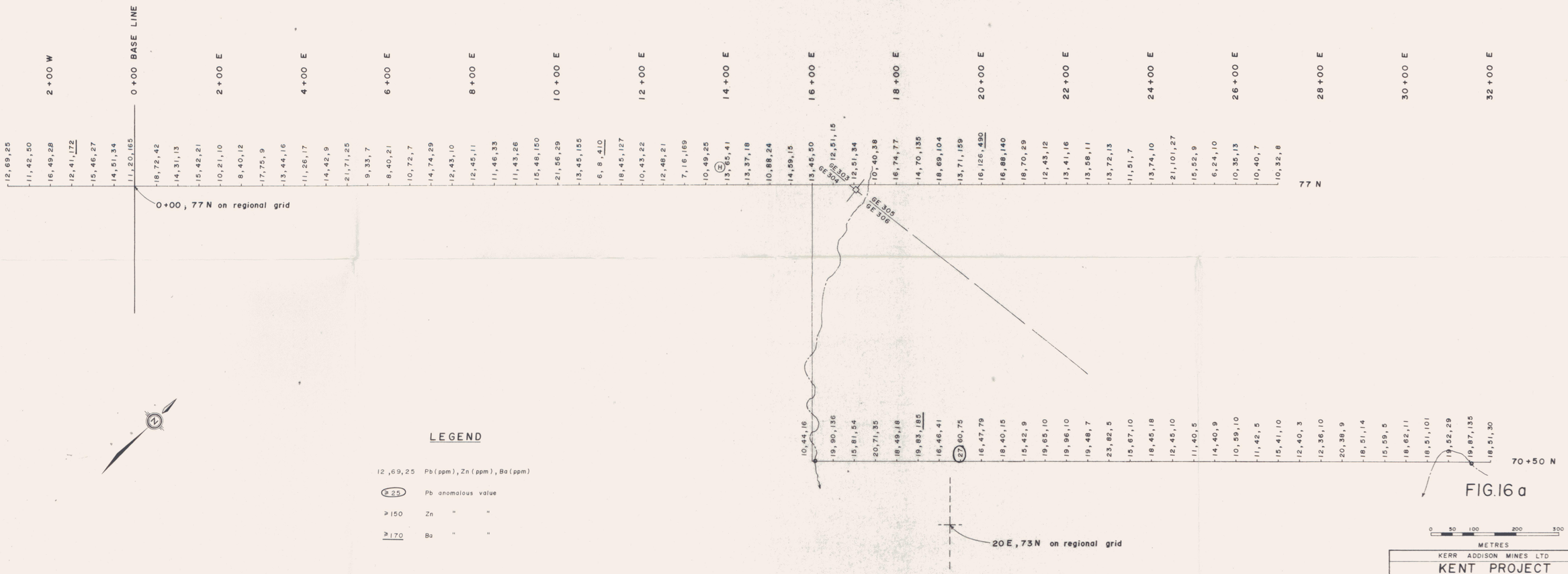


FIG.16 a

LEGEND

12,69,25 — Pb (ppm), Zn (ppm), Ba (ppm)

(≥25) — Pb anomalous value

≥150 — Zn " "

≥170 — Ba " "

0 50 100 200 300
METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

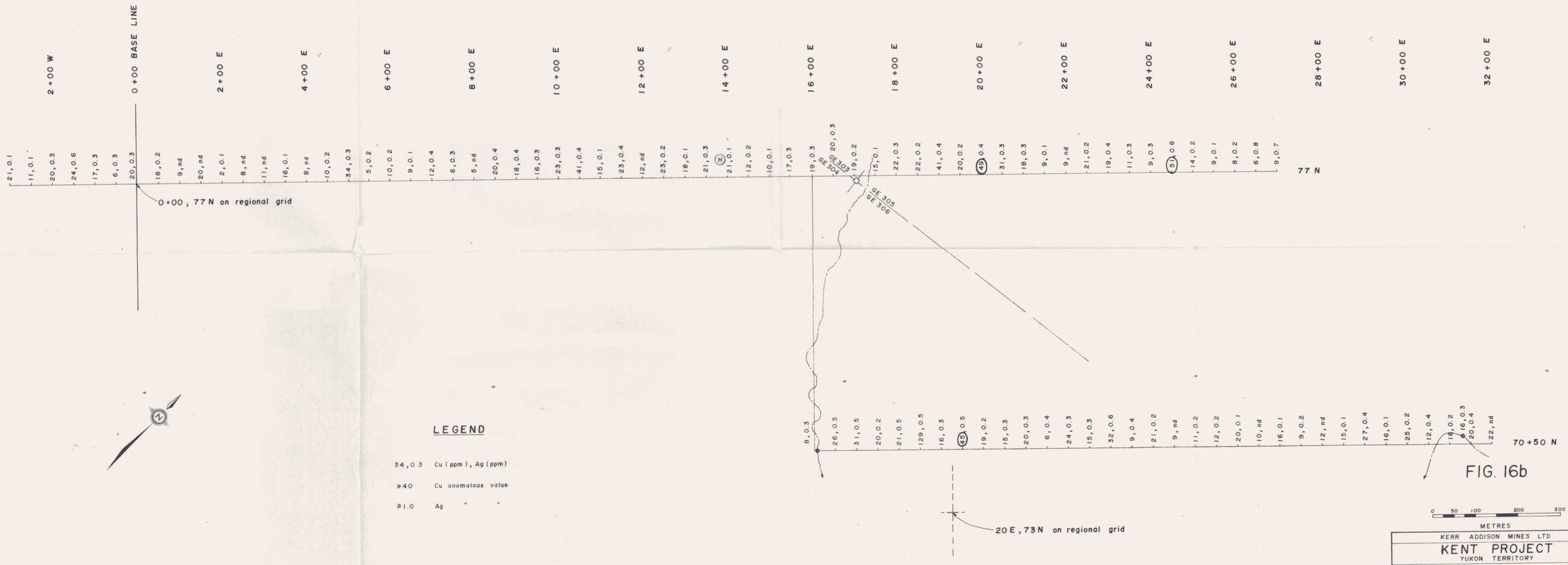
"M" GRID

SOIL GEOCHEMISTRY
Pb, Zn, Ba

SCALE - 1:5000

Survey date - Aug., 1982	Surveyed by -
Instrument -	Revised -
Drawn by - P. Hallot, J. Arscott	Date - Sept - Oct., 1982
NTS - 105 A	MAP No.

001396



LEGEND

34, 0.3 Cu (ppm), Ag (ppm)

≥40 Cu anomalous value

≥1.0 Ag " "

FIG. 16b

0 50 100 200 300

METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

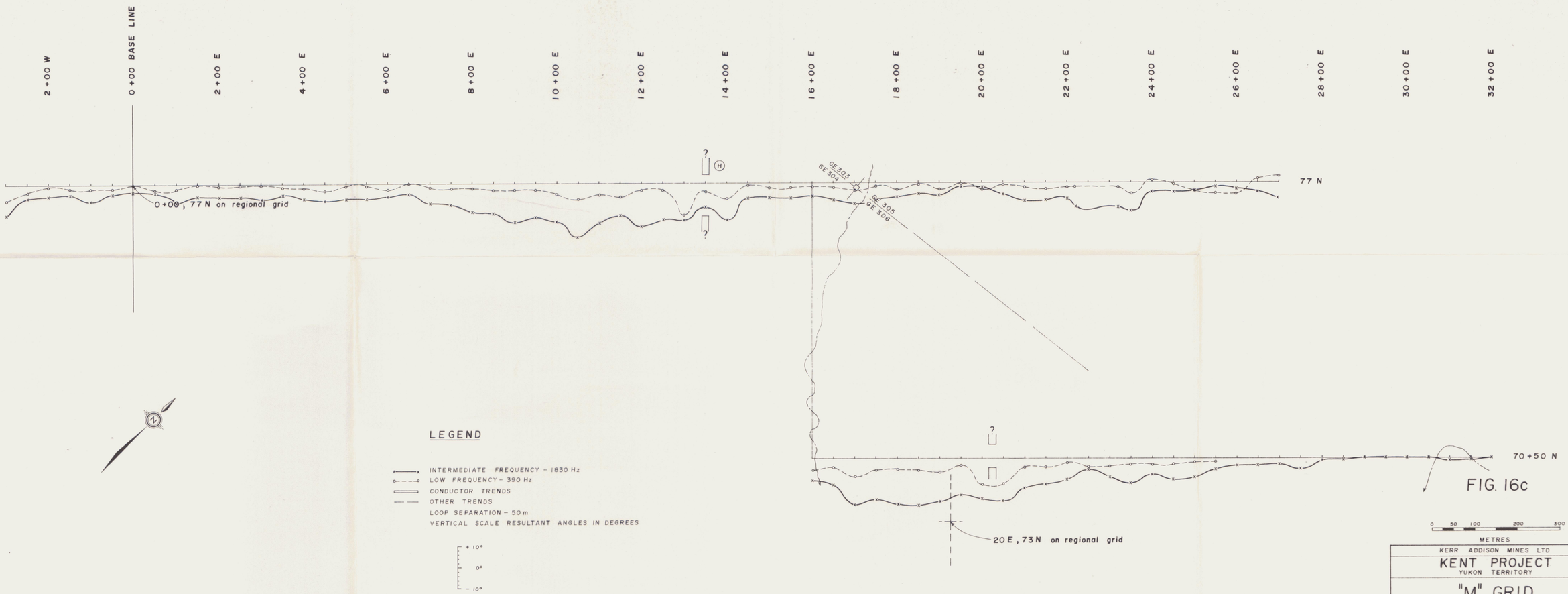
"M" GRID

SOIL GEOCHEMISTRY
Cu, Ag

SCALE - 1:5000

Survey date - Aug., 1982	Surveyed by -
Instrument -	Revised -
Drawn by - P. Haillot, D. Arnold	Date - Sept. - Oct., 1982
NTS - 105 A	MAP No.

091396



LEGEND

INTERMEDIATE FREQUENCY – 1830 Hz
LOW FREQUENCY – 390 Hz
CONDUCTOR TRENDS
OTHER TRENDS
LOOP SEPARATION – 50 m
VERTICAL SCALE RESULTANT ANGLES IN DEGREES

+ 10°
0°
– 10°

FIG. 16c

0 50 100 200 300
METRES

KERR ADDISON MINES LTD
KENT PROJECT
YUKON TERRITORY

"M" GRID

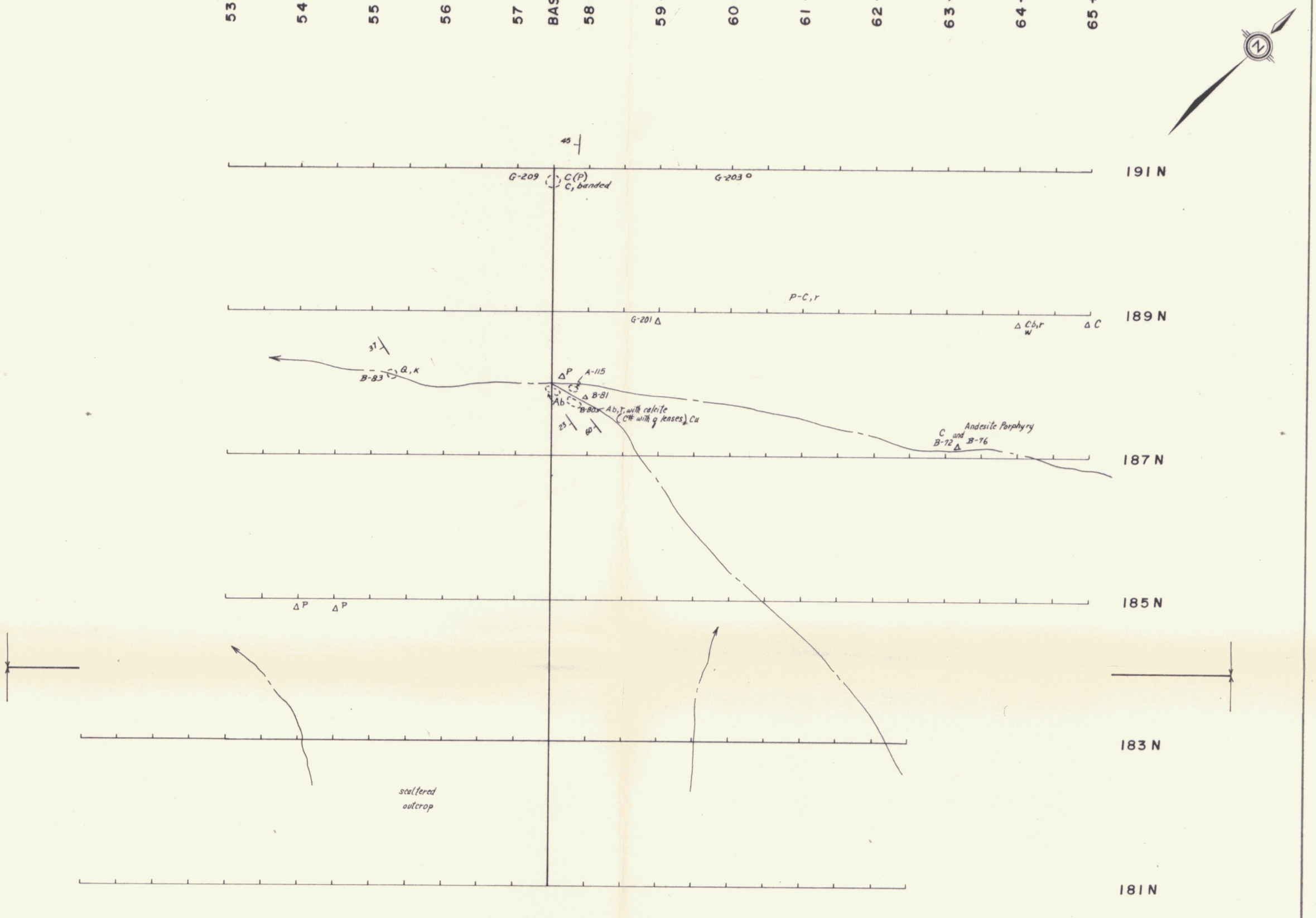
SHOOTBACK E.M.

SCALE – 1:5000

Survey date – Aug., 1982	Surveyed by –
Instrument – C.E.M.	Revised –
Drawn by – P. Haillot, D. Kenny	Date. – Sept. - Oct., 1982
NTS – 105 A	MAP No.

091396

53+00 E | 54+00 E | 55+00 E | 56+00 E | 57+00 E | BASE LINE | 58+00 E | 59+00 E | 60+00 E | 61+00 E | 62+00 E | 63+00 E | 64+00 E | 65+00 E ← EASTINGS FOR LINES 185 N TO 191 N



44+00 E | 45+00 E | 46+00 E | 47+00 E | 48+00 E | 49+00 E | 50+00 E | 51+00 E | 52+00 E | 53+00 E | 54+00 E | 55+00 E ← EASTINGS FOR LINES 181 N AND 183 N

LEGEND

ROCK TYPES.

- C — Chert
- P — Phyllite
- W — Greywacke

- Δ — Angular float on surface or in soil.
- ◌ — Outcrop
- 45/ — Bedding, Dip

SUFFIXES

- q — Quartz
- r — Rusty
- b — Black
- k — Blocky
- # — Breccia

FIG. 17a

0 50 100 200 300 400
METRES

091396

KERR ADDISON MINES LTD

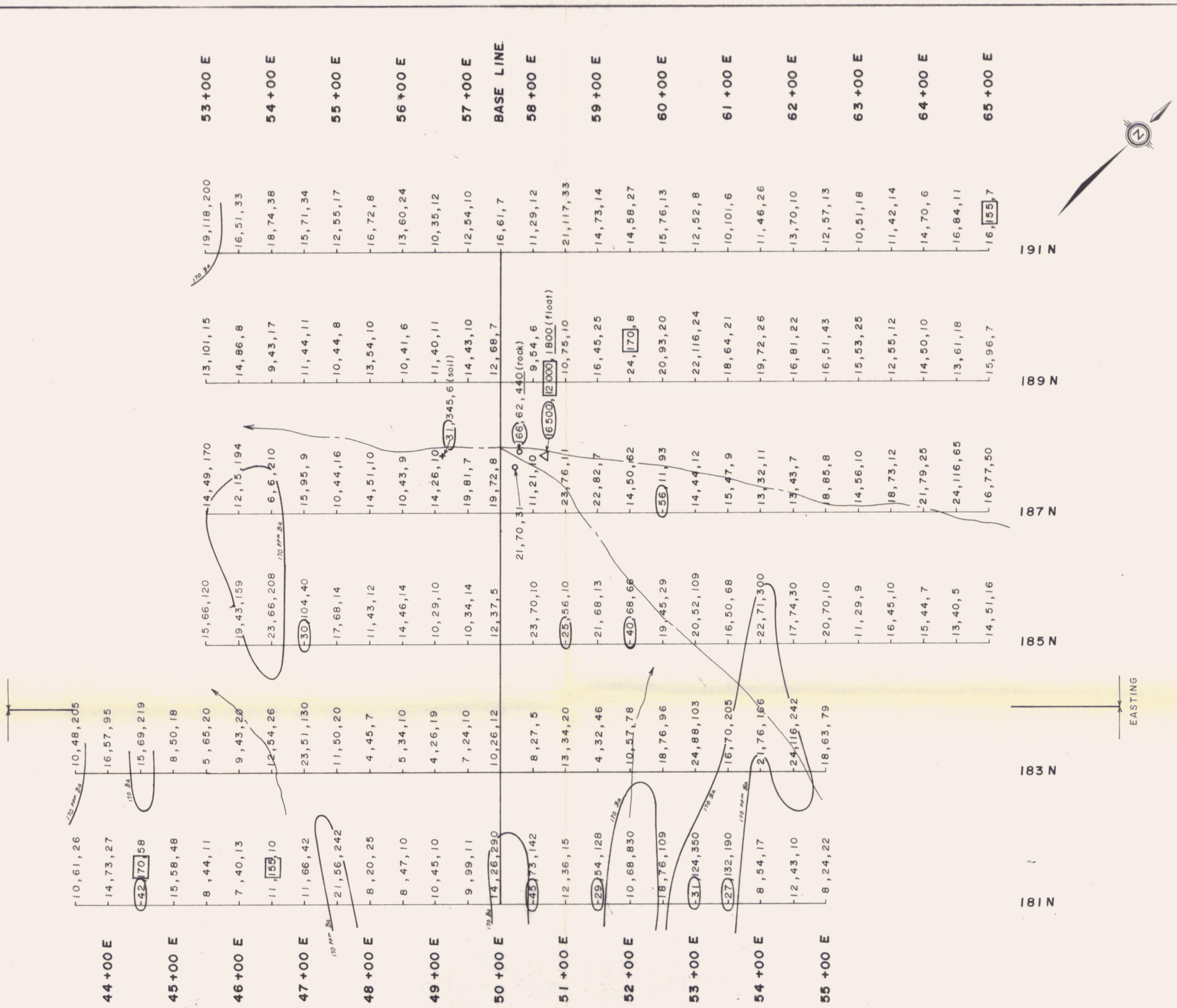
KENT PROJECT
YUKON TERRITORY

"N" GRID

GEOLOGY

SCALE - 1:5000

Survey date - Aug., 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P. Haillot	Date - Oct., 1982
NTS - 105 A-7 W	MAP No.



