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THE CONSOLIDATED SYNDICATE

S.P.L. 129 - TRIAL HARBOR AREA

WESTERN TASMANIA

PROGRESS REPORT, AUGUST 1974

RECOMMENDATIONS FOR 1974-75

*L. A. Newnham*

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RENISON LIMITED  
August 1974.

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**Volume 2**

Scale: 1: 5 000

SPL 129 Trial Harbour Area :

Lines 1W, 2W, 3W, 4W, 5W, 0, 1E, 2E, 3E, 4E, 5E, 6E, 7E, 8E, 9E, 10E,  
 11E, 12E, 13E, 14E, 15E, 16E, 17E, 18E, 19E, 20E, 21E, 22E, 23E, 24E,  
 25E, 26E, 27E, 28E & 29E

1. SUMMARY:

Following a full evaluation of work previously completed on or adjacent to S.P.L. 129 by other companies, five small areas are considered to possibly warrant further exploration: four south and one east of the Heemskirk Granite.

Work required on these areas may include geological mapping, geochemical soil sampling, ground magnetic surveys, and possibly some limited I.P. - resistivity surveying.

Target types sought are basically cassiterite - sulphide - quartz fault infillings or favourable host rock replacements. Such host rocks may either be primary carbonate beds or altered ultramafic and mafic intrusives.

The primary source of the ore bearing fluids would have been cusps or cupolas in the Heemskirk Granite.

## 2. INTRODUCTION:

Background information on S.P.L. 129 is contained in a Consolidated Syndicate report titled:

"S.P.L. 129, Trial Harbor Area, Preliminary Exploration Proposals". Newnham, March 1974. In this report, two recommendations were made, viz. that Area 2 (South of Zaehan) of S.P.L. 129 be relinquished and secondly that further detailed work be undertaken on Area 1.

When the licence was renewed on 18th July 1974, Area 2 was relinquished in accord with these recommendations. Further, detailed re-evaluation of work undertaken by other companies in the general vicinity of the remaining licence area was undertaken.

This included a geophysical reinterpretation by J. Irvine of geophysical data collected south of the Heemskirk Granite by the E.Z. Coy. in the late 1960's. Irvine's report is attached as Appendix 2.

In addition to this data compilation and re-evaluation, some field mapping was undertaken by Geologist R. Lees, of Renison during Autumn 1974.

## 3. GEOLOGY: (Refer to Maps 2 and 3)

Reconnaissance mapping by Renison in the Trial Harbor area since March 1974 suggests several justifiable alterations to the long accepted Mines Department 1" = 1 mile geological map sheets. Each of the Formations present is discussed briefly below.

Precambrian Quartzites and the Onah Formation:

The Onah Formation, more traditionally known as the Onah Quartzites and Slates and regarded as part of the upper Precambrian is now used at Renison to describe a lower Cambrian succession of fine grained sediments which is conformable with, and is often gradational with the Crimson Creek Formation.

The Precambrian Onah Quartzites and Slates mapped south of the Heemskirk Granite by previous workers is regarded as being lithologically similar to the Onah Formation at Renison and also appears to be conformable with the overlying Crimson Creek Formation. Thus these sediments, generally shales, thin quartzite beds and well laminated mudstones are regarded as being lower Cambrian and being equivalent to the Onah Formation at Renison. They generally dip steeply south.

However the quartzites and shales in the Tenth Legion Fault area have not been observed as yet by the authors and it is thus premature to also term them Cambrian Onah Formation. They are thus left on Map 2 as Precambrian Quartzites. They generally dip either steeply south or north which may reflect some tight E-W folding in the vicinity of the Tenth Legion Fault.

Crimson Creek Formation:

This formation conformably overlies the Onah Formation south of the Heemskirk Granite and is now believed to be more widespread and more lithologically complex than previously thought. On S.P.L. 129, it is represented by a thick

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sequence of argillitic sediments, tuffs, basic volcanics and shallow basic intrusives, all extensively metamorphosed by the Heemskirk Granite.

A considerable amount of petrographic work was undertaken by W. Fander on the Formation and the results of this work are attached as Appendix 1.

As shown on Map 3, the rocks lying east of Mayne's Workings are now regarded as belonging to the Crimson Creek Formation and not the Donah Formation. They have possibly been moved north by a fault east of Maynes which had a sizable transverse movement.

In general, the Crimson Creek Formation rocks observed on S.P.L. 129 were broadly similar to those observed in the same stratigraphic position at Renison, except that the Red Rock Member and the No. 1 and No. 2 carbonates were absent.

Disseminated sulphides (pyrite, pyrrhotite, chalcopyrite) were widespread, and in some units, became quite strong (e.g.) in a 15-30m wide laminated leucoxenic argillite at 1N between lines 2E and 5E (sample 3075), and in the metasomatised and altered lithic tuffs in Pykes Creek (samples 3113, 3117, 3121). In the metabasalts east of line 20E, fine sulphides are frequently associated with tremolite veining.

Fine, indurated Crimson Creek Formation sediments on the northern contract of the ultramafic frequently contain narrow magnetite veins.

Post Cambrian Formations on S.P.L. 129 are well documented elsewhere and are not commented on further here.

Cambrian Mafic and Ultramafic Intrusives:

The intrusion of middle upper Cambrian mafic and ultramafic bodies is widespread within the licence area. They range from peridotite and dunite dykes (?) to gabbroic and microgabbroic sills or dykes. Because they weather readily, they are often covered by swamps or deep alluvium.

The well known Trial Harbor ultramafic body consists of peridotites and dunites which have been extensively serpentinitised (by the nearby granite?). Some differentiation of the body may have occurred as the northern portion has low Ni-Zn soil sample values and is very magnetic compared with the southern portion. The I.P. - resistivity survey results detected a distinct "change" in the ultramafic between 2S and 4S on 2W and at 6S on 3W. This apparent differentiation may be as a result of metamorphism associated with the Heemskirk Granite.

The amphibolites in the Tenth Legion Fault Area have been so intensely altered by the granite that their original form is not understood. They now exist over a couple of square kilometers as massive outcrops of magnetite - diopside - carbonates (dolomites) and various other calc-mag. metasomatic minerals. Sulphides are widespread - chiefly pyrite, chalcopyrite, arsenopyrite, galena, sphalerite. These are discussed in more detail below.

Heemskirk Granite:

No additional information on this large intrusive was obtained during the current survey. Metamorphic effects of the intrusion are seen throughout S.P.L. 129 in almost every rock type present.

4. MINERALISATION:

The targets sought in this area by the Syndicate are replacement or fault infilling bodies of the Zeehan and Renison types, formed by the concentration of suitable hydrothermal solutions emanating from the Heemskirk Granite. Several small occurrences of this type are known within the licence area and are discussed briefly below;

Mayne's and Kelvin's Workings:

These workings consist of a collection of small shafts, trenches and adits which produced about 140 tonnes of tin between 1901-1906. Most of the workings lie within 150m of the granite contact and the tin was won from a series of thin, short quartz-pyrite-tourmaline veins. Reports on the area are of poor quality, but it would appear that the veins were randomly orientated, almost in a "stockwork" form, and that they were thin (few m.m. - 1.5m).

It is estimated that the granite would be less than 100m beneath these workings.

Kynance (Silver Stream) Mine:

These small orebodies apparently lie on fault zones or crushed altered zones within highly altered Precambrian (?) sediments and possibly Cambrian mafics. Some writers ((e.g.) Waller, 1903) attribute the deposits and the alteration to the iron rich hydrothermal solutions from the Heemskirk Granite which were travelling along the Tenth Legion Fault towards Zeehan and becoming decreasingly Fe poor and sulphide rich. Others would attribute the alteration simply to the metamorphic effects of the Heemskirk Granite and that late stage hydrothermal solutions found these altered zones favourable for ore deposition.

The Kynance workings appear to lie within two lodes, probably corresponding to faults. The Copper Lode is just a direct continuation of the Tenth Legion Fault but contains less Fe than at Tenth Legion. The lode is cut by several small and one long adit, where the fault is a wide (15-20m) shatter zone which has been reported as carrying 9.3% secondary Cu and 60g/m.t. Ag over a 1.0m interval. The Main Lode strikes N.E along the eastern side of 62M/40, and hosts the principal deposits in the area. It is capped by a 5-10m gossan. There are two adits into the lode, one above the other and 10m apart vertically. The lower adit is 180m long and the lode is 12m wide. A considerable amount of cross cutting was done along the lode in gossan, decomposed slates, carbonates, galena and sphalerite. This lower adit was reported to have intersected some significant chalcopryrite but the records are poor. Descriptions of the 75m long Upper Adit are virtually non existent.

A reputed 165 tonnes of Pb and 270 kgs of Ag were removed from the area.

Samples both brought to Mt. Lyell by A. Clarke and N. James in Sept. 1973, and collected from the Kynance Dumps by K.O. Reid of Mt. Lyell in October 1973, generally averaged 2-4% Cu, 12% Pb, 9-13% Zn, 36-380 g/m.t Ag, trace Au. The samples collected by Mr. Reid, generally had 0.15-0.22% Sn.

About 1.75 km. S.W. of Silver Stream on the old section 5637-93M, a 4-8m wide lode of sphalerite - magnetite was located in the bank of a creek in a narrow zone of strongly altered slates and calc-silicate rocks, lying between granite to the N.W. and gabbro in the S.E.

#### 5. GEOCHEMISTRY

Geochemical soil sample surveys were undertaken by Geophoto in 1972 on a small grid west of S.P.L. 129 over the Tenth Legion Fault and by the E.Z. Company during the 1960's on a larger grid south of the Heemskirk Granite.

The results of Geophoto's survey are shown on Maps 5 (a) and 5 (b) and on composite sections (Map 6) attached to this report. They preceded their survey with an orientation program to determine background values and the best depths, fractions etc. to analyse. They chose to sample where possible at 20-50cm. depths at 25m stations and analyse for Pb, Zn and Ag in the -80 mesh fraction, Mo in the +80 -20 mesh, and Sn in the +20 mesh. No really meaningful anomalies were defined. Possibly the only real criticism of their survey was the insensitivity of their Sn method, which appeared to have a 100-200 ppm detection limit.

On the grid south of the granite, E.Z. took samples at 30m stations over most of their grid and analysed an unknown fraction for Ni, Cu, Pb, Zn. Lines 8E to 29E were also assayed for tin.

The results of their work are presented in composite section form in this report. All the normally expected background levels are present viz. low values for all metals over the granite and Donah Formation, high Ni and Zn over the ultramafics and very erratic backgrounds for most elements over the Crimson Creek Formation. (Generally about 5 times those for the Donah Formation). Some minor Cu and Pb anomalies were defined in the Crimson Creek Formation. Tin values were generally low except where samples were taken in areas where contamination is suspect, but lines 24E/12-18N and 25E/10-17N have anomalous tin which is of some interest.

Since March, a considerable number of rock samples were collected for analytical work at Renison. They were assayed for Sn, Ni, Cu, Pb, Zn, Ag and As and the results are attached in Appendix 3. The samples were collected as part of the mapping program in the area and were not intended to represent a part of any specific geochemical program.

Several large boulders of gossan float was found on a ridge 250m east of Mayne's Workings on 20.5E/14N. They assayed (2 samples) 2% tin.

6. GEOPHYSICS:

As with the geochemical work, Geophoto undertook some geophysical work on their Tenth Legion Grid and E.Z. on their Trial Harbor Grid.

Geophoto completed V.L.F. and fluxgate magnetic surveys, and their results are presented on the attached Maps 5 (c) and 5 (d) and on the Tenth Legion composite sections (Map 6). The V.L.F. survey outlined several reasonable anomalies, several of which they attributed to the presence of strong, steep faults. The magnetic surveys, as would be expected, defined large complex anomalies over altered mafic and ultramafic bodies. Thus the magnetic survey achieved little other than define the limits of these bodies, which are often swamp or alluvium covered.

The E.Z. Coy. completed fluxgate surveys over most of their grid and I.P. (moving source, frequency domain) surveys over part of the area. Their results have been interpreted by Mr. J. Irvine of Sydney whose report is attached here as Appendix 2. The raw data and Irvine's interpretation are further presented on Map 4 (2 sheets) and on the composite line profiles.

Several interesting anomalies were defined and they will be discussed further in the recommendations of this report.

7. RECOMMENDATIONS:

Four small areas south of the Heemskirk Granite and one in the Tenth Legion Fault area are regarded as the most interesting anomalous areas on S.P.L. 129 and may warrant some further exploration.

The areas are shown on Map 9 (attached) and are discussed in more detail below. <sup>Missing</sup>

Area A:

An area stretching from 0-4W has a fairly well developed I.P. - magnetic anomaly associated with the Serpentinite - Crimson Creek Formation contact, at approx. 0-5N. The geochemistry is incomplete and confusing.

The anomaly may only be due to alteration, with subsequent magnetite development, on the northern margin of the ultramafic. It is not regarded as a particularly interesting area but if further exploration is thought necessary, a small geochemical and magnetic survey would be recommended on a grid of 5 lines, each 500m long, at 200m spacings. Estimated cost - \$2000.

Area B:

This is a somewhat more interesting area stretching from 2E-5E/00-5N (approx) and corresponding roughly to the Crimson Creek - Donah Formation boundary.

Strongly disseminated iron sulphides were observed in a bed 15-30m wide in this area. A sample (3075) from 5E/2N was described as metasomatised leucoxenic argillite, and on assaying was found to contain 0.10% Sn (1000 ppm).

The magnetic coverage of the area indicated a narrow, low order anomaly of between 500-1000 gammas, but on line 5E up to 4000 gammas. This style of anomaly could be caused by a low percentage of magnetite or fairly massive pyrrhotite.

The I.P. coverage was incomplete but on each line, there was the suggestion of an anomaly developing towards this area. On line 2E where coverage was complete, a conductive/ high chargeability zone was recorded.

This area is regarded as one of the more interesting ones on S.P.L. 129 and should further exploration be thought desirable, a geochemical, magnetic survey is recommended on a five line grid with lines 500m long and spaced at 200m. Estimated cost - \$2000.

#### Area C:

This is a magnetically anomalous area in the Crimson Creek Formation lying at approx. 15S on lines 13E-17E. There was no I.P. coverage of this area, but soil samples taken by E.Z. over these lines were assayed for Sn, Cu, Pb, Zn, Ni.

The area is not well understood geologically and seems to be a mixture of tuffs, pebble conglomerates and fine clastic sediments. The magnetic response varies from about 2500 to 16,000 gammas and is considered to be too high for pyrrhotite. The zone is mildly geochemically responsive but this may simply be a function of normal background levels of a thin dyke such as a microgabbro or basic tuff in the area.

Area C is not given a high priority but if further exploration is thought necessary, it is recommended that the area be mapped and soil sampled on a 5 line grid, lines being 500m long and spaced at 200m. Estimated cost - \$4000.

Area D:

This is a larger area than the preceding three stretching from 20E to 26E and from 00N to the granite. It is probably underlain by Crimson Creek Formation rocks but this is not certain.

There are quite a number of sizable geochemical anomalies present but some of these, particularly the tin ones, are probably transported from the granite or Mayne's Workings.

The only I.P. coverage was on line 24E, where the strong magnetic results suggest the area is underlain by a small serpentinite body.

The tin geochemistry is quite interesting on some lines. On 20E, there is a broad 250m low order Sn-Cu anomaly on the sediments adjacent to the granite but it falls in a topographically low area. A gossan sample in this area averaged 2% Sn. On 21E, there is a similar anomaly but

occurring more on a ridge. On both of these lines there is a broad, significant magnetitic response.

On line 22E/15-20N, a high tin response correlates with an interpreted deep, broad magnetitic body. There is no other geochemical response present. The peak tin response may have been due to contamination in the nearby creek which flowed off the granite.

Line 24E is very interesting because of the very high tin values on soils between 12N-16N being associated with strong magnetic response and a weaker I.P. - low resistivity response.

The same thing is seen on line 25E, where a strong broad tin anomaly was associated with a 5000 gamma magnetic anomaly. On line 26E, most anomalies have disappeared, apart from some small sporadic geochemical anomalies.

This area is possibly worthy of further attention as it is probably underlain in part at least by altered, metasomatised mafic intrusives, which would have presented favourable host rocks to stanniferous solutions from the granite. The existence of broad, high order tin anomalies is further encouragement.

If further work was to be undertaken in this area, it should consist of detailed mapping, deep soil geochemistry and magnetic surveys on a 6 line grid, with 1000m long lines spaced at 200m intervals. Estimated cost \$5000.

Tenth Legion Area:

Two types of orebodies may be present in the Tenth Legion Area, (i.e.) Ag - Pb - Zn or Sn replacement deposits and fault infillings. Replacement would presumably occur mainly in altered ultramafics and mafics. The Ag - Pb - Zn orebody type is not thought to be a really worthwhile target in this area as it is unlikely that the very large deposit that would be required would have been developed.

With respect to tin deposits, favourable host rocks and faults to provide migration channels are certainly present. If there was a suitable cupola type source present, then it is possible Renison type orebodies may have developed.

Outcrop in the area is generally very poor.

Geophysical methods would be difficult to apply due to the presence of altered mafic and ultramafic rocks, swamps, variable unknown rock types etc., however, interpretation should be assisted if such surveys were combined with mapping and geochemical surveys.

If further work is thought justifiable in this area, a combined I.P. - magnetic - geochemical soil sampling survey in conjunction with mapping is recommended on a 10 line grid, with lines 1500m long and 200m apart. Estimated cost - \$15,000.

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SPL 129 TRIAL HARBOURAPPENDIX IPETROLOGICAL DESCRIPTIONS OF SAMPLES

3035 (TS 14260): K stain weakly positive.

An altered lithic sandstone - medium grained poorly sorted and essentially unbedded. The framework (about 75%) is dominantly quartz and altered fine grained indeterminate lava fragments with subordinate impure chert, shale and sericitised feldspar grains. The matrix now consists of pale phlogopitic biotite which together with tremolite has replaced much of the lithic material. Alteration is (? contact) metasomatic in character, disseminated pyrrhotite is present.

3037 (TS 14261): K stain positive.

An incipiently weathered and somewhat altered rhyolitic tuff. Clastic material mainly feldspathised (devitrified) lava fragments with scattered quartz and feldspar crystals and vague shard-like features in places. The rock has been brecciated on a micro-scale, silicified in places and carries thin K feldspar veinlets. Patches of sericite occur sporadically with minor chlorite, traces of ? vesuvianite and sparsely disseminated magnetite and ? pyrrhotite.

3045 (TS 14262): K stain weakly positive.

This is a garnet-prehnite-quartz-epidote rock or skarn - mainly epidotised granular grossular-andradite and coarse prehnite with interstitial quartz, feldspar, and variably oxidised sideritic carbonate. Patches of chlorite with epidote and minor tremolite occur sporadically. Vesuvianite may have been present. Minor traces of sulphide (pyrite with subordinate ? chalcopyrite) are present. The rock is non-fluorescent but Mo, W assay may be warranted.

3046 (TS 14263): K stain weakly positive.

Thoroughly altered but thought to have been a weakly laminated silty argillite. It now consists largely of

cloudy ultrafine tremolite with relict silt-sized detrital quartz grains scattered throughout. Occasional coarser patches of tremolite may represent sand-sized lithic detrital fragments, poikilitic carbonate grains are common. The cloudy nature of tremolite is almost certainly due to argillic inclusions.

Small patches of pyrrhotite are common.

3053 (TS 14264): K stain negative.

An essentially unaltered silty shale - consists largely (90%) of unorientated illite flakes with slightly coarser detrital mica flakes and subangular siltsized quartz dispersed throughout. The rock is well indurated, essentially unbedded and lacks evidence of metamorphism apart from incipient recrystallisation of argillaceous components. Limonite-stained fractures occur sporadically. Fe-staining originates from fine (oxidised) sulphide probably "syngentic" pyrite.

3054 (TS 14265): K stain virtually negative.

A metasomatised medium grained lithic sandstone. The framework (70-75%) is mainly lithic fragments, subangular to subrounded quartz with a little altered feldspar. Lithic material is extensively tremolite-actinolitised and largely indeterminate (possibly altered lava fragments) although chert-metaquartzite fragments are common. Some linear patches of tremolite-actinolite have the appearance of metasomatised fossil (bivalve) fragments. The altered matrix consists similarly of fine grained tremolite-actinolite with relict patches of cherty quartz in places. The rock is moderately well sorted and weakly bedded.

Fine carbonaceous material (? graphite) is common and probably metasomatic. Oxidised pyrrhotite comprises perhaps 2-3% of the section, a little red (Fe-rich) almost opaque? sphalerite is present (should be verified by Zn assay).

3056 (TS 14266): K stain positive.

A tremolitised lithic sandstone, similar and closely related to 3054, but slightly coarser grained. Lithic material is mainly chert and metaquartzite (recrystallised chert) but cryptofelsitic (devitrified) potassic lava fragments are also common these being less extensively altered than

previously (3054). Quartz is modally finer than the lithic material and this rock is not well sorted although weakly bedded. The altered matrix (15-20%) consists mainly of tremolite-actinolite.

Fe-staining originates from sparsely disseminated sulphides with minor virtually opaque ?sphalerite (sim. 3054 and possibly detrital).

3057 (TS 14267): K stain weakly positive.

A weakly tremolitised laminated silty argillite - almost entirely ultrafine semi-random clay flakes with fine silt-sized (5-30 $\mu$ ) angular quartz grains dispersed throughout. The mesoscopic layering is barely detectable in thin section but manifest partly in the distribution of ultrafine leucoxenic TiO<sub>2</sub>. This is enhanced by the distribution of fine secondary tremolite. The metasomatism is rather incipient, however, fine grained sulphide (? pyrrhotite) is fairly common.

3063 (TS 14268): K stain virtually negative.

A layering silty argillite similar and closely related to 3057 (3046), but incipiently brecciated and extensively altered.

Brecciated areas are healed with semi-fibrous tremolite-actinolite which is also pervasive throughout the rock fragments. Pyrrhotite is common throughout the section.

3064 (TS 14269): K stain negative.

A thoroughly sericitised but unsheared lithic-vitric tuff. The rock may have been ignimbritic although this is rather speculative at this stage of alteration. It consists almost entirely of ultrafine random sericite, which has replaced shards and pumiceous fragments, and cherty microcrystalline quartz. Occasional fragments of quartz are present with rare sericitised feldspar grains. These are minor constituents. Non-pyroclastic material (chert fragments, also siltstone, argillite, metaquartzite) occurs scattered throughout the section. Some of the altered pumice fragments show fine linear microtextures which may represent collapsed drawn out vesicles. No sulphides detected.

3072 (TS 14270): K stain negative.

This is a weakly stressed lithic sandstone. The framework is dominantly platey shale fragments with subordinate chert (pure and argillaceous varieties) subangular to subrounded quartz, minor feldspar and scattered sericitised fragments of felsite. The matrix (about 15%) consists of incipiently sheared/recrystallised illite. Fe-staining is quite marked and originates at least in part from disseminated sulphide.

3075 (TS 14271): K stain weakly positive (micas).

Appears to have been a laminated leucoxenic argillite probably similar to 3063 (3057, 3046). The rock has been incipiently brecciated and contact hornfelsed/metasomatised. It now consists largely of fine tremolite and very pale phlogopitic biotite with patches of sericite and relict laminated leucoxene. Fine grained Fe-sulphide is sparsely disseminated throughout the section.

3078 (TS 14272): K stain weakly positive.

An altered (biotitised) felsic igneous rock with a vague lithic fragmental fabric (? dacitic lithic tuff or clastic lava). Relict sericitised plagioclase crystals persist in places. The matrix/groundmass consists of cryptogranular quartzo-feldspathic material with pervasive development of pale phlogopitic biotite (similar 3075, 3035) and a little colourless tremolite and minor pale tourmaline. Sparsely disseminated pyrrhotite is present.

3081 (TS 14273): K stain weakly positive.

This is a weakly recrystallised soft pebble conglomerate. The rock consists essentially of fragments of argillaceous quartzite in a matrix of highly deformed bedded silty shale. The quartzite consists of granular interlocking (overgrown) quartz with illite flakes along the grain boundaries and scattered detrital heavy mineral grains (tourmaline, zircon, rutile, sphene). The shales is mainly illite-hydromuscovite with patchy chlorite, detrital silt-sized quartz and fairly abundant oxidised fine opaques (? syngenetic pyrite). Bedding is disharmonically microfolded and commonly displaced along microfolds. Secondary poikilitic apatite occurs sporadically, the rock is essentially unmetamorphosed.

3085 (TS 14274): K stain weakly positive.

A metasomatised clastic sediment evidently a tuffaceous lithic sandstone. It consists almost entirely of random subfibrous to acicular tremolite and interstitial ultra-fine talc. Much of the tremolite is pseudomorphous of feldspar crystals and angular, variably sized lithic fragments. Silt to fine sand-sized detrital quartz grains are fairly common and somewhat layered in their distribution. The rock is very poorly sorted.

Sparsely disseminated fine grained ? pyrrhotite is present.

3113 (TS,PS 14344)

This is a diopside-actinolite-phlogopite (vesuvianite-magnetite) rock with disseminated sulphides. Diopside is a very pale brownish variety (trending towards hedenbergite) and tends to occur in granular aggregates enclosed in phlogopite with thin marginal films of magnetite. Elsewhere this same fabric is outlined by actinolite and phlogopite and it appears to be a relict feature suggesting the rock may be a metasomatised fragmental (? lithic tuff). Phlogopite is texturally late and partly replaces actinolite, it is accompanied in places by talc and Mg-chlorite. Vesuvianite occurs sporadically interstitially to diopside, a little apatite is present.

Sulphides (about 2% by volume) tend to occur at the cores of the altered "fragments" partly as granular aggregates but also as finer interstitial (to diopside/actinolite) skeletal patches. The majority is pyrrhotite with subordinate pyrite and traces of chalcopyrite (<1% of total). Pyrrhotite and to a lesser extent pyrite are partly replaced by marcasite, pyrite is also locally replaced by goethite, chalcopyrite is fine (<30 $\mu$ ), tends to occur in thin veinlets or included in pyrrhotite and is unaltered.

3117 (TS,PS 14345)

Considered to be a thoroughly altered lithic tuff probably related to 3113, this rock consists largely of fine pale phlogopitic biotite and finer sericitic white mica. It is stained throughout with leucoxene, and sulphides with patchy development of coarse apatite and euhedral sphene, granular Mn-epidote. A vague relict fragmental fabric is

outlined by the distribution of phlogopite and sericite with the fragments containing a little relict feldspar and minor amounts of tremolite.

Sulphide relationships are very similar to 3113 with granular pyrrhotite common in the altered fragments and subordinate amounts of pyrite which tends to occur as finer more evenly disseminated grains. Marcasite is common as an alteration of both pyrrhotite and pyrite. Minor traces of fine (gen.  $< 20\mu$ ) chalcopryite are present.

### 3121 (TS, PS 14346)

Similar to 3117 (by inference also 3113) and thought to have been a relatively coarse lithic tuff. "Fragments" in this case contain a little relict plagioclase but now consist largely of prehnite and tremolite with subordinate fine? talc and a little apatite. The matrix similarly consists mainly of fine prehnite, sericite and pale phlogopite with abundant leucoxene, a little tremolite and disseminated sulphides.

Pyrrhotite with subordinate pyrite are fairly common interstitially to prehnite in the altered fragments. Much of sulphide, however, occurs as finer ( $< 30\mu$ ) disseminations in the altered matrix. Marcasite after both pyrrhotite and pyrite is common and chalcopryite although relatively abundant compared to 3113 and 3117 is still of rather minor importance.

### 3125 (TS 14347)

This is perhaps best termed an actinolite-cordierite-sphene hornfels. The rock clearly represents a hornfelsed basalt and contains relict igneous features (random altered plagioclase laths and an "ophitic" microtexture). Sphene evidently represents altered primary ilmenite and cordierite occurs in poorly defined poikilitic sheets. Probably some Ca-Si metasomatism has occurred, this would explain the presence of actinolite as against the more normal cordierite-anthophyllite assemblage (similarly, development of sphene from ilmenite).

No sulphides were detected.

3127 (TS 14348)

This rock (an actinolite hornfels) is similar and thus evidently closely related to 3126, but was primarily coarser grained (a microgabbro). Plagioclase is almost completely actinolitised although a vague relict "ophitic" fabric persists. No cordierite was positively identified, but its presence is suspected.

The rock carries secondary sphene, poikilitic apatite and sporadic strongly poikilitic magnetite euhedral frequently with biotite inclusions. Minor fine grained sulphide is present.

3147 (TS,PS 14349)

This rock is clearly recognisable as an altered, bedded and incipiently graded, lithic tuff (? tuffaceous lithic sandstone). This also tends to reinforce (by retrospect analogy) interpretation of 3113, 3117 and 3121 as such.