LEGEND

15,66,120 Pb (ppm), Zn (ppm), Ba (ppm)

(≥50) Pb anomalous value

[≥150] Zn " "

≥170 Ba " " (contoured)

FIG. 17b

0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

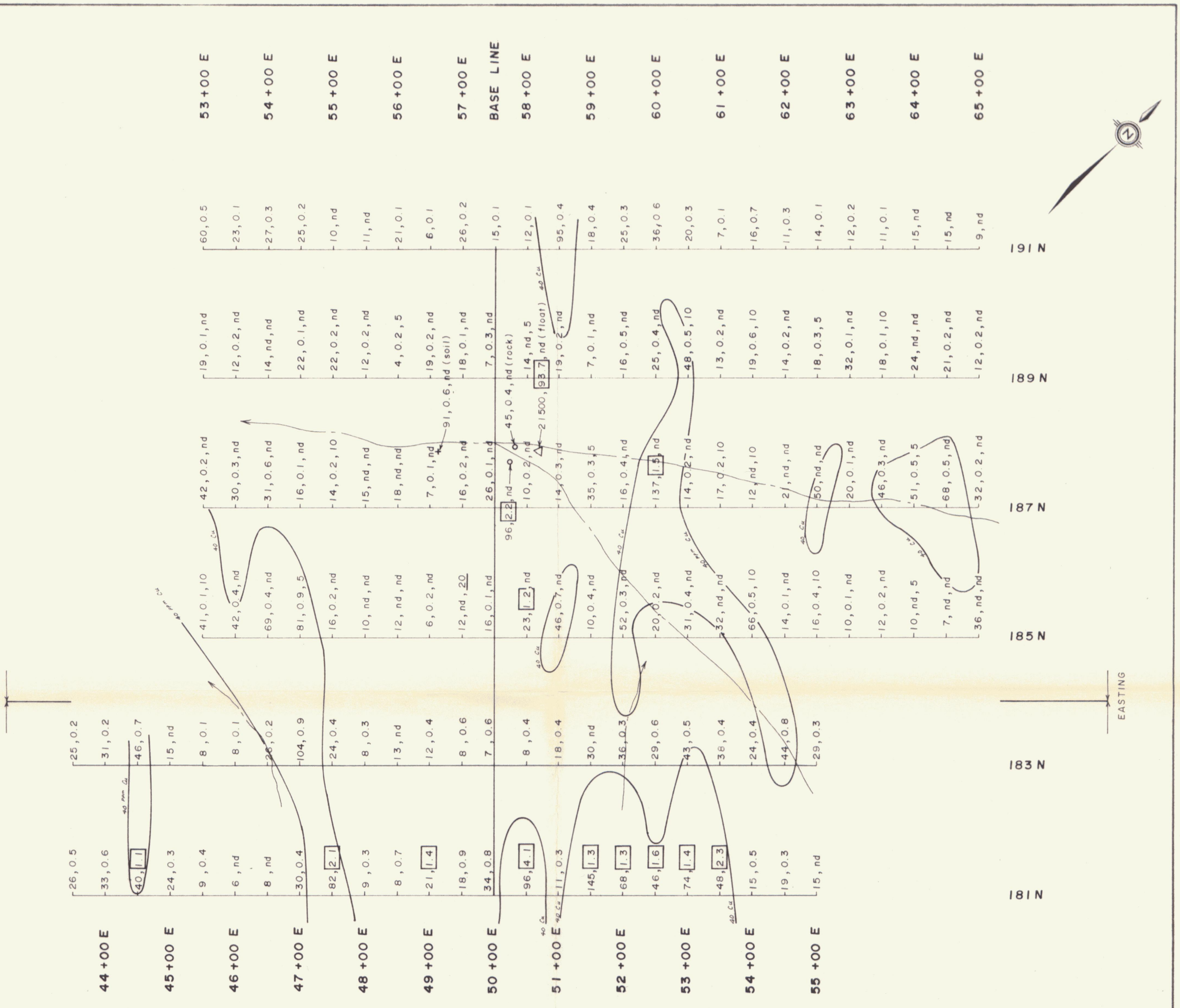
"N" GRID

SOIL GEOCHEMISTRY
Pb, Zn, Ba

SCALE - 1:5000

Survey date - Aug., 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P. Haillot	Date - Oct., 1982
NTS - 105 A-7W	MAP No.

091396



LEGEND

41,0.1,10 Cu (ppm), Ag (ppm), Au (ppb)

≥40 Cu anomalous value (contoured)

≥1.0 Ag " "

≥20 Au " "

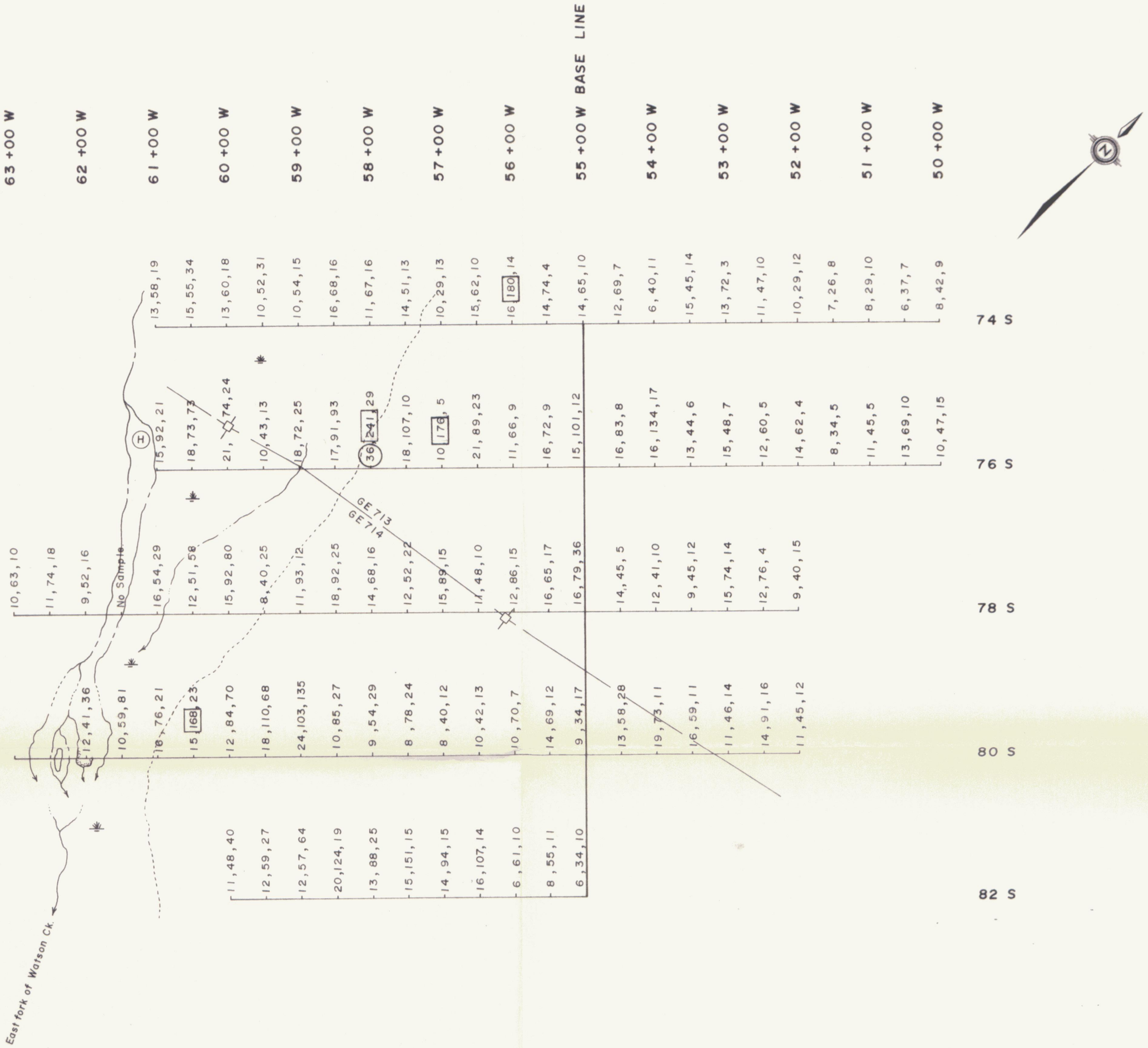
FIG. 17c

0 50 100 200 300 400

METRES

091396

KERR ADDISON MINES LTD	
KENT PROJECT YUKON TERRITORY	
"N" GRID	
SOIL GEOCHEMISTRY Cu, Ag, Au	
SCALE - 1:5000	
Survey date - Aug., 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P. Haillot	Date - Oct., 1982
NTS - 105 A-7W	MAP No.



LEGEND

- STREAM
- CLAIM POST AND LINE
- OLD BLAZED TRAIL
- (H) WILL THOMPSON COMMEMORATIVE AIRFIELD

15,92,80 Pb (ppm), Zn (ppm), Ba (ppm)

> 25 Pb anomalous value

> 150 Zn " "

> 170 Ba " "

FIG. 18a

0 50 100 200 300 400

METRES

KERR ADDISON MINES LTD	
KENT PROJECT YUKON TERRITORY	
"P" GRID	
SOIL GEOCHEMISTRY Pb, Zn, Ba	
SCALE - 1 : 5000	
Survey date - Aug., 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P Haillot	Date - Oct., 1982
NTS - 105 A-2W	MAP No.

091396



LEGEND

- STREAM
- CLAIM POST AND LINE
- OLD BLAZED TRAIL
- (H) WILL THOMPSON COMMEMORATIVE AIRFIELD
- 16,0.2 Cu (ppm), Ag (ppm), Au not assayed
- ≥40 Cu anomalous value
- ≥1.0 Ag " "

FIG. 18b

0 50 100 200 300 400

METRES

091396

KERR ADDISON MINES LTD

KENT PROJECT
YUKON TERRITORY

"P" GRID

SOIL GEOCHEMISTRY
Cu, Ag, Au

SCALE - 1:5000

Survey date - Aug., 1982	Surveyed by -
Instruments -	Revised -
Drawn by - P Haillot	Date - Oct., 1982
NTS - 105 A-2W	MAP No.

63 +00 W
62 +00 W
61 +00 W
60 +00 W
59 +00 W
58 +00 W
57 +00 W
56 +00 W
55 +00 W BASE LINE
54 +00 W
53 +00 W
52 +00 W
51 +00 W
50 +00 W

74 S
76 S
78 S
80 S
82 S

GE 713
GE 714

East fork of Watson Ck.

LEGEND

- STREAM
- CLAIM POST AND LINE
- OLD BLAZED TRAIL
- (H) WILL THOMPSON COMMEMORATIVE AIRFIELD
- INTERMEDIATE FREQUENCY - 1830 Hz
- LOW FREQUENCY - 390 Hz
- LOOP SEPARATION - 50 m
- VERTICAL SCALE RESULTANT ANGLES IN DEGREES

+ 5°
0°
- 5°

FIG. 18c

0 50 100 200 300 400
METRES

091396

KERR ADDISON MINES LTD

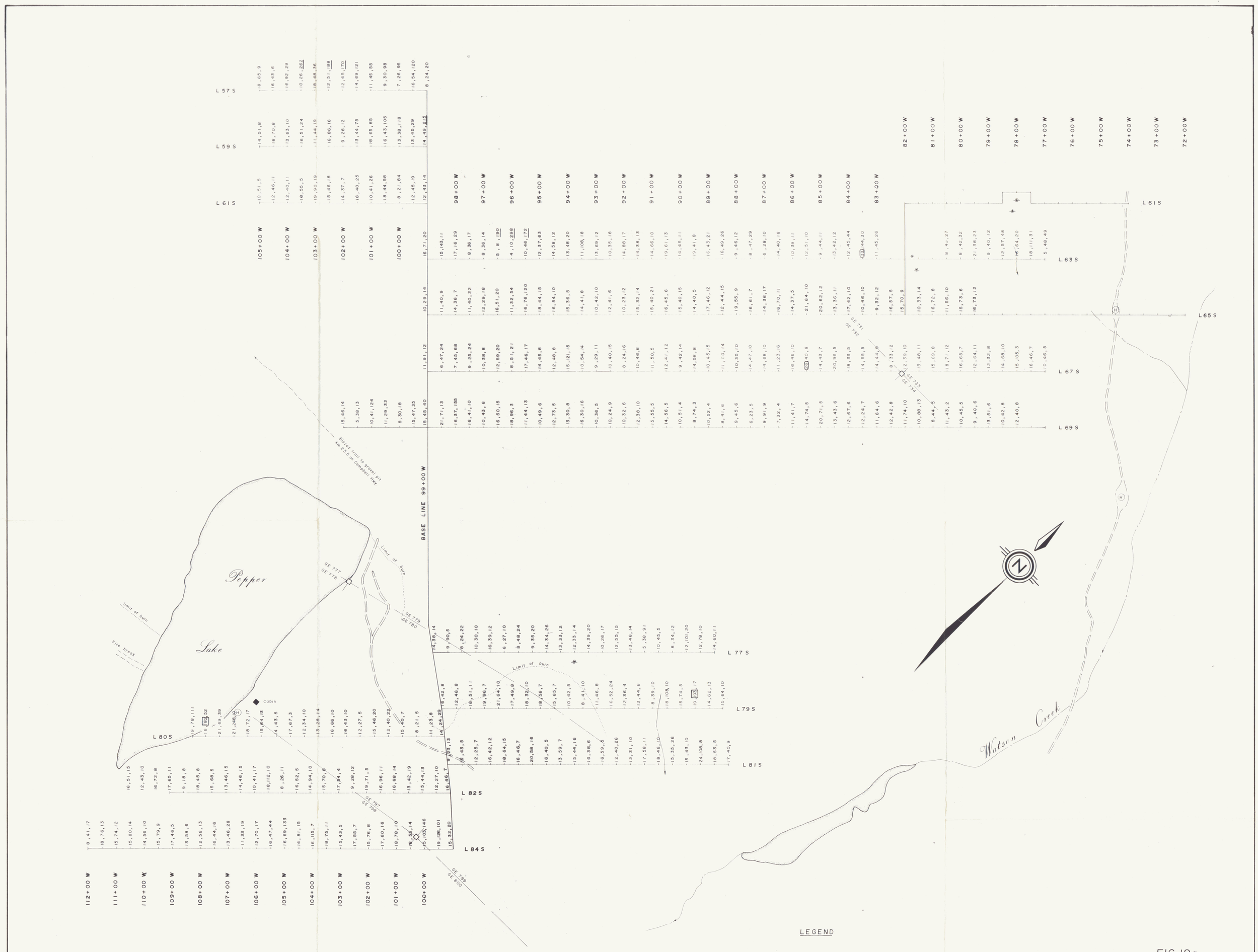
KENT PROJECT
YUKON TERRITORY

"P" GRID

SHOOTBACK E.M.

SCALE - 1 : 5000

Survey date - Aug., 1982	Surveyed by -
Instruments - C.E.M.	Revised -
Drawn by - P. Haillot	Date - Oct., 1982
NTS - 105 A-2W	MAP No.



LEGEND

18,55,12 Pb (ppm), Zn (ppm), Ba (ppm)

>25 Pb anomalous value

>150 Zn " "

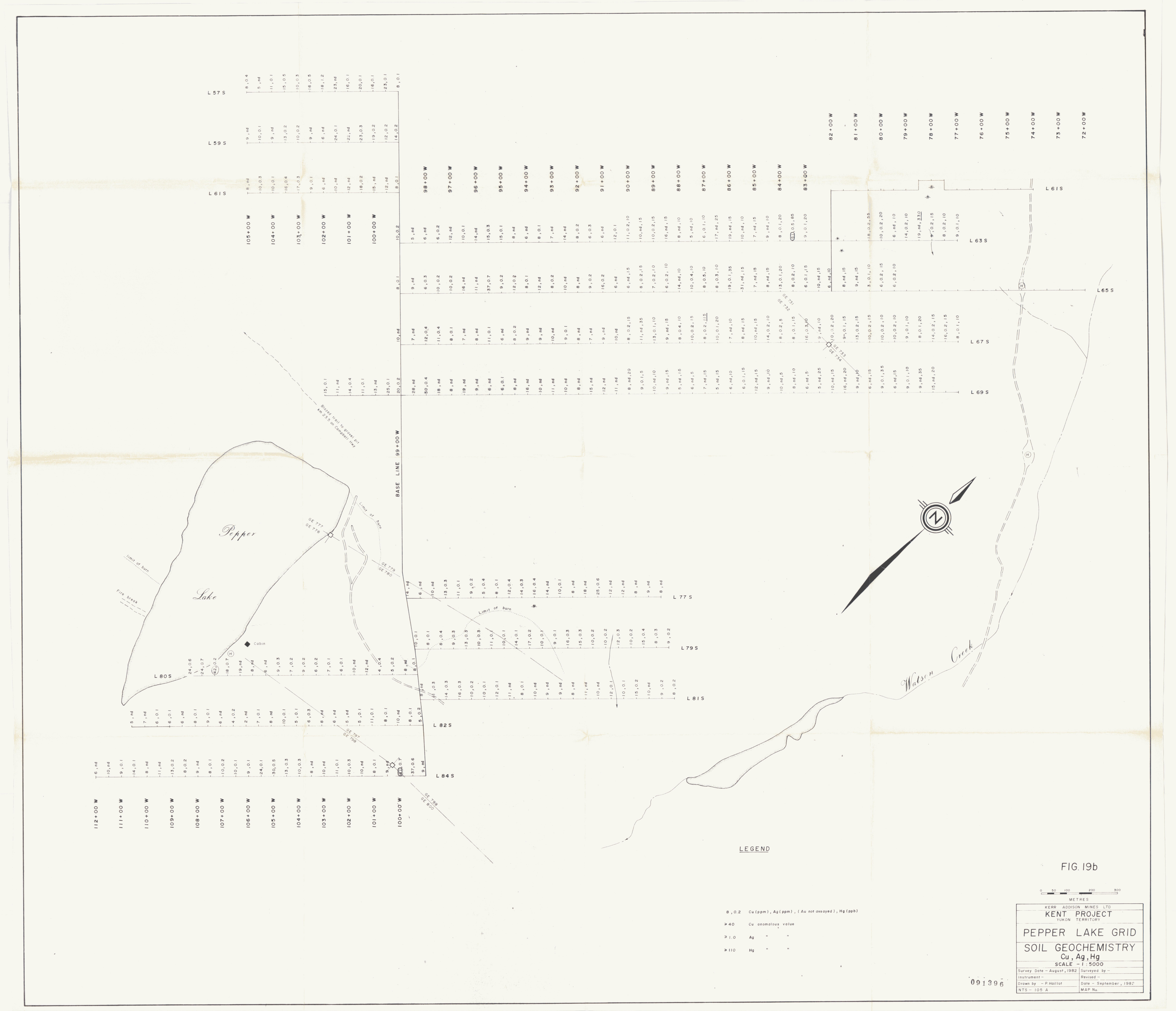
>170 Ba " "

FIG. 19a

0 50 100 200 300 400 METRES

KERR ADDISON MINES LTD	
KENT PROJECT YUKON TERRITORY	
PEPPER LAKE GRID	
SOIL GEOCHEMISTRY Pb, Zn, Ba	
SCALE - 1:5000	
Survey Date - August, 1982	Surveyed by -
Instrument -	Revised -
Drawn by - P. Hallot	Date - September, 1982
NTS - 105 A	MAP No.