The fragments are extensively altered to pale actinolite with subordinate phlogopitic biotite (a little relict feldspar is present) and the altered matrix consists of finer actinolite and phlogopite stained throughout with ultrafine leucoxenitic? sphene. A little secondary magnetite is present and sulphides relatively common particularly interstitially to the coarser actinolite.

Sulphide paragenesis is virtually identical to that in 3113, 3117, 3121 with major pyrrhotite accompanied by subordinate/minor pyrite, a little replacive marcasite and minor traces of fine (<20 $\mu$ ) chalcopyrite.

3177 (TS 14350)

This is an altered tuffaceous lithic sandstone (or tuffaceous greywacke). Clastic components are fine to medium sand sized and mainly subangular quartz and actinolitised lithic material with subordinate recrystallised chert, rare feldspar grains, a little felsite and occasional well rounded zircon. The altered matrix (about 30% and variable) consists of fine actinolite and phlogopitic biotite stained throughout with leucoxene. The rock shows evidence of slumping, a little fine pyrrhotite is present.

3182 (TS, PS 14351)

This almost certainly represents a thoroughly metasomatised basalt or microgabbro although the evidence is sketchy. The rock consists largely (about 75%) of fairly fine grained ferrohastingsite with interstitial saussuriticly altered feldspar and disseminated (? relict) ilmenite partly altered to sphene. Hastingsite occurs partly in thin veins with sphene, disseminated sulphides and a little apatite.

Sulphides are mainly extensively marcasitised pyrite with subordinate marcasitised pyrrhotite and chalcopyrite. Chalcopyrite is relatively abundant and coarse (to 100 $\mu$ ) but very sporadic in its distribution; it occurs largely marginal to the altered pyrite.

3195 (TS 14352)

Similar and closely related to 3182, this rock contains occasional saussuritised relict calcic plagioclase phenocrysts in an altered ground mass of random saussuritised plagioclase laths and interstitial hastingsite (optically variable but mainly ferrohastingsite). Subhedral grains of a pale green alkali pyroxene (? aegerine), occur sporadically, sub- to euhedral sphene is common as is fine (? relict) ilmenite, no sulphides were detected.

The rock is reasonably identified as an alkali-metasomatised porphyritic microgabbro.

D. Cowan, B.Sc.

P.S. The phlogopitic mica which occurs sporadically throughout these rocks is optically identical to the "Renison" phlogopite.

*APPENDIX II*

COMBINED GEOPHYSICAL INTERPRETATION

OF

THE TRIAL HARBOUR AREA, TAS.

FOR

THE CONSOLIDATED SYNDICATE

BY

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SYDNEY, N.S.W.

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SUMMARY

The further interpretation of an I.P. and resistivity survey supplemented with some magnetic data revealed the need for further work as the present area of interest is inadequately covered. As a minimum amount of overburden is encountered, shorter dipole spacings are required for adequate resolution.

There is a definite need to conduct an E.M. test survey in the area. Laboratory tests on samples from the Renison area clearly indicate the possible existence of E.M. responses.

COMBINED GEOPHYSICAL INTERPRETATION

OF

TRIAL HARBOUR AREA, TAS.

FOR

THE CONSOLIDATED SYNDICATEINTRODUCTION

At the request of Mr. L. Newnham, Chief Geologist for Renison Limited and operators of the syndicate project, the author conducted a further interpretation of a previously conducted Induced Polarization and Resistivity Survey plus a magnetometer survey conducted by the Electrolytic Zinc Co. of Australia Ltd.

The purpose of this further interpretation was to correlate all geophysical data and attempt to identify the source of responses by geophysical means.

The previously interpreted McPhar I.P. survey is lacking the detail necessary for the re-appraisal of the property for tin deposits.

GEOLOGY

The geology of the area is well known and well mapped for easy reference with the geophysics. The Heemskirk granite contact is well defined and it's position is essential for interpreting possible tin lodes. The Cambrian sediments present, are the same as those hosting the tin lodes at Renison and tin is known to exist at the Mayne's Mine located in the eastern portion of the survey area.

PRESENTATION OF RESULTS

The McPhar I.P. and resistivity results are presented on standard pseudo cross-sections at a scale of 1" = 200ft. The geochemical, geophysical, geological data and topography are presented in profile form with various vertical scales and a horizontal scale of 1:5000. A plan shows all grid lines, geology, and the location of all the interpreted zones of I.P. responses. The metrification of the maps versus the imperial scale of the I.P. cross-sections proved inconvenient.

DISCUSSION OF THE RESULTSLINE 5W

Only I.P. and resistivity results from a 200ft dipole are available for this traverse as no other data was collected. The I.P. and resistivity results are incomplete to the north, but a contact at 4N is expected. The material to the north of the contact has an apparent resistivity of 40-80 ohm-meters (20-40 ohm ft/2pi x 2). The I.P. results are not as well defined as the resistivity, but there is an increase in the I.P. effect north of the base line. A possible deep seated I.P. response (200ft) occurs at 4-6N. A narrow, moderate response at 1S is directly associated with a low resistivity zone located on the surface. Another resistive "dike" is located between 4S and 6S.

LINE 4W

This line also requires further I.P. coverage to the north for the proper positioning of a response located from approx. 3N and northwards.

This zone of response has very strong magnetic response associated with it at 2N. An analysis of this magnetic response reveals the following:

dip - 80° North

thickness - 100ft - centered at 1 + 80N

depth of burial - 50ft

susceptibility - 16,000 c.g.s. units (10% magnetite)

It occurs at the contact of the serpentine and the Crimson Creek formation.

As the exact positioning of the I.P. response by the dipole - dipole method is only accurate to approximately  $\pm \frac{1}{2}$  dipole, (in this case, 100ft) the magnetic response could be directly associated with the southern edge of the I.P. response. The resistivity of the I.P. response does occur within the Crimson Creek formation and may extent northward into the Oonah quartzites. At approx. 2-3S, a deep seated (100ft or greater) L.P. response occurs in the serpentine. The resistivity results would indicate that this zone is slightly more resistive than its surroundings. The remaining portion of the traverse is essentially uniform and is not considered to be of any significant interest.

#### LINE 3W

As this line was surveyed with a 100ft dipole, a more detailed picture is available and the zone of response can be more accurately established. An I.P. response occurs between 0 and 1N, directly associated with a zone of lower resistivity and a strong, but negative magnetic response. This negative response could be due to remnant magnetism which is stronger than the induced portion. The positive, but narrow magnetic response at 11S has no I.P. response associated with it.

The resistivity results indicate a change of material north of 1N. Also, the I.P. effect has not fallen to normal background levels suggesting the possible existence of sulphides. However, data is incomplete and the background effect over the granites would be necessary to complete the line. Complete data coverage extends only to 3N, whereas the granite contact occurs at 7N.

Resistivity results also indicate a less resistive zone at 1-2S. This would occur in the serpentine and could represent shearing.

The zone of low resistivity at 5-6S is associated with a creek and a distinct change in the I.P. response. A definite change in the serpentine has occurred south of this point.

#### LINE 2W

The I.P. and resistivity results indicate a distinct change, in that strong banding occurs from 5S to 0+00. The mapped geology is serpentine and the resistivity results suggest strong shearing at 1-2S and a resistive zone occurs between 3 and 4S. Data is incomplete north of 3N and a distinct break occurs between 3 and 4N. The I.P. results from 1N and northward indicate a low response on the surface, but increasing with depth. The strongest I.P. response occurs at 1-2S, directly associated with the zone of low resistivity. A magnetic response is centered at 1S. There is a marked fall-off in the I.P. response from 2-4S suggesting a distinct change in environment. The resistivity results show a resistive "dike" between 3S and 4S, and south of 4S, a distinct change in the material which is all mapped as serpentine. All the zones mentioned are expected to

be exposed at the surface.

Although it's not strongly evident in the resistivity results, there is a distinct change in the physical properties in the rock type south of 27S. This area is covered by alluvium and beach sands, but it is suspected that 27S is the contact of the sediments and serpentine.

#### LINE 1W

The magnetic response centered at 0+00 would appear to have the same northerly dip as that one on line 5W. Also, this response occurs just inside the edge of the serpentine (0+50N). The magnetics clearly indicate that the serpentine in contact with the sediments north of 0+50N is of a different character than the serpentine contacting the sediments south of 21S. However, the strongest geochemical response for nickel occurs at 20S.

The resolution of the I.P. and resistivity data is not as good as on lines 4W and 3W as the contractor reverted back to a 200ft dipole. All the area examined to this point requires a 100ft dipole for resolution and does not require the 200ft dipole for depth of penetration. Consequently, the anomalous portion exists from 4S to the northern limits of the survey at 3N with the strongest response occurring from 1S to 3S. Further work to the north is required to adequately cover the granite contact. A resistive "dike" occurs at 5S and could be the boundary for the southern limit of the I.P. response.

As on line 2W, there is a distinct change in the I.P. response at the southern end of the line. From 28S and continuing to the south. Geologically, this correlates with the Crimson Creek Formation. The resistivity response shows an increase in electrical resistivity from approx. 26S and to the south, suggesting that the geological change actually occurs before the change in the I.P. response. As this is covered by beach sands, no definite geology can be correlated.

#### LINE OW

This line was surveyed its entire length with a 200ft. dipole and from 16S to 32S with a 50ft dipole. The strongest I.P. response occurs from 00 to 3S. Geologically, the response occurs in the serpentine, but against the contact with the Crimson Creek Formation. This response has a direct magnetic response and the resistivity response indicates a zone of low resistivity directly associated with it.

The serpentine - Crimson Creek Formation contact shows clearly in the I.P. results at 28S. The strongest I.P. response in this portion of the Crimson Creek Formation occurs at 34S. The detail results indicate a narrow zone between 30S which has a higher resistivity associated with it.

#### LINE 1E

The results indicate a very low resistivity zone at 0-1N. The I.P. results are incomplete, but a definite I.P. response does occur with this low resistivity zone. This zone should respond quite well to the EM method.

Further detailed work should be carried out over this zone. The serpentine - Crimson Creek Formation contact is mapped at 0 N/S. This places the I.P. response across the contact and in the Crimson Creek sediments. The magnetic response is centered at 5S, well within the serpentine body.

A minor I.P. response with associated low resistivity occurring at approximately 10S is associated with a limonite cap on the serpentine.

At approximately 29S, the I.P. results indicate a definite change in physical property. A narrow zone of higher resistivity is associated with the change. The strongest I.P. response here occurs south of 30S.

#### LINE 2E

A deep seated I.P. response located from 2S-6S is of special interest as it is located within the Crimson Creek Formation. An analysis of the data at 3S suggests that the response occurs under a depth of burial of 200ft. The calculated PFE is 20%. The resistivity results compliment the I.P. results in that a very strong change occurs at 200ft. The resistivity of the deeper zone was calculated to be much less than 10 ohm - meters. The best I.P. "fit" is for the resistivity of the deeper layer to be approximately 100 ohm-meters. This discrepancy, is believed due to distortion of the apparent results by adjacent features. The resistivity results also indicate an isolated zone of high resistivity on the surface from 2-6S. Although, the results are incomplete to the north, a low resistivity zone is expected to come to the surface at approximately 1N. The I.P. results are generally high in this area and are geologically associated with the Onah Quartzites.

-8-

The very strong magnetic response centered at 9S is 200ft from the serpentine - sediments contact and occurs in the serpentine. A steeply, southerly dipping body is the cause.

The I.P. results clearly show a second serpentine-sediment contact at 26S as the I.P. response south of 26S are of considerably greater amplitude than those from across the serpentine.

#### LINE 3E

A narrow I.P. response at 3S has low resistivity and a magnetic response directly associated with it. The magnetic response does not have sufficient detail, but it's assumed that the body is vertical. This body would occur in the Crimson Creek Formation and against the contact with the Oonah Quartzites. The results are not complete to the north, but there exists a possible response at 2N within the quartzites.

Another I.P. response at 7S also occurs within the Crimson Creek Formation, but against the serpentine contact. A depth of burial of about 50ft is expected. The resistivity results indicate that a thin, resistive surface layer exists which is underlain by a low resistivity rock unit. A magnetic response occurs at 8S, on the contact between the serpentine and the sediments. A near vertical source is expected. The magnetic response at 10S occurs from within the serpentine. A narrow, weak I.P. response occurs at 11S and the resistivity results indicate a possible contact environment.

Another narrow I.P. response occurs in the serpentine at 26+50S and occurs against the contact with the sediments. A weak zone of lower resistivity is directly associated with it.

#### LINE 4E

The readings are suspected to be of doubtful validity in the northern portion of the surveyed line and should be ignored. A response at 0 N/S and buried at a depth of 50-100ft is associated with a contact environment. A moderate magnetic response occurs at 2N which could represent the contact of the Crimson Creek Formation, with the Oonah Formation.

The I.P. response at 4S occurs from within the serpentine and has a magnetic response and a zone of low resistivity associated with it.

The very strong magnetic response at 11S is probably 150ft wide and dips steeply to the south.

The detail spread clearly shows a narrow zone of response in the serpentine at 25-26S. A zone of lower resistivity is directly associated with it. Further south, at approximately 31S, another zone may occur, but the data is incomplete.

#### LINE 5E

The 200ft dipole data clearly illustrates the need for a 100ft dipole or less on this property as the resolution is insufficient. An I.P. response occurs at approximately 8S and appears to be at least 100ft wide. Adjacent to this at approximately 7S, a narrow zone of low resistivity occurs, but does not come to the surface as the I.P. response is expected to.

-10-

A magnetic response is centered at 6S. A steep northerly dip and a width of 50-75ft is expected.

The mapped contact of the Crimson Creek-Oonah does not relate very well with the resistivity results. The resistivity results show a distinct contact or boundary condition, at 1S. A magnetic response at 1N occurs from within the Oonah Formation and due to incomplete I.P. coverage, the only confirmed I.P. response in the vicinity of the magnetic response occurs at 1S.

An I.P. response at 13S is directly associated with a magnetic response and a contact environment. As this body occurs within the serpentine, magnetite is suspected as the source of the response.

A narrow I.P. response occurs at 27+50S; within the serpentine, and has a zone of low resistivity directly associated with it. Another I.P. response could possibly exist south of 32S.

#### LINE 6E

The general pattern has changed somewhat in that as the section of the Crimson Creek Formation widens considerably, several new features appear. Within the Crimson Creek Formation, a coincident magnetic and I.P. response of interest is located at 5-8S. This would occur at a depth of approximately 100ft. Resistivity results clearly indicate that a zone of high resistivity overlies the I.P. response. A weak I.P. response appears to be associated with the Oonah - Crimson Creek contact.

-11-

The contact between the serpentine and the Crimson Creek Formation is well defined by the magnetic results at 11S. A narrow zone of low resistivity, and I.P. response and a well defined inflection point in the magnetic results define the contact. A magnetic response plus a weak I.P. response occurs at 14S and magnetite is suspected as the source of the response.

At the south end of the serpentine body, another weak I.P. response at 27+50S occurs. A resistive zone occurs at 28 to 29S and does not appear to have a geological explanation.

#### LINE 7E

No I.P. and resistivity results are available for this traverse. Only magnetic values taken every 100ft are available. The strong magnetic disturbance from 5-15S occurs within the Crimson Creek Formation. The response at 8S suggests a narrow zone with a southerly dip. The strong negative response at 13S, is probably due to remnant magnetism rather than induced. It is an exceptionally strong response and magnetite or a large percentage of pyrrhotite is suspected. The response at 27S is due to a body of approximately 100ft in width with a minimum depth of burial (less than 50ft).

#### LINE 8E

Again, no I.P. and resistivity results are available for this line. The main magnetic response occurs from 8S-14+50S and arises from the Crimson Creek Formation.

-12-

The strongest center of the response at 13S, suggests a vertical body of 100-200ft in width. The response centered at 24-25S is from a body of approximately 200ft in width and having at least 100ft of overburden.

LINE 9E

The magnetic response is still split with the centers being at 9S and 12+50S. Modelling this is difficult, as there is an unknown amount of interference from each source. However, by comparing the results with previously prepared models, the response at 9S has a steep northerly dip, whereas the response at 12+50S would appear to have a southerly dip. A geochemical response is coincident with the magnetic response at 9S.

LINE 10E

The magnetic response has changed considerably in that the amplitude is considerably reduced and the response occurs close to the contact with the Oonah Formation. A vertical body plus an edge effect is suspected at 10+50S. The narrow zone at 25S is from a vertical source and has an associated geochemical response.

LINE 11E

The magnetic responses on this line occur in both the Oonah and Crimson Creek Formations. A narrow vertical body at 7S occurs in the Oonah Formation and the Crimson Creek Formation has a magnetic response from 10S to 14S. The strongest response would appear to be from a steep, northerly dipping body.

-13-

LINE 12E

I.P. and resistivity readings were collected from approximately 3S to 23S with a 200ft dipole only. The I.P. pattern presented is confusing and at least 2 readings are of suspected validity. Essentially, all the values collected are of anomalous amplitude. However, sediments produce higher "background" values than other rock types and this data can be considered normal. A general zone of low resistivity exists from 9S to 15S (approximately 100 ohm-meters) with a narrow zone of low resistivity (30 ohm-meters) is located at 14S. An exceptionally strong magnetic response is centered at 13S. Analysis indicates the following:

amount of overburden -	40ft
thickness -	50ft
dip -	90°
susceptibility -	32,000 c.g.s. units

A 50ft wide body possessing this susceptibility should produce an I.P. response as the magnetite content is above 10%. Massive or very coarse magnetite crystals would not readily produce an identifiable I.P. response. Detail I.P. work is necessary to adequately resolve the location of the various bodies.

LINE 13E

Only magnetic data is available for this line and the results have changed greatly for sediments. The very strong magnetic response on line 12E has essentially disappeared. However, the magnetic disturbance is still in the Crimson Creek Formation very close to the contact with the Oonah Formation and showing effects of remnant magnetism.

-14-

LINE 14E

The magnetic results indicate a southerly dipping body centered at approximately 16S. Favourable geochemical results are associated with this body.

LINE 15E

A similar magnetic feature as on Line 14E occurs on line 15E at 15S. The body would be narrower and probably under less overburden, but still possessing a southerly dip.

LINE 16E

A narrow, probably vertical body possessing a very strong susceptibility occurs at 16S in the Oonah Formation. A strong geochemical response of tin at 3N has no magnetic correlation.

LINE 17E

A very strong geochemical response of tin has no magnetic correlation suggesting that the tin response is alluvial in nature. The previously recorded magnetic response in the Oonah Formation is not present on this line. A response of 2200 gammas occurs at 16S from within the Crimson Creek Formation. More detailed magnetic data is necessary to determine the dip.

LINE 18E

The magnetic data is greatly subdued compared to any previous line. A 600 gamma response at 14S correlates with the Oonah - Crimson Creek contact and a northerly dip is expected.

I.P. and resistivity data was collected using a 100ft dipole and covering from 10N to 18N. Several readings were not recorded and they consequently left blank spaces in the data where data was necessary. Resistivity data reveals conductive zones at 16+50N, 12+50N and 10+50N. The zone at 16+50N correlates with a geochemical response of tin. The I.P. results are not too conclusive, but weak I.P. responses occur at approximately 10N, 12-13N and 15-16N.

#### LINE 19E

I.P. and resistivity coverage was obtained from 7N to 23N with a 200ft dipole and 10N to 17N with a 100ft dipole. A zone of low resistivity and a weak I.P. response occurs at approximately 10S and located within the Oonah Formation. The detail work does not cover this zone. A fault at 13S has a very strong negative magnetic response associated with it, centered at 14S. The best I.P. response occurs at approximately 14N. This is complimented by an I.P. response at 14N on line 19.5E. A response at 17-18N has an associated zone of low resistivity and occurs at the edge of a strong magnetic response. These two zones 14N and 17N are favourable in that they have excellent geochemical response of tin associated with them.

#### LINE 20E

The magnetic character of this line has changed from the previous line in that by comparison, there is a lack of response. A 500 gamma response at 14-15N arises from a vertical body, whereas the 700 gamma response at 7N arises from a body with a northerly dip. Geochemically, there exists a favourable zone from 6N to 14N.

LINE 21E

Three magnetic responses are noted on this line. The response at 3N is associated with a faulted contact having a northerly dip. The response at 12N occurs within the Oonah Formation and also exhibits a northerly dip. The response at 8S exhibits a southerly dip and would have a width similar to the response at 12N.

LINE 22E

The unusual I.P. results here are due to a well defined body coming to the surface and disrupting a uniform current flow. Consequently, the large negative value is real. However, the absence of several readings makes it very difficult to provide a correct interpretation. Between 10S and 11S, a narrow zone of response is suspected, but due to a lack of readings, nothing can be confirmed. A zone of response between 7S and 8S is associated with a zone of low resistivity. A very strong magnetic response is centered at 8S and is believed to be directly associated with the I.P. response. This zone occurs in the Crimson Creek Formation and against the Oonah Formation.

The magnetic response at 9N has not been covered by the I.P. and resistivity survey. A steep dip to the north is expected. A magnetic response of 1400 gammas occurs at 16N and is directly associated with a geochemical response of tin. A wide zone of greater than 100ft is expected.

LINE 23E

Only magnetic data is available for this line and the character has changed considerably from line 22E. A strong negative response at 0 N/S is due to remnant magnetism.

-17-

A response of 1000 gammas at 8N arises from a south dipping body of greater than 50ft in width. A very weak response of 200 gammas is directly associated with a well defined geochemical response of tin.

#### LINE 24E

The I.P. response at 17-19N is believed to be a false anomaly from the zone of high resistivity. A very strong negative magnetic response occurs here and remnant magnetism is probably the cause. The combination of the high resistivity plus a strong magnetic response suggests cherts containing magnetite. The strong negative magnetic response at 12N is associated with a zone of higher resistivity, but not as high as the zone at 19N. An exceptionally strong geochemical response of tin at 13N.

A strong positive magnetic response of 7400 gammas occurs at 13N, but it is probably not all due to the flank effect of the strong negative response at 12N. The 100ft dipole data suggests a weak I.P. response from 12-14N. Two zones of low resistivity flank this zone at 11+50N and 14+50N. The I.P. data is incomplete, but a response from 21N to the north is clearly evident. Data collection on this line clearly shows the need for detail work to be carried out.

#### LINE 25E

Very active magnetics have been recorded on this line and a surface expression is definitely suggested. A magnetic response of 5800 gammas at 14N is directly associated with a geochemical response of tin.

-18-

The dip of this body is difficult to determine because of the interference of the strong response at 19N. However, a width of 100ft is expected.

LINE 26E

The magnetic activity is dramatically reduced compared to line 25E. A response of approximately 1200 gammas located from 18-19N and arising from a steep northerly dip may be associated with a geochemical tin response at 20N.

LINE 27E

The magnetic response is definitely quietening as only responses at 9N and 11N, plus 18N are of any significance. The responses at 9N and 11N are believed to arise from steep southerly dipping bodies and are associated with a geochemical response of tin.

LINE 28E

A 4000 gamma response arising from a south dipping body is of interest as it is associated with a very weak tin responses.

LINE 29E

A very strong dipole response in the magnetic data occurs from 15-17N. Normally, such responses are due to dipping bodies or contacts that would extend to the surface. No geochemical response is directly associated with this response.

FURTHER MAGNETIC INTERPRETATION

During the course of interpretation, a discussion with Mr. L. Newnham revealed several interesting aspects of the susceptibilities measured in the Renison area and thought to be applicable in the Trial Harbour area. The ore zone consisting of massive pyrrhotite and the hangingwall consisting of argillite have susceptibilities in the range of 5-6000 down to 10. The carbonate replacement zones have an average susceptibility of around 10,000. It was therefore, concluded that desirable susceptibilities calculated from the quantitative study would be in the order of a few thousand c.g.s. units and not likely to exceed 10,000.

All calculations were based on a thick "dike" model, having infinite strike length.

LINE 23E

The poor comparison of the flanks between the field and computed curve is due to interference from adjacent bodies which effect the shape of the pure curve.

Analysis indicate the following:

calculated susceptibility (average for entire body) -  
4500 c.g.s. units.

depth to top of body (h)	=	20ft
thickness	=	40ft
dip	=	50°S

assumed strike 090 magnetic.

LINE 25E

This response is difficult to model as both flanks exhibit strong negative responses due to adjacent bodies. The digression from the calculated response near maximum amplitude is probably due to the fact that the actual body was not of a simple, dike shape. The following values were obtained:

calculated susceptibility	=	4500 c.g.s. units
depth to top of body (h)	=	50ft
thickness	=	150ft
dip	=	90°
assumed strike	=	090° magnetic

LINE 24E

This response is probably greatly effected by the very strong negative response occuring at 12N. Consequently, it is difficult to say what portion of the response is unaffected. Several values have been given and none are unique in that an exact solution is offered.

Probably the best of the three presented is as follows:

calculated susceptibility	=	6000 c.g.s. units
depth to top of body (h)	=	50ft
thickness	=	100ft
dip	=	70°N
assumed strike	=	090° magnetic

LINE 22E

This response varies considerably from all the magnetic responses in that it represents a body of much greater thickness and at a greater depth than the other responses examined. It also exhibits a much lower susceptibility than anything else computed. The following results were obtained:

calculated susceptibility	=	2000 c.g.s. units
depth to top of body	=	200ft
thickness	=	400ft
dip	=	50°S
assumed strike	=	090° magnetic

This response is of particular interest, as there exists a coincident geochemical response of tin in the order of 5000 p.p.m. This is an exceptionally high value and has to be assumed as valid as no knowledge of the geochemical sampling is available.

LINE 19E

A good theoretical model was obtained for this response with only a minor amount of interference from other sources. The following results were obtained:

calculated susceptibility	=	4000 c.g.s. units
depth to top of body	=	20ft
thickness	=	100ft
dip	=	50°S
assumed strike	=	090° magnetic

CONCLUSIONS AND RECOMMENDATIONS

The survey presents a minimum amount of detail information in the present area of interest. The original client centered their work on the nickel bearing ultra-basics and consequently little attention was applied to the potentially tin bearing sediments.

Further work is needed to adequately cover the potential area plus adequate detail work. The original 200ft dipole is too large, a spacing for the targets presently outlined.

It is recommended that geological information is utilized to outline potential areas for further induced polarization work. If the dipole - dipole method is to be used for future work, then 100ft and 50ft dipoles are recommended in order that the proper resolution is achieved. Future work should include extending most of the lines to the granite intrusive and also surveying all lines previously deleted from the original survey.

Magnetic information available from the Renison area does not suggest favourable conditions for the full application of magnetics due to a magnetic hangingwall. Magnetite bearing cherts also provide additional problems.

Conductivity tests conducted on Renison ore samples, clearly reveal the need for an EM test survey at Trial Harbour. Excellent conductive zones at Renison should provide ideal EM targets and as the geology at Trial Harbour is similar to that at Renison, positive EM results could be expected at Trial Harbour.

As further data becomes available, the author requests that an examination of the data be made possible in order to add further information to this report.

Respectfully Submitted,

JOHN L. IRVINE  
 PROFESSIONAL GEOPHYSICIST ALBERTA  
 PROFESSIONAL ENGINEER BRITISH COLUMBIA

John L. Irvine, B.Sc. (Geoph.)  
 CONSULTING GEOPHYSICIST, Eng.,

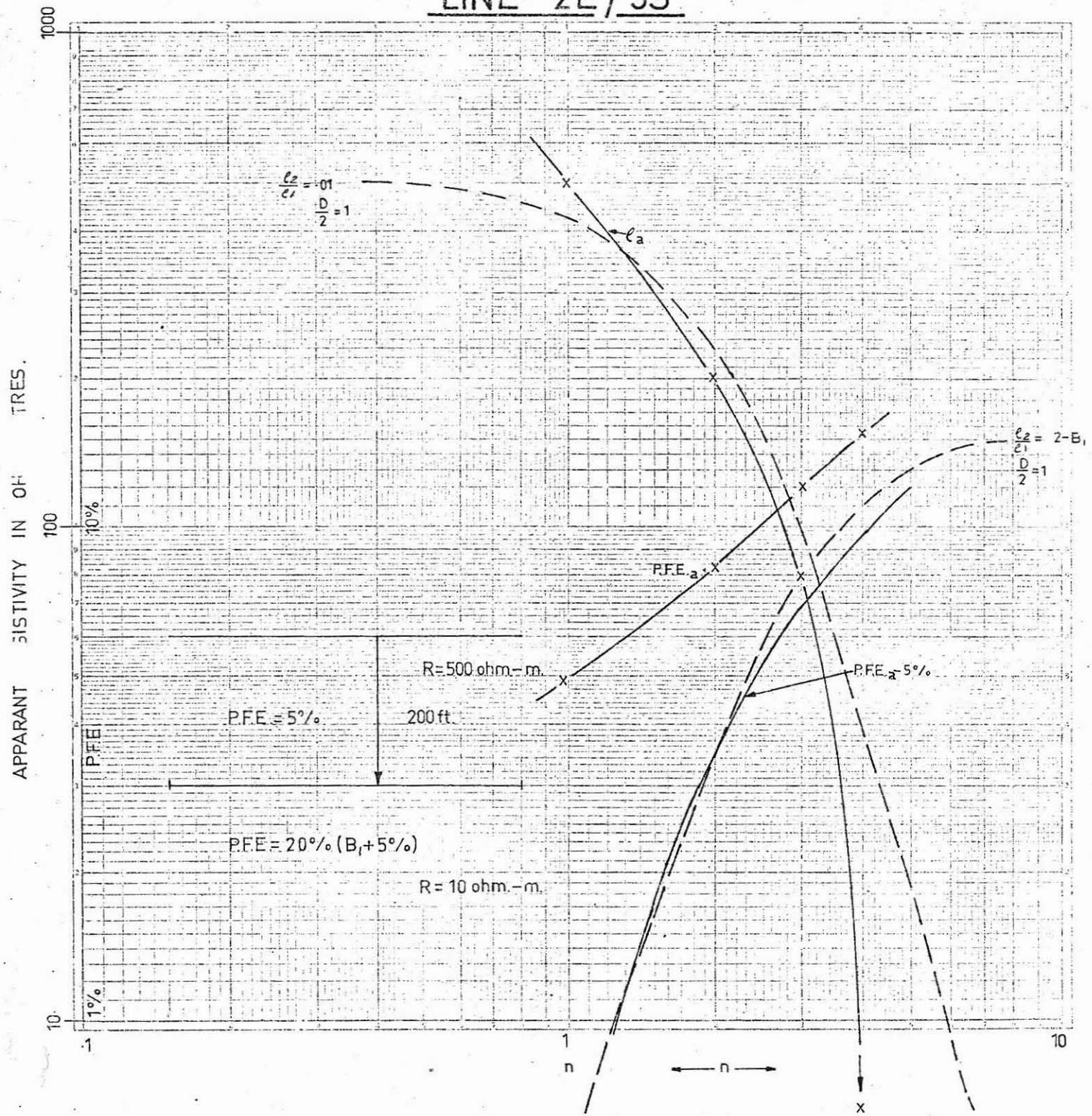
Expiry Date: July 18, 1974

021

570055

5 cm

# LINE 2E/3S



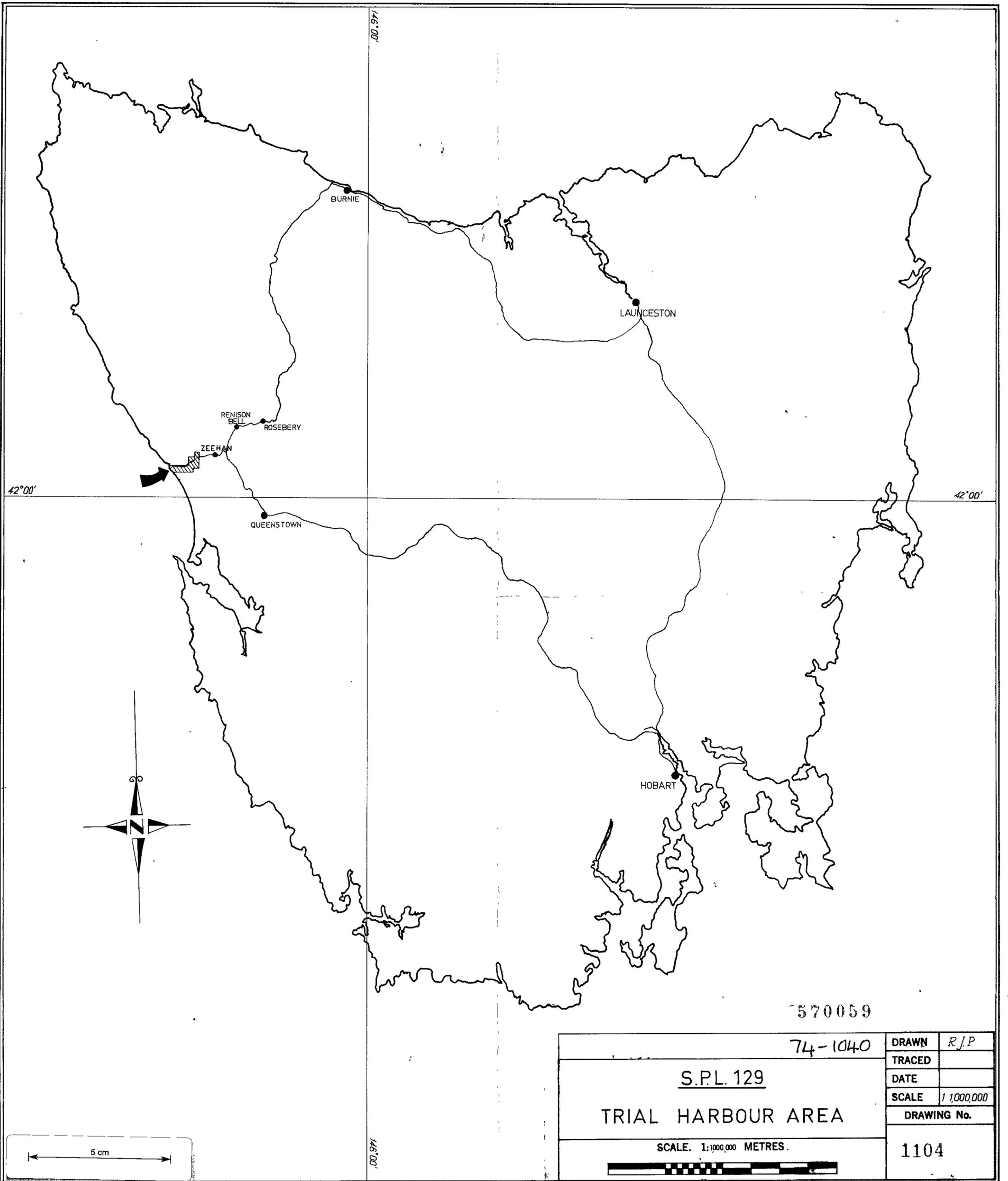
Where n = Dipole Separation.

## ROCK SAMPLE ASSAY DATA

SAMPLE NO	ROCK NAME	% Sn	% As	% Cu	ppm Ag	ppm Pb	ppm Zn	ppm Ni
3031	Gossan float	1.44	.06	.03	31	25	120	< 10
	Check sample	2.47	.04	.02				
3041	Copper ? stained sandstone.	.10	.08	.04	8	< 25	60	120
3045	Skarn	.07	.06	.05	6	35	320	50
3058	Ferruginous Laterite	.03	.11	.10	15	60	160	350
3075	Hornfelsed/ Metasomatised Leucoxenic Argillite.	.10	.05	< 0.01	8	45	100	120
3078	Altered biotitised felsic igneous rock.	.09	.09	.07	6	< 25	260	240
3079	Gossan float	.04	.42	.24	76	1800	550	190
3084	Quartzite with diss. sulph.	.05	.17	.13				
3087	Chert conglomerate with diss. sulph.	.06	.06	.05	17	25	180	100
3089	Congl. with diss. sulph.	.09	.06	.06	12	40	140	50
3090	Alter. ultrabasic pebble in conglomerate.	.23	.59	.11	5	40	200	50
	Check sample	.14	.19	.08				
3091	Gossan	.10	.08	.05	5	< 25	60	25
3095	Quartzite with with diss. sulph.	.06	.04	.05	11	< 25	120	50
3097	Chert with diss. sulph.	.09	.06	.06	< 5	40	60	180
3098	Gossan	.03	.08	.07	30	< 25	35	30
3106	Altered basic 30% Sulph.	.04	.06	.25	30	25	80	420
3113	Diopside - Actinolite phlogopite (vesuvianite-magnetite).	.06	.05	.06	25	< 25	100	380

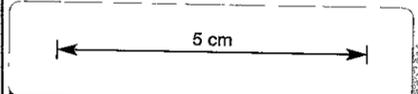
SAMPLE NO.	ROCK NAME	% Sn	% As	% Cu	ppm Ag	ppm Pb	ppm Zn	ppm Ni
3117	Altered lithic tuff.	.06	.05	.05	26	45	90	190
3119	Altered basic rock.	.06	.05	.05	15	< 25	60	220
3121	Coarse lithic tuff.	.06	.05	.06	< 5	25	90	200
3138	Altered tuff	.17	.08	.05	< 5	40	100	160
	Check sample	.08	.19	.05				
3147	Altered tuff					100	460	180
3151	Quartzite with boxwork	.07	6.58?	.02	22	70	220	80
3166	Metagabbro with diss. sulph.	.05	.06	.06	11	< 25	100	50
3168	Quartzite	.33?	.06	.04	< 5	25	60	10
3169	Hornfels with pyrite.	.06	.06	.06	7	< 25	100	140
3175	Fine grained chert magnetite and sulph.	.05	.20	.07	15	< 25	80	1000
3178	Gossan	.05	.06	.15	19	< 25	80	20
3179	Chert with diss. sulph.	.05	.06	.06	< 5	< 25	140	140
3180	Gossan	.04	.06	.11	15	< 25	60	15
3181	Altered basic diss. sulph.	.05	.05	.05	10	< 25	70	15
3182	"	.06	.06	.05	< 5	< 25	80	80
3183	"	.05	.06	.06	27	< 25	90	25
3184	Nickel stained serpentinite	.14	.06	.04	6	25	220	3400
3185	Basic float	.06	.05	.06				
3186	Jasper Gossan float.	.07	.05	.04				
3187	Gossan float	1.08	.04	.03				
3188	Gossan float	.41	.06	.04				
3189	Gossan float	.84	.04	.03				
3190	Basic float diss. sulph.	.06	.06	.05				
3191	Basic float	.07	.06	.05				

SAMPLE NO.	ROCK NAME	% Sn	% As	% Cu	ppm Ag	ppm Pb	ppm Zn	ppm N
3192	Gossan float	.48	.06	.04				
3193	Chert float	.07	.05	.05				
3196	Quartzite with diss. sulph.	.13	.05	.06	< 5	< 25	90	160
3210	Altered shale	.06	.04	.05	< 5	30	140	100
3212	Hornfels	.06	.06	.05	< 5	140	240	120
3213	Sulphide Mayne's Workings	1.47	.05	.08	23	30	50	30



570059

74-1040		DRAWN	RJP
S.P.L. 129		TRACED	
		DATE	
TRIAL HARBOUR AREA		SCALE	1:1,000,000
		DRAWING No.	
SCALE. 1:1,000,000 METRES.		1104	







SOUTHERN

OCEAN

Mt. Agnew

Cumberland

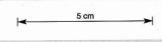
EL 7/88  
80 S.M.  
TEXINS DEV P/L

Trial Harbour

Remine

Area 1

DC	Dolerite Tuffs	Dg	Granite
Gra	Alluvium	Dg	Granite
Qra	Sand Dunes	Dg	Granite
Qrg	Gravels	Dg	Granite
Qrs	Elder Alluvium	Dg	Granite
Tg	Gravels	Dg	Granite
Db	Bell Shale	Dg	Granite
Fq	Florence Quartzite	Dg	Granite
Keel	Keel Quartzite	Dg	Granite
Ambr	Amber Shale	Dg	Granite
Ordy	Ordy Quartzite	Dg	Granite
Asst	Austral Creek Siltstone	Dg	Granite
By	Gordon Limestone	Dg	Granite
Om	Moira Sandstone	Dg	Granite
Dz	Mt Zeehan Conglomerate	Dg	Granite
Dg	Dundas Group (Brossage)	Dg	Granite
Ec	Crimson Creek Formation	Dg	Granite
Qc	Quartzites	Dg	Granite
Dg	Granite	Dg	Granite
Gabbro	Gabbro	Dg	Granite
Serp	Serpentine & Pyroxenite	Dg	Granite



— Fault Definite.  
- - - Fault Position Approx.  
- ? - ? Fault Interred.

S.P.L. 123 Boundary  
Current M.L. Boundaries  
Transfer Line Grid

ZEEHAN C14	ZEEHAN 291
ZEEHAN 291	ZEEHAN 291

REINSON LIMITED  
ZEEHAN C/2  
INTERPRETED GEOLOGY  
570061 74-1040  
SCALE: 1:10,000 METRES  
DRAWN R.I.P.  
DATE  
SCALE 1:10,000  
DRAWING NO.  
2B.









26  
3E  
4E  
5E  
6E  
7E  
8E  
9E  
10E  
11E  
12E  
13E  
14E  
15E  
16E  
17E  
18E  
19E  
20E  
21E  
22E  
23E  
24E  
25E  
26E  
27E  
28E  
29E

Magnetic Anomalies  
 > 1000 γ  
 > 2000 γ  
 > 10,000 γ  
 --- Limit of IP Survey



ZEEHAN C2/2	ZEEHAN D1/1
ZEEHAN C2/3	ZEEHAN D1/3

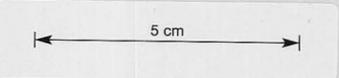
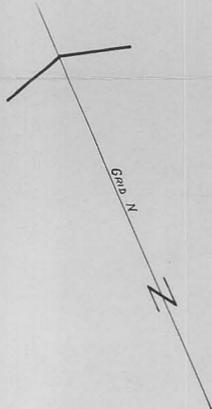
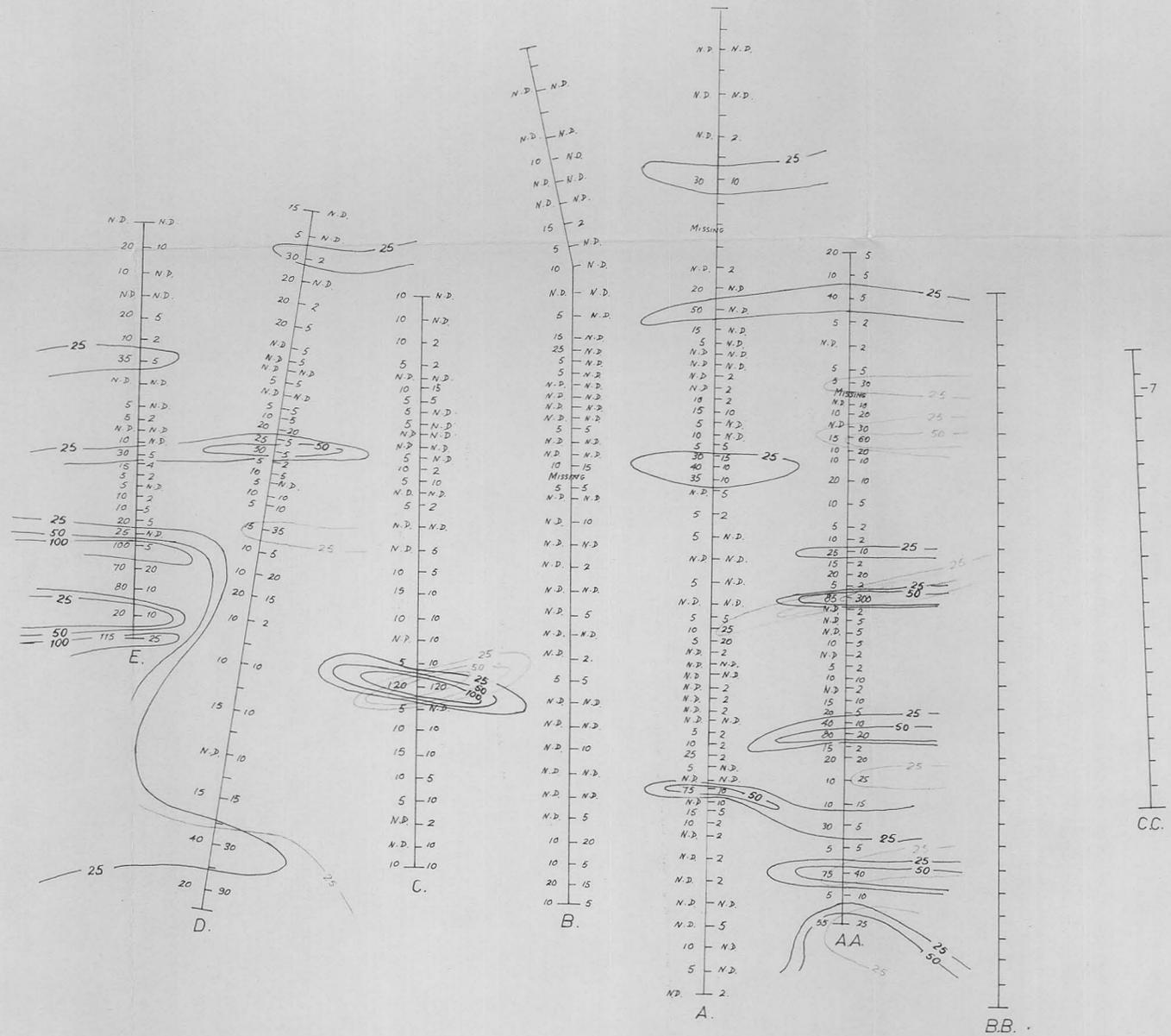
550065 74-1040

RENISON LIMITED  
**ZEEHAN C2/4**  
 GEOPHYSICAL DATA 1110

SCALE: 1:5,000 METRES  
 100 200 300

DRAWN	R.M.L.
TRACED	
DATE	20.7.74
SCALE	1:5,000
DRAWING No.	7B

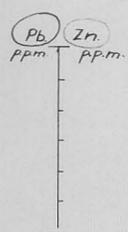




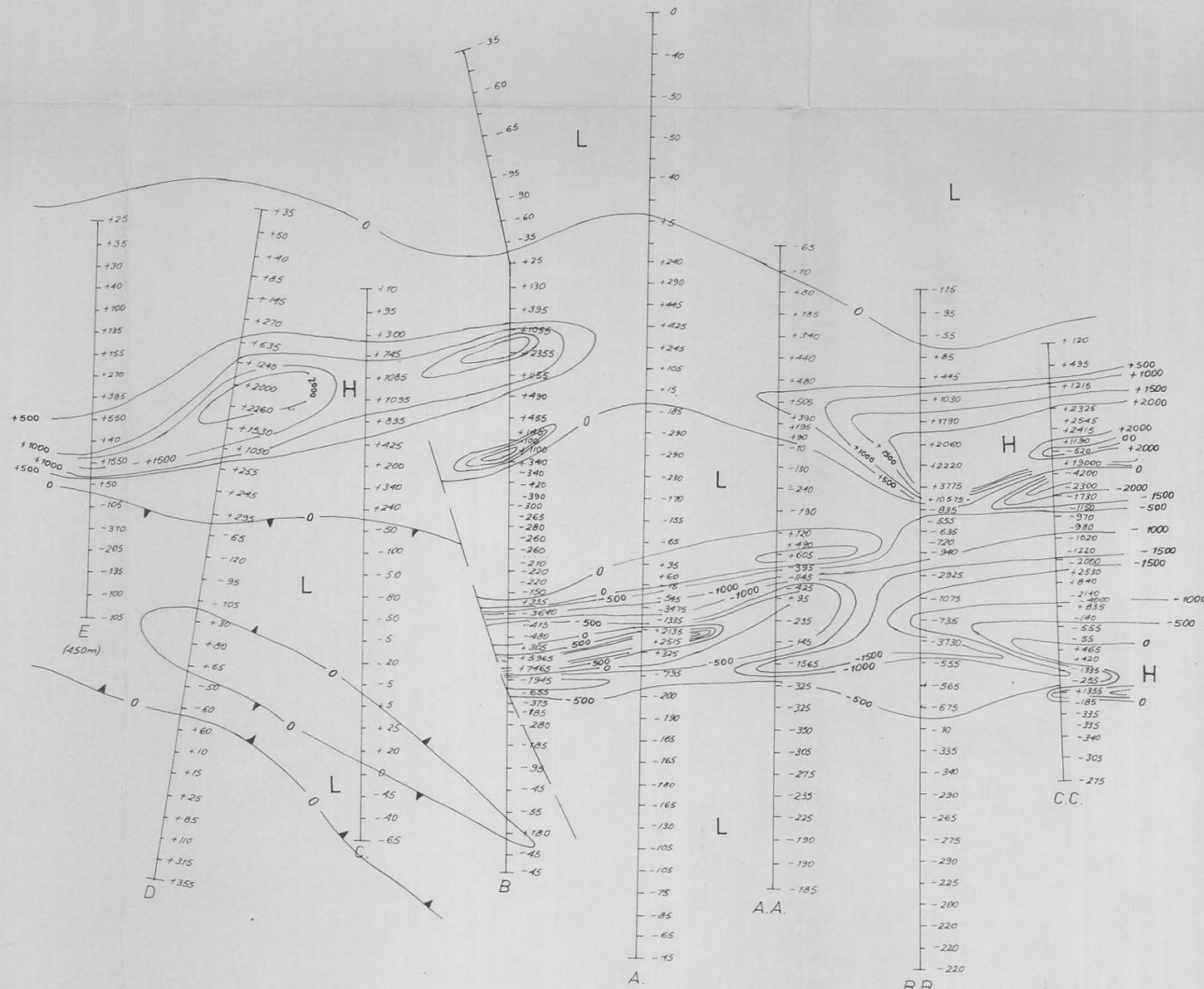
570067 74-1040

RENISON LIMITED	
S.P.L.129 TRIAL HARBOUR AREA. GEOPHOTO, TENTH LEGION. GEOCHEMICAL DATA. Pb - Zn. 1112	
SCALE. 1:5000 METRES.	DRAWING No. 5(b)

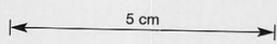
DRAWN	L.A.N.
TRACED	
DATE	June '74.
SCALE	1:5000
DRAWING No.	



Note: All Ag values either ≤ 1 ppm.



570068



74-1040

RENISON LIMITED  
 S.P.L. 129 TRIAL HARBOUR AREA.  
 GEOPHOTO, TENTH LEGION.  
 MAGNETICS.

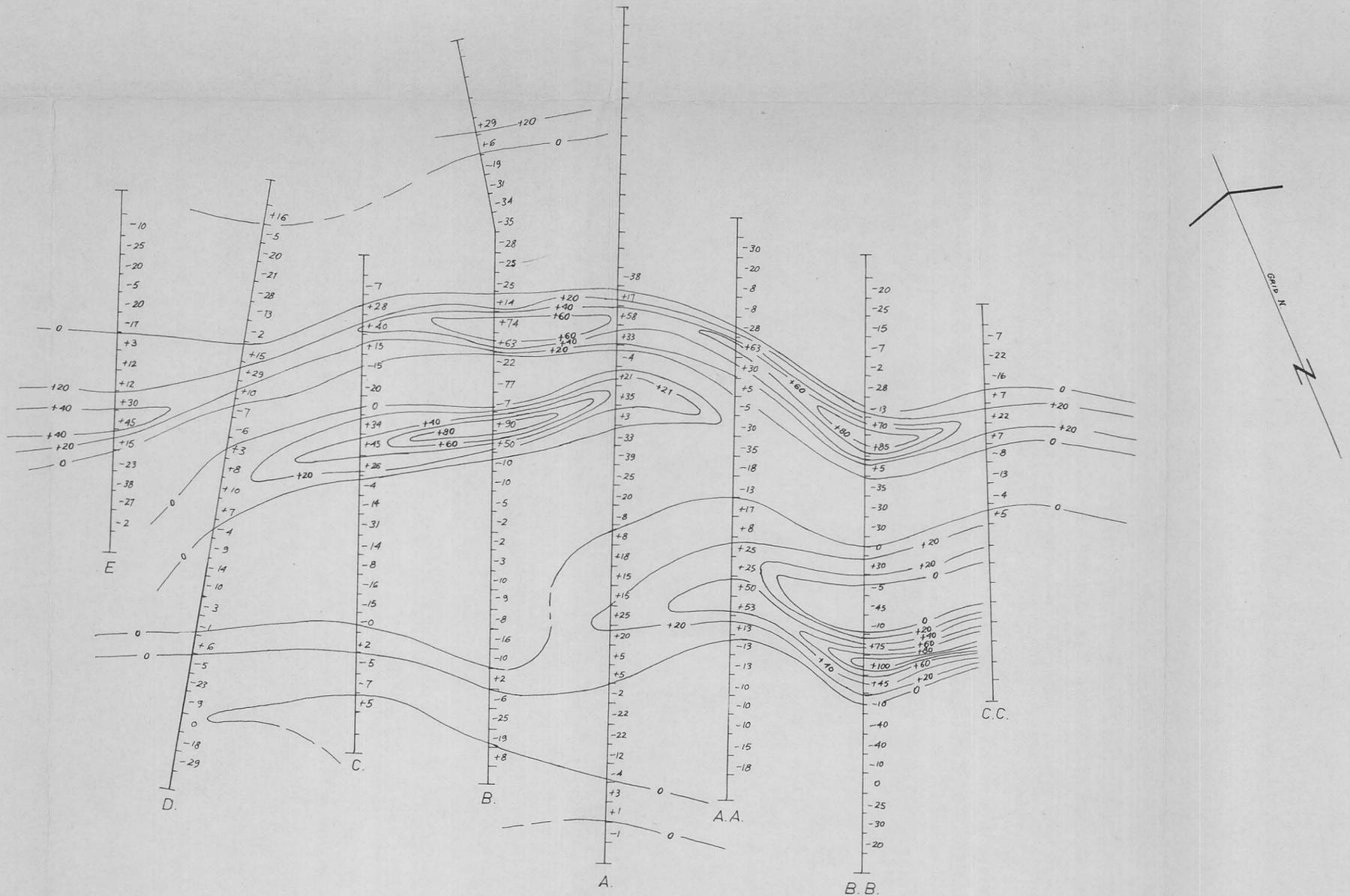
1113

DRAWN	L. A. N.
TRACED	
DATE	24.5.1974
SCALE	1:5000.
DRAWING No.	

NOTE: Magnetic values shown have been measured with respect to a value of '0' gammas at point '00' on Line 'A'.

5(c)





570069

5 cm

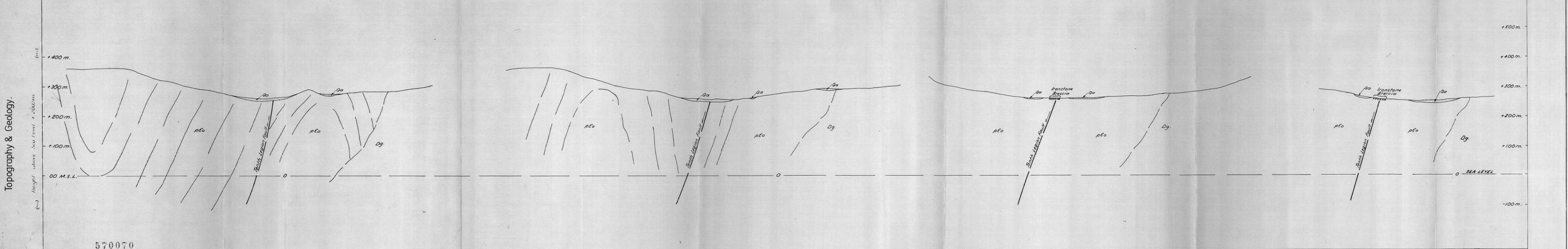
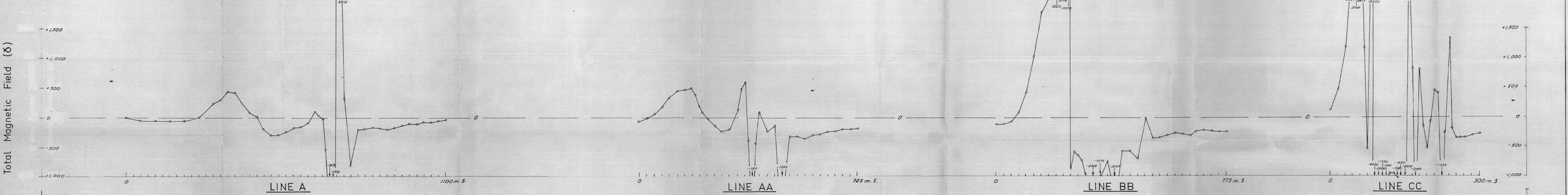
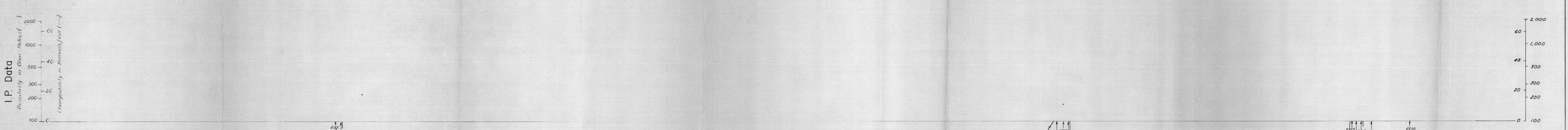
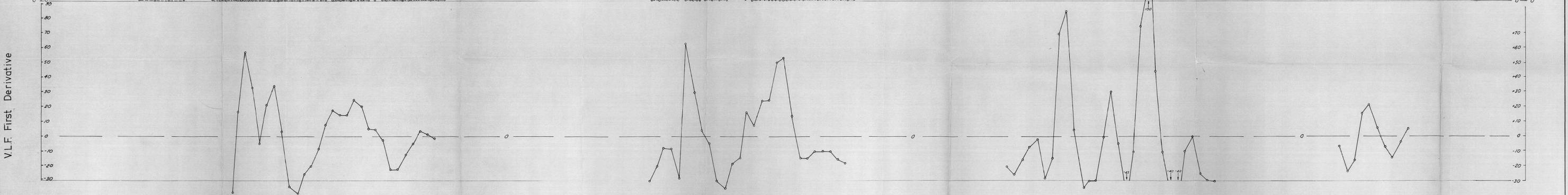
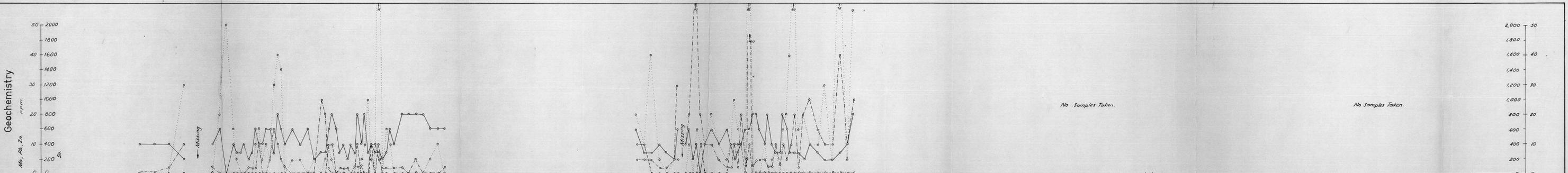
74-1040

RENISON LIMITED  
 S.P.L. 129 TRIAL HARBOUR AREA.  
 GEOPHOTO, TENTH LEGION.  
 V.L.F.-E.M. FIRST DERIVATIVE  
 CONTOURS.