091396



LEGEND

8 , 0.2 Cu (ppm), Ag (ppm), (Au not assayed), Hg (ppb)

⩾ 40 Cu anomalous value

⩾ 1.0 Ag " "

⩾ 110 Hg " "

FIG. 19b

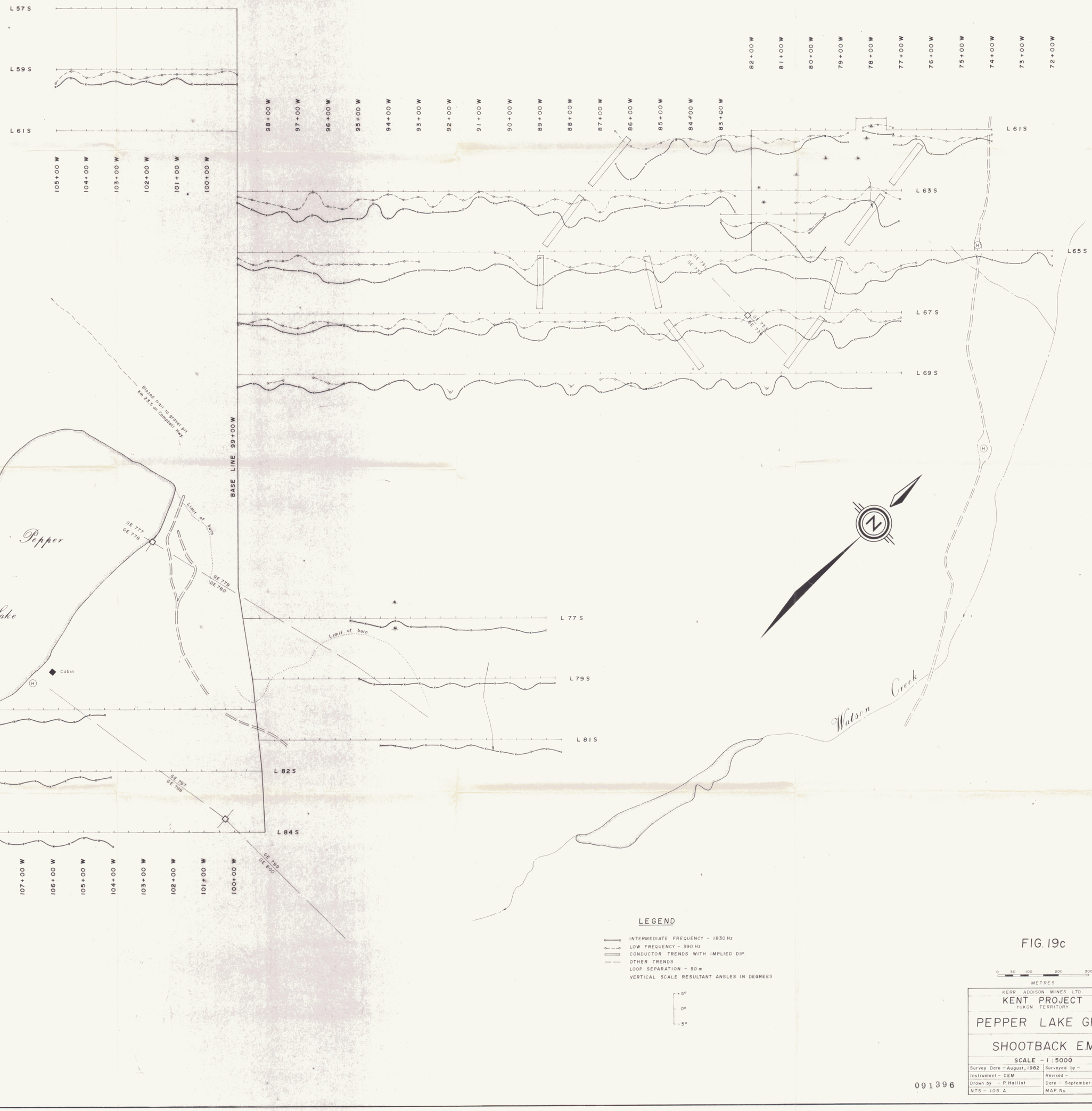
0 50 100 200 300
METRES

KERR ADDISON MINES LTD
KENT PROJECT
YUKON TERRITORY

PEPPER LAKE GRID
SOIL GEOCHEMISTRY
Cu, Ag, Hg
SCALE - 1 : 5000

Survey Date - August, 1982	Surveyed by -
Instrument -	Revised -
Drawn by - P. Hallot	Date - September, 1982
NTS - 105 A	MAP No.

091396



LEGEND

- INTERMEDIATE FREQUENCY – 1830 Hz
- LOW FREQUENCY – 390 Hz
- CONDUCTOR TRENDS WITH IMPLIED DIP.
- OTHER TRENDS
- LOOP SEPARATION – 50 m
- VERTICAL SCALE RESULTANT ANGLES IN DEGREES

+5°
0°
-5°

FIG. 19c

0 50 100 200 300
METRES

KERR ADDISON MINES LTD
KENT PROJECT
YUKON TERRITORY

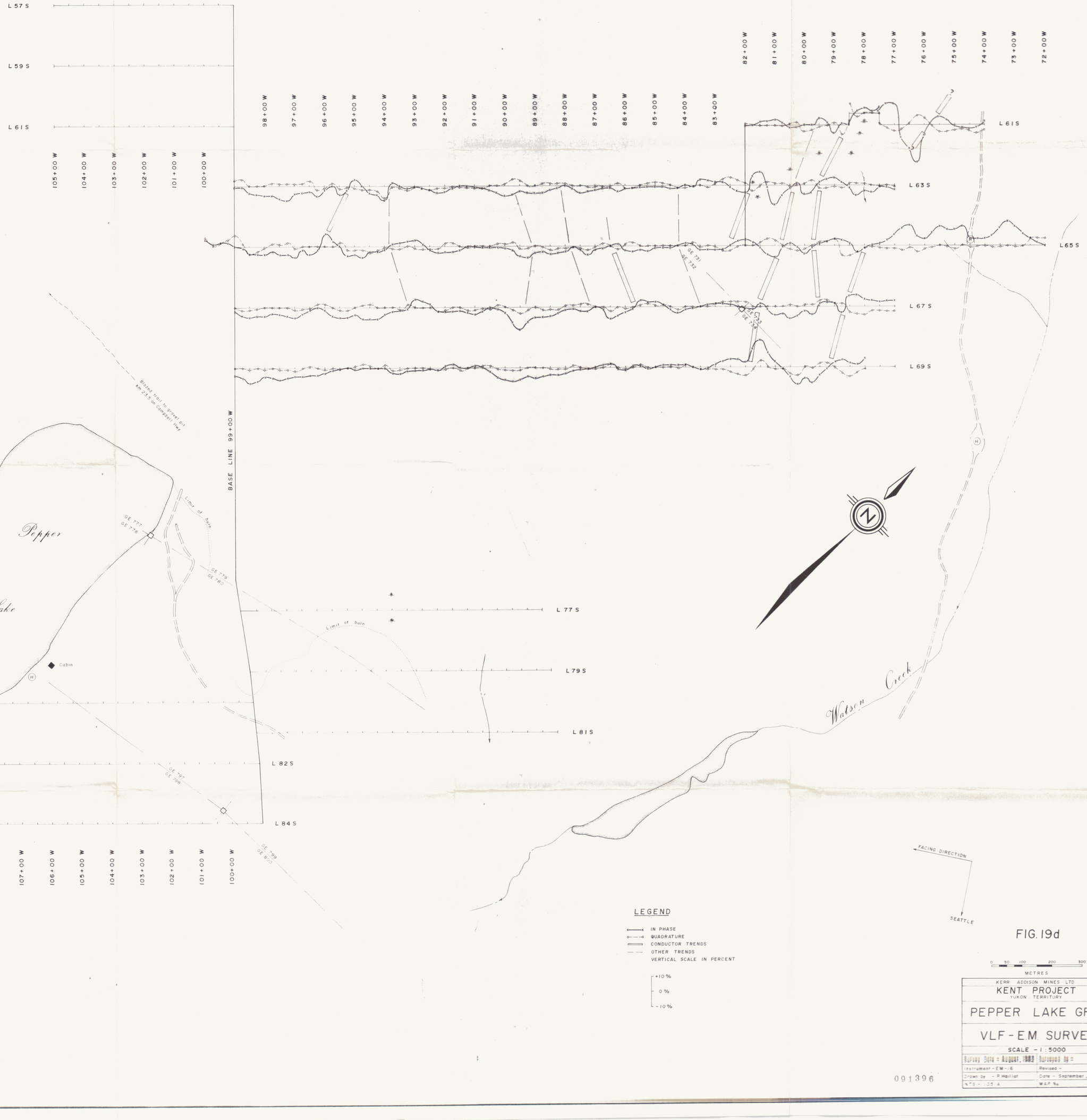
PEPPER LAKE GRID

SHOOTBACK E.M.

SCALE – 1 : 5000

Survey Date – August, 1982	Surveyed by –
Instrument – CEM	Revised –
Drawn by – P. Haillot	Date – September, 1982
NTS – 105 A	MAP No.

091396



LEGEND

- IN PHASE
- QUADRATURE
- CONDUCTOR TRENDS
- OTHER TRENDS

VERTICAL SCALE IN PERCENT

+10 %
0 %
-10 %

FIG. 19d

0 50 100 200 300
METRES

KERR ADDISON MINES LTD.
KENT PROJECT
YUKON TERRITORY

PEPPER LAKE GRID

VLF - E.M. SURVEY

SCALE - 1 : 5000

Survey Date - August, 1982	Surveyed by -
Instrument - EM-16	Revised -
Drawn by - P. Hamilton	Date - September, 1982
N.T.S. - 105 A	W.P. No.

091396

RECEIVED
MINING RECORDER
WATSON LAKE, Y.T.
I.A. & N.D.

KERR ADDISON MINES LTD.

KENT PROJECT

YUKON TERRITORY

Office of the Regional Manager Mineral Rights
NOV 19 1982
Yukon Territory

GRAVITY SURVEY

AGER, BERRETTA & ELLIS INC.

1982 (Sept.)

001206

AGER, BERRETTA & ELLIS INC.

Telephone: (604) 669-7748
CONSULTING
GEOPHYSICISTS
606 - 595 Howe Street
Vancouver, B.C., Canada
V6C 2T5

SUMMARY

Gravity surveys have been completed over sections of seven grids on the Kent Project property, Yukon Territory. Data analysis and profile and contour plots are included in this report. Recommendations have been made including further work on some of the grids. Results of the follow-up program will determine whether or not there are any high priority drill targets.

Respectfully submitted,

Gordon Ellis

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GRAVITY PROFILES

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GRAVITY CONTOUR MAPS

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12	M Grid	"
13	Pepper	"

KENT PROJECT

At the request of Kerr Addison Mines Ltd., Ager, Berretta & Ellis Inc. have completed gravity surveys over parts of seven grids on the Kent Project, Yukon Territories (Figure 1). The object of the surveys was to determine the possibility of any excess mass which might be associated with massive sulphides.

SURVEY PROCEDURES AND EQUIPMENT

The survey area is approximately 15 kilometres north of Watson Lake along the Campbell Highway (Figure 2). Crews stayed in Watson Lake and commuted to and from the property daily. Field work was conducted between August 3 and 13 and again September 5 and 6.

Elevations were obtained through the use of optical levels and an electronic level developed in-house by the consultant. Standard levelling and survey closure methods were used. Station elevations were calculated to within a relative accuracy of $\pm$0.10 feet. Elevation datum was estimated from contour maps of the area.

Gravity observations were made using a LaCoste & Romberg Model G gravity meter (serial no. 199) with a reading accuracy of $\pm$0.01 milligals. Instrument and diurnal drift were accounted for by tying into a base station established off the north corner of four posts 30 metres east of the Watson Lake Hotel. All data was tied to the national grid network stations at Watson Lake Airport.

Preliminary data reduction was completed and Simple Bouguer profiles were produced on site using portable field computers. Gravity profiles (Figures 3 through 8) and gravity contour maps (Figure 9 through 13) are included herein.

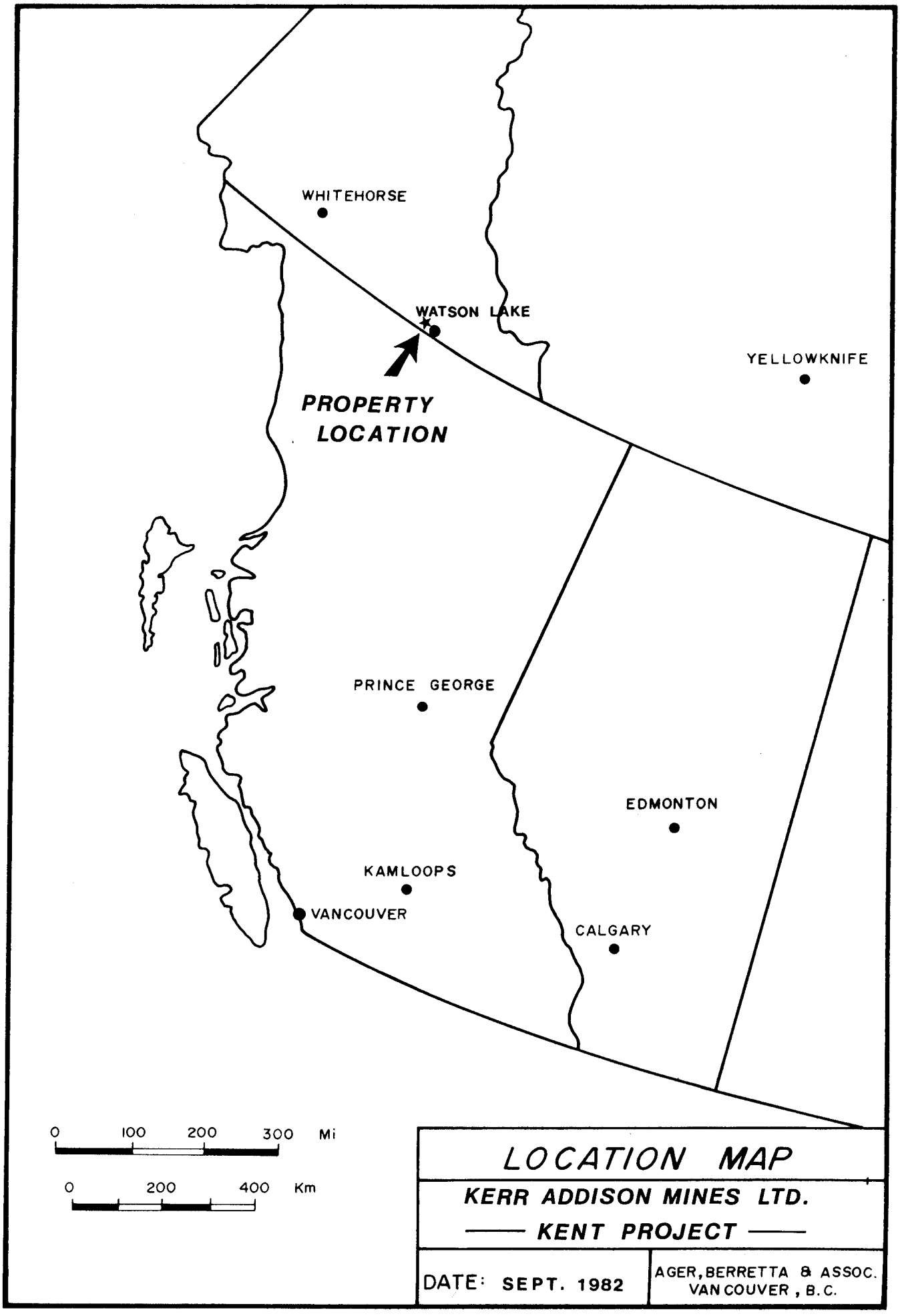

WHITEHORSE
WATSON LAKE
YELLOWKNIFE
PROPERTY
LOCATION
PRINCE GEORGE
EDMONTON
KAMLOOPS
VANCOUVER
CALGARY
0 100 200 300 Mi
0 200 400 Km
LOCATION MAP
KERR ADDISON MINES LTD.
KENT PROJECT
DATE: SEPT. 1982
AGER, BERRETTA & ASSOC.
VANCOUVER, B.C.

FIGURE 1

GRID DATA

Grid Name	Lines Surveyed	Station Limits
A	83N	16W - 26W
I	10N	0 - 15W
I	2S	12W - 24W
I	12W	2S - 10N
J	37N	66W - 79W
K	21N	43W - 57W
K	26N	43W - 57W
K	50W	21N - 26N
L	10S	94W - 106W
L	15S	84W - 107W
L	20S	98W - 108W
M	70N	27E - 3W
M	77N	32E - 16E
M	16E	70N - 77N
Pepper	61S	74W - 82W
"	65S	72W - 99W
"	69S	78W - 99W
"	82W	60S - 69S

DATA REDUCTION

Each grid has been treated as an individual survey area. For each grid, gravity-elevation correlation analysis have been carried out in order to determine the most applicable elevation correction factor. The final profiles and contour maps are plotted using the densities so determined. In addition, each anomalous profile has been computer plotted at densities ranging from approximately 2.0 grams per cc to over 3.0 grams per cc. In this manner, it is possible to eliminate anomalies related to topography.