DRAWN	L. A. N.
TRACED	
DATE	June 1974.
SCALE	1: 5000.
DRAWING No.	

5(d)





RENISON LIMITED 74-1040  
S.P.L.129 - TRIAL HARBOUR AREA  
GEOPHOTO TENTH LEGION FAULT  
GRID DATA 1115

SCALE: 1:5000 METRES

DRAWN L.A.N.  
TRACED F.A.C.  
DATE June 1974  
SCALE 1:5000  
DRAWING No. 601

570070

GEOCHEMISTRY

Sn  
Mo  
Pb  
Zn

Note: Sections looking East.

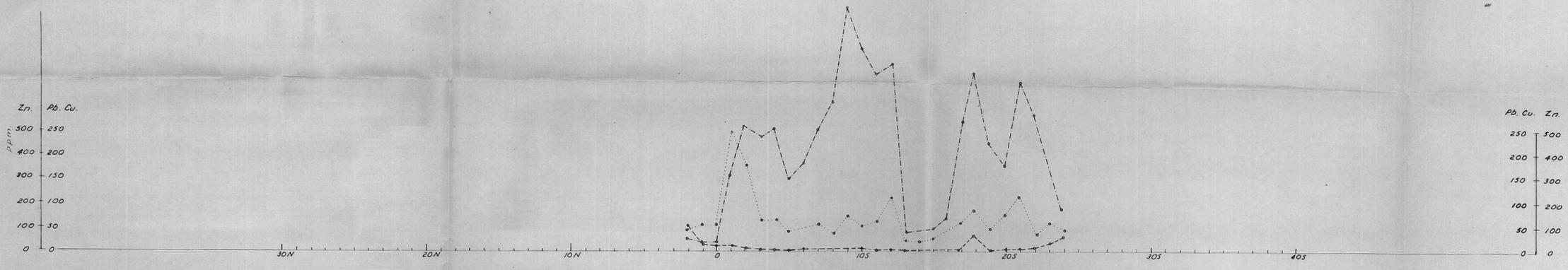


REINSON LIMITED 74-1040  
 SPL 129 - TRIAL HARBOUR AREA  
 GEOPHOTO TENTH LEGION FAULT  
 GRID DATA  
 SCALE: 1:5000 METRES  
 DRAWING No. 6B  
 Note: Sections looking East.

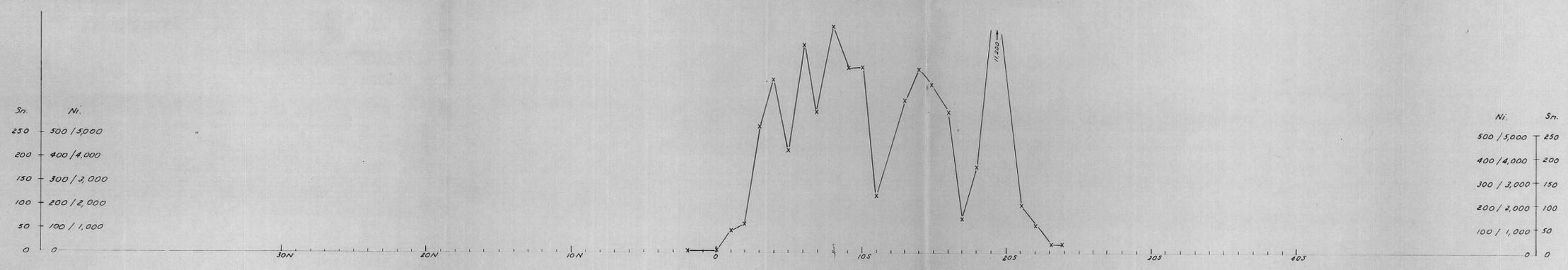
570071

GEOCHEMISTRY  
 Mo, Pb, Zn, Sr

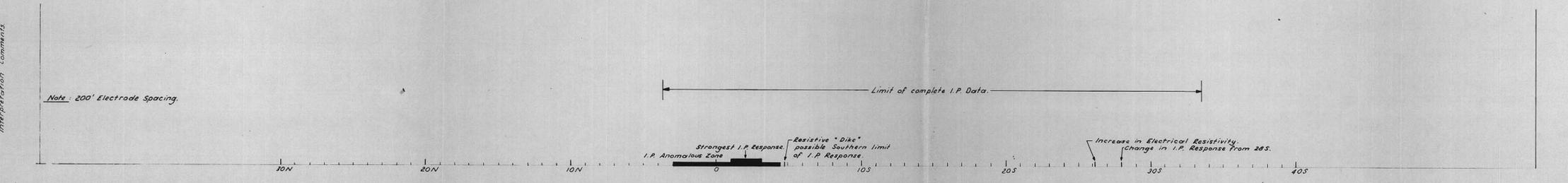
Geochemistry



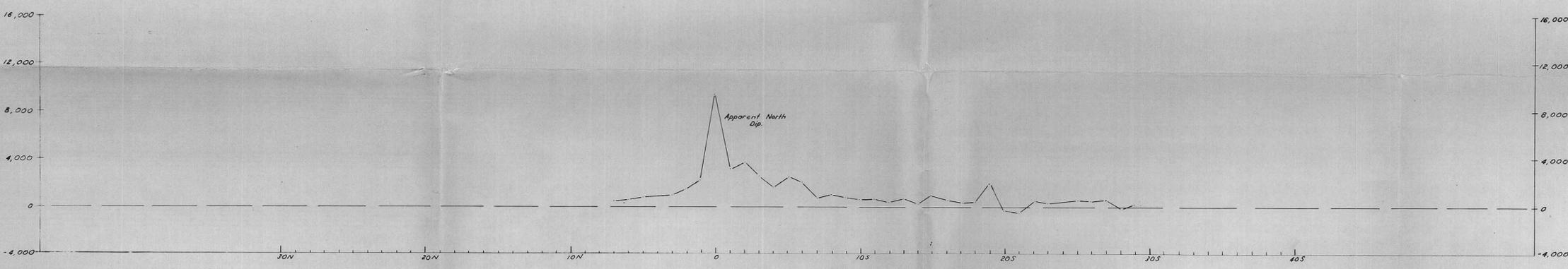
Geochemistry



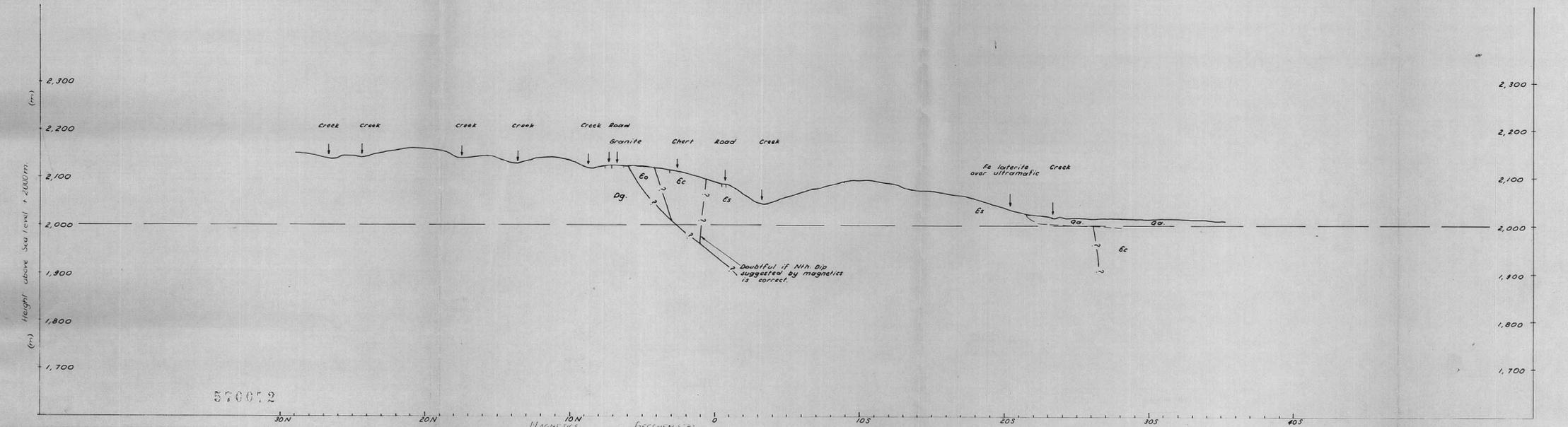
I.P. Data



Ground Magnetics (X)



Topography & Geology



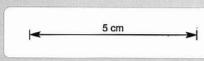
570012

MAGNETICS

GEOCHEMISTRY

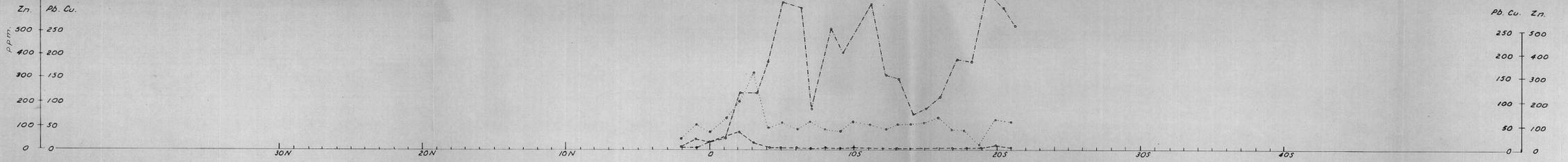
X-X-X Ni (100 Scale)

X-X-X Ni (1000 Scale)

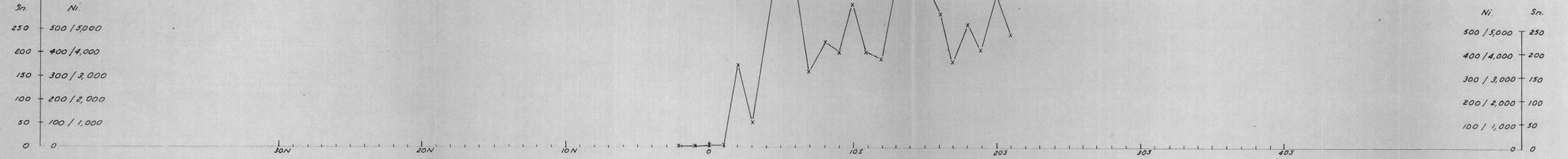


RENISON LIMITED	74-1040	DRAWN	R.N.L.
S.P.L.129		TRACED	F.A.C.
TRIAL HARBOUR AREA		DATE	7.9.74
LINE NO. 1W	1117	SCALE	1:5000
SCALE: 1:5000 METRES		DRAWING No.	

Geochemistry



Geochemistry



I.P. Data

Interpretation Comments

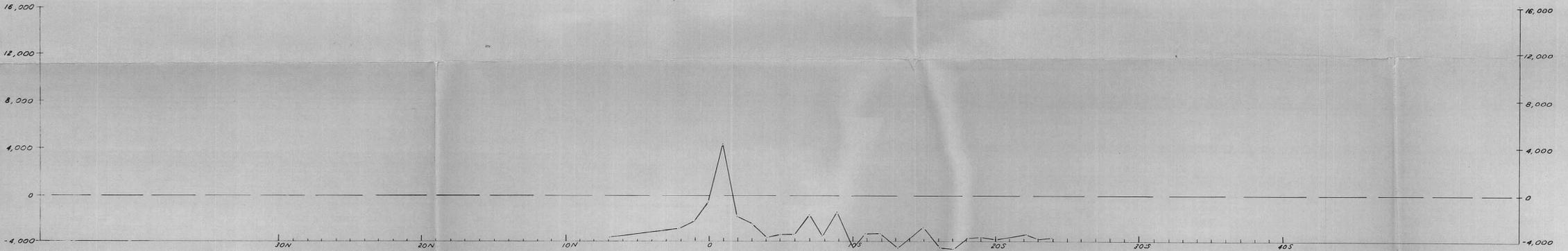
Note: 100' Electrode Spacing.

Limit of complete I.P. Data

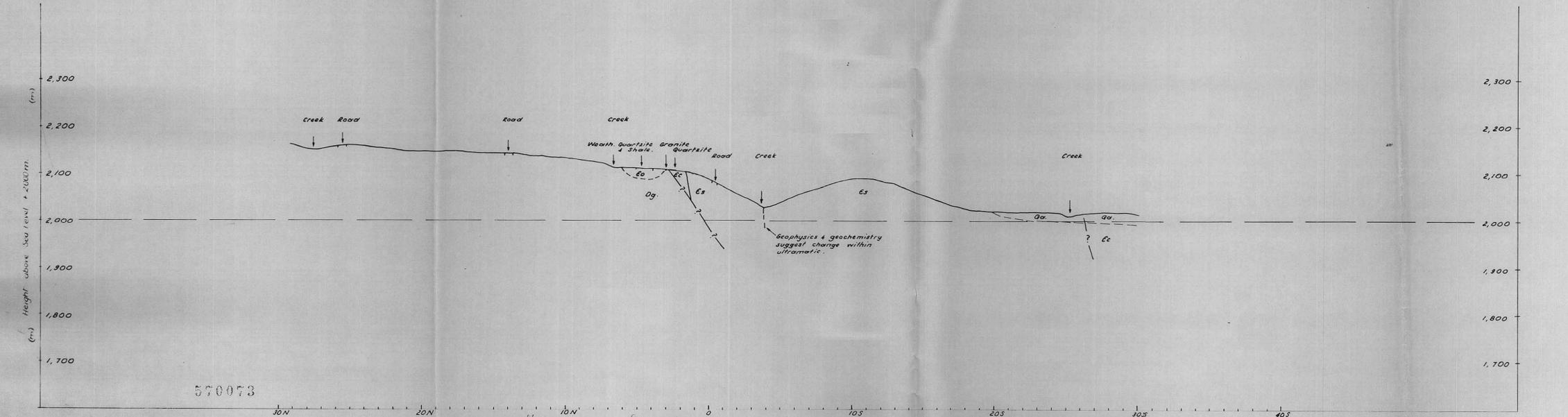
Distinct break (Data incomplete). Resistivity suggests shearing. Resistive.

Strangest I.P. Response. Fall off in I.P. Response. Change in environment.

Ground Magnetics (δ)



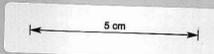
Topography & Geology



570073

MAGNETICS

GEOCHEMISTRY



RENISON LIMITED 74-1040

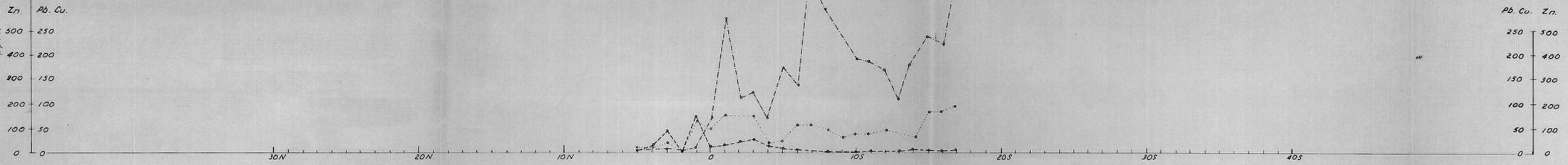
DRAWN	R.N.L.
TRACED	F.A.C.
DATE	7-3-74
SCALE	1:5000
DRAWING No.	

S.P.L. 129  
TRIAL HARBOUR AREA  
LINE NO. 2W 1113

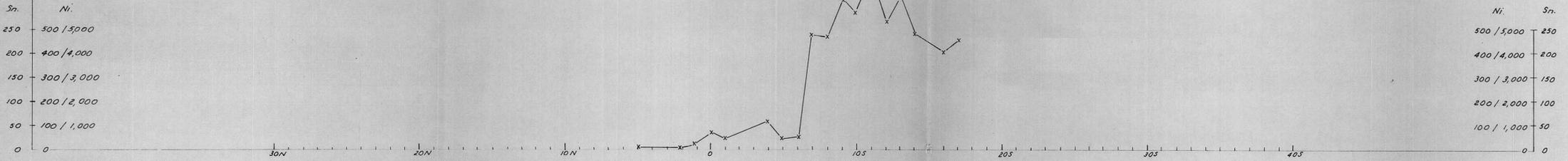
SCALE: 1:5000 METRES



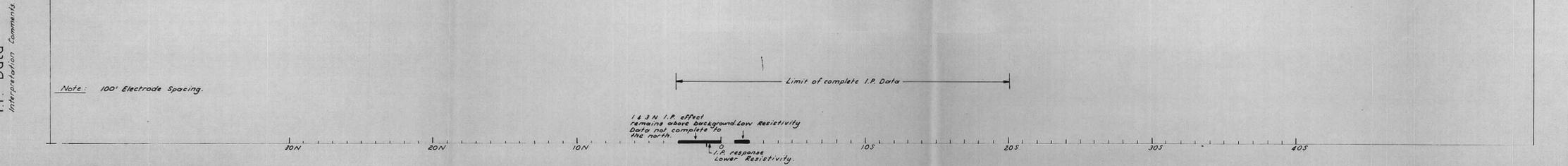
Geochemistry



Geochemistry



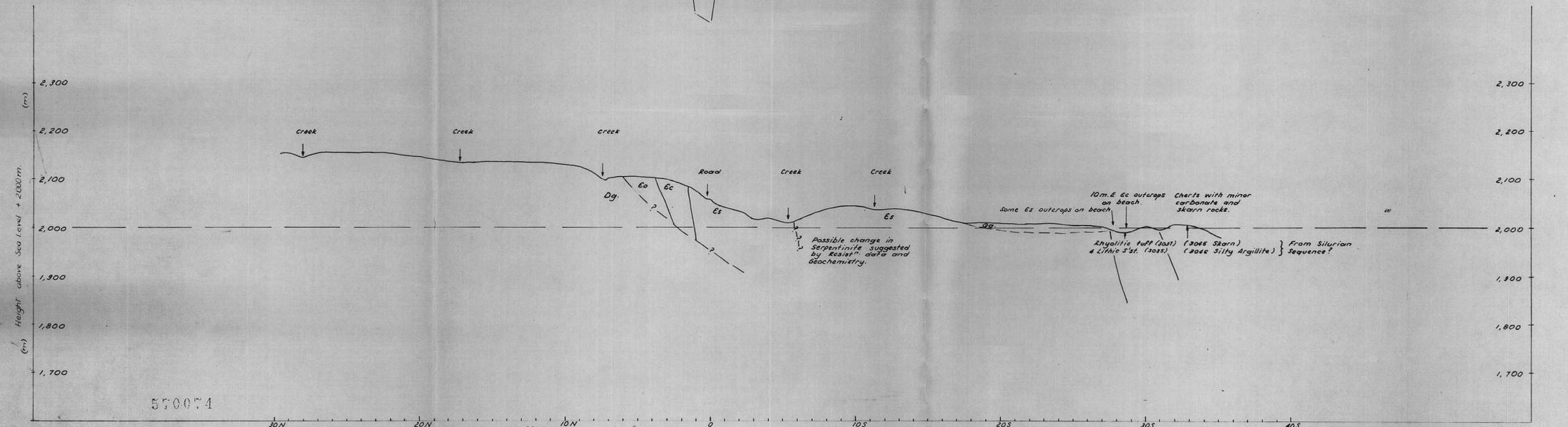
I.P. Data



Ground Magnetics (δ)

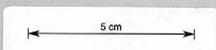


Topography & Geology



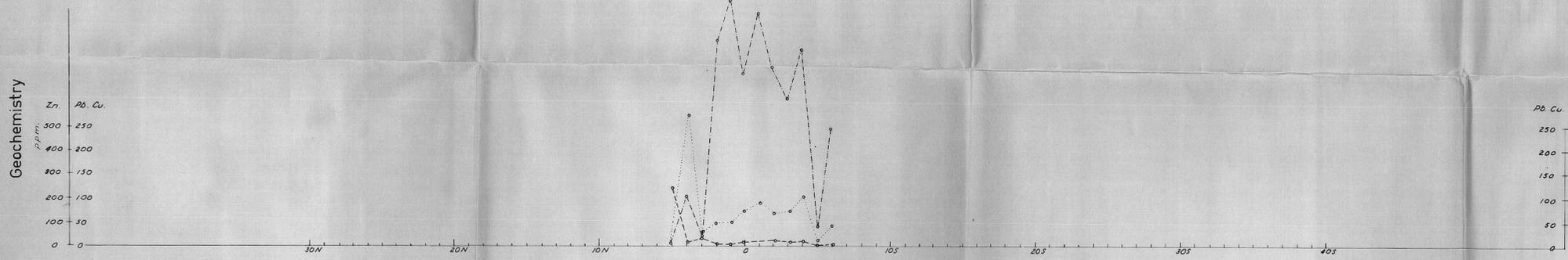
550074

MAGNETICS  
 GECHEMISTRY  
 ○ Sn  
 ○ Pb  
 ○ Cu  
 ○ Zn  
 x-x-x Ni (100 Scale)  
 x-x-x Ni (1000 Scale)

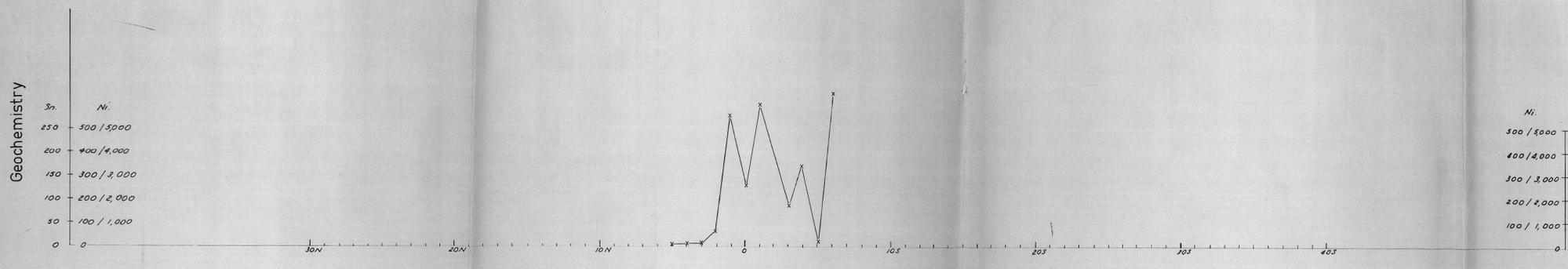


RENISON LIMITED 74-1040	DRAWN R.N.L.
S.P.L.129	TRACED F.A.C.
TRIAL HARBOUR AREA	DATE 7.3.74.
LINE NO. 3W 1119	SCALE 1:5000
	DRAWING No.

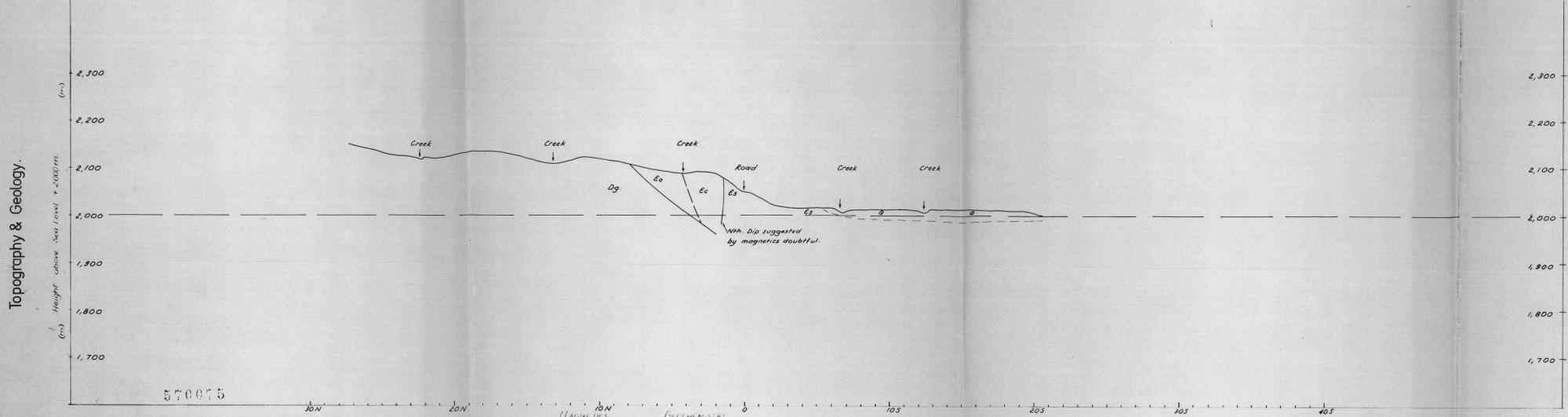
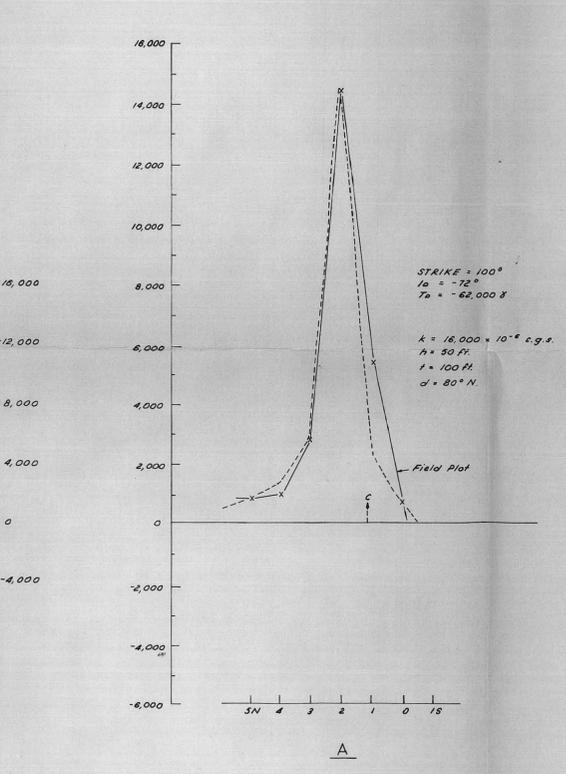
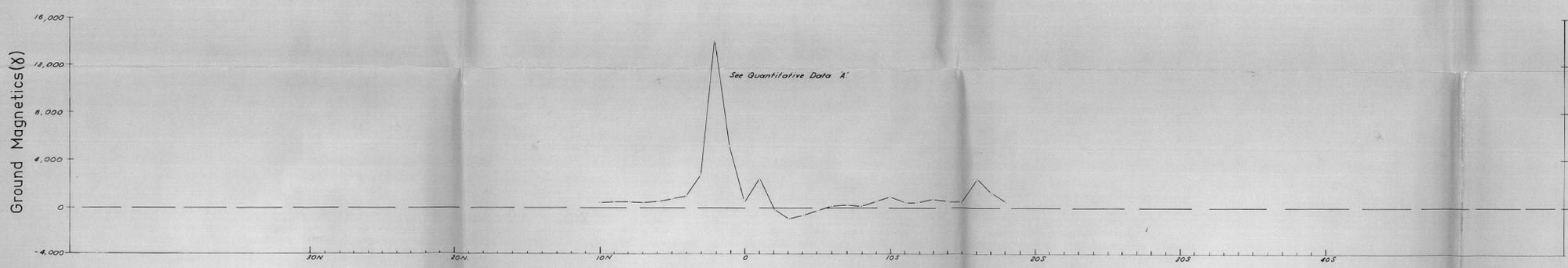
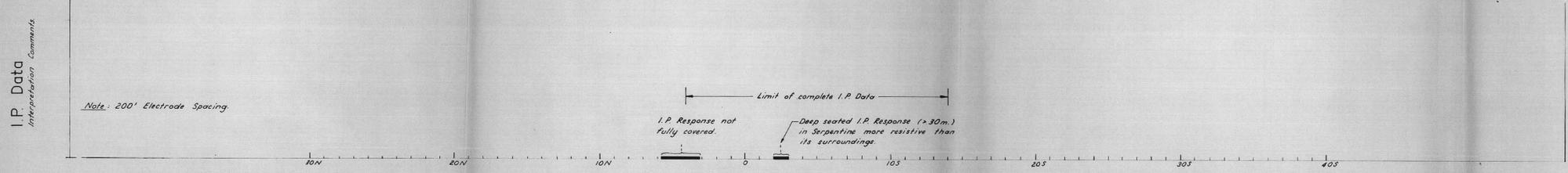
SCALE: 1:5000 METRES



Pb, Cu, Zn  
 250 - 500  
 200 - 400  
 150 - 300  
 100 - 200  
 50 - 100  
 0 - 0



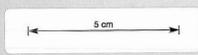
Ni, Sn  
 500 / 5000 - 250  
 400 / 4000 - 200  
 300 / 3000 - 150  
 200 / 2000 - 100  
 100 / 1000 - 50  
 0 - 0



REXON LIMITED 74-1040  
 S.P.L. 129  
 TRIAL HARBOUR AREA  
 LINE N° 4 W 1120  
 SCALE: 1:5000 METRES

DRAWN	R.N.L.
TRACED	F.A.C.
DATE	7.3.72
SCALE	1:5000
DRAWING No.	