INTERPRETATION

The proximity of the Liard and Frances Rivers and the existence of large areas of alluvial material suggest the possibilities of variable bedrock topography and buried channels as sources of gravity anomalies. The grids are discussed individually below:

'A' (Line 83N), (Figure 3)

A 4.5 milligal gradient. Suggests a steep fault or buried cliff. Response is similar to 'L' grid described below. Stratigraphically interesting but economically not a massive sulphide target.

'I' (Lines 10N, 2S, 12W), (Figure 4)

Lines 10N and 2S contain no significant features. An anomaly in the order of 0.5 milligals is centered at 2N on 12W. There is no indication of this response on either 10N or 2S suggesting that the source trends approximately at right angles to line 12W. The fact that the local stratigraphy trends at right angles to the apparent anomaly supports the hypothesis that the anomaly source is variations in depth of overburden.

'J' (37 N), (Figure 3)

The gradual gradient in this line contains no significant features.

'K' (21N, 26N, 50W), (Figure 5)

Lines 21 and 26 contain westerly rising gradients similar to 37 north. A residual anomaly of approximately 0.7 milligals centered at 46W on 26 north remains independent of the elevation correction factor applied. This feature is representative of bedrock topography or a relatively small excess mass at depth. A second feature centered at 56W on line 21N can be eliminated by variation of the elevation correction factor. This suggests that the anomaly is topography related. There are no other gravity features of significance in this grid.

'L' (10S, 15S, 20S), (Figure 6)

The extremely abrupt and steep gradient on line 15S is a textbook sample of a steeply dipping, fault where the upthrust side is very near surface. Computer modelling indicates that the source of this response could be a near vertical dipping fault of approximately 100 metres displacement where the in-fill is of material near 1.0 gram per cc less than the bedrock. This feature is also evident on lines 10S and 20S. Secondary troughs centered at 99W and 97W on lines 10S and 15S respectively suggest the possibility of a deeply buried river basin with channel center at these locations. This anomaly is not of direct interest in the search for massive sulphides.

'M' (70N, 77N, 16E), (Figure 7)

Lines 70N and 77N yield anomalies that can be viewed as either gravity highs or gravity lows. The most likely source of the low in line 70N is a buried channel. The low centered at 18E on 77 north would then be due to widening of the same buried channel. Alternatively, the gravity highs at 5E and 26E on 77N could be due to excess mass of economic significance and cannot be discounted immediately. These anomalies warrant further investigation as specified below.

Pepper (61S, 65S, 69S, 82W), (Figure 8)

Significant gravity anomalies are evident on lines 61S and 65S. A narrow response on 61S broadens on 65S but does not extend as far as 69S. The topography here is relatively flat and extends into swamp to the north. The anomaly source is most likely either a subsurface topographic feature or excess mass which could be of economic interest. This is the highest priority target resulting from the survey and warrants further work as recommended below. Computer modelling indicates that a reasonable sized source for this one milligal response would be a massive sulphide body of density approximately 4.0 grams per cc having a cross sectional area of 6,000 square metres. No length estimate has been made as the anomaly is open to the north.

RECOMMENDATIONS

Significant geological factors in the survey area are the proximity of major rivers, the vast amounts of alluvial overburden and the evidence of extensive glaciation. These factors suggest variations in depth of overburden as the most likely source of gravity anomalies. Follow-up exploration should therefore be aimed at determining whether or not the gravity anomalies defined are due to bedrock topography. Seismic surveys can accomplish this objective but resistivity may be more cost effective. A resistivity survey could determine the bedrock profile and outline any significant mineralized zone. Individual grid recommendations follow:

'A' Grid

No further work.

'I' Grid

The anomaly on 12W is a low priority target. A resistivity line here will determine whether or not this anomaly is of further interest.

'J' Grid

No further work.

'K' Grid

A resistivity line is recommended along line 26 north. If this work confirms that the source is not bedrock topography then the gravity work should be extended north. Any further encouraging gravity response to the north would result in a higher priority drill target. This is a medium priority target.

'L' Grid

No further work.

'M' Grid

Resistivity or seismic work is recommended to determine whether or not the sources of the anomalies are bedrock topography. If results are favourable, further gravity and drilling are recommended. These are high priority targets.

Pepper Grid

Resistivity or seismic work is recommended along 61S. A favourable result will yield a high priority drill target on line 61. Further gravity work to the north should then be used to define the extent of the anomaly. Work in the swamp section of this grid should be completed while the area is frozen over. This is a high priority target.

CONCLUSION

Gravity surveys have been conducted over seven grid areas. Three significant anomalies have been outlined and follow-up work has been recommended. If the next stage of exploration yields favourable results, a drilling program will be recommended.

APPENDIX I

GRAVITY FUNDAMENTALS

There are a number of steps required in order to obtain meaningful, relative gravity values from raw field data. The final values are referred to as Complete Bouguer Gravity and are derived from the following components:

g_o = observed gravity = field observations corrected for drift and adjusted to primary base station gravity datum.

g_{fa} = free air effect = correction for the relative distance of the gravity station from the mass of the earch (point source mass). This calculation assumes a normal free air and corrects for relative differences in distance from the elevation datum.

g_{bs} = Bouguer slab effect = correction for the relative differences in thickness of rock material between gravity stations and the elevation datum. This calculation requires that a mean density for rock types between the lowest and highest grid elevations be established. All stations are then corrected for the gravity effect caused by this assumed slab of the derived density above the elevation datum.

g_l = latitude effect = correction for change of observed gravity with change in latitude - due primarily to the difference in the earth's radius between the poles and equator.

g_t = terrain effect = correction for variations caused by local terrain. The vertical component of the gravitational effect exerted by nearby hills, or not exerted by valleys or gullies, will affect the net reading obtained at any one station. The overall effect on a given line profile or grid area will be a function of the station spacing relative to the frequency of the terrain correction.

Accurate and appropriate application of the above corrections yields Complete Bouguer Gravity values which are, in theory, free from all effects except those caused by relative changes in density within rock units below the survey area.

$$G_{cb} = g_o - (g_{fa} + g_{bs} + g_l + g_t) = \text{Complete Bouguer Gravity.}$$

Changes in relative gravity values which may result in "anomalies" are a function of:

- the difference in densities between rock units;
- the sizes of rock units relative to each other and relative to the grid spacing or "target" size;
- the distance from the area of density contrast to the observation points.

For example: Steeply dipping, near surface massive sulphide deposits or coal seams will give sharp featured gravity anomalies, the former greater than background, the latter less than background. Density contrasts at depth, such as slopes or changes in basement stratigraphy, will result in very low frequency changes, often referred to as gradients.

APPENDIX II

Elevation Factor Density:	Individually calculated for each grid
:	See print-outs
Elevation Datum:	Estimated from contour maps
Gravity Datum:	National network station 9807-53
:	Watson Lake Airport
:	981699.90 (our value 47.04)
:	for national network values add 981652.86 to all Obs.G. values in attached listing.
Meter:	LaCoste & Romberg No. 199: Constant 1.05931
Grid Spacing:	50 metres
Line Spacing variable:	400-500 metres
Total Stations read:	516
Survey periods:	August 1982 September 1982

PERSONNEL

Martin Johnson,	M.Sc., Geophysicist, Project Manager
Gordon McOrmond,	Operator
Norbert Bernoth,	B.Sc., Geophysicist, Operator
Gordon Ellis,	Analysis/Interpretation

LINE 83

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
83N	1600	784.49	2573.78	42.17	-8.40	0.00	186.48
83N	1650	786.38	2579.99	41.84	-8.42	0.00	186.50
83N	1700	783.35	2570.06	42.72	-8.45	0.00	186.76
83N	1750	782.38	2566.88	43.03	-8.47	0.00	186.86
83N	1800	783.13	2569.32	42.98	-8.50	0.00	186.92
83N	1850	787.17	2582.59	42.21	-8.52	0.00	186.93
83N	1900	792.54	2600.20	41.23	-8.55	0.00	186.97
83N	1950	795.37	2609.48	40.92	-8.57	0.00	187.20
83N	2000	797.23	2615.60	40.80	-8.60	0.00	187.42
83N	2050	792.49	2600.03	42.12	-8.62	0.00	187.78
83N	2100	792.85	2601.23	42.35	-8.65	0.00	188.05
83N	2150	793.39	2602.99	42.52	-8.67	0.00	188.31
83N	2200	790.33	2592.94	43.50	-8.70	0.00	188.66
83N	2250	788.16	2585.82	44.27	-8.72	0.00	188.98
83N	2300	788.46	2586.80	44.62	-8.75	0.00	189.36
83N	2350	786.67	2580.94	45.31	-8.77	0.00	189.68
83N	2400	786.82	2581.42	45.56	-8.80	0.00	189.93
83N	2450	787.36	2583.20	45.82	-8.82	0.00	190.27
83N	2500	788.10	2585.62	45.91	-8.85	0.00	190.48
83N	2550	789.15	2589.07	46.09	-8.87	0.00	190.85
83N	2600	790.09	2592.15	46.08	-8.90	0.00	190.99

LINE 10

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
10N	1500	824.40	2704.73	30.20	-5.31	0.00	187.05
10N	1450	822.70	2699.16	30.70	-5.34	0.00	187.19
10N	1400	822.45	2698.32	30.73	-5.36	0.00	187.15
10N	1350	822.34	2697.97	30.98	-5.39	0.00	187.34
10N	1300	822.36	2698.03	30.93	-5.41	0.00	187.28
10N	1250	822.75	2699.32	30.95	-5.44	0.00	187.35
10N	1200	820.72	2692.65	31.21	-5.46	0.00	187.19
10N	1150	819.89	2689.92	31.48	-5.49	0.00	187.26
10N	1100	819.04	2687.15	31.57	-5.51	0.00	187.17
10N	1050	819.51	2688.67	31.50	-5.54	0.00	187.16
10N	1000	817.55	2682.25	32.01	-5.56	0.00	187.26
10N	950	816.61	2679.18	32.12	-5.59	0.00	187.16
10N	900	815.73	2676.27	32.14	-5.61	0.00	186.98
10N	850	806.54	2646.14	33.98	-5.64	0.00	186.99
10N	800	805.37	2642.30	34.21	-5.66	0.00	186.97
10N	750	801.86	2630.79	34.95	-5.69	0.00	186.99
10N	700	800.19	2625.29	35.24	-5.71	0.00	186.93
10N	650	797.18	2615.42	35.90	-5.74	0.00	186.97
10N	600	797.51	2616.51	35.83	-5.76	0.00	186.94
10N	550	801.68	2630.17	34.91	-5.79	0.00	186.81
10N	500	807.68	2649.86	33.71	-5.81	0.00	186.77
10N	450	809.38	2655.46	33.41	-5.84	0.00	186.78
10N	400	815.33	2674.96	32.05	-5.86	0.00	186.57
10N	350	819.51	2688.69	31.06	-5.89	0.00	186.37
10N	300	822.64	2698.96	30.46	-5.91	0.00	186.36
10N	250	821.20	2694.21	30.70	-5.94	0.00	186.29
10N	200	819.38	2688.26	30.98	-5.96	0.00	186.19
10N	150	815.11	2674.24	31.71	-5.99	0.00	186.05
10N	100	813.95	2670.44	31.91	-6.01	0.00	186.00
10N	50	813.23	2668.08	31.93	-6.04	0.00	185.85
10N	0	814.44	2672.04	31.86	-6.06	0.00	186.00

LINE 2

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
2S	2400	837.90	2749.02	28.04	-4.27	0.00	188.59
2S	2350	832.87	2732.51	29.09	-4.30	0.00	188.62
2S	2300	830.26	2723.94	29.42	-4.32	0.00	188.41
2S	2250	829.42	2721.21	29.40	-4.35	0.00	188.20
2S	2200	830.05	2723.27	29.51	-4.37	0.00	188.41
2S	2150	832.97	2732.83	29.15	-4.40	0.00	188.59
2S	2100	837.41	2747.40	28.22	-4.42	0.00	188.52
2S	2050	838.79	2751.95	28.01	-4.45	0.00	188.55
2S	2000	841.26	2760.03	27.51	-4.47	0.00	188.22
2S	1950	843.46	2767.26	27.12	-4.50	0.00	188.53
2S	1900	846.37	2776.82	26.61	-4.52	0.00	188.57
2S	1850	850.10	2789.05	25.90	-4.55	0.00	188.57
2S	1800	855.53	2806.85	24.78	-4.57	0.00	188.49
2S	1750	861.21	2825.50	23.66	-4.60	0.00	188.46
2S	1700	860.92	2824.54	23.69	-4.62	0.00	188.41
2S	1650	860.65	2823.66	23.77	-4.65	0.00	188.41
2S	1600	861.19	2825.42	23.68	-4.67	0.00	188.41
2S	1550	862.00	2828.10	23.57	-4.70	0.00	188.43
2S	1500	860.77	2824.05	23.71	-4.72	0.00	188.30
2S	1450	859.20	2818.90	23.99	-4.75	0.00	188.25
2S	1400	858.89	2817.89	23.91	-4.77	0.00	188.08
2S	1350	857.17	2812.25	24.10	-4.80	0.00	187.91
2S	1300	856.38	2809.65	24.17	-4.82	0.00	187.80
2S	1250	853.39	2799.83	24.64	-4.85	0.00	187.65
2S	1200	847.22	2779.60	25.82	-4.87	0.00	187.60

LINE 12

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
12W	-200	847.22	2779.60	25.82	-4.87	0.00	187.60
12W	-150	844.67	2771.23	26.44	-4.90	0.00	187.69
12W	-100	843.01	2765.77	26.85	-4.92	0.00	187.75
12W	-50	840.25	2756.72	27.34	-4.95	0.00	187.67
12W	0	841.79	2761.77	27.10	-4.97	0.00	187.71
12W	50	841.14	2759.64	27.23	-4.99	0.00	187.69
12W	100	839.39	2753.91	27.57	-5.02	0.00	187.66
12W	150	839.79	2755.22	27.60	-5.04	0.00	187.75
12W	200	837.51	2747.72	28.10	-5.07	0.00	187.77
12W	250	835.28	2740.42	28.52	-5.09	0.00	187.73
12W	300	832.99	2732.90	28.87	-5.12	0.00	187.60
12W	350	829.22	2720.54	29.59	-5.14	0.00	187.56
12W	400	826.86	2712.79	29.87	-5.17	0.00	187.34
12W	450	825.41	2708.05	30.04	-5.19	0.00	187.21
12W	500	825.24	2707.49	30.06	-5.22	0.00	187.17
12W	550	824.68	2705.64	30.21	-5.24	0.00	187.18
12W	600	824.13	2703.83	30.34	-5.27	0.00	187.18
12W	650	823.81	2702.80	30.49	-5.29	0.00	187.24
12W	700	823.69	2702.39	30.55	-5.32	0.00	187.25
12W	750	823.87	2702.99	30.52	-5.34	0.00	187.24
12W	800	823.69	2702.40	30.62	-5.37	0.00	187.27
12W	850	822.94	2699.95	30.71	-5.39	0.00	187.19
12W	900	822.15	2697.35	30.89	-5.42	0.00	187.19
12W	950	821.66	2695.73	30.95	-5.44	0.00	187.13
12W	1000	820.60	2692.25	31.19	-5.47	0.00	187.13

LINE 37

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
37N	6600	728.41	2389.80	56.19	-4.10	0.00	195.37
37N	6650	729.19	2392.37	56.03	-4.08	0.00	195.38
37N	6700	726.98	2385.11	56.46	-4.05	0.00	195.41
37N	6750	727.49	2386.78	56.29	-4.03	0.00	195.36
37N	6800	727.70	2387.46	56.21	-4.00	0.00	195.35
37N	6850	727.57	2387.05	56.22	-3.98	0.00	195.35
37N	6900	726.15	2382.38	56.49	-3.95	0.00	195.37
37N	6950	727.42	2386.56	56.19	-3.93	0.00	195.34
37N	7000	725.48	2380.19	56.67	-3.90	0.00	195.47
37N	7050	726.58	2383.80	56.50	-3.88	0.00	195.54
37N	7100	726.64	2383.98	56.54	-3.85	0.00	195.62
37N	7150	726.34	2383.00	56.63	-3.83	0.00	195.67
37N	7200	726.27	2382.76	56.65	-3.80	0.00	195.71
37N	7250	726.26	2382.75	56.72	-3.78	0.00	195.80
37N	7300	725.55	2380.40	56.93	-3.75	0.00	195.90
37N	7350	725.27	2379.49	57.04	-3.73	0.00	195.97
37N	7400	725.05	2378.76	57.15	-3.70	0.00	196.07
37N	7450	724.77	2377.87	57.26	-3.68	0.00	196.14
37N	7500	724.64	2377.44	57.31	-3.65	0.00	196.20
37N	7550	724.47	2376.86	57.32	-3.63	0.00	196.19
37N	7600	724.33	2376.41	57.21	-3.60	0.00	196.09
37N	7650	723.74	2374.47	57.39	-3.58	0.00	196.17
37N	7700	723.21	2372.73	57.56	-3.55	0.00	196.27
37N	7750	722.50	2370.40	57.83	-3.53	0.00	196.42
37N	7800	722.89	2371.68	57.92	-3.50	0.00	196.61
37N	7850	722.21	2369.47	58.21	-3.48	0.00	196.79
37N	7900	722.11	2369.13	58.23	-3.45	0.00	196.82

LINE 21

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
21N	4300	857.67	2813.89	35.74	-4.62	0.00	213.84
21N	4350	862.43	2829.48	34.88	-4.59	0.00	214.03
21N	4400	863.51	2833.04	34.70	-4.55	0.00	214.12
21N	4450	864.17	2835.20	34.55	-4.52	0.00	214.14
21N	4500	865.55	2839.72	34.22	-4.48	0.00	214.14
21N	4550	866.81	2843.87	33.90	-4.45	0.00	214.12
21N	4600	870.00	2854.32	33.28	-4.41	0.00	214.22
21N	4650	877.49	2878.91	31.78	-4.37	0.00	214.36
21N	4700	889.63	2918.72	29.39	-4.34	0.00	214.58
21N	4750	898.64	2948.31	27.52	-4.30	0.00	214.67
21N	4800	904.32	2966.93	26.33	-4.27	0.00	214.72
21N	4850	909.35	2983.44	25.40	-4.23	0.00	214.90
21N	4900	906.43	2973.86	26.13	-4.20	0.00	215.04
21N	4950	915.76	3004.47	24.09	-4.16	0.00	215.03
21N	5000	910.51	2987.24	25.24	-4.13	0.00	215.09
21N	5050	914.51	3000.37	24.41	-4.09	0.00	215.15
21N	5100	921.87	3024.51	22.95	-4.06	0.00	215.29
21N	5150	927.00	3041.34	21.87	-4.02	0.00	215.34
21N	5200	929.93	3050.96	21.23	-3.99	0.00	215.36
21N	5250	933.96	3064.18	20.43	-3.95	0.00	215.46
21N	5300	934.33	3065.39	20.32	-3.92	0.00	215.45
21N	5350	927.70	3043.64	21.73	-3.88	0.00	215.49
21N	5400	923.23	3028.98	22.69	-3.84	0.00	215.54
21N	5450	919.97	3018.28	23.54	-3.81	0.00	215.73
21N	5500	914.62	3000.73	24.85	-3.77	0.00	215.94
21N	5550	910.27	2986.46	25.96	-3.74	0.00	216.15
21N	5600	905.92	2972.18	27.00	-3.70	0.00	216.30
21N	5650	901.97	2959.22	27.86	-3.67	0.00	216.35
21N	5700	897.72	2945.28	28.64	-3.63	0.00	216.26

LINE 26

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
26N	4300	839.59	2754.56	39.18	-4.73	0.00	213.32
26N	4350	841.10	2759.52	38.92	-4.71	0.00	213.40
26N	4400	844.26	2769.89	38.43	-4.68	0.00	213.62
26N	4450	851.42	2793.36	37.05	-4.66	0.00	213.78
26N	4500	858.42	2816.35	35.75	-4.63	0.00	214.00
26N	4550	863.47	2832.92	34.88	-4.61	0.00	214.23
26N	4600	865.03	2838.03	34.51	-4.58	0.00	214.22
26N	4650	866.58	2843.11	34.18	-4.56	0.00	214.24
26N	4700	870.89	2857.24	33.32	-4.53	0.00	214.33
26N	4750	876.29	2874.97	32.16	-4.51	0.00	214.34
26N	4800	882.11	2894.05	30.93	-4.48	0.00	213.73
26N	4850	889.28	2917.60	29.28	-4.46	0.00	214.28
26N	4900	895.96	2939.50	27.69	-4.43	0.00	214.14
26N	4950	897.88	2945.79	27.36	-4.41	0.00	214.24
26N	5000	902.45	2960.81	26.44	-4.38	0.00	214.32
26N	5050	904.53	2967.62	25.95	-4.36	0.00	214.30
26N	5100	917.28	3009.45	23.14	-4.33	0.00	214.23
26N	5150	919.65	3017.23	22.68	-4.31	0.00	214.30
26N	5200	918.99	3015.07	22.82	-4.28	0.00	214.33
26N	5250	920.68	3020.60	22.39	-4.26	0.00	214.28
26N	5300	919.16	3015.62	22.57	-4.23	0.00	214.16
26N	5350	914.20	2999.33	23.61	-4.21	0.00	214.17
26N	5400	908.37	2980.21	24.93	-4.18	0.00	214.27
26N	5450	904.22	2966.61	25.84	-4.16	0.00	214.32
26N	5500	898.90	2949.16	26.98	-4.13	0.00	214.36
26N	5550	891.03	2923.32	28.57	-4.11	0.00	214.29
26N	5600	882.62	2895.73	30.47	-4.08	0.00	214.43
26N	5650	874.49	2869.05	32.26	-4.06	0.00	214.51
26N	5700	867.26	2845.35	33.83	-4.03	0.00	214.57

LINE 50

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
50W	2600	902.45	2960.81	26.43	-4.38	0.00	199.56
50W	2550	903.44	2964.03	26.23	-4.35	0.00	199.59
50W	2500	905.54	2970.94	25.67	-4.33	0.00	199.46
50W	2450	905.69	2971.43	25.71	-4.30	0.00	199.56
50W	2400	906.89	2975.37	25.35	-4.28	0.00	199.46
50W	2350	907.99	2978.97	25.13	-4.25	0.00	199.48
50W	2300	908.15	2979.51	25.30	-4.23	0.00	199.70
50W	2250	909.53	2984.02	25.02	-4.20	0.00	199.72
50W	2200	909.81	2984.93	24.99	-4.18	0.00	199.77
50W	2150	909.87	2985.14	25.05	-4.15	0.00	199.87
50W	2100	910.51	2987.25	25.24	-4.13	0.00	200.21

LINE 10

STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
10S 10600	686.74	2253.10	57.50	.08	0.00	192.66
10S 10550	684.74	2246.51	57.73	.05	0.00	192.47
10S 10500	686.78	2253.23	57.14	.03	0.00	192.26
10S 10450	687.05	2254.11	56.95	.00	0.00	192.09
10S 10400	686.88	2253.55	56.90	-.02	0.00	191.99
10S 10350	687.66	2256.11	56.65	-.05	0.00	191.86
10S 10300	686.90	2253.62	56.75	-.07	0.00	191.79
10S 10250	685.37	2248.60	57.01	-.10	0.00	191.72
10S 10200	684.67	2246.28	57.03	-.12	0.00	191.58
10S 10150	682.75	2239.98	57.27	-.15	0.00	191.42
10S 10100	682.99	2240.77	57.01	-.17	0.00	191.18
10S 10050	683.11	2241.19	56.91	-.20	0.00	191.08
10S 10000	684.65	2246.24	56.44	-.22	0.00	190.89
10S 9950	686.29	2251.61	56.09	-.25	0.00	190.83
10S 9900	688.75	2259.68	55.54	-.27	0.00	190.75
10S 9850	691.84	2269.80	54.71	-.30	0.00	190.49
10S 9800	697.47	2288.28	53.30	-.32	0.00	190.17
10S 9750	704.69	2311.96	51.93	-.35	0.00	190.19
10S 9700	710.46	2330.90	50.82	-.37	0.00	190.20
10S 9650	714.62	2344.57	50.06	-.40	0.00	190.23
10S 9600	719.49	2360.54	49.15	-.42	0.00	190.25
10S 9550	725.44	2380.04	48.15	-.45	0.00	190.39
10S 9500	731.25	2399.10	47.34	-.47	0.00	190.71
10S 9450	736.39	2415.99	46.67	-.50	0.00	191.02
10S 9400	738.62	2423.28	46.67	-.52	0.00	191.44

LINE 15

STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
15S 10735	678.73	2226.80	57.23	.39	0.00	191.13
15S 10700	675.49	2216.19	57.91	.38	0.00	191.16
15S 10650	673.89	2210.91	58.24	.35	0.00	191.14
15S 10600	672.42	2206.10	58.55	.33	0.00	191.15
15S 10550	672.60	2206.68	58.44	.30	0.00	191.04
15S 10500	673.97	2211.19	58.07	.28	0.00	190.92
15S 10450	675.80	2217.19	57.70	.25	0.00	190.88
15S 10400	676.62	2219.89	57.51	.23	0.00	190.83
15S 10350	677.63	2223.19	57.22	.20	0.00	190.71
15S 10300	677.95	2224.23	57.02	.18	0.00	190.55
15S 10250	678.66	2226.57	56.91	.15	0.00	190.55
15S 10200	680.85	2233.77	56.43	.13	0.00	190.48
15S 10150	683.92	2243.82	55.78	.10	0.00	190.41
15S 10100	687.67	2256.14	55.14	.08	0.00	190.48
15S 10050	692.18	2270.92	54.14	.05	0.00	190.34
15S 10000	696.46	2284.98	53.12	.03	0.00	190.14
15S 9950	700.97	2299.77	51.93	0.00	0.00	189.81
15S 9900	703.88	2309.31	51.54	-.02	0.00	189.97
15S 9850	706.24	2317.05	51.19	-.05	0.00	190.06
15S 9800	711.50	2334.33	50.06	-.07	0.00	189.94
15S 9775	715.28	2346.73	49.28	-.09	0.00	189.89
15S 9725	720.01	2362.23	48.83	-.11	0.00	190.35
15S 9675	723.10	2372.38	48.80	-.14	0.00	190.89
15S 9625	727.51	2386.84	48.37	-.16	0.00	191.31
15S 9575	730.66	2397.19	48.07	-.19	0.00	191.60
15S 9525	733.81	2407.51	47.94	-.21	0.00	192.07
15S 9475	736.81	2417.36	47.80	-.24	0.00	192.49
15S 9425	740.85	2430.62	47.28	-.26	0.00	192.75
15S 9375	747.80	2453.41	46.16	-.29	0.00	192.96
15S 9325	759.57	2492.01	43.78	-.31	0.00	192.99
15S 9275	767.06	2516.58	42.53	-.34	0.00	193.18
15S 9225	773.93	2539.12	41.06	-.36	0.00	193.04
15S 9200	775.19	2543.26	40.85	-.37	0.00	193.08
15 9150	779.05	2555.94	40.08	-.40	0.00	192.92
15 9100	783.00	2568.90	39.32	-.42	0.00	192.92
15 9050	786.02	2578.79	38.81	-.45	0.00	192.97
15 9000	786.64	2580.85	38.63	-.47	0.00	192.89
15 8950	788.85	2588.09	38.06	-.50	0.00	192.73
15 8900	790.86	2594.69	37.73	-.52	0.00	192.77
15 8850	793.06	2601.89	37.23	-.55	0.00	192.67
15 8800	796.64	2613.65	36.61	-.57	0.00	192.74
15 8750	800.78	2627.24	35.80	-.60	0.00	192.71
15 8700	804.47	2639.33	35.04	-.62	0.00	192.66
15 8650	808.67	2653.12	34.17	-.65	0.00	192.59
15 8600	811.79	2663.34	33.55	-.67	0.00	192.56
15 8550	815.11	2674.24	32.87	-.70	0.00	192.50
15 8500	817.67	2682.66	32.41	-.72	0.00	192.53
15 8450	818.20	2684.38	32.38	-.75	0.00	192.57
15 8400	818.96	2686.89	32.30	-.77	0.00	192.62

LINE 20

STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
20S 10850	670.56	2200.00	57.22	.81	0.00	189.93
20S 10800	672.51	2206.41	56.86	.79	0.00	189.93
20S 10750	673.87	2210.86	56.63	.76	0.00	189.94
20S 10700	675.62	2216.61	56.23	.74	0.00	189.86
20S 10650	677.81	2223.80	55.80	.71	0.00	189.84
20S 10600	679.32	2228.74	55.45	.69	0.00	189.76
20S 10550	682.48	2239.11	55.05	.66	0.00	189.95
20S 10500	684.65	2246.22	54.73	.64	0.00	190.04
20S 10450	686.49	2252.27	54.52	.61	0.00	190.16
20S 10400	688.33	2258.29	54.15	.59	0.00	190.13
20S 10350	692.67	2272.54	53.47	.56	0.00	190.28
20S 10300	696.20	2284.11	52.87	.54	0.00	190.35
20S 10250	699.43	2294.72	52.34	.51	0.00	190.43
20S 10200	703.86	2309.25	51.47	.49	0.00	190.41
20S 10150	708.45	2324.31	50.58	.46	0.00	190.39
20S 10100	711.87	2335.53	50.07	.44	0.00	190.54
20S 10050	715.83	2348.51	49.55	.41	0.00	190.76
20S 10000	719.35	2360.06	49.14	.39	0.00	191.03
20S 9950	721.12	2365.89	49.14	.36	0.00	191.34
20S 9900	725.20	2379.27	48.81	.34	0.00	191.80
20S 9850	731.64	2400.39	48.04	.31	0.00	192.26

LINE 70

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
70N	1600	815.05	2674.04	34.55	-9.80	0.00	183.47
70N	1650	815.29	2674.84	34.23	-9.82	0.00	183.18
70N	1700	815.64	2675.99	33.69	-9.85	0.00	182.68
70N	1750	816.05	2677.33	33.24	-9.87	0.00	182.29
70N	1800	817.39	2681.72	32.56	-9.90	0.00	181.84
70N	1850	819.58	2688.90	31.89	-9.92	0.00	181.58
70N	1900	821.29	2694.51	31.33	-9.95	0.00	181.33
70N	1950	824.05	2703.58	30.88	-9.97	0.00	181.40
70N	2000	827.64	2715.37	30.03	-10.00	0.00	181.23
70N	2050	830.06	2723.31	29.53	-10.02	0.00	181.18
70N	2100	832.86	2732.49	29.13	-10.05	0.00	181.30
70N	2150	837.12	2746.45	28.23	-10.07	0.00	181.22
70N	2200	839.50	2754.25	27.86	-10.10	0.00	181.29
70N	2250	841.46	2760.70	27.65	-10.12	0.00	181.45
70N	2300	844.68	2771.25	26.93	-10.15	0.00	181.33
70N	2400	851.90	2794.94	25.68	-10.20	0.00	181.45
70N	2450	856.28	2809.31	24.83	-10.22	0.00	181.44
70N	2500	859.36	2819.43	24.34	-10.25	0.00	181.53
70N	2550	862.44	2829.54	23.89	-10.27	0.00	181.66
70N	2600	864.49	2836.26	23.98	-10.30	0.00	182.13
70N	2650	868.06	2847.96	23.56	-10.32	0.00	182.39
70N	2700	871.87	2860.47	23.06	-10.35	0.00	182.61
70N	2750	872.40	2862.21	23.34	-10.37	0.00	182.97
70N	2800	871.30	2858.60	23.81	-10.40	0.00	183.19
70N	2850	869.07	2851.28	24.45	-10.42	0.00	183.38
70N	2900	865.37	2839.15	25.39	-10.45	0.00	183.56
70N	2950	865.77	2840.45	25.46	-10.47	0.00	183.69
70N	3000	868.22	2848.49	25.06	-10.50	0.00	183.74
70N	3050	869.97	2854.24	24.85	-10.52	0.00	183.85
70N	3100	871.83	2860.34	24.31	-10.55	0.00	183.65
70N	3150	873.20	2864.82	23.99	-10.57	0.00	183.58
70N	3200	876.69	2876.28	23.23	-10.60	0.00	183.48

LINE 77

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
77N	-300	807.41	2648.98	35.52	-9.18	0.00	185.16
77N	-250	809.63	2656.26	35.01	-9.20	0.00	185.06
77N	-200	815.50	2675.53	33.78	-9.23	0.00	184.96
77N	-150	817.03	2680.55	33.41	-9.25	0.00	184.87
77N	-100	818.61	2685.72	33.04	-9.28	0.00	184.78
77N	-50	820.83	2693.01	32.54	-9.30	0.00	184.70
77N	0	824.90	2706.37	31.59	-9.33	0.00	184.52
77N	50	826.70	2712.28	31.19	-9.35	0.00	184.45
77N	100	827.98	2716.47	31.08	-9.38	0.00	184.56
77N	150	829.95	2722.92	31.00	-9.40	0.00	184.85
77N	200	831.82	2729.08	30.92	-9.43	0.00	185.11
77N	250	835.08	2739.75	30.52	-9.45	0.00	185.33
77N	300	837.44	2747.50	30.14	-9.48	0.00	185.38
77N	350	839.91	2755.62	29.78	-9.50	0.00	185.49
77N	400	843.13	2766.17	29.30	-9.53	0.00	185.61
77N	450	845.58	2774.22	28.89	-9.55	0.00	185.67
77N	500	847.09	2779.17	28.61	-9.58	0.00	185.65
77N	550	848.81	2784.80	28.26	-9.60	0.00	185.62
77N	600	849.87	2788.28	28.07	-9.63	0.00	185.61
77N	650	852.68	2797.52	27.44	-9.65	0.00	185.51
77N	700	853.44	2800.00	27.11	-9.67	0.00	185.31
77N	750	851.34	2793.11	27.40	-9.70	0.00	185.16
77N	800	850.56	2790.54	27.41	-9.72	0.00	184.99
77N	850	846.46	2777.10	28.06	-9.75	0.00	184.81
77N	900	843.39	2767.04	28.57	-9.77	0.00	184.70
77N	950	841.41	2760.53	28.85	-9.80	0.00	184.56
77N	1000	837.83	2748.78	29.52	-9.82	0.00	184.50
77N	1050	835.51	2741.18	29.95	-9.85	0.00	184.45
77N	1100	833.96	2736.10	30.08	-9.87	0.00	184.25
77N	1150	832.91	2732.65	30.25	-9.90	0.00	184.18
77N	1200	832.16	2730.19	30.35	-9.92	0.00	184.12
77N	1250	830.18	2723.70	30.73	-9.95	0.00	184.08
77N	1300	828.72	2718.91	30.93	-9.97	0.00	183.97
77N	1350	827.65	2715.38	31.06	-10.00	0.00	183.86
77N	1400	827.52	2714.95	31.11	-10.02	.00	183.90
77N	1450	826.13	2710.41	31.51	-10.05	0.00	183.96
77N	1500	824.25	2704.23	31.91	-10.07	0.00	183.97
77N	1550	822.73	2699.26	32.18	-10.10	0.00	183.91
77N	1600	822.30	2697.83	32.24	-10.12	0.00	183.87
77N	1650	821.92	2696.60	32.35	-10.15	0.00	183.87
77N	1700	822.20	2697.50	32.47	-10.17	0.00	184.03
77N	1750	822.02	2696.90	32.45	-10.20	0.00	183.94
77N	1800	822.54	2698.61	32.34	-10.22	0.00	183.91
77N	1850	823.78	2702.70	32.05	-10.25	0.00	183.84
77N	1900	825.23	2707.45	31.82	-10.27	0.00	183.87
77N	1950	828.73	2718.92	31.08	-10.30	0.00	183.79
77N	2000	833.19	2733.55	30.22	-10.32	0.00	183.79
77N	2050	837.34	2747.18	29.35	-10.35	0.00	183.71
77N	2100	842.16	2763.00	28.32	-10.37	0.00	183.60
77N	2150	848.60	2784.11	27.02	-10.40	0.00	183.54
77N	2200	853.44	2800.00	26.19	-10.42	0.00	183.64
77N	2250	859.34	2819.35	25.08	-10.45	0.00	183.66
77N	2300	866.13	2841.64	23.80	-10.47	0.00	183.70
77N	2350	871.95	2860.73	22.97	-10.49	0.00	183.99
77N	2400	877.54	2879.08	22.23	-10.52	0.00	184.32
77N	2450	884.85	2903.04	21.38	-10.55	0.00	184.88
77N	2500	888.89	2916.32	21.29	-10.57	0.00	185.57
77N	2550	893.37	2931.01	20.72	-10.59	0.00	185.86
77N	2600	895.56	2938.20	20.51	-10.62	0.00	186.05
77N	2650	896.13	2940.07	20.46	-10.64	0.00	186.09
77N	2700	893.98	2933.01	20.88	-10.67	0.00	186.06