MAGNETICS  
 GEOCHEMISTRY  
 Ni (100 Scale)  
 Ni (1000 Scale)



Geochemistry

Zn Pb Cu  
 500 250  
 400 200  
 300 150  
 200 100  
 100 50  
 0 0

Pb Cu Zn  
 250 500  
 200 400  
 150 300  
 100 200  
 50 100  
 0 0

Geochemistry

Sn Ni  
 250 500 / 5,000  
 200 400 / 4,000  
 150 300 / 3,000  
 100 200 / 2,000  
 50 100 / 1,000  
 0 0

Ni Sn  
 500 / 5,000 250  
 400 / 4,000 200  
 300 / 3,000 150  
 200 / 2,000 100  
 100 / 1,000 50  
 0 0

I.P. Data

Interpretation Comments

Note: 200' Electrode Spacing.

Limit of complete I.P. Data

Moderate poorly defined deep seated I.P. Response 40-80 m.  
 Narrow moderate I.P. Response associated low resistivity zone near surface.  
 Resistive Dike

Ground Magnetics (γ)

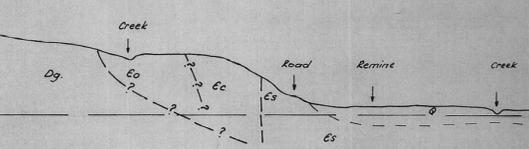
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 16,000  
 12,000  
 8,000  
 4,000  
 0  
 -4,000

16,000  
 12,000  
 8,000  
 4,000  
 0  
 -4,000

Topography & Geology.

2,300  
 2,200  
 2,100  
 2,000  
 1,900  
 1,800  
 1,700

2,300  
 2,200  
 2,100  
 2,000  
 1,900  
 1,800  
 1,700



RENISON LIMITED 74-1040

S.P.L. 129  
 TRIAL HARBOUR AREA  
 LINE N° 5W 1121

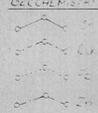
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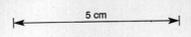
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TRACED	F.A.C.
DATE	1.4.74
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DRAWING No.	

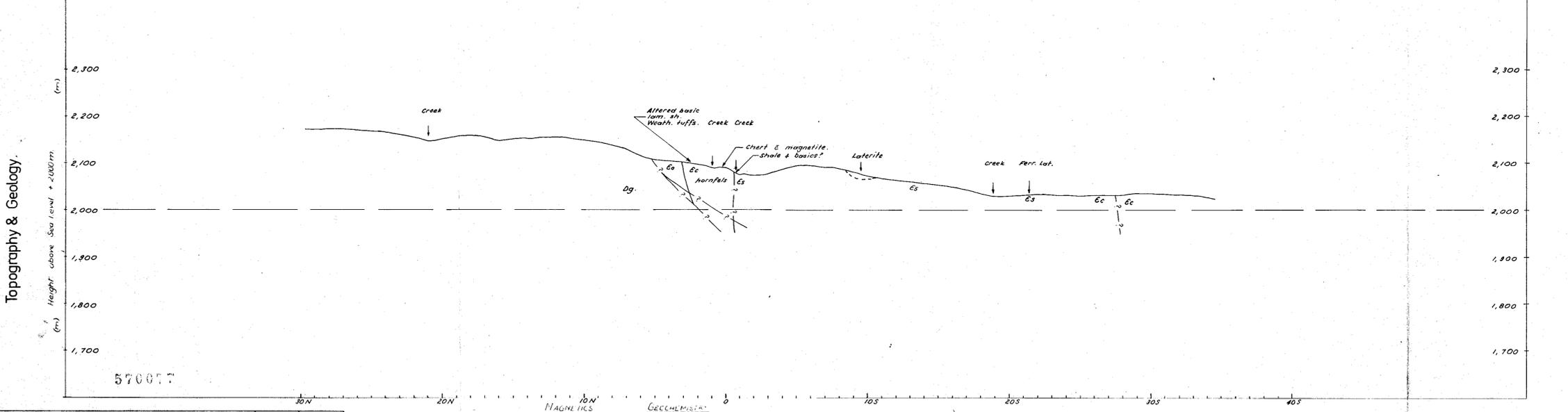
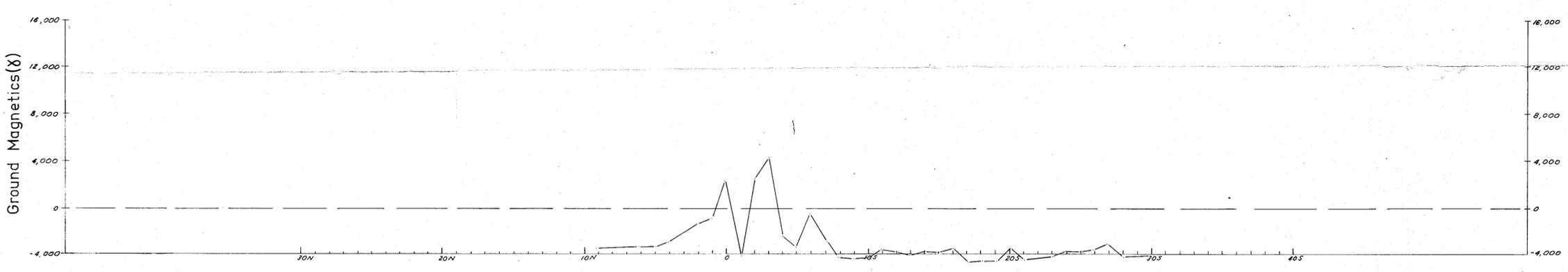
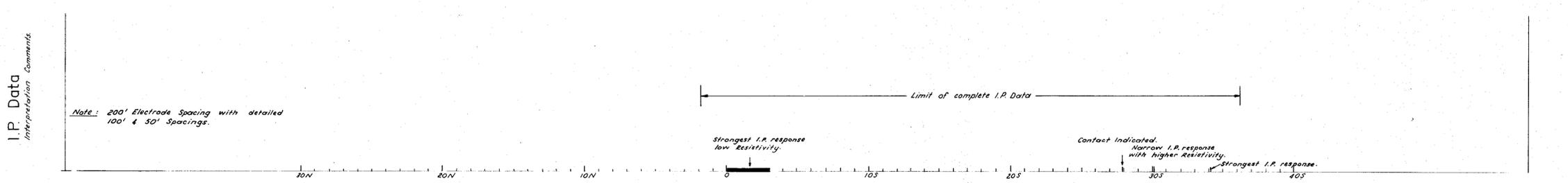
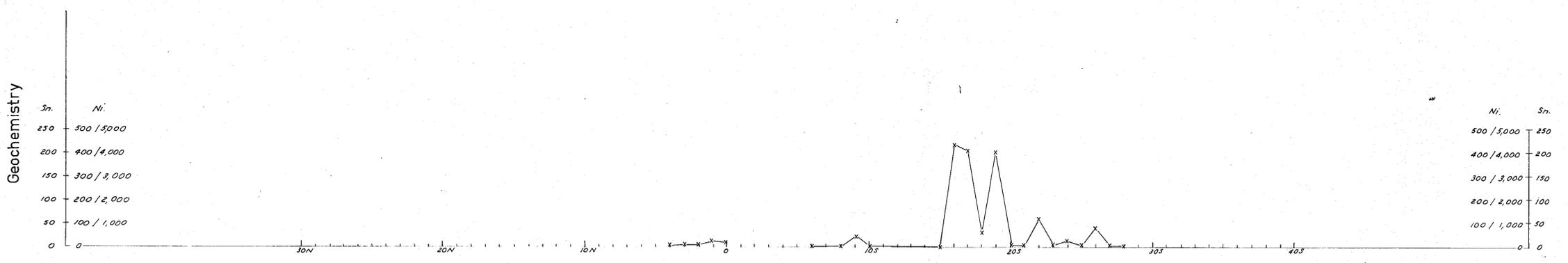
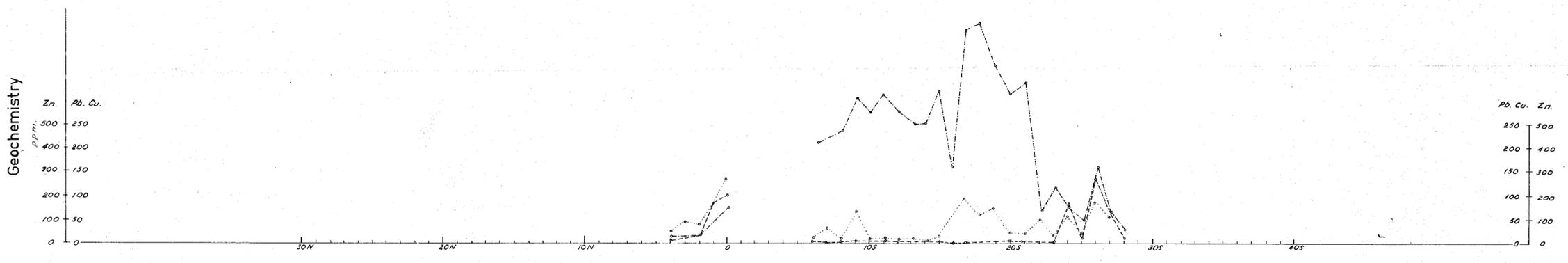
MAGNETICS

Geochemistry



x-x-x Ni (100 Scale)  
 x-x-x Ni (1000 Scale)





RENISON LIMITED 74-1040

S.P.L.129  
TRIAL HARBOUR AREA  
LINE NO 0 1122

SCALE: 1:5000 METRES

DRAWN	R.N.L.
TRACED	F.A.C.
DATE	8-3-74
SCALE	1:5000
DRAWING No.	

MAGNETICS

Geochemistry

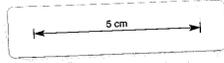
— Zn

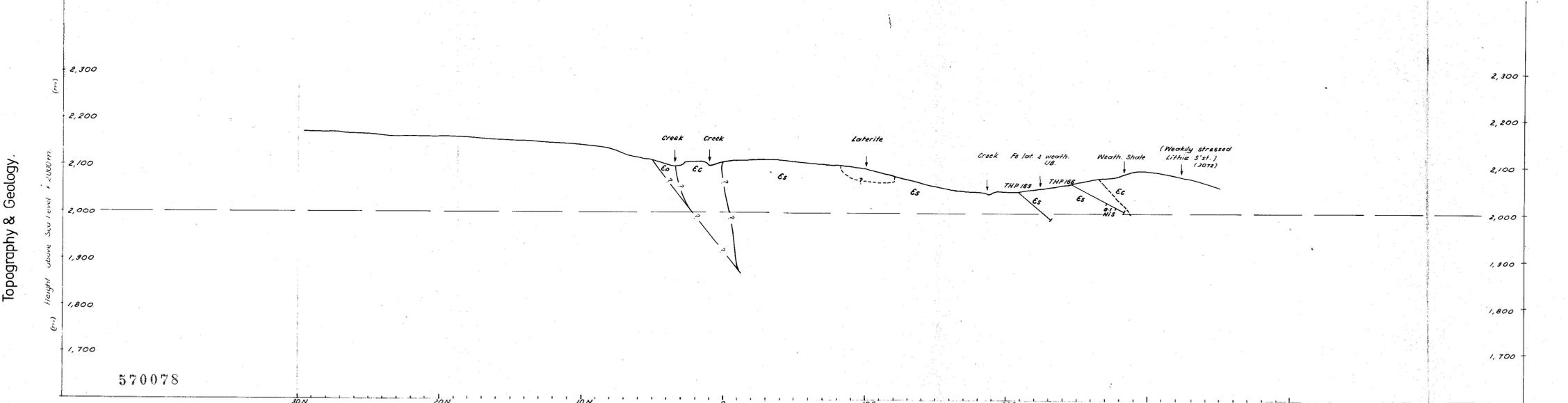
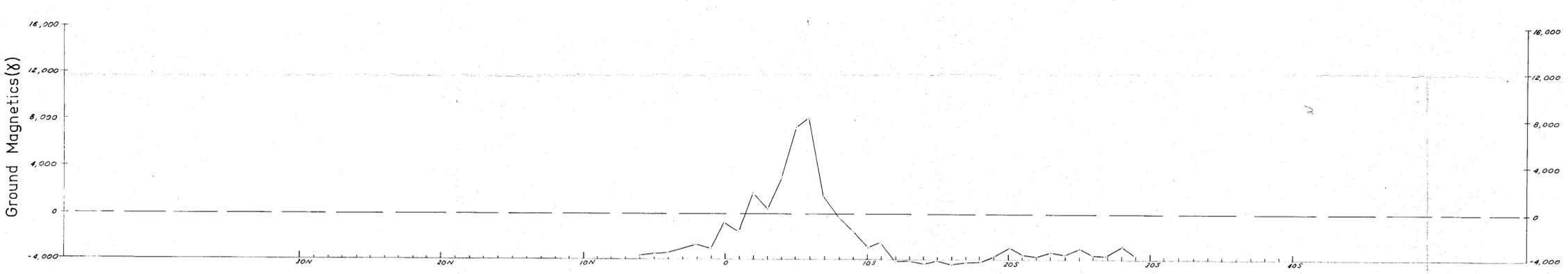
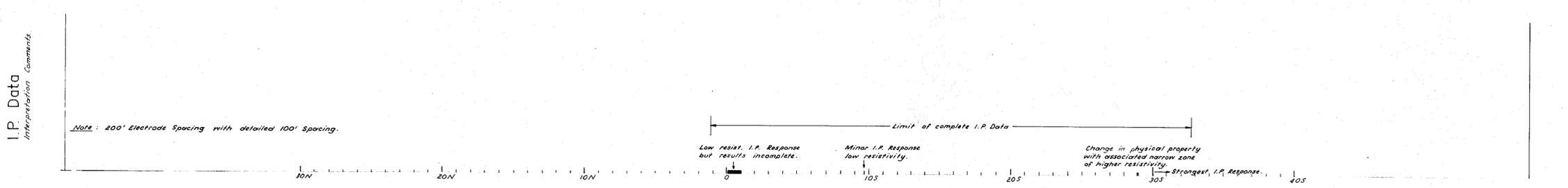
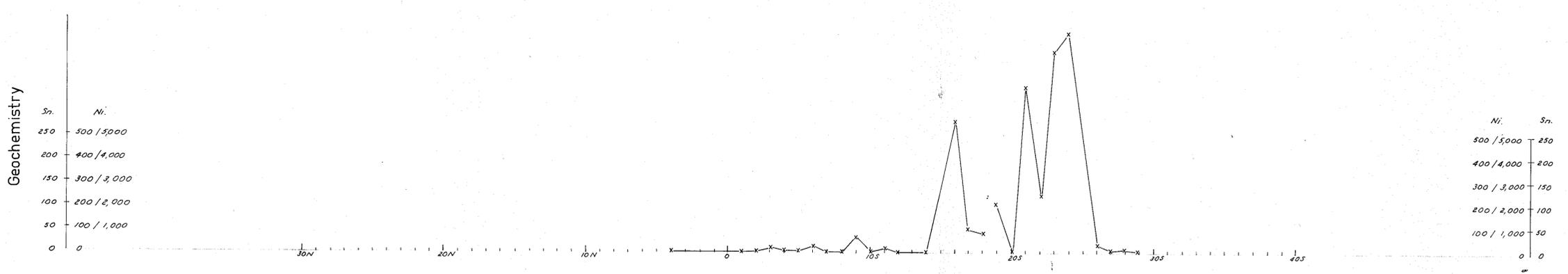
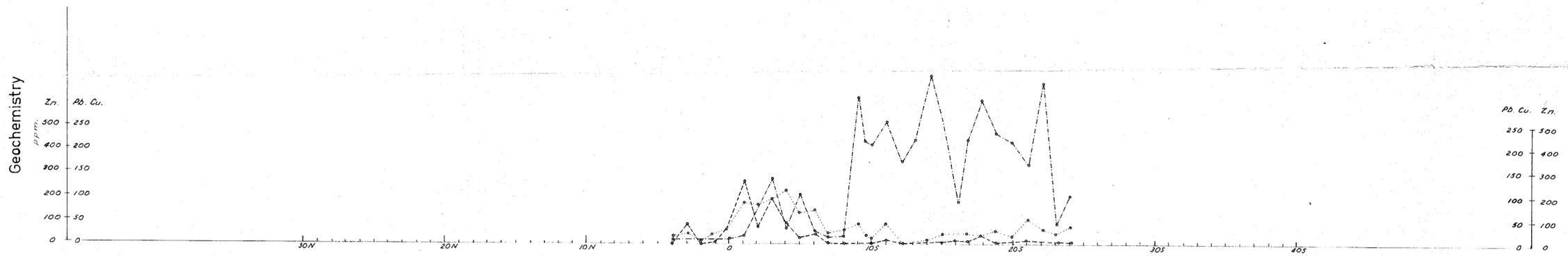
— Pb/Cu

— Ni

x-x-x Ni (100 Scale)

x-x-x Ni (1000 Scale)





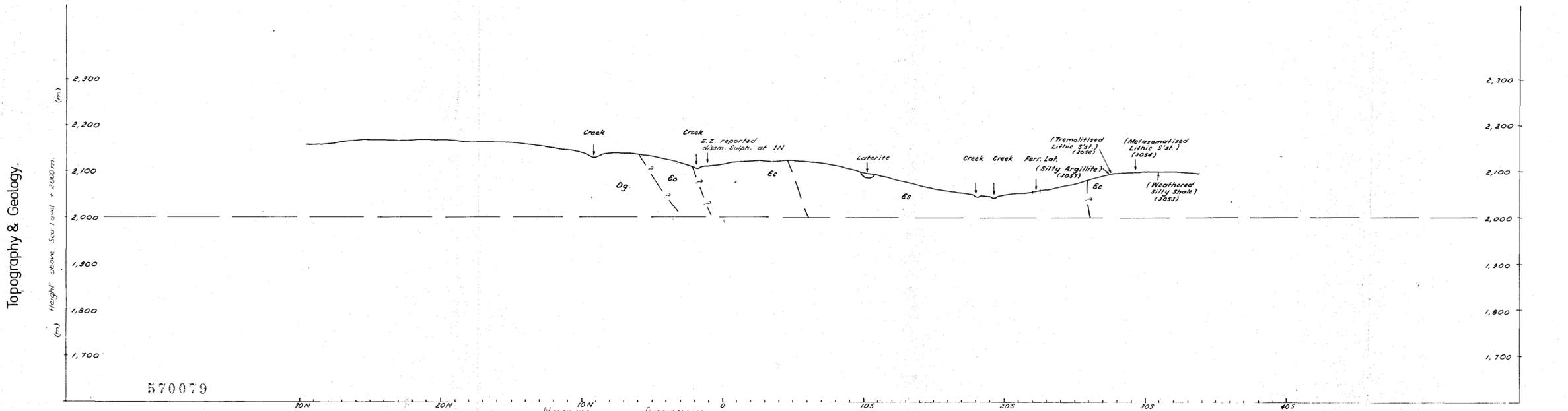
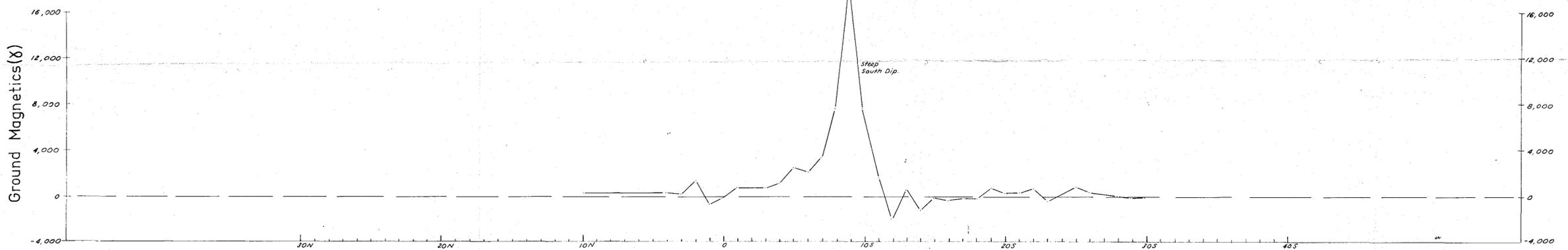
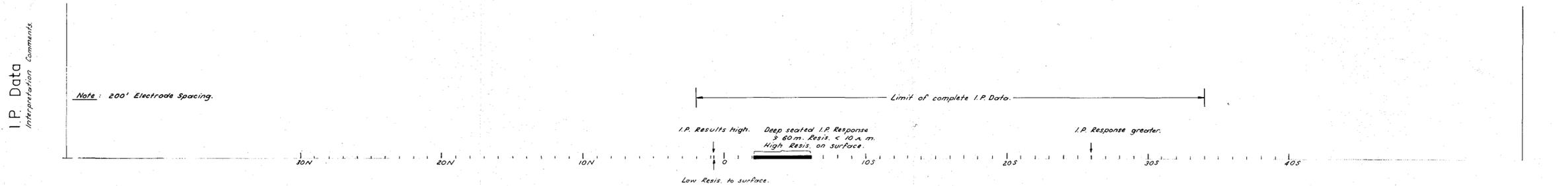
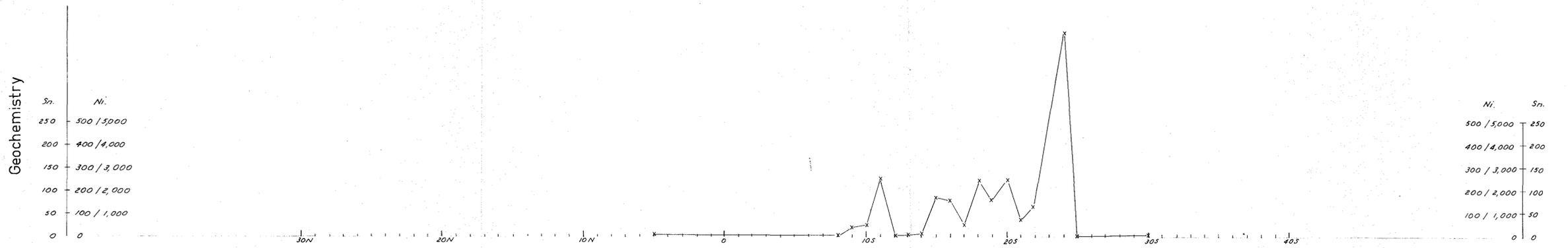
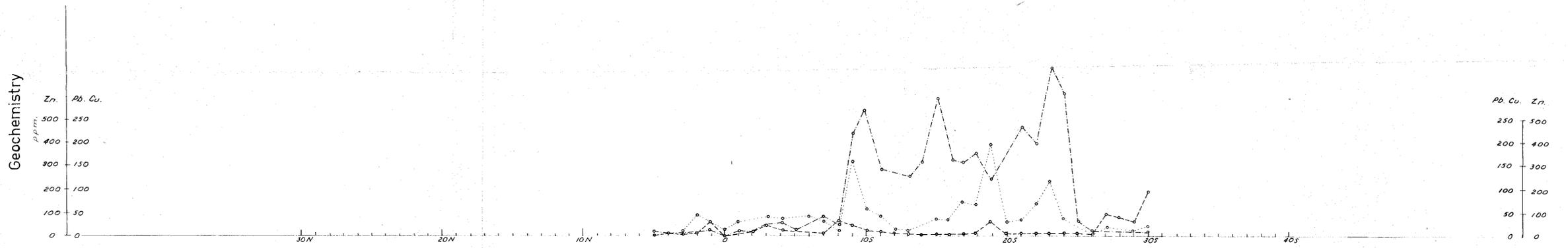
570078

REXON LIMITED 74-1040	DRAWN R.M.C.
S.P.L.129	TRACED F.A.C.
TRIAL HARBOUR AREA	DATE 8.3.78
LINE N° 1E 1123	SCALE 1:5000
SCALE: 1:5000 METRES	DRAWING No.

MAGNETICS

GEOCHEMISTRY





570079

RENISON LIMITED 74-1040

S.P.L. 129  
TRIAL HARBOUR AREA  
LINE NO. 2E 1124

SCALE: 1:5000 METRES

DRAWN	R.N.L.
TRACED	F.A.C.
DATE	8.3.74
SCALE	1:5000
DRAWING No.	