LINE 16

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
16E	7100	815.68	2676.10	34.35	-9.82	0.00	177.87
16E	7150	815.79	2676.48	34.22	-9.84	0.00	177.75
16E	7200	816.45	2678.63	34.03	-9.87	0.00	177.66
16E	7250	816.85	2679.96	33.78	-9.89	0.00	177.46
16E	7300	817.22	2681.18	33.59	-9.92	0.00	177.32
16E	7350	817.42	2681.81	33.58	-9.94	0.00	177.33
16E	7400	818.06	2683.94	33.23	-9.97	0.00	177.07
16E	7450	818.34	2684.83	33.20	-9.99	0.00	177.08
16E	7500	819.32	2688.05	32.86	-10.02	0.00	176.90
16E	7550	821.08	2693.82	32.34	-10.04	0.00	176.71
16E	7600	821.26	2694.41	32.33	-10.07	0.00	176.70
16E	7650	821.44	2695.00	32.42	-10.09	0.00	176.81

LINE 61

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
61S	7400	745.65	2446.36	39.13	1.56	0.00	183.30
61S	7450	745.63	2446.28	39.15	1.58	0.00	183.33
61S	7500	743.54	2439.45	39.61	1.61	0.00	183.42
61S	7550	741.30	2432.10	40.07	1.63	0.00	183.48
61S	7600	740.27	2428.70	40.28	1.66	0.00	183.52
61S	7650	740.34	2428.93	40.36	1.68	0.00	183.63
61S	7700	740.77	2430.35	40.44	1.71	0.00	183.82
61S	7750	740.69	2430.10	41.00	1.73	0.00	184.39
61S	7800	740.96	2430.97	41.26	1.76	0.00	184.73
61S	7850	740.17	2428.39	41.66	1.78	0.00	185.00
61S	7900	740.87	2430.67	41.60	1.81	0.00	185.10
61S	7950	740.81	2430.48	41.64	1.83	0.00	185.15
61S	8000	740.82	2430.52	41.21	1.86	0.00	184.75
61S	8050	742.63	2436.44	40.73	1.88	0.00	184.64
61S	8100	741.61	2433.09	40.94	1.91	0.00	184.68
61S	8150	740.63	2429.88	41.18	1.93	0.00	184.76
61S	8200	742.11	2434.74	40.71	1.96	0.00	184.60

LINE 65

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
65S	7200	717.51	2354.03	44.95	1.25	0.00	183.43
65S	7250	717.87	2355.22	44.77	1.27	0.00	183.33
65S	7300	719.17	2359.48	44.33	1.30	0.00	183.17
65S	7350	725.68	2380.85	42.89	1.32	0.00	183.00
65S	7400	729.74	2394.16	42.01	1.35	0.00	182.92
65S	7450	731.35	2399.44	41.71	1.37	0.00	182.95
65S	7500	730.98	2398.24	41.66	1.40	0.00	182.86
65S	7550	734.06	2408.33	40.94	1.42	0.00	182.75
65S	7600	735.88	2414.31	40.57	1.45	0.00	182.76
65S	7650	738.12	2421.67	39.97	1.47	0.00	182.61
65S	7700	743.97	2440.85	38.67	1.50	0.00	182.46
65S	7750	745.50	2445.86	38.35	1.52	0.00	182.45
65S	7800	746.49	2449.12	38.14	1.55	0.00	182.46
65S	7850	744.49	2442.54	38.65	1.57	0.00	182.61
65S	7900	744.63	2443.02	38.60	1.60	0.00	182.61
65S	7950	745.23	2444.97	38.69	1.62	0.00	182.84
65S	8000	745.87	2447.07	38.55	1.65	0.00	182.85
65S	8050	744.99	2444.19	38.90	1.67	0.00	183.05
65S	8100	744.69	2443.21	39.06	1.70	0.00	183.18
65S	8150	744.38	2442.20	38.98	1.72	0.00	183.06
65S	8200	744.90	2443.90	38.87	1.75	0.00	183.08
65S	8250	744.33	2442.02	38.91	1.77	0.00	183.03
65S	8300	742.84	2437.15	39.07	1.80	0.00	182.94
65S	8350	742.43	2435.81	39.01	1.82	0.00	182.82
65S	8400	743.22	2438.40	38.78	1.85	0.00	182.77
65S	8450	743.72	2440.03	38.50	1.87	0.00	182.61
65S	8500	743.51	2439.33	38.46	1.90	0.00	182.56
65S	8550	743.18	2438.27	38.37	1.92	0.00	182.42
65S	8600	742.12	2434.77	38.46	1.95	0.00	182.34
65S	8650	741.05	2431.28	38.63	1.97	0.00	182.33
65S	8700	740.28	2428.73	38.67	2.00	0.00	182.25
65S	8750	738.88	2424.15	38.80	2.02	0.00	182.13
65S	8800	737.52	2419.70	38.96	2.05	0.00	182.06
65S	8850	735.04	2411.56	39.35	2.07	0.00	182.00
65S	8900	732.07	2401.82	39.88	2.10	0.00	181.99
65S	8950	729.32	2392.78	40.37	2.12	0.00	181.97
65S	9000	728.10	2388.79	40.48	2.15	0.00	181.88
65S	9050	726.72	2384.26	40.76	2.17	0.00	181.92
65S	9100	725.73	2381.00	40.96	2.20	0.00	181.96
65S	9150	724.40	2376.63	41.15	2.22	0.00	181.91
65S	9200	723.47	2373.60	41.35	2.25	0.00	181.97
65S	9250	722.01	2368.81	41.58	2.27	0.00	181.94
65S	9300	721.36	2366.66	41.63	2.30	0.00	181.89
65S	9350	720.32	2363.24	41.81	2.32	0.00	181.89
65S	9400	717.46	2353.88	42.30	2.35	0.00	181.87
65S	9450	714.55	2344.31	42.87	2.37	0.00	181.90
65S	9500	711.72	2335.05	43.44	2.40	0.00	181.96
65S	9550	710.06	2329.60	43.71	2.42	0.00	181.93
65S	9600	708.98	2326.06	43.97	2.45	0.00	182.01
65S	9650	708.00	2322.84	44.04	2.47	0.00	181.92
65S	9700	706.62	2318.32	44.26	2.50	0.00	181.90
65S	9750	706.00	2316.28	44.37	2.52	0.00	181.91
65S	9800	705.43	2314.41	44.56	2.55	0.00	182.02
65S	9850	701.87	2302.72	45.10	2.57	0.00	181.90
65S	9900	701.72	2302.24	45.13	2.60	0.00	181.94

LINE 69

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
69S	7800	741.15	2431.58	38.21	1.35	0.00	181.31
69S	7850	742.08	2434.66	37.97	1.37	0.00	181.26
69S	7900	742.17	2434.95	37.87	1.40	0.00	181.21
69S	7950	742.27	2435.28	37.72	1.42	0.00	181.10
69S	8000	741.47	2432.66	37.78	1.45	0.00	181.04
69S	8050	741.73	2433.49	37.66	1.47	0.00	180.99
69S	8100	741.51	2432.76	37.65	1.50	0.00	180.97
69S	8150	741.22	2431.84	37.70	1.52	0.00	180.98
69S	8200	741.10	2431.42	37.74	1.55	0.00	181.03
69S	8250	741.16	2431.62	37.70	1.57	0.00	181.02
69S	8300	741.82	2433.80	37.61	1.60	0.00	181.08
69S	8350	742.33	2435.46	37.44	1.62	0.00	181.03
69S	8400	742.36	2435.55	37.52	1.65	0.00	181.15
69S	8450	742.09	2434.69	37.59	1.67	0.00	181.19
69S	8500	742.52	2436.10	37.43	1.70	0.00	181.14
69S	8550	742.36	2435.57	37.40	1.72	0.00	181.10
69S	8600	742.12	2434.79	37.25	1.75	0.00	180.93
69S	8650	741.55	2432.91	37.35	1.77	0.00	180.94
69S	8700	740.34	2428.94	37.50	1.80	0.00	180.89
69S	8750	738.80	2423.88	37.75	1.82	0.00	180.87
69S	8800	737.15	2418.48	38.01	1.85	0.00	180.84
69S	8850	734.76	2410.62	38.43	1.87	0.00	180.82
69S	8900	732.41	2402.91	38.79	1.90	0.00	180.76
69S	8950	727.95	2388.28	39.68	1.92	0.00	180.82
69S	9000	724.87	2378.17	40.16	1.95	0.00	180.74
69S	9050	722.05	2368.94	40.77	1.97	0.00	180.83
69S	9100	720.18	2362.78	41.11	2.00	0.00	180.85
69S	9150	719.41	2360.27	41.21	2.02	0.00	180.82
69S	9200	718.96	2358.79	41.25	2.05	0.00	180.80
69S	9250	718.79	2358.24	41.18	2.07	0.00	180.72
69S	9300	718.97	2358.84	41.05	2.10	0.00	180.65
69S	9350	721.28	2366.39	40.36	2.12	0.00	180.43
69S	9400	719.08	2359.18	40.70	2.15	0.00	180.38
69S	9450	719.22	2359.66	40.45	2.17	0.00	180.17
69S	9500	717.04	2352.48	40.88	2.20	0.00	180.22
69S	9550	715.39	2347.09	41.18	2.22	0.00	180.22
69S	9600	711.38	2333.92	42.10	2.25	0.00	180.40
69S	9650	708.49	2324.45	42.66	2.27	0.00	180.43
69S	9700	707.18	2320.16	42.95	2.30	0.00	180.50
69S	9750	705.54	2314.77	43.25	2.32	0.00	180.51
69S	9800	700.35	2297.75	44.47	2.35	0.00	180.76
69S	9850	698.35	2291.19	44.93	2.37	0.00	180.86
69S	9900	695.97	2283.36	45.46	2.40	0.00	180.97

LINE 82

	STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
82W	6000	744.33	2442.04	40.43	2.00	0.00	188.84
82W	6050	743.07	2437.88	40.57	1.98	0.00	188.71
82W	6100	742.11	2434.73	40.71	1.95	0.00	188.63
82W	6150	741.19	2431.71	40.84	1.93	0.00	188.56
82W	6200	740.39	2429.09	40.89	1.90	0.00	188.42
82W	6250	740.04	2427.96	40.70	1.88	0.00	188.15
82W	6300	740.71	2430.14	40.24	1.85	0.00	187.79
82W	6350	740.22	2428.53	40.34	1.83	0.00	187.77
82W	6400	742.22	2435.10	39.77	1.80	0.00	187.56
82W	6450	744.14	2441.39	39.30	1.78	0.00	187.45
82W	6500	744.90	2443.90	38.87	1.75	0.00	187.14
82W	6550	745.16	2444.76	38.58	1.73	0.00	186.88
82W	6600	745.12	2444.62	38.30	1.70	0.00	186.57
82W	6650	744.75	2443.41	38.05	1.68	0.00	186.22
82W	6700	744.07	2441.18	37.87	1.65	0.00	185.88
82W	6750	743.40	2438.99	37.76	1.63	0.00	185.62
82W	6800	742.73	2436.79	37.71	1.60	0.00	185.41
82W	6850	742.27	2435.26	37.61	1.58	0.00	185.19
82W	6900	741.10	2431.42	37.74	1.55	0.00	185.06

CERTIFICATE OF QUALIFICATIONS

I, Gordon L. Ellis, do hereby certify that:

1. I am a practising geophysicist with offices at #606-595 Howe Street, Vancouver, B. C., Canada V6C 2T5.

2. I have received the following University degrees:

   (a) 1972 B.Sc. (Geophysics), University of British Columbia.

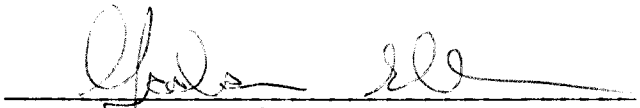
   (b) 1974 M.B.A. (Finance), University of British Columbia.

3. I am a member in good standing of the following professional organizations:

   (a) The Society of Exploration Geophysicists
   (b) Association of Professional Economists of British Columbia.
   (c) Canadian Institute of Mining and Metallurgy
   (d) British Columbia Geophysical Society

4. Since 1969 I have been engaged in exploration and mining geophysics over numerous projects in North America, Australia and the Far East.

5. The geophysical field work and the interpretation of the results in this report were done under my direct supervision.



Gordon L. Ellis, B.Sc., M.B.A.
Geophysicist

1982 Kent Project

STATEMENT OF COSTS

(11th June to 28th August 1982)

Wages: (669 days)		75,325.
Camp Costs:	Groceries	10,501.
	Supplies (Lumber, fuel, etc.)	3,640.
Field Equipment:	Geophysical (equivalent rentals)	3,000.
	Flagging, thread, etc est.	1,500.
Air Charter:	Helicopter, approx 95.4 hours	52,499.
	Fixed wing	2,560.
Trucks, rental and running costs		8,570.
Travel:	Lodging	1,424.
	Meals	3,436.
Freight:		2,214.
Analyses:	2765 samples @ 7.20 (Pb, Zn, Ag, Cu, Ba) 357 " @ 11.50 (Pb Zn Ag Cu Au Ba) 111 rock preprations @ 1.90	24,224.
Miscellaneous: (Radios, telephone, expediting fees, etc.) est.		3,000.
	TOTAL	$188,893.

Portion to be used for representation work:

723	claim years @ 100.	72,300.
+ 87	claims for ½ year	4,350.
	091396	$76,650.

The above costs are as accurate as possible and represent the true value of work carried out as shown.

David Arscott

David Arscott, P. Eng.

REPRESENTATION WORK
1982 KENT PROJECT

Location:

A northwest trending area 8 km wide by 28 km long centred at 60° 17'N, 128° 55'W, covered by map sheets 105 A - 2, 3, 6 and 7

Claims:

The area is largely staked by the GE #1 to #884 claims. An application for Certificate of Work is underway for 723 of these claims.

1982 Field Work:

A diversified exploration program was aimed at locating lead-zinc mineralization within the GE claims. It involved geological, 3-media geochemical, and several geophysical techniques. The main impetus for the program was an abundance of electrical bedrock conductors discovered during an aerial INPUT survey of the area in 1981, and suggestive of carbonaceous sediments. Many of the conductors also had characteristics permissive of a massive sulphide origin.

Detailed exploration was conducted on 16 grids to pinpoint the conductors and evaluate them. An accompanying table "Summary of Grid Work" outlines the content of this work.

Regional exploration included the collection of soils as well as stream sediments on most of the drainages through the area. This was accompanied by mapping where outcrop or angular float were present. In addition 28 lake bottom sediments

were retrieved using a helicopter and a special sampling device ("bomb").

All geochemical samples were analysed by Vangeochem Lab Ltd for Pb, Zn, Cu, Ag and Ba. A small proportion were also analysed for Au.

Final Report:

Not all analyses have been received, and some 70 maps require drafting. It is anticipated that the report will be completed and forwarded to the Mining Recorder by 15th November 1982.

Costs:

A general statement of costs is attached, and also notes indicating how the costs were assigned for the purposes of the representation work.

David Arscott

David Arscott
Kerr Addison Mines Ltd

13th Sept. 1982

Personnel Employed

Kent Project - 1982

Name	Function	Period Employed (on site)
F. Chow	Manager	11 June – 14 Aug.
D. Arscott	Geologist	11 June – 13 Sept.
J. Harrop	Geological Assistent	11 June – 26 Aug.
M. Lowrie	Geophysical Assistent	11 June – 2 Sept.
P. Gregory	Field Assistent	11 June – 2 Sept.
D. Bennett	" "	11 June – 1 Sept.
B. Coates	" "	11 June – 2 Sept.
M. Baknes	" "	11 June – 1 Sept.
M. Levy	Cook	11 June – 9 Aug.
B. Mason	Cook	10 Aug – 4 Sept.

D.A.

480,000E

480,000E
6,690,000N

6,700,000N

490,000E

FRANCES RIVER

CAMPBELL HWY.

500,000E
6,700,000N

CABIN CREEK

RIVER

490,000E

FRANCES

Grungebag L.

'A' GRID

26W
16W
L 83N

Scumbag L.

'M' GRID

3W
0
27E
L 77N
32E
L 70N
L 16E

Target L.

'J' GRID

'K' GRID

'I' GRID

'L' GRID

79W
66W
L 37N
L 50W
57W
43W
L 26N
L 21N
L 12W
15W
0
L 10N
24W
L 2S
106W
94W
L 10S
107W
84W
L 15S
108W
98.5W
L 20S

TOM CREEK

HWY

LIARD

RIVER

CAMPBELL

PEPPER L. GRID

82W
74W
L 61S
99W
72W
L 65S
78W
L 69S
L 82W

CAMPSITE

500,000E
6,670,000N

Pepper Lake

Cabin

6,670,000N

6,690,000N
510,000E

6,680,000N

510,000E

LEGEND

GRAVITY LINES

OTHER GRID LINES

SCALE 1 : 50,000

500 0 500 1000 2000 3000
Metres

KERR ADDISON MINES LTD.
- KENT PROJECT -
WATSON LAKE MINING DIVISION - YUKON TERRITORY

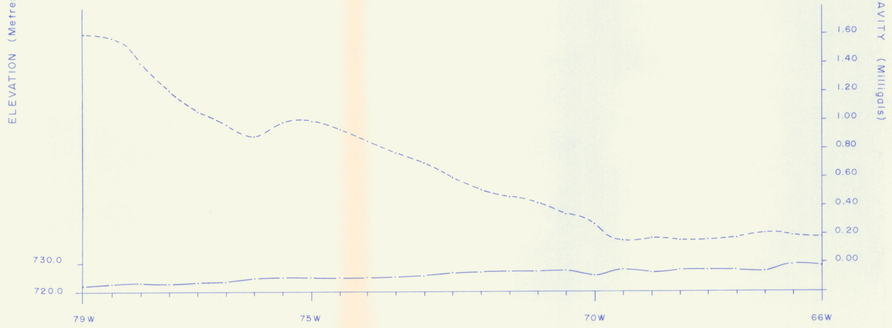
GRID & LOCATION MAP

091396

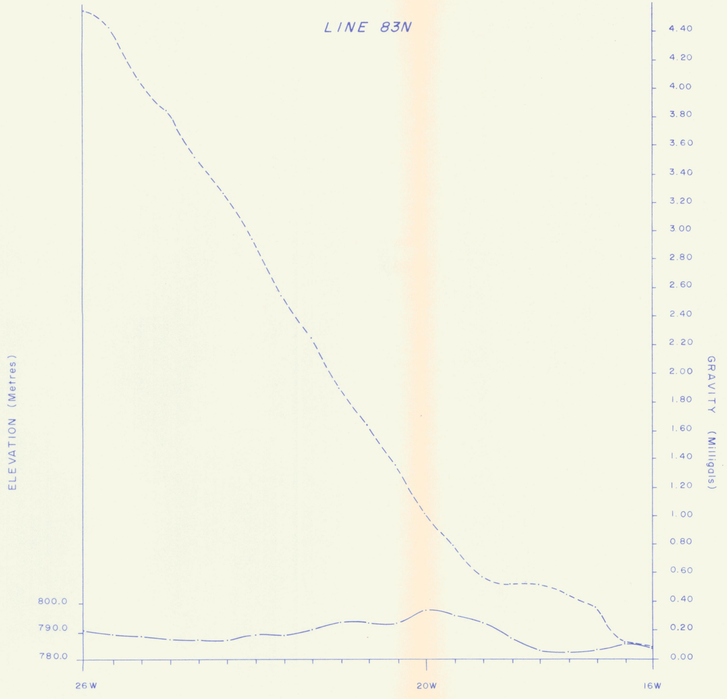
Ager, Berretta & Ellis Inc.
Vancouver, B.C.