MAGNETICS

GEOCHEMISTRY

Zn

Pb

Cu

Sn

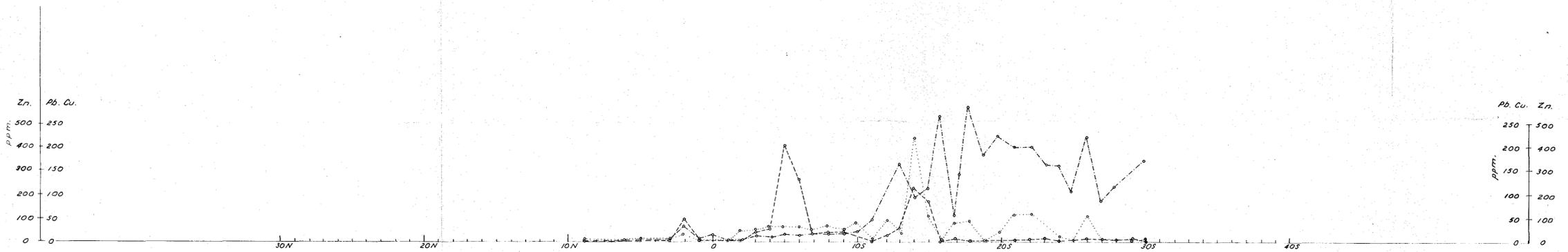
Ni (100 Scale)

Ni (1000 Scale)

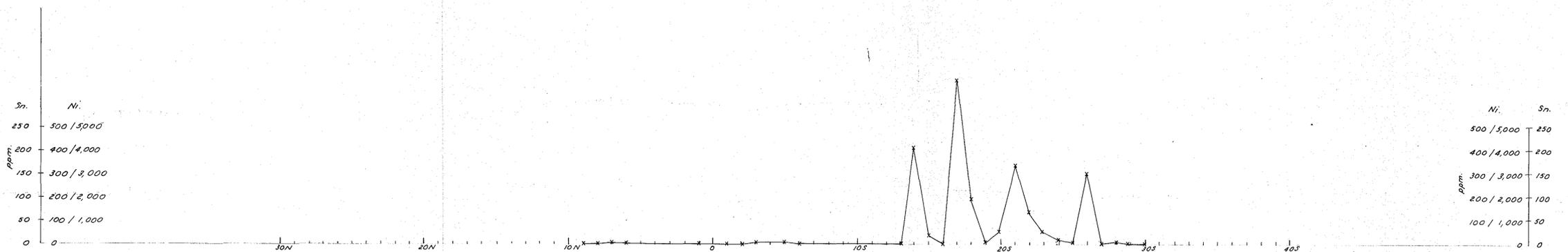
5 cm



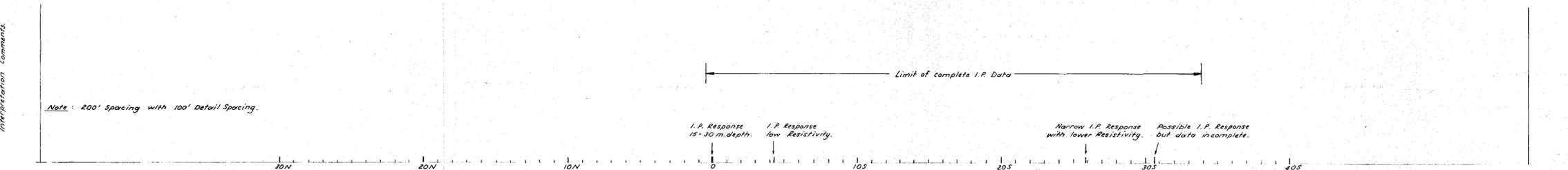
Geochemistry



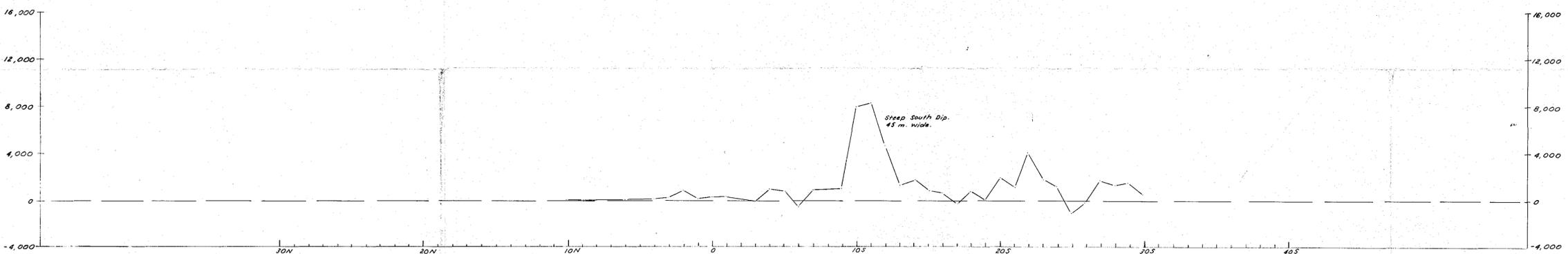
Geochemistry



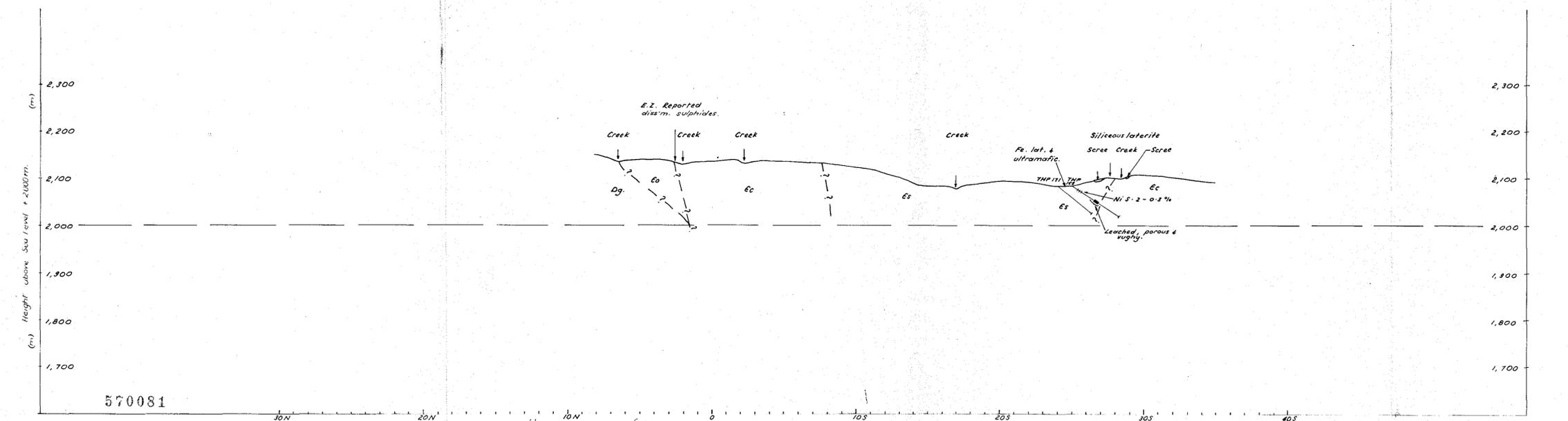
I.P. Data



Ground Magnetics (X)



Topography & Geology



570081

RENISON LIMITED 74-1040

S.P.L.129  
TRIAL HARBOUR AREA  
LINE NO 4 E 1126

SCALE: 1:5000 METRES



DRAWN	R.N.L.
TRACED	F.A.C.
DATE	12.3.74.
SCALE	1:5000
DRAWING No.	

MAGNETICS



GEOCHEMISTRY

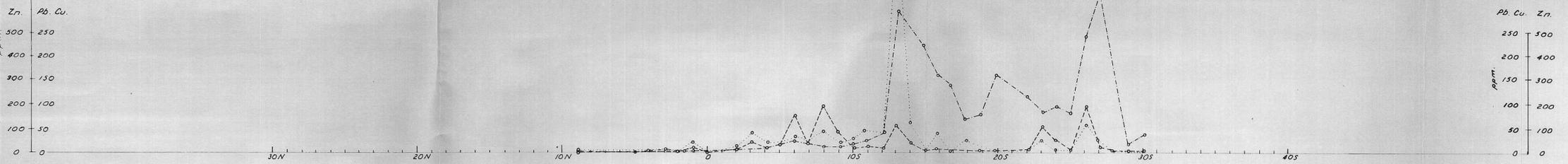


x-x-x Ni (100 Scale)

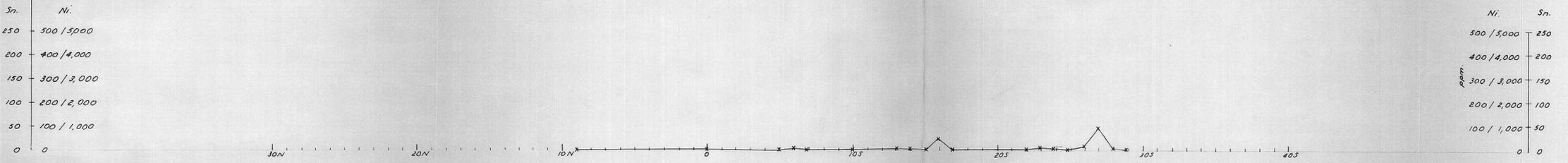
x-x-x Ni (1000 Scale)

5 cm

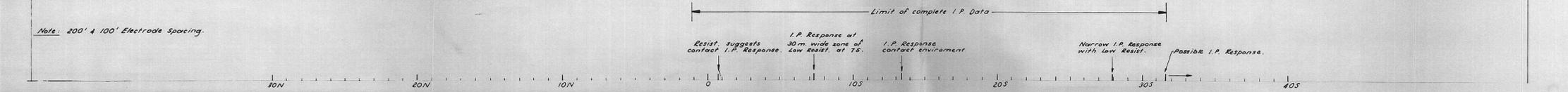
Geochemistry



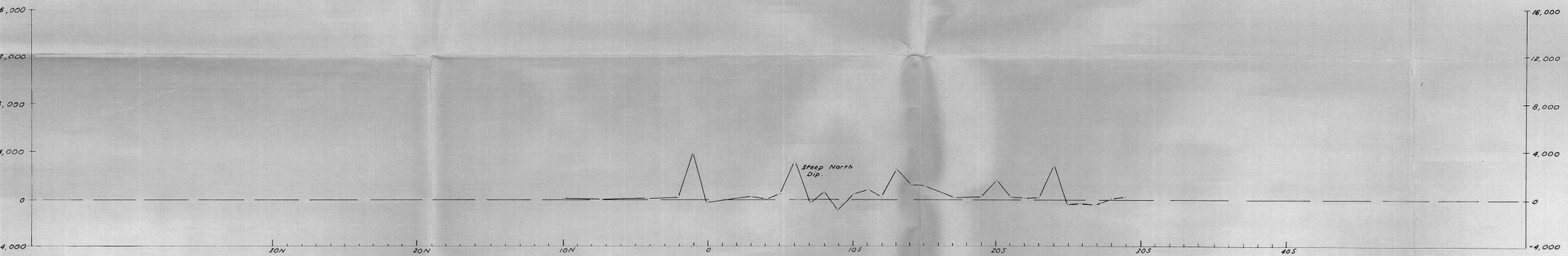
Geochemistry



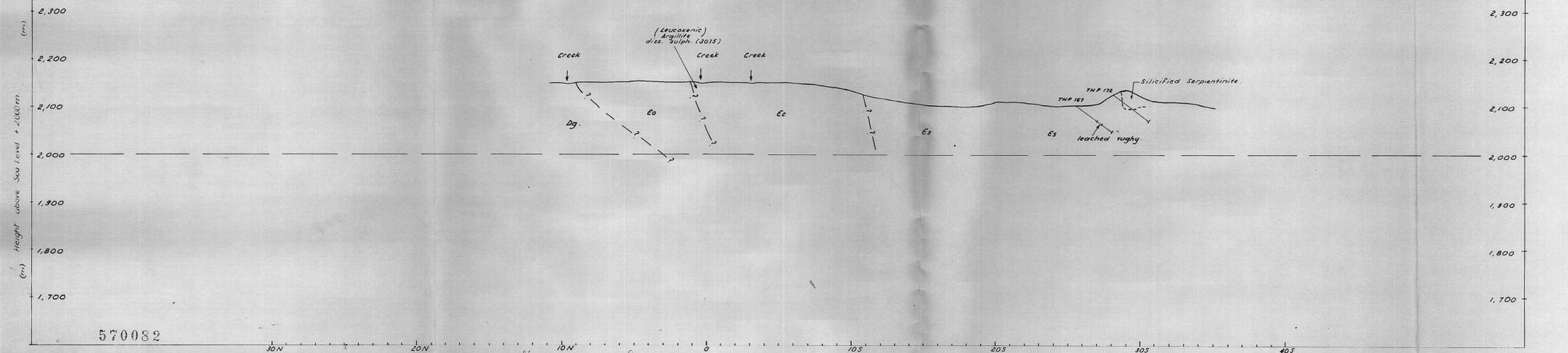
I.P. Data



Ground Magnetics (G)



Topography & Geology



570082

RENISON LIMITED 74-1040

S.P.L. 129  
TRIAL HARBOUR AREA  
LINE N° 5E 1127

SCALE: 1:5000 METRES

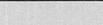


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DATE	12-3-74
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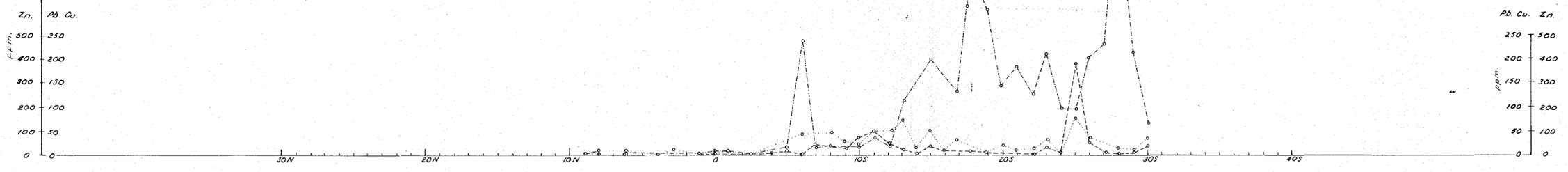
MAGNETICS



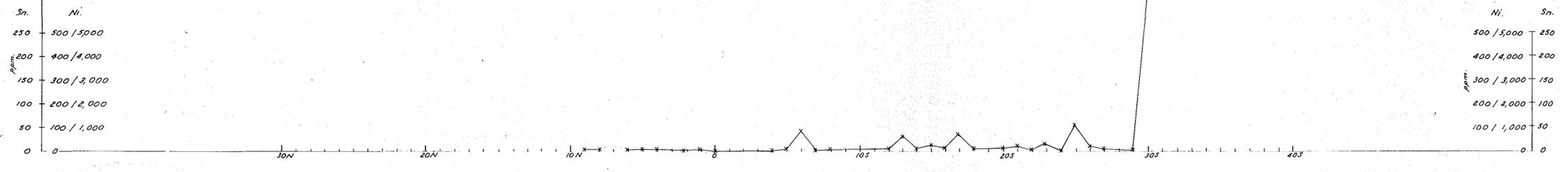
GEOCHEMISTRY



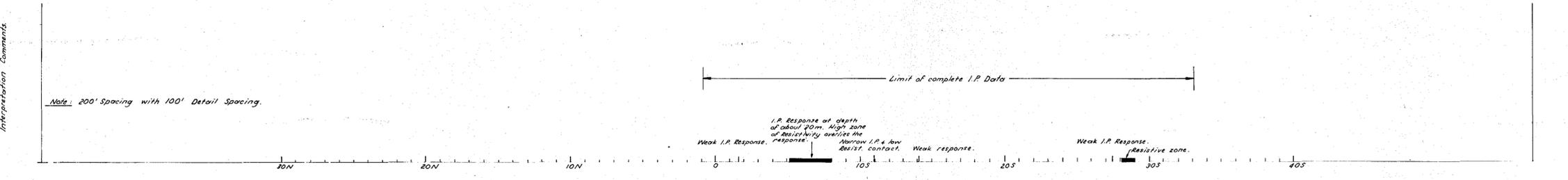
Geochemistry



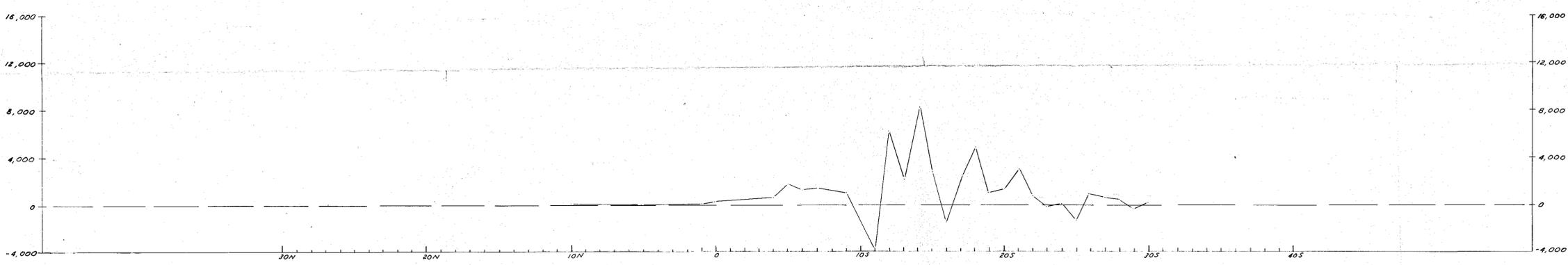
Geochemistry



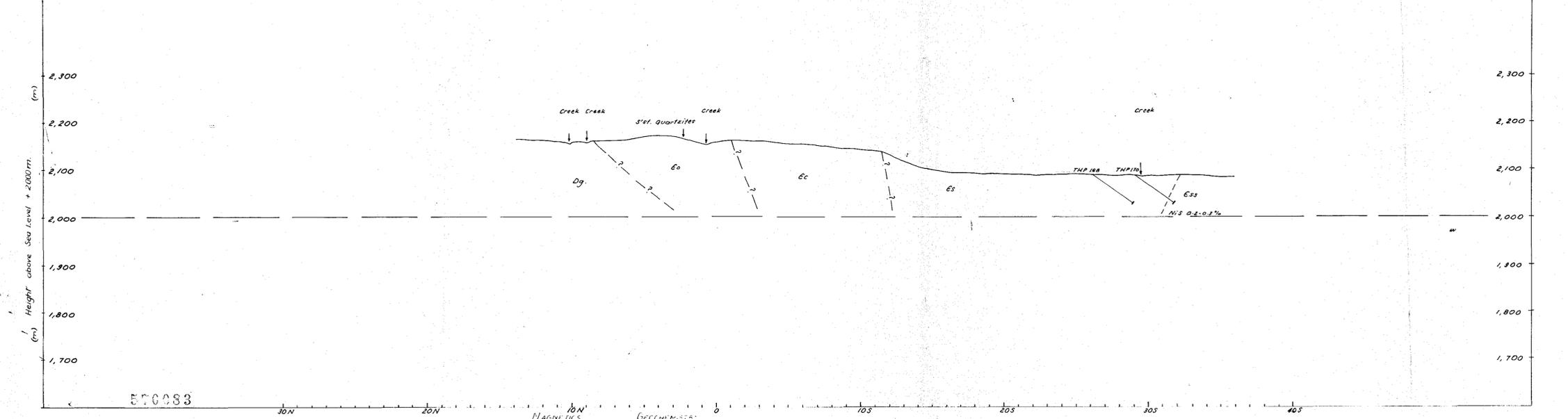
I.P. Data



Ground Magnetics (γ)



Topography & Geology



RENISON LIMITED 74-1040

S.P.L.129

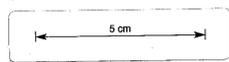
TRIAL HARBOUR AREA

LINE No. 6 E 1128

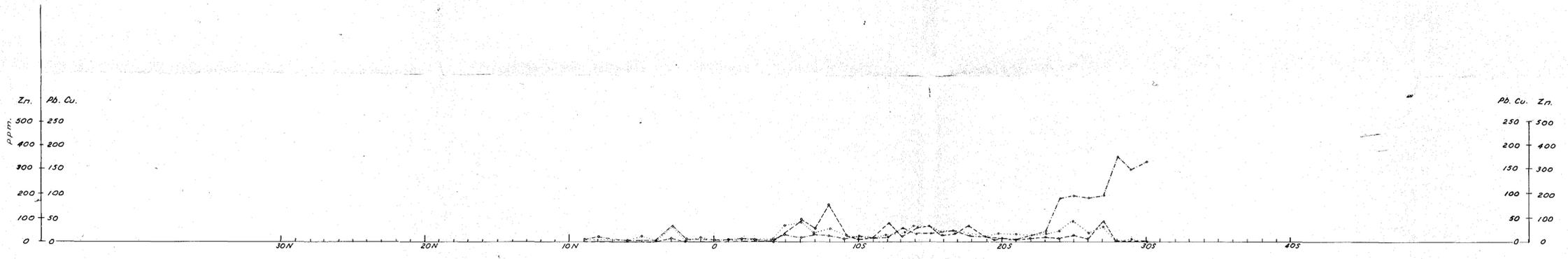
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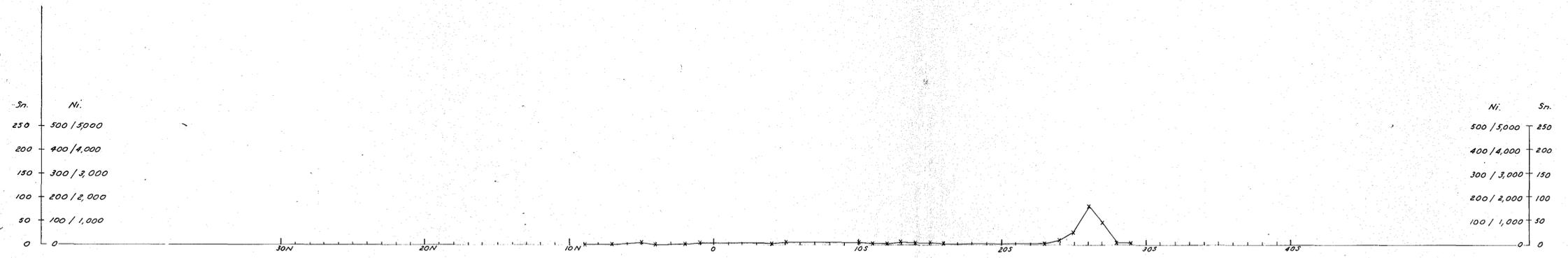
- MAGNETICS
- Geochemistry
- - - - - Zn
  - - - - - Pb
  - - - - - Cu
  - - - - - Zn
  - - - - - Ni (100 Scale)
  - - - - - Ni (1000 Scale)



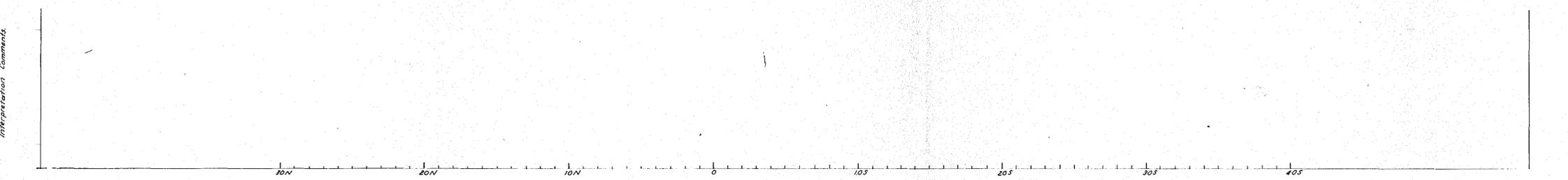
Geochemistry



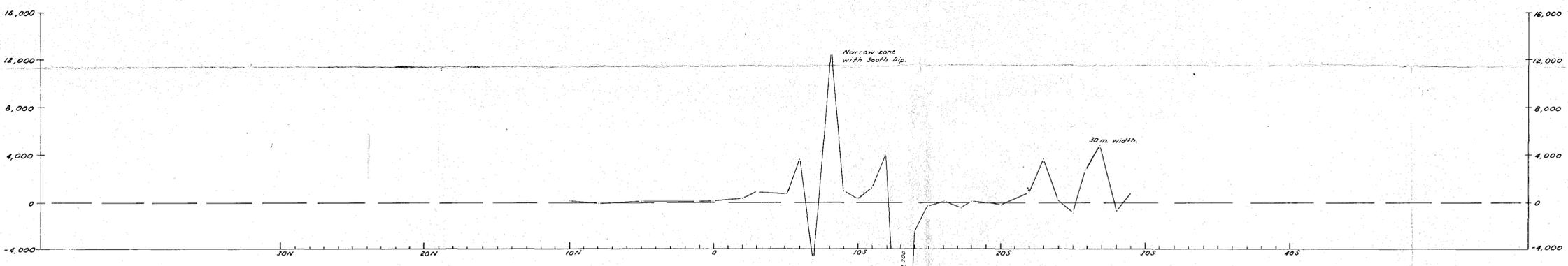
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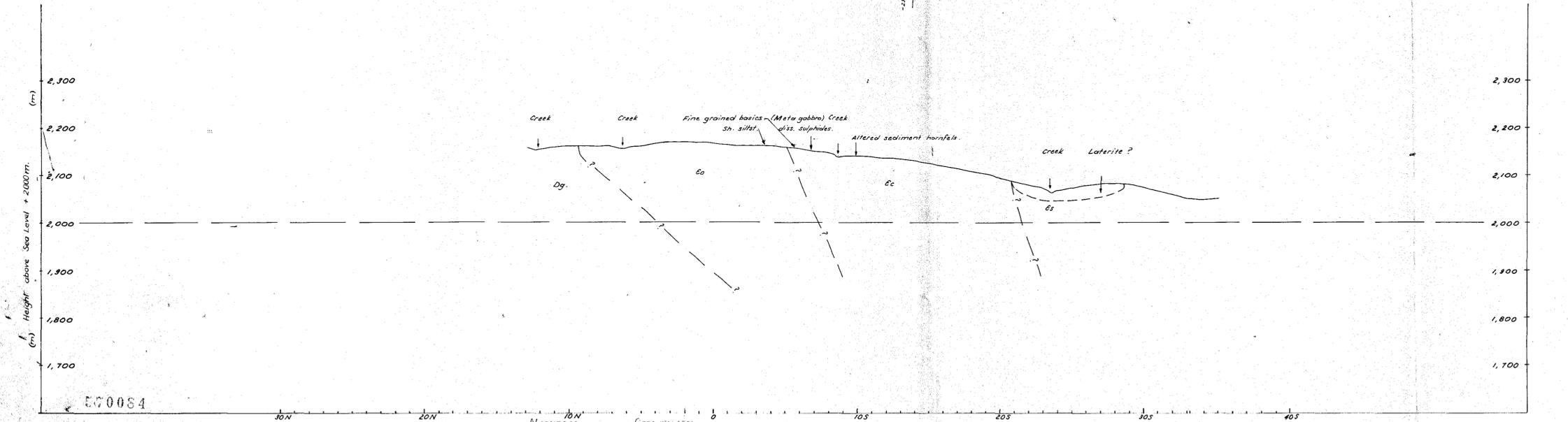
I.P. Data  
Interpretation Comments



Ground Magnetics (γ)



Topography & Geology



RENISON LIMITED 74-1040

S.P.L. 129  
TRIAL HARBOUR AREA  
LINE No. 7E 1129

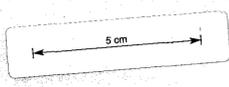
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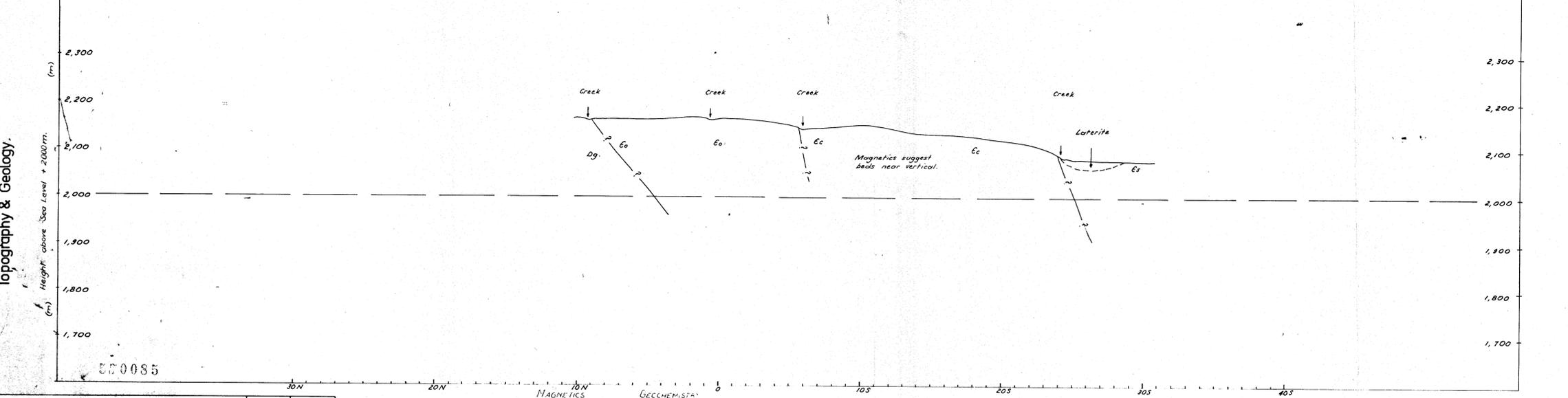
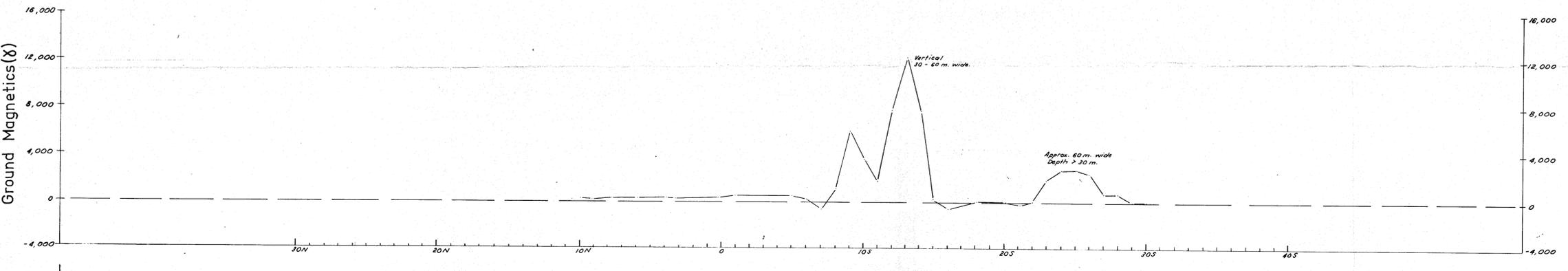
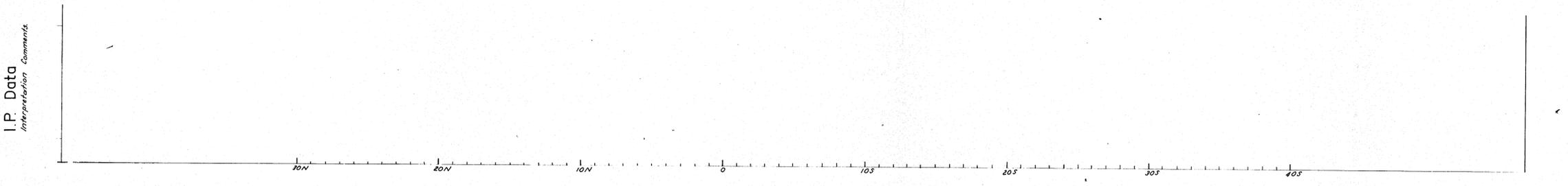
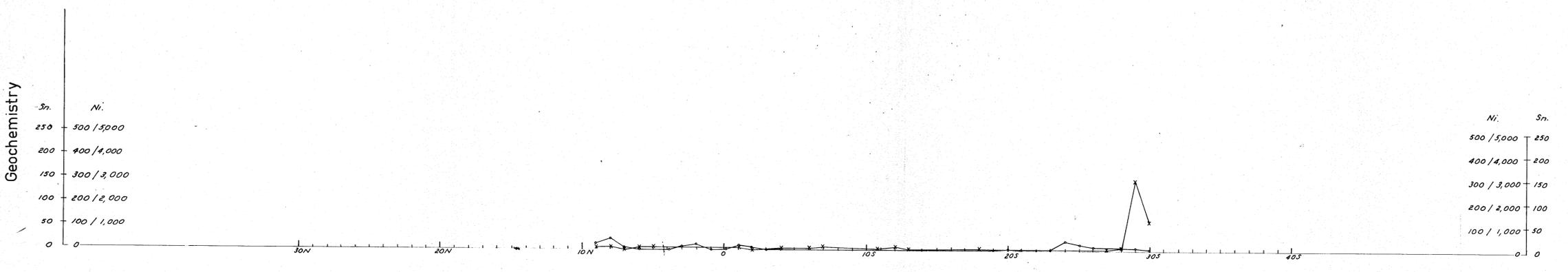
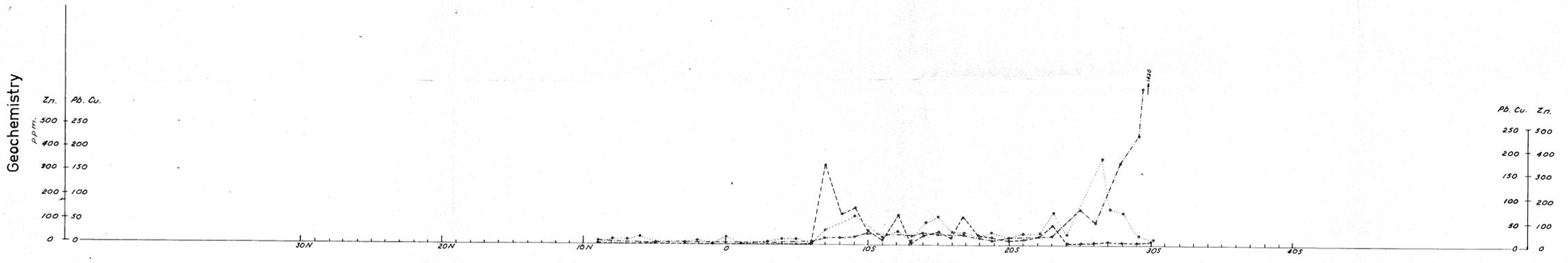
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DATE	12.3.74
SCALE	1:5000
DRAWING No.	

MAGNETICS

Geochemistry

- - - - - Sn
- - - - - Cu
- - - - - Zn
- x - x - x Ni (100 Scale)
- x - x - x Ni (1000 Scale)





RENISON LIMITED 74-1040

S.P.L.129  
TRIAL HARBOUR AREA  
LINE No. 8E 1130

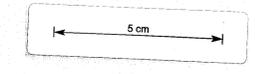
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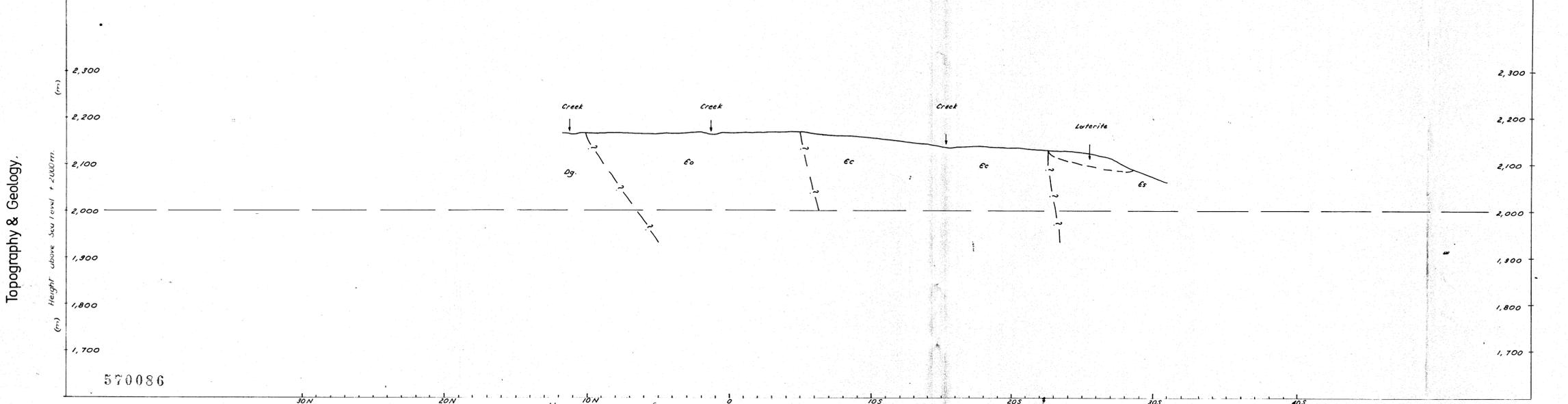
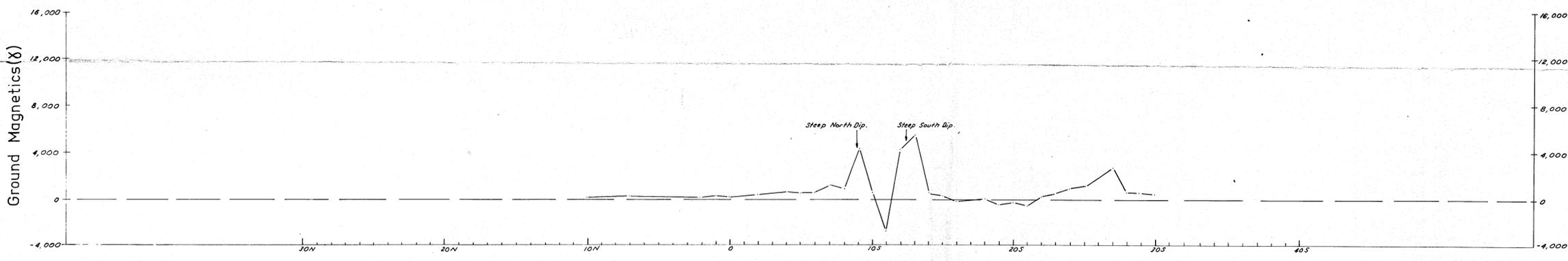
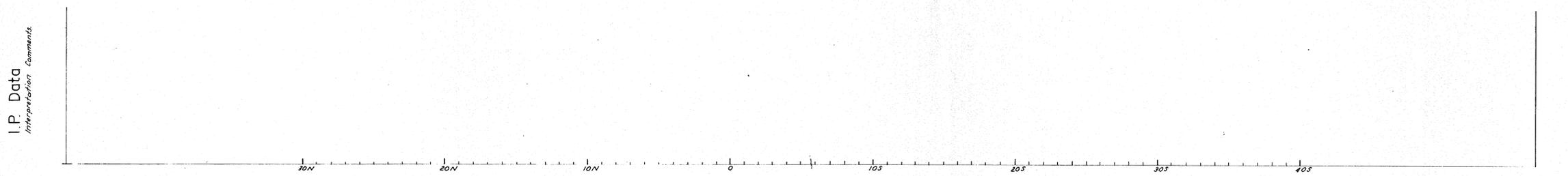
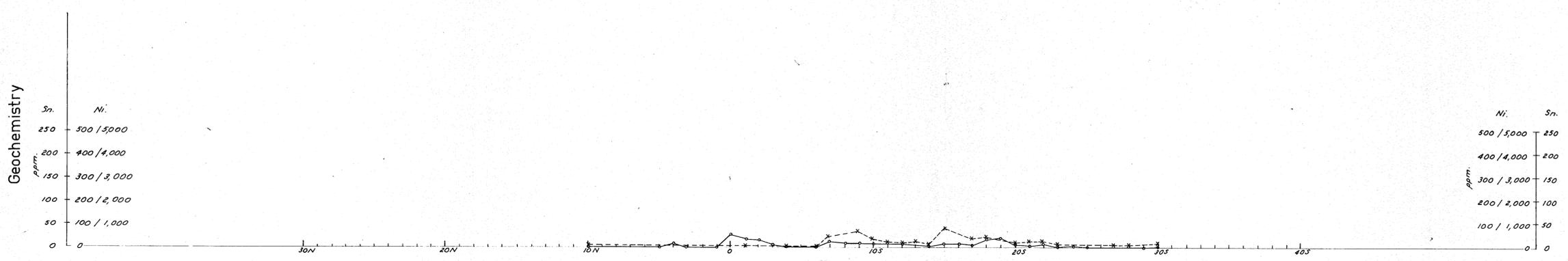
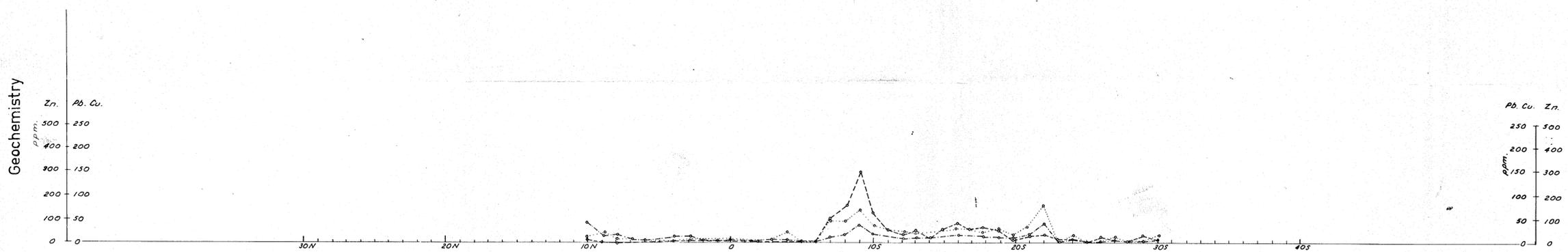
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DATE	17.3.74.
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MAGNETICS

Geochemistry

- - - - - Zn
- - - - - Cu
- - - - - Pb
- - - - - Ni (100 Scale)
- - - - - Ni (1000 Scale)





570086

REINSON LIMITED	74-1040
S.P.L.129	
TRIAL HARBOUR AREA	
LINE N° 9E	1131

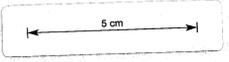
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DATE	13-2-74
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SCALE: 1:5000 METRES

MAGNETICS

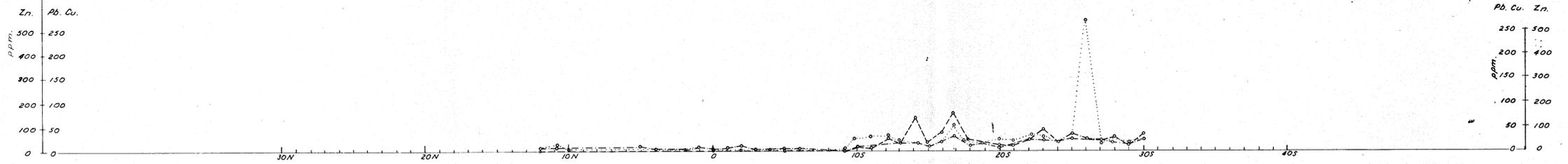
GEOCHEMISTRY

- Zn
- Pb
- Cu
- Sr
- Ni
- x-x-x Ni (100 Scale)
- y-y-y Ni (1000 Scale)

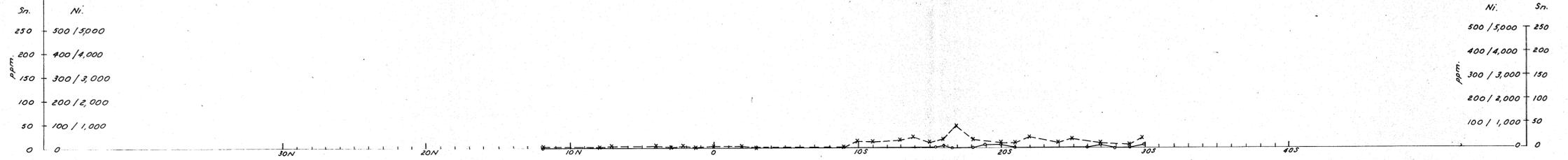




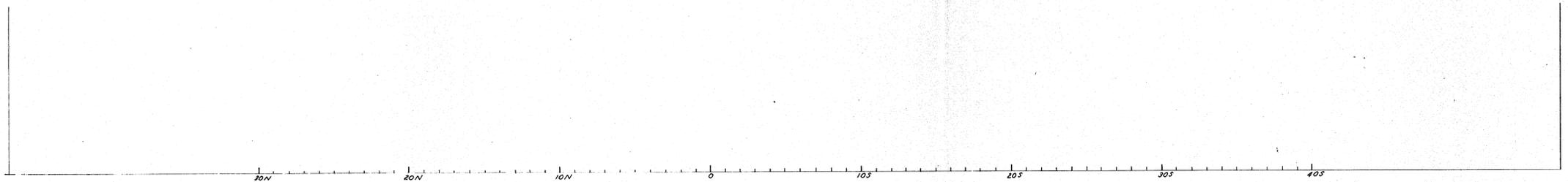
Geochemistry



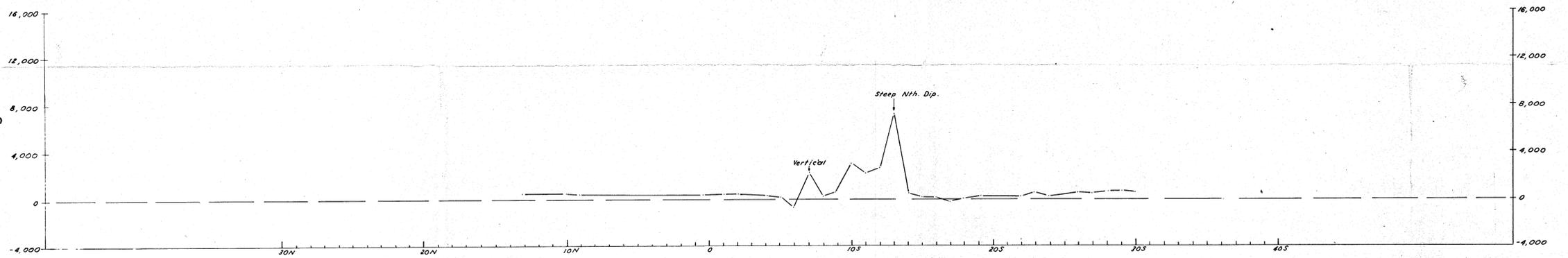
Geochemistry



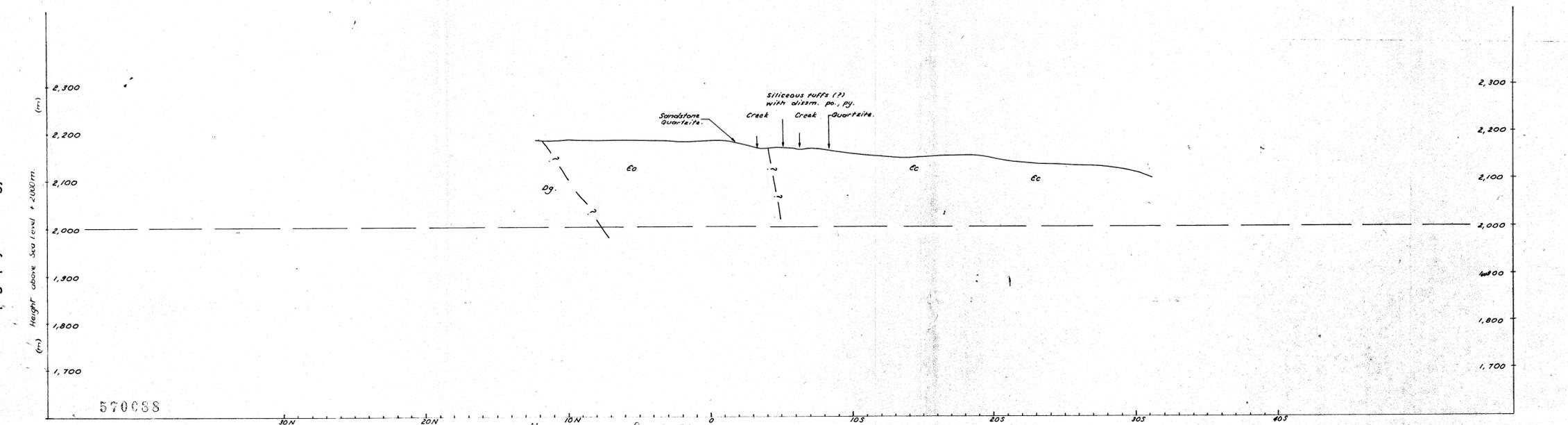
I.P. Data  
Interpretation Comments



Ground Magnetics (γ)



Topography & Geology.



RENISON LIMITED 74-1040

S.P.L.129  
TRIAL HARBOUR AREA  
LINE NO. 11E 1133

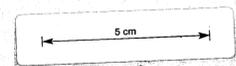
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DATE	14-3-74
SCALE	1:5000
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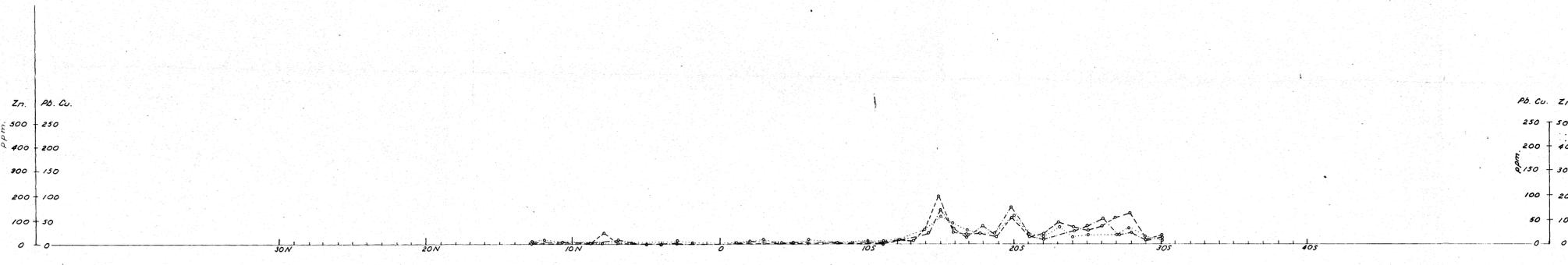
MAGNETICS

GEOCHEMISTRY

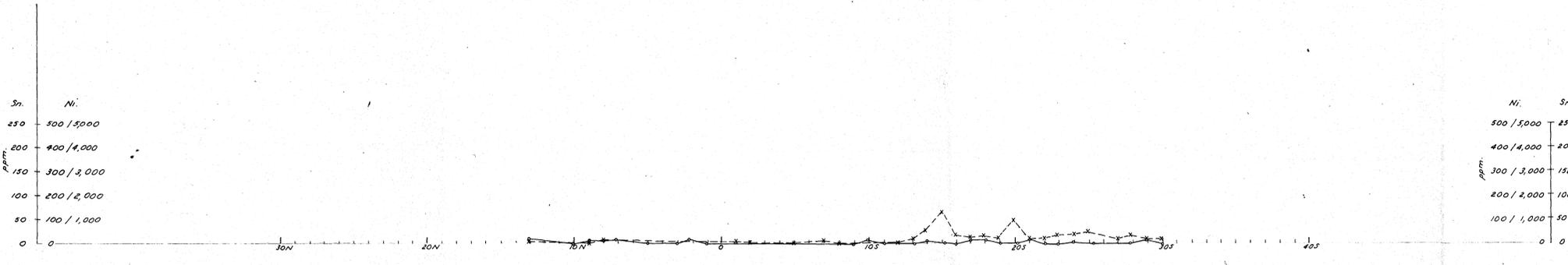
- Sn
- Cu
- Pb
- Zn
- x-x Ni (100 Scale)
- x-x Ni (1000 Scale)



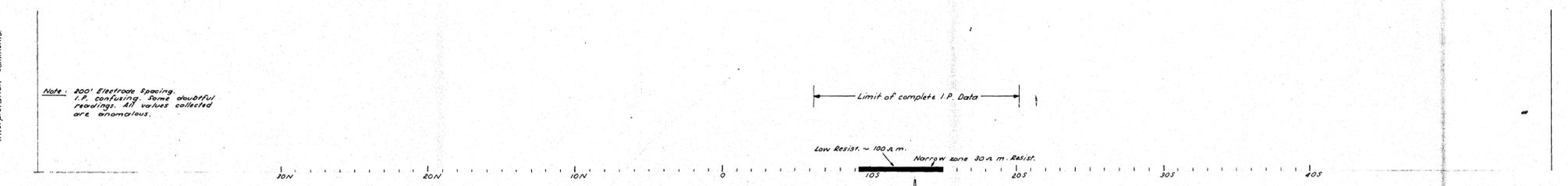
Geochemistry



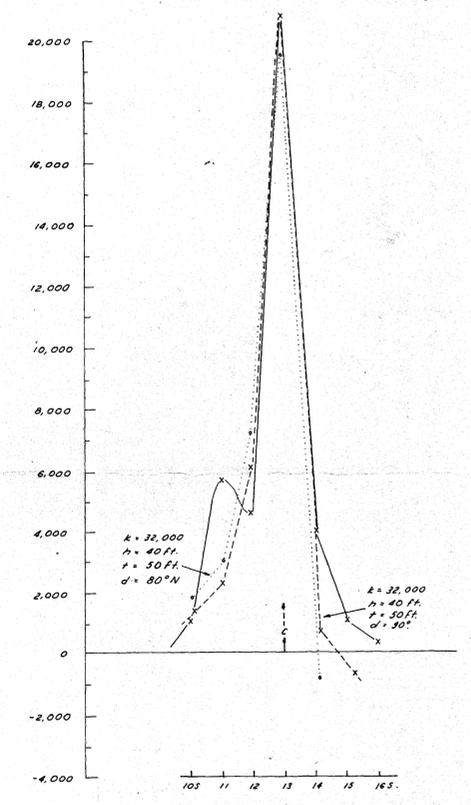
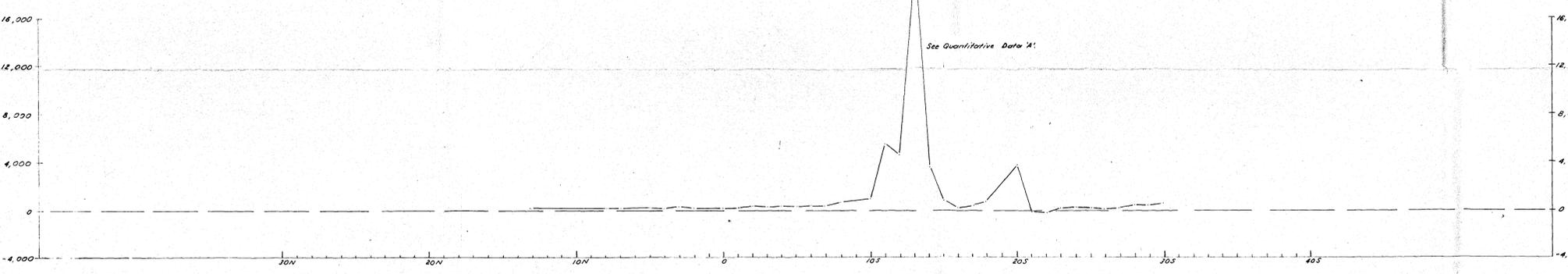
Geochemistry



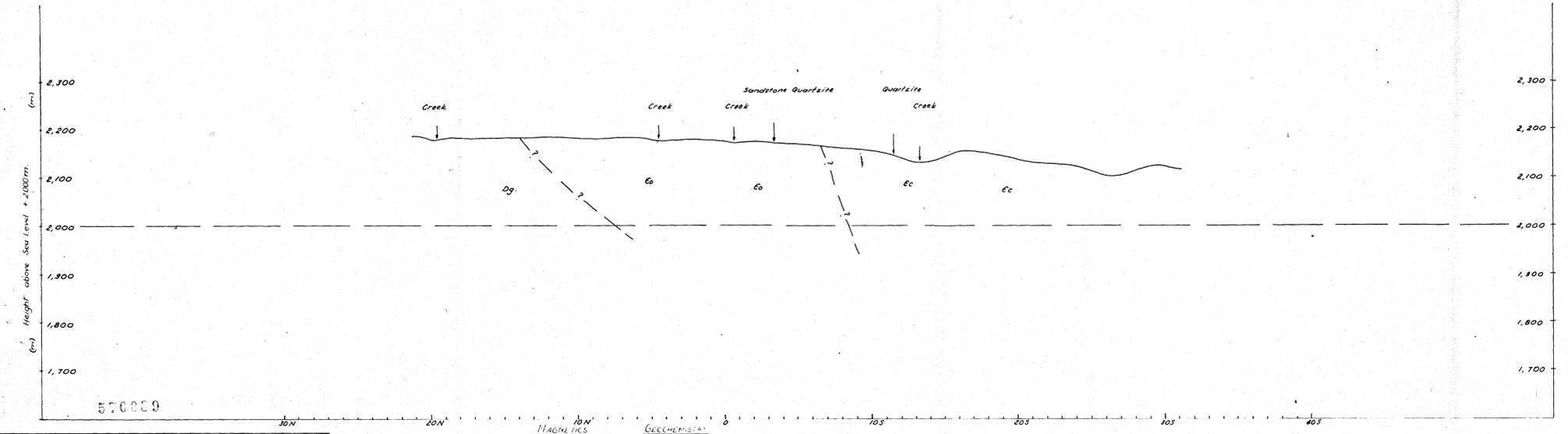
I.P. Data



Ground Magnetics (γ)



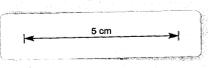
Topography & Geology



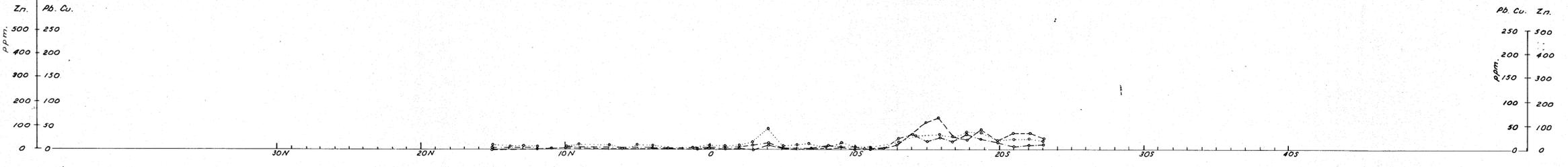
RENISON LIMITED 74-1040  
 S.P.L. 129  
 TRIAL HARBOUR AREA  
 LINE No. 12 E 1134  
 SCALE 1:5000 METRES

DRAWN	R.N.L.
TRACED	F.A.C.
DATE	12.5.74
SCALE	1:5000
DRAWING No.	