DWN. BY: E.W.	FIG. NO.
CHK. BY:	2
DATE: SEPT. 1982	

LINE 37N



LINE 83N



GRAVITY

ELEVATION

2.67 DENSITY FACTOR FOR BOTH LINES



KERR ADDISON MINES LTD.

– KENT PROJECT –

WATSON LAKE MINING DIVISION – YUKON TERRITORY

ELEVATION & GRAVITY PROFILES

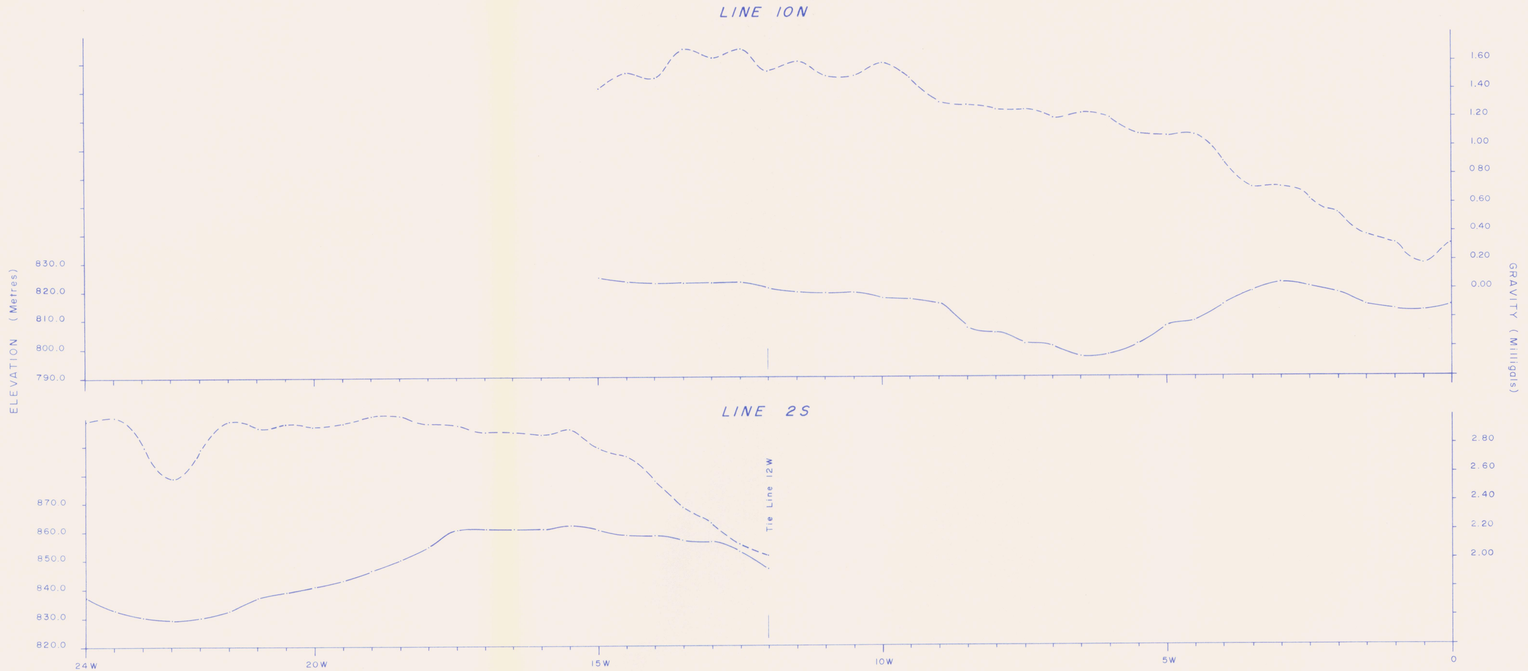
'A' & 'J' GRIDS

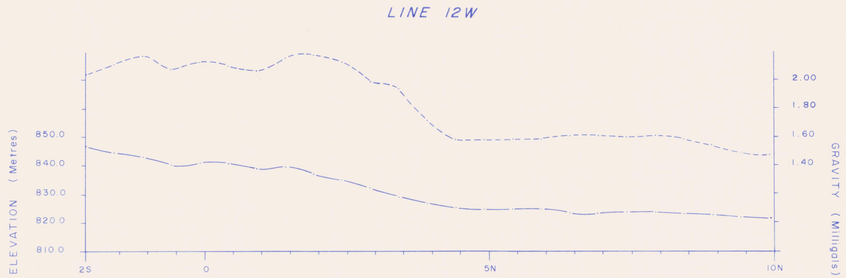
LINES 83N & 37N

Ager, Berretta & Ellis Inc.
Vancouver, B.C.

DWN. BY: E.A.
CHK. BY:
DATE: SEPT. 1982

F. & N. NO.
3





GRAVITY

ELEVATION

2.59 DENSITY FACTOR USED FOR THIS GRID

50 0 50 100 200 300
Metres

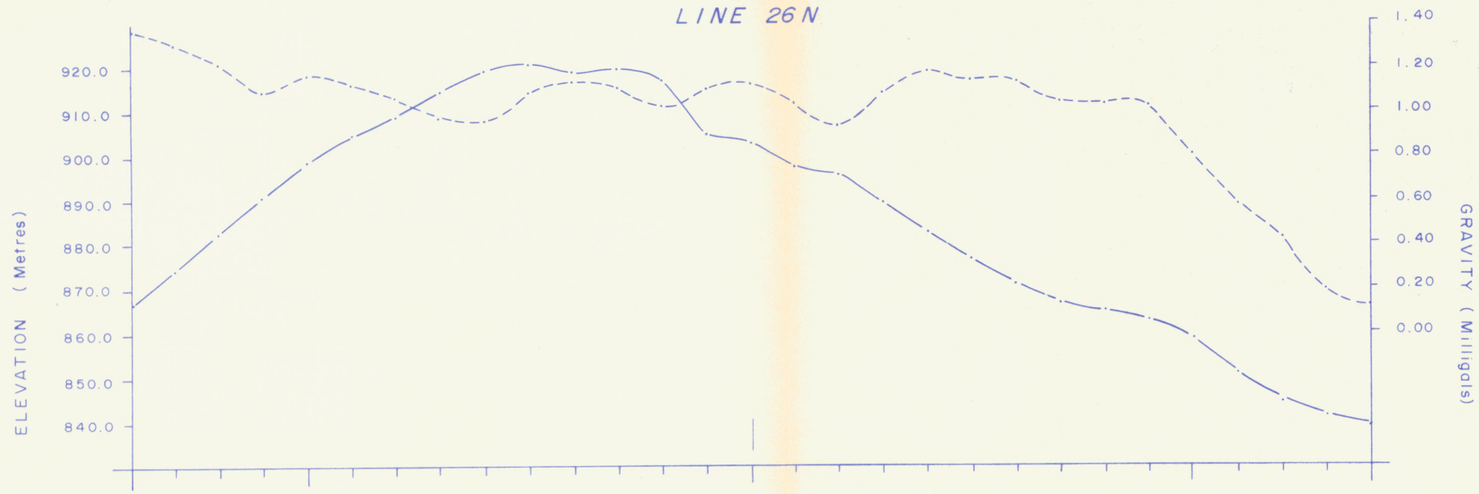
KERR ADDISON MINES LTD.
— KENT PROJECT —
WATSON LAKE MINING DIVISION - YUKON TERRITORY

ELEVATION & GRAVITY PROFILES
'I' GRID
LINES 10N, 2S, 12W.

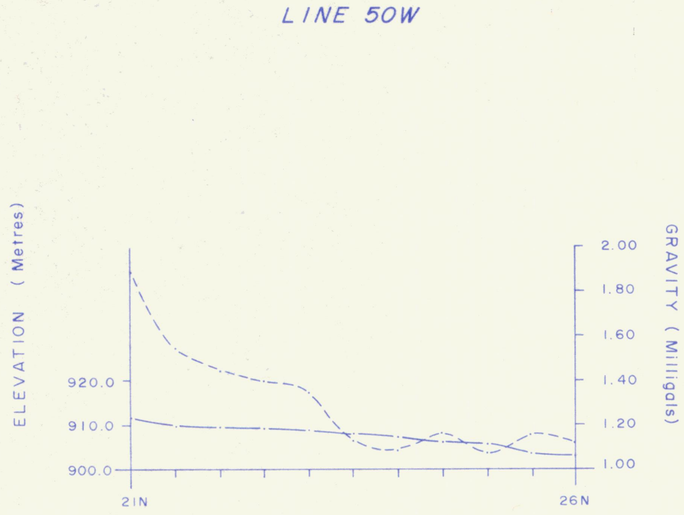
Ager, Beretta & Ellis Inc.
Vancouver, B.C.

DWN. BY E.W.
CHK. BY
DATE SEPT. 1982

FIG. NO. 4







KERR ADDISON MINES LTD.

– KENT PROJECT –

WATSON LAKE MINING DIVISION – YUKON TERRITORY

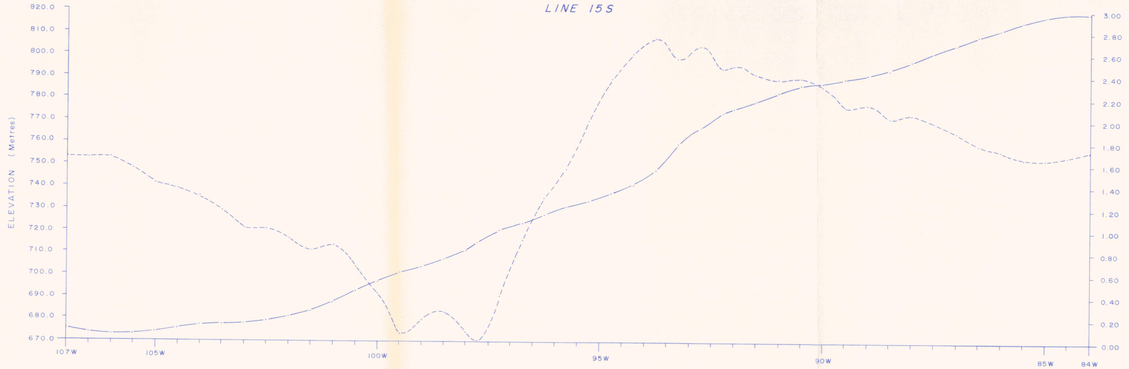
ELEVATION & GRAVITY PROFILES

'K' GRID

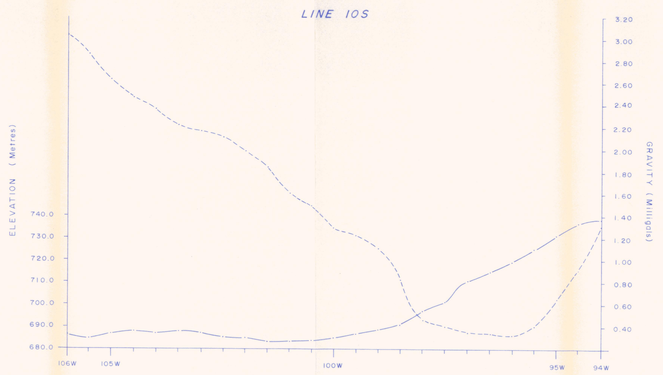
LINES 26N, 21N, 50W.

Ager, Berretta & Ellis Inc. Vancouver, B.C.	DWN. BY E.W. CHK. BY DATE SEPT. 1982	FIG. NO. 5

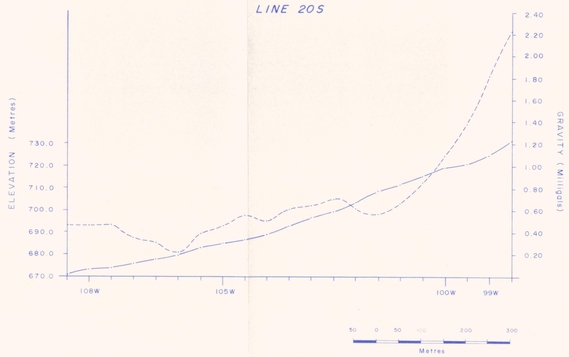
LINE 15S



LINE 10S



LINE 20S



GRAVITY

ELEVATION

2.90 DENSITY FACTOR USED FOR THIS GRID

KERR ADDISON MINES LTD.

– KENT PROJECT –

WATSON LAKE MINING DIVISION – YUKON TERRITORY

ELEVATION & GRAVITY PROFILES

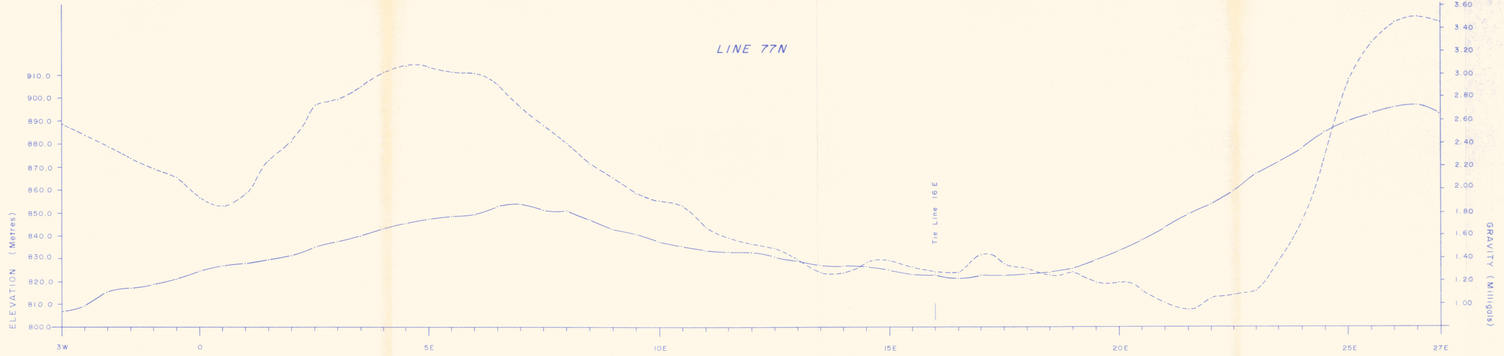
'L' GRID

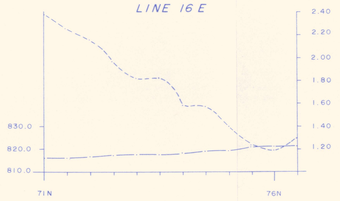
LINES 10S, 15S, 20S.

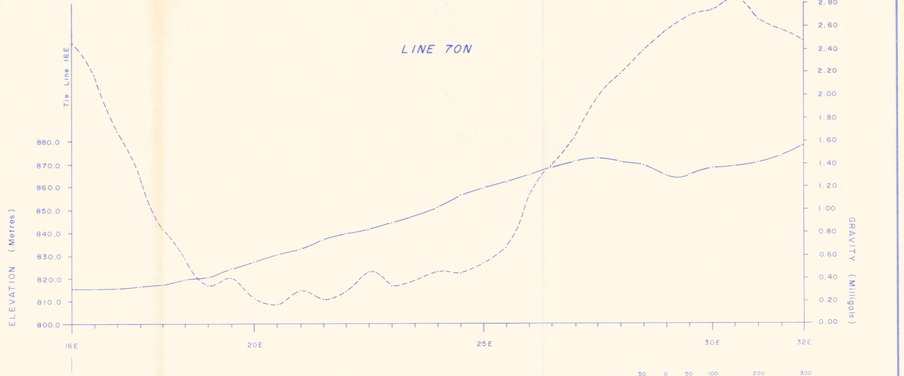
Ager, Berretta & Ellis Inc.
Vancouver, B.C.

DWN. BY E.W.
CHK. BY
DATE SEPT. 1982

FIG. NO. 6







GRAVITY

ELEVATION

2.67 DENSITY FACTOR USED FOR THIS GRID

KERR ADDISON MINES LTD.

- KENT PROJECT -

WATSON LAKE MINING DIVISION - YUKON TERRITORY

ELEVATION & GRAVITY PROFILES

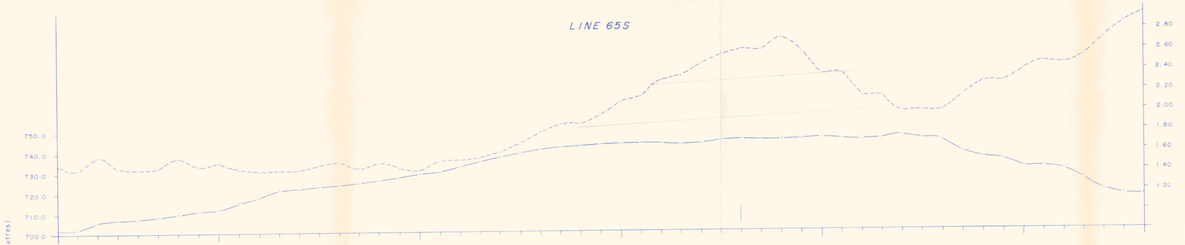
'M' GRID

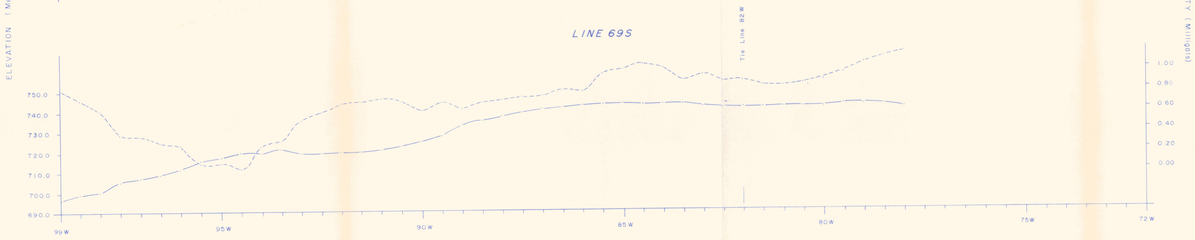
LINES 77N, 70N, 16E.

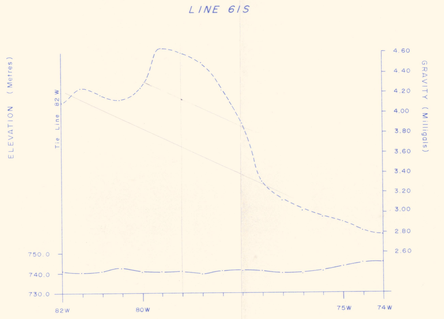
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Vancouver, B.C.

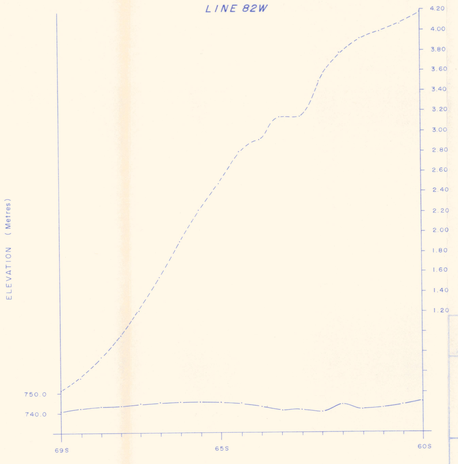
DWN. BY E.W.
CHK. BY
DATE SEPT. 1982

FIG. NO. 7









GRAVITY

ELEVATION

2.80 DENSITY FACTOR USED FOR THIS GRID

Metres

KERR ADDISON MINES LTD.

- KENT PROJECT -

WATSON LAKE MINING DIVISION — YUKON TERRITORY

ELEVATION & GRAVITY PROFILES

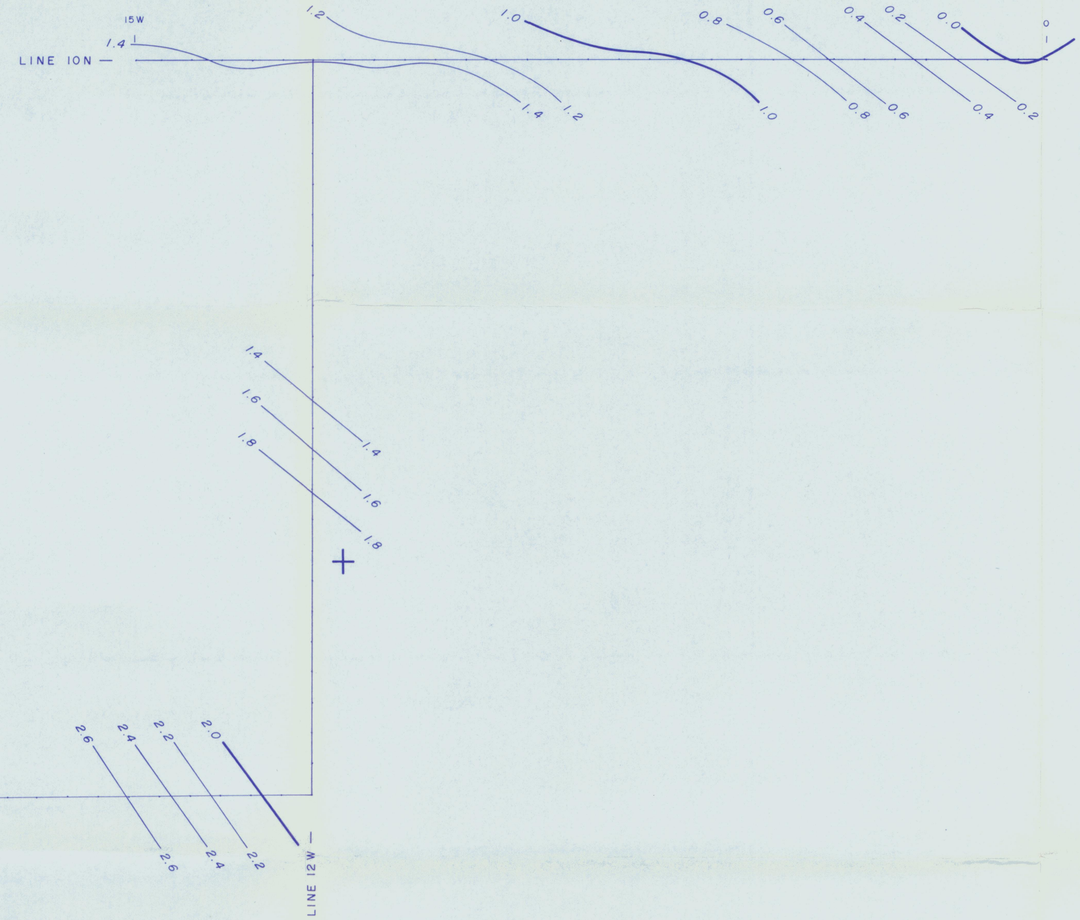
PEPPER LAKE GRID

LINES 61S, 65S, 69S & 82W

Ager, Bernasek & Ellis Inc.

Consulting Engineers

8



50 0 50 100 200 300 400

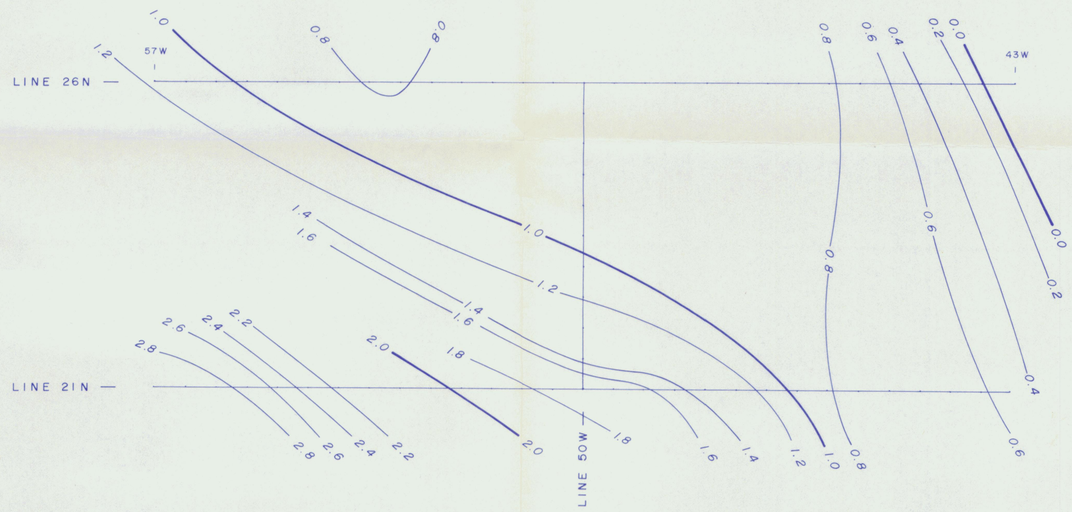
Metres

KERR ADDISON MINES LTD.
- KENT PROJECT -
WATSON LAKE MINING DIVISION - YUKON TERRITORY

COMPLETE BOUGUER GRAVITY MAP
contour interval : 0.2 milligal
'I' GRID

091396

Ager, Berretta & Associates Inc. Vancouver, Canada	DWN. BY: E.W. SCALE: 1 : 5,000 DATE: SEPT. 1982	FIG. NO. 9



50 0 50 100 200 300 400

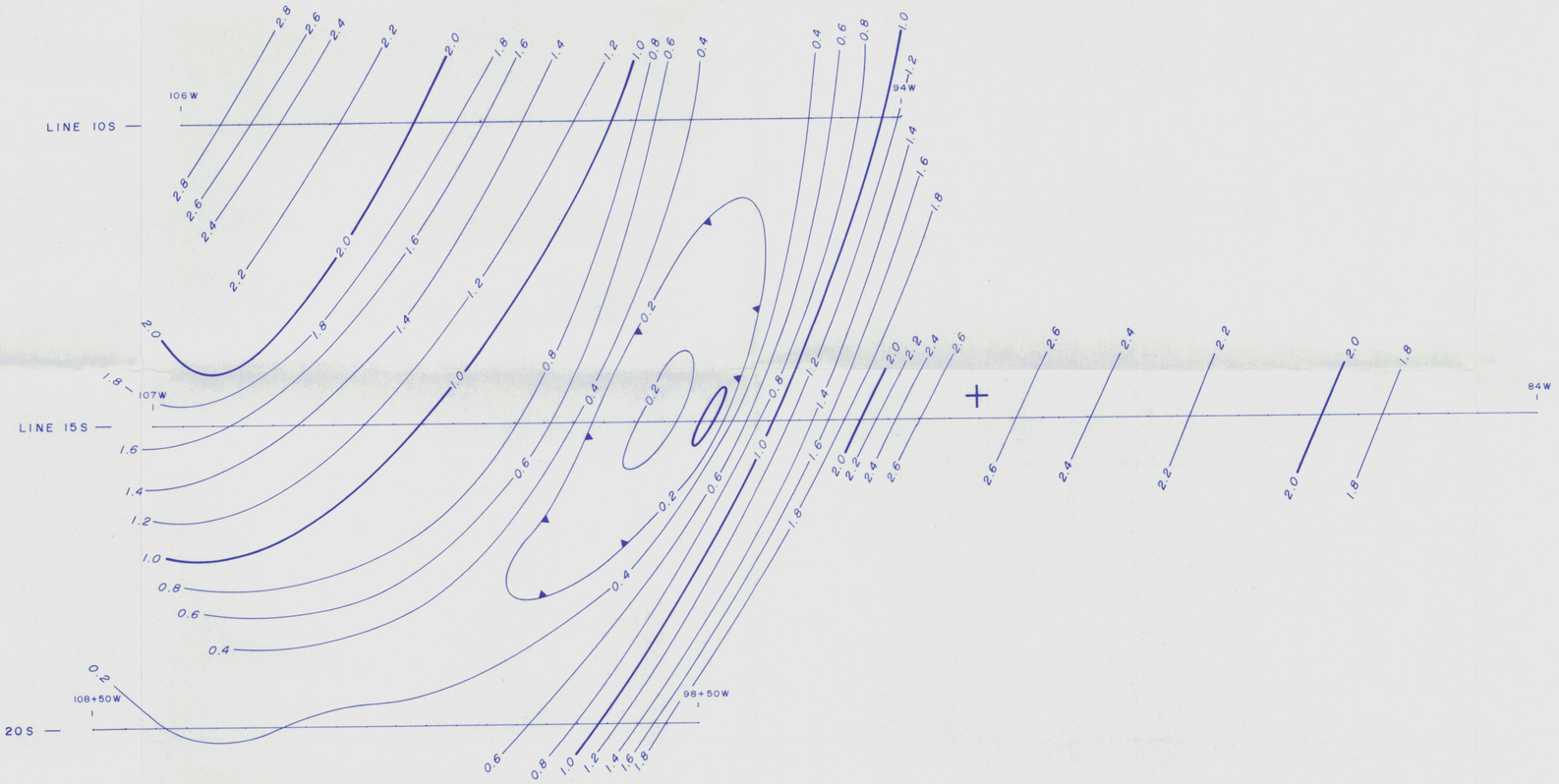
Metres

KERR ADDISON MINES LTD.
- KENT PROJECT -
WATSON LAKE MINING DIVISION - YUKON TERRITORY

COMPLETE BOUGUER GRAVITY MAP
contour interval : 0.2 milligal
'K' GRID

091396

Ager, Berretta & Associates Inc. Vancouver, Canada	DWN. BY: E.W. SCALE: 1 : 5,000 DATE: SEPT. 1982	FIG. NO. 10



50 0 50 100 200 300 400

Metres

KERR ADDISON MINES LTD.

– KENT PROJECT –

WATSON LAKE MINING DIVISION – YUKON TERRITORY

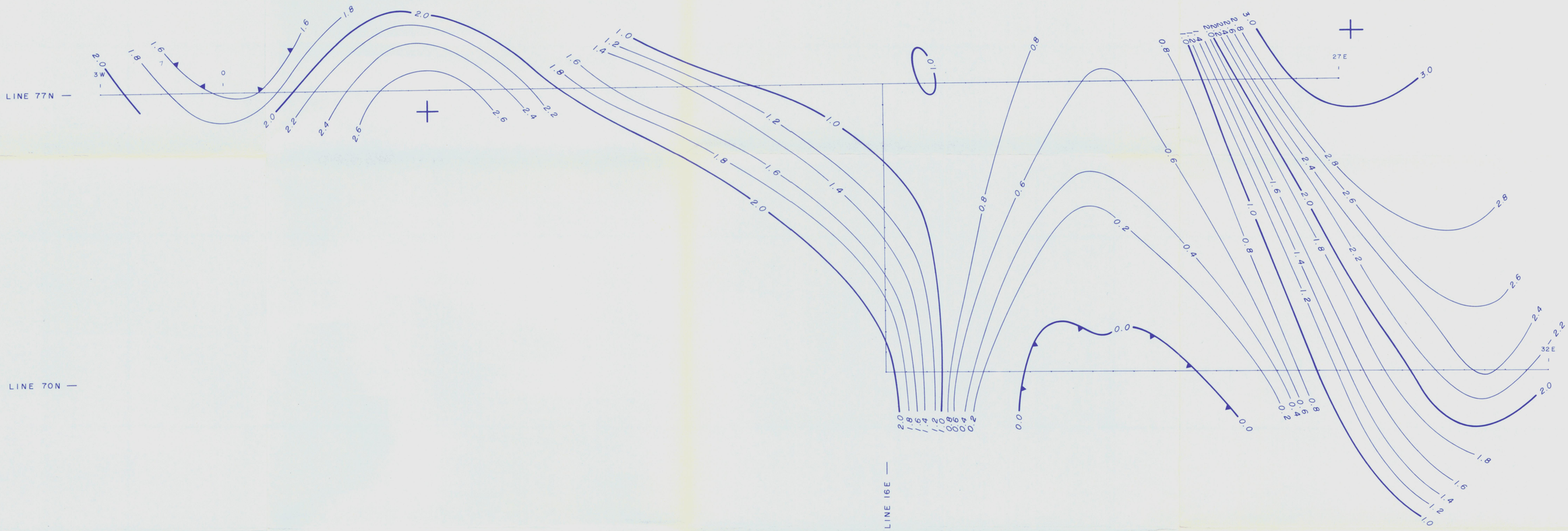
COMPLETE BOUGUER GRAVITY MAP

contour interval : 0.2 milligal

091396 'L' GRID

Ager, Berretta & Associates Inc.
Vancouver, Canada

DWN. BY: E.W.	FIG. NO.
SCALE: 1:5,000	11
DATE: SEPT 1982	



50 0 50 100 200 300 400

Metres

KERR ADDISON MINES LTD.
- KENT PROJECT -
WATSON LAKE MINING DIVISION - YUKON TERRITORY

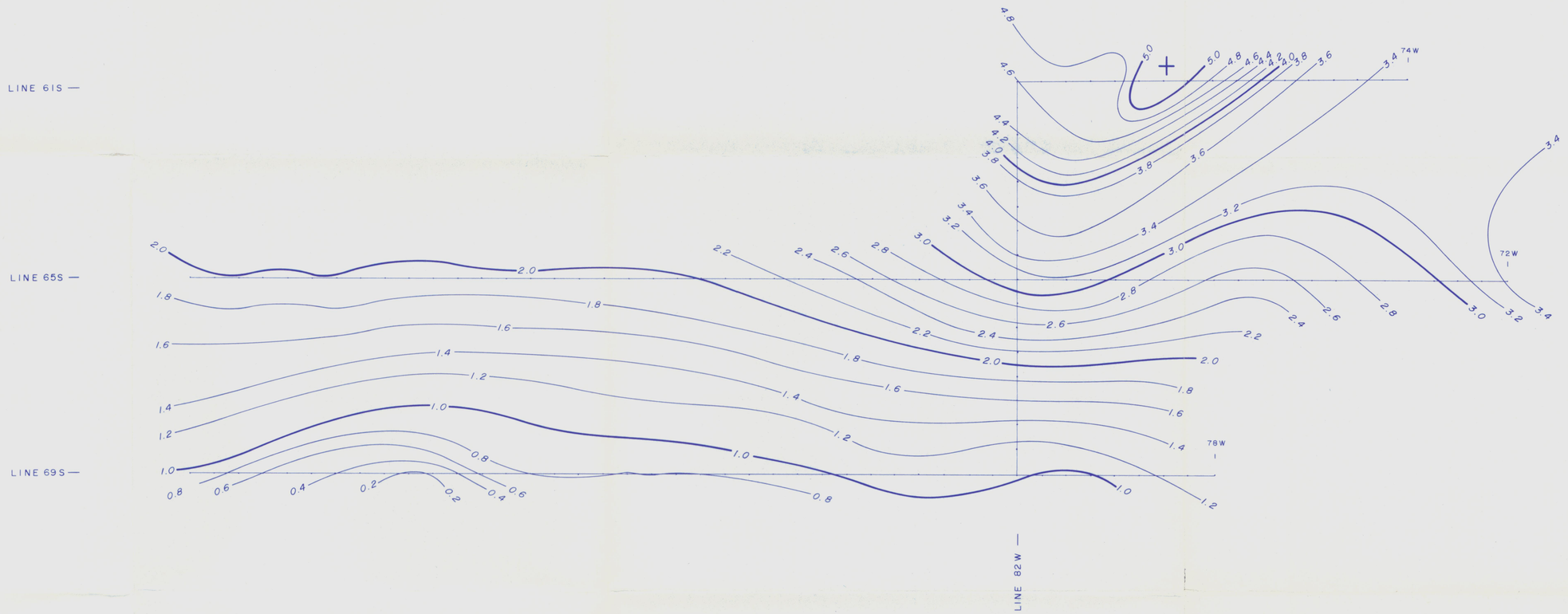
COMPLETE BOUGUER GRAVITY MAP
contour interval : 0.2 milligal
'M' GRID

001396

Ager, Berretta & Associates Inc.
Vancouver, Canada

DWN BY: E.W.
SCALE: 1: 5,000
DATE: SEPT. 1982

FIG. NO. 12



50 0 50 100 200 300 400

Metres

KERR ADDISON MINES LTD.
- KENT PROJECT -
WATSON LAKE MINING DIVISION - YUKON TERRITORY

COMPLETE BOUGUER GRAVITY MAP

contour interval : 0.2 milligal

001296

PEPPER LAKE GRID

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Vancouver, Canada

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SCALE: 1:5,000
DATE: SEPT 1982

FIG. NO. 13