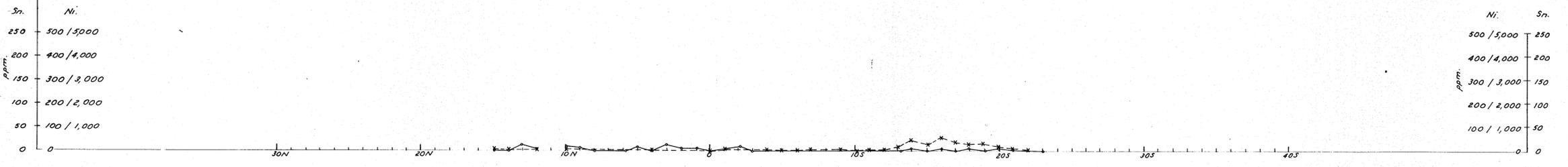
MAGNETICS  
 GEOCHEMISTRY  
 x-x-x Ni (100 Scale)  
 x-x-x Ni (1000 Scale)



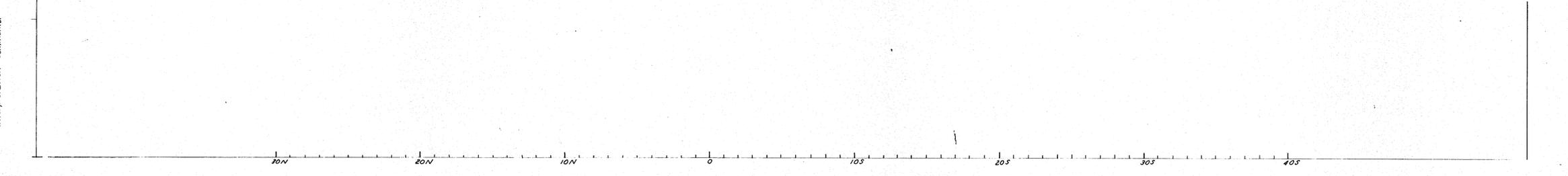
Geochemistry



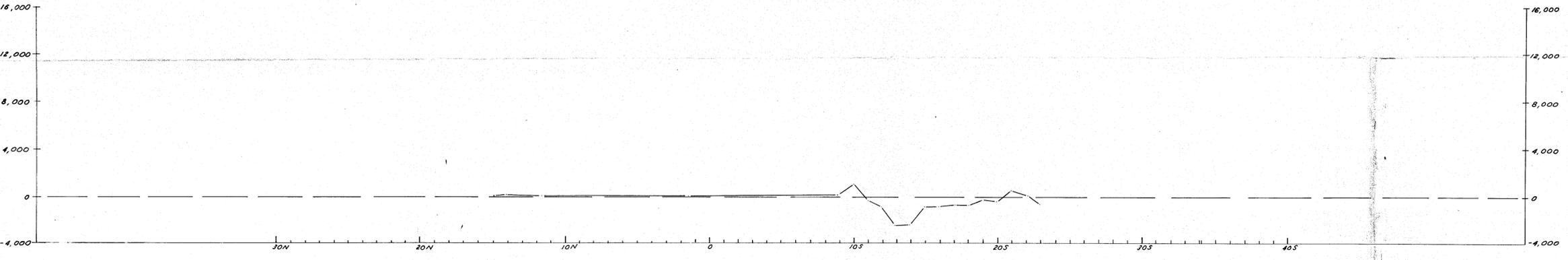
Geochemistry



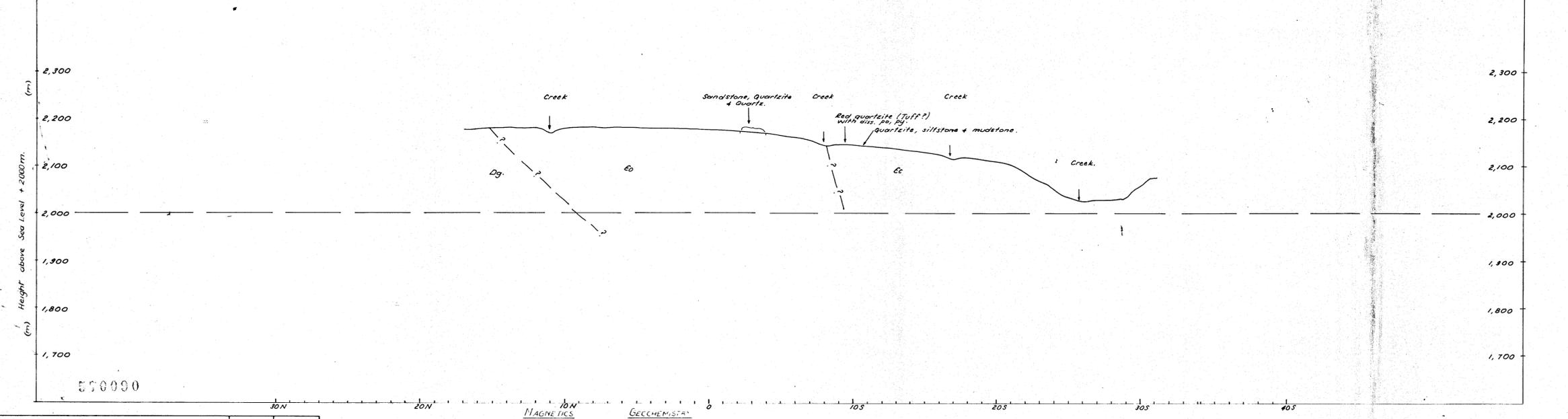
I.P. Data



Ground Magnetics (x)



Topography & Geology

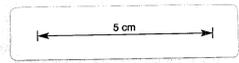


RENISON LIMITED 74-1040		DRAWN	R.N.L.
S.P.L.129		TRACED	F.A.C.
TRIAL HARBOUR AREA		DATE	25.3.74
LINE NO. 13E 1135		SCALE	1:5000
SCALE: 1:5000 METRES.		DRAWING No.	

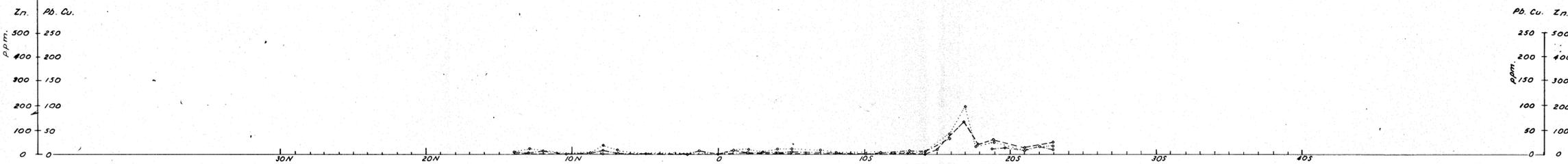
MAGNETICS

GEOCHEMISTRY

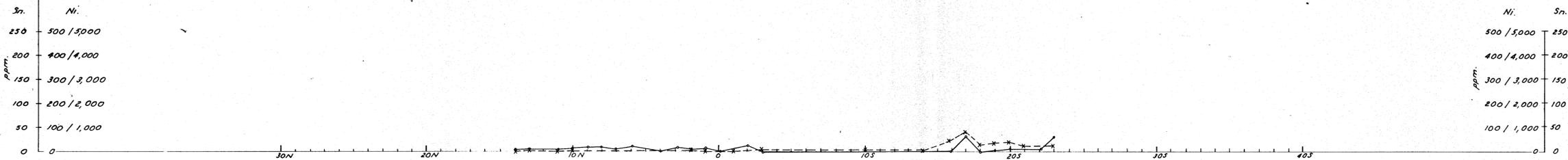
- Zn
- Pb
- Cu
- Sn
- Ni
- x-x Ni (100 Scale)
- x-x Ni (1000 Scale)



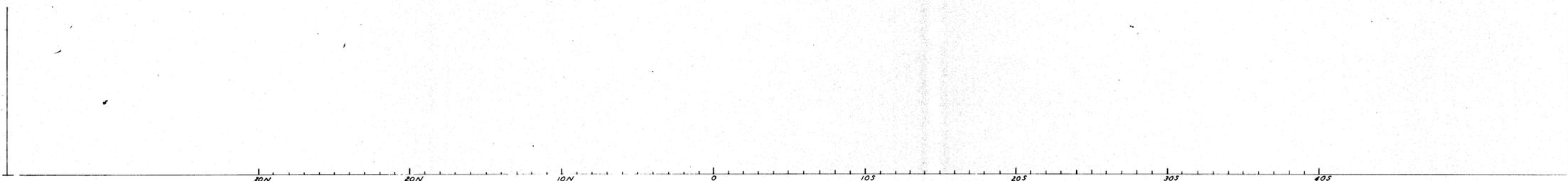
Geochemistry



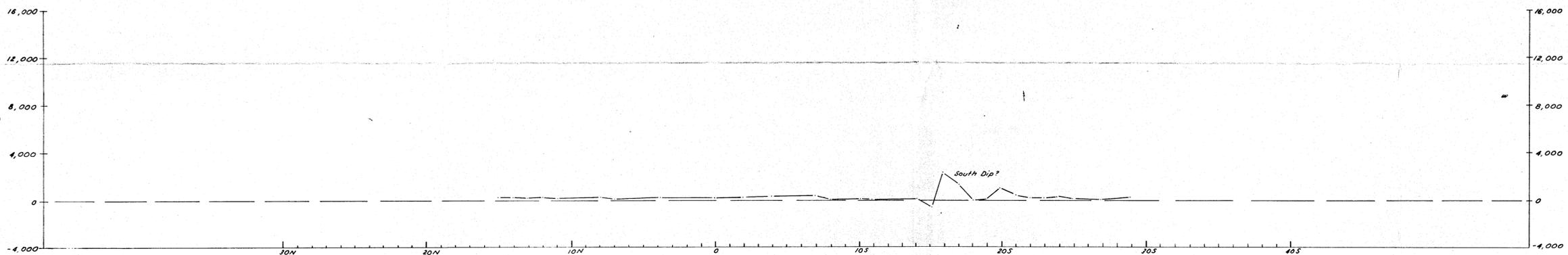
Geochemistry



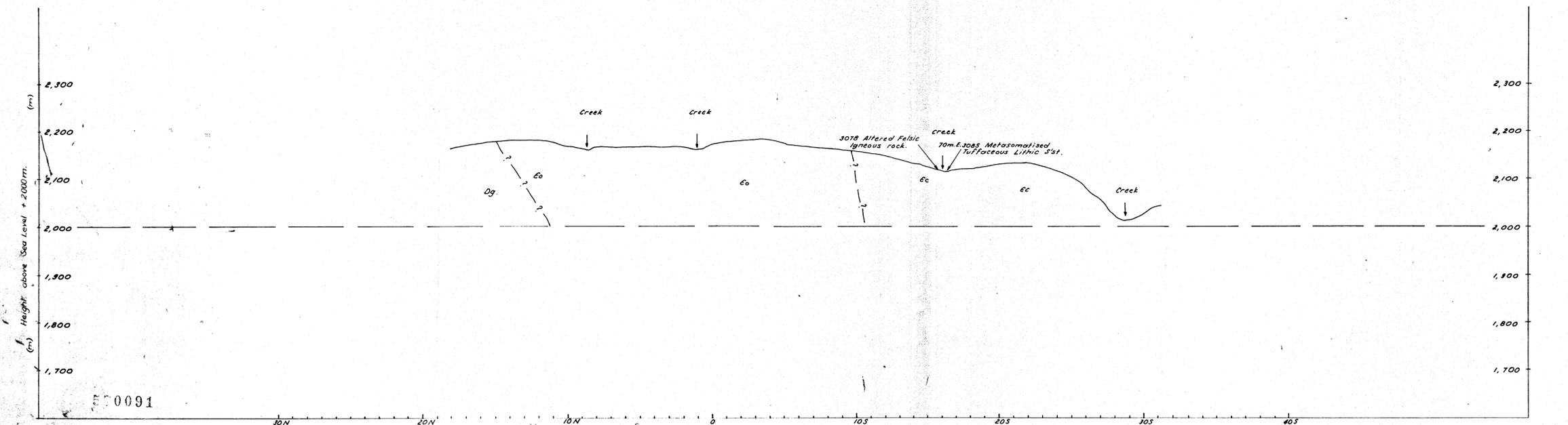
I.P. Data  
Interpretation Comments



Ground Magnetics (γ)



Topography & Geology



RENISON LIMITED 74-1040

S.P.L.129  
TRIAL HARBOUR AREA  
LINE NO. 14 E 1136

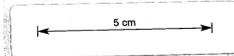
SCALE: 1:5000 METRES.

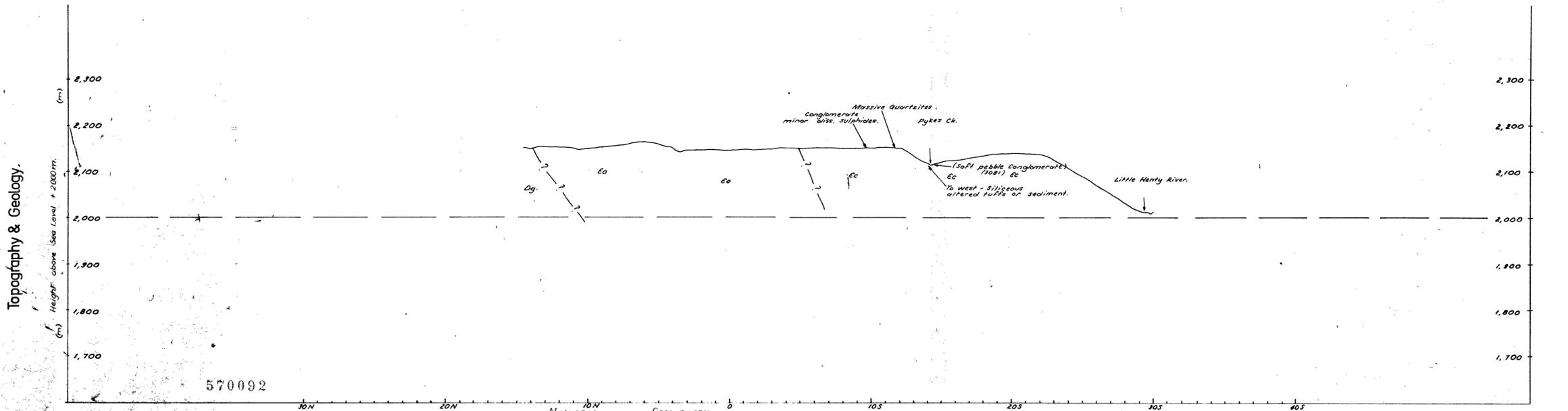
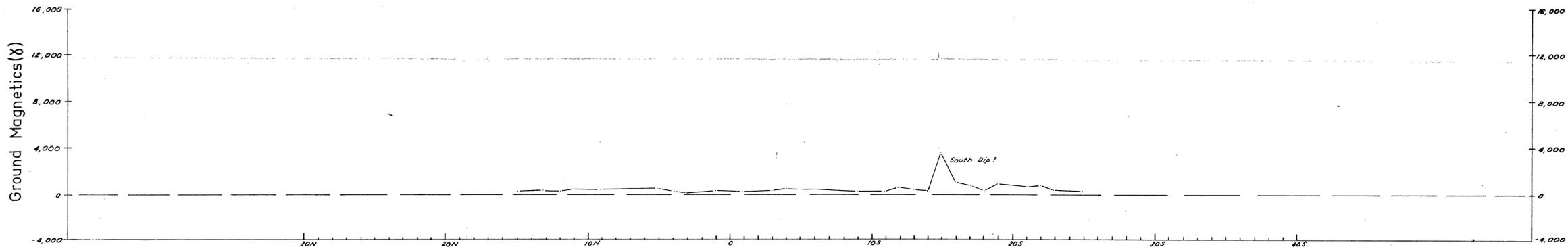
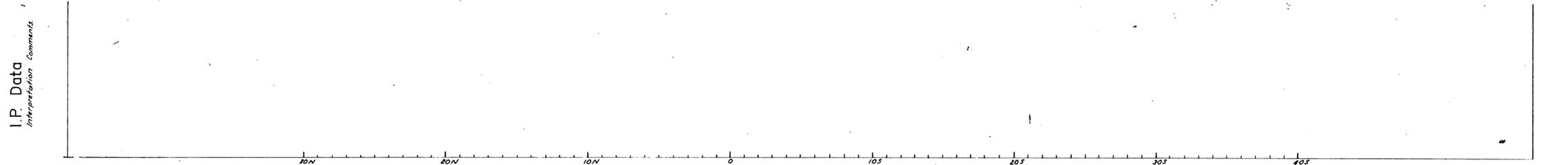
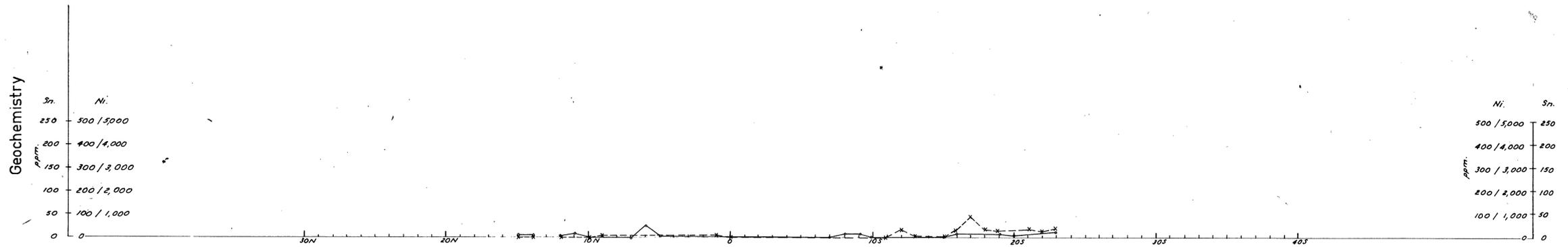
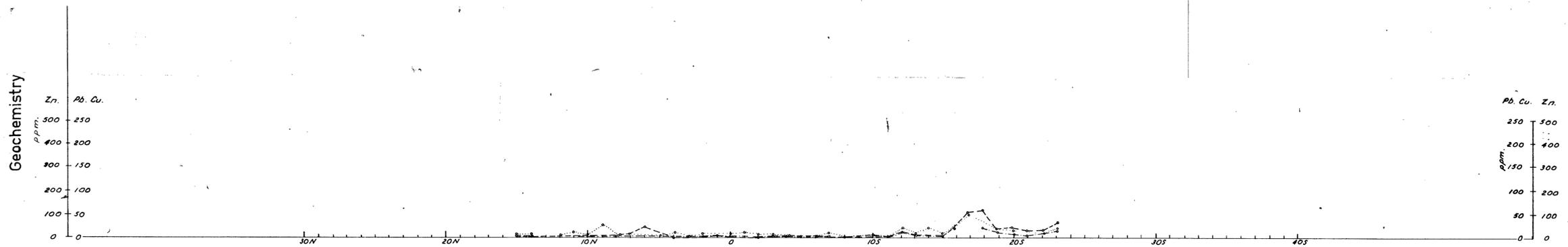
DRAWN	R.N.L.
TRACED	F.A.C.
DATE	25-3-74
SCALE	1:5000
DRAWING No.	

MAGNETICS

GEOCHEMISTRY

- — Cu
- — Pb
- — Zn
- x — Ni (100 Scale)
- x — Ni (1000 Scale)





RENISON LIMITED 74-1040	
DRAWN	R.N.L.
TRACED	E.A.C.
DATE	25.3.74
SCALE	1:5000
DRAWING No.	

S.P.L. 129  
TRIAL HARBOUR AREA  
LINE No 15E 1137

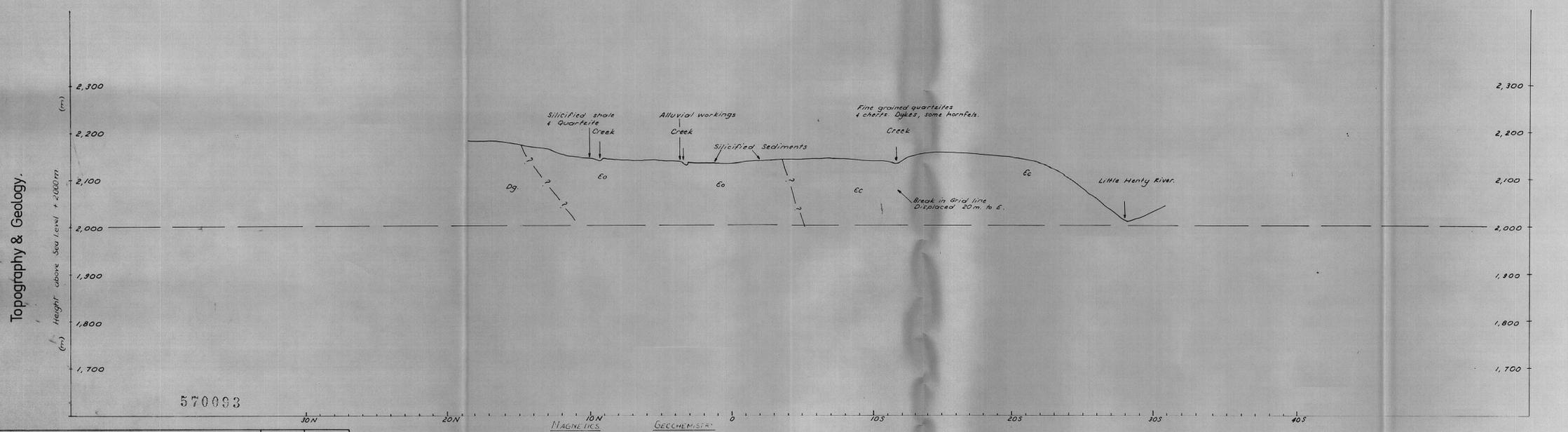
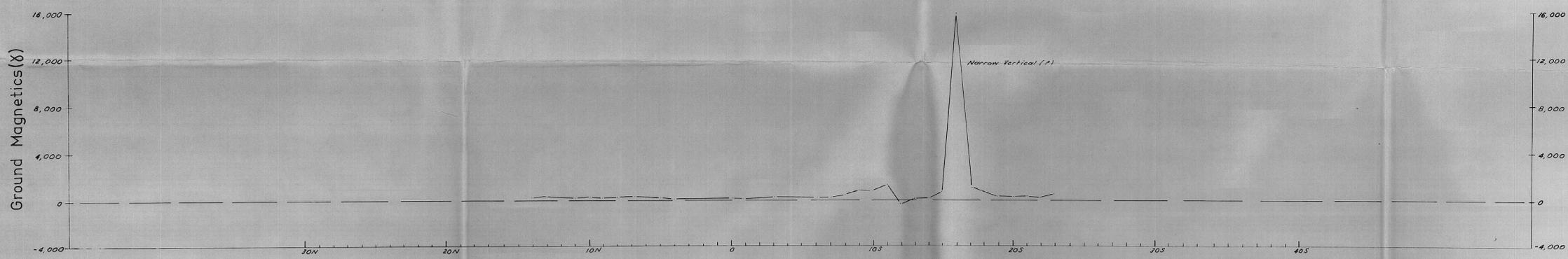
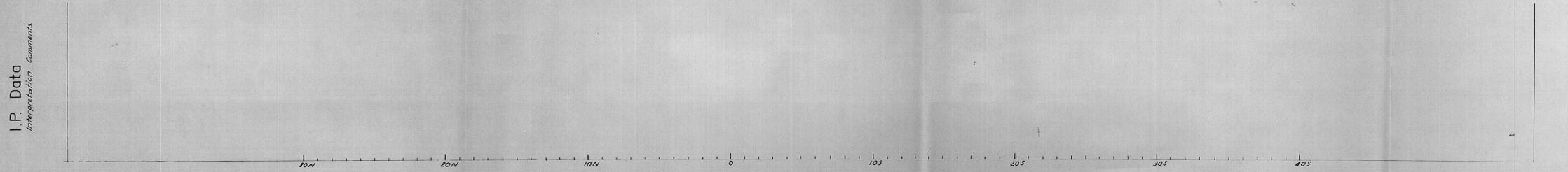
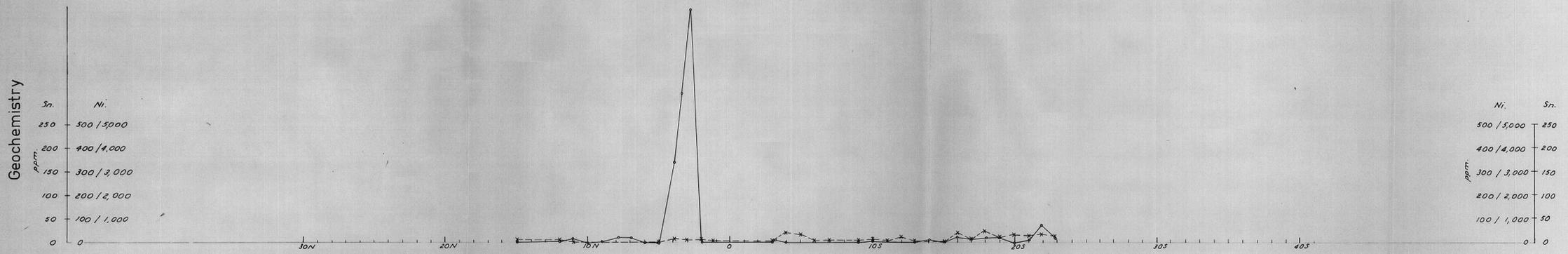
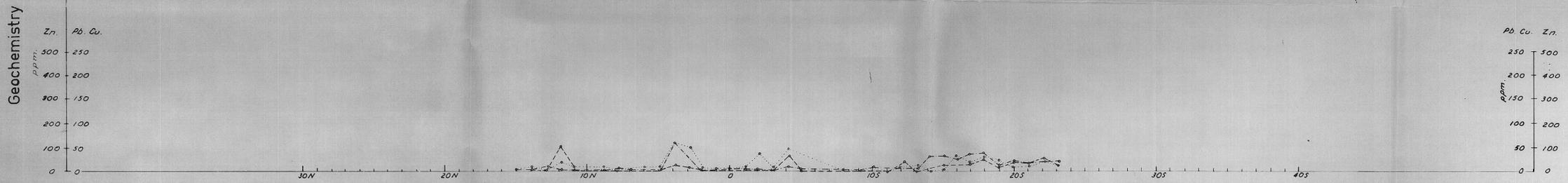
SCALE: 1:5000 METRES.

**MAGNETICS**

**GEOCHEMISTRY**

- Sn
- Cu
- Pb
- Zn
- x—x Ni (100 Scale)
- x—x Ni (1000 Scale)





RENISON LIMITED 74-1040

S.P.L.129

TRIAL HARBOUR AREA

LINE N° 16E 1133

SCALE 1:5000 METRES

DRAWN	R.N.L.
TRACED	F.A.C.
DATE	25.3.74.
SCALE	1:5000
DRAWING No.	

MAGNETICS

Geochemistry

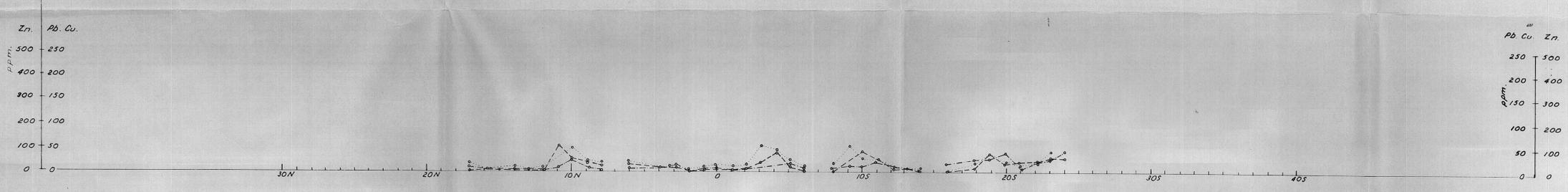
Zn

Ni (100 Scale)

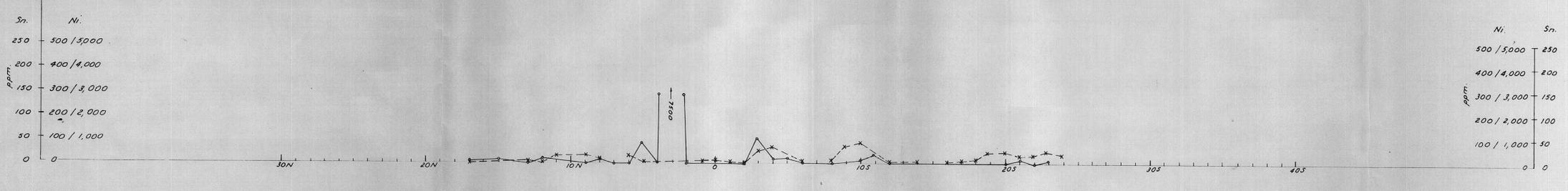
Ni (1000 Scale)



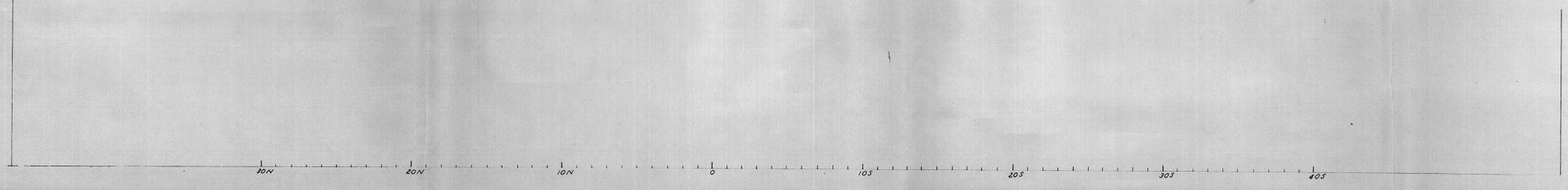
Geochemistry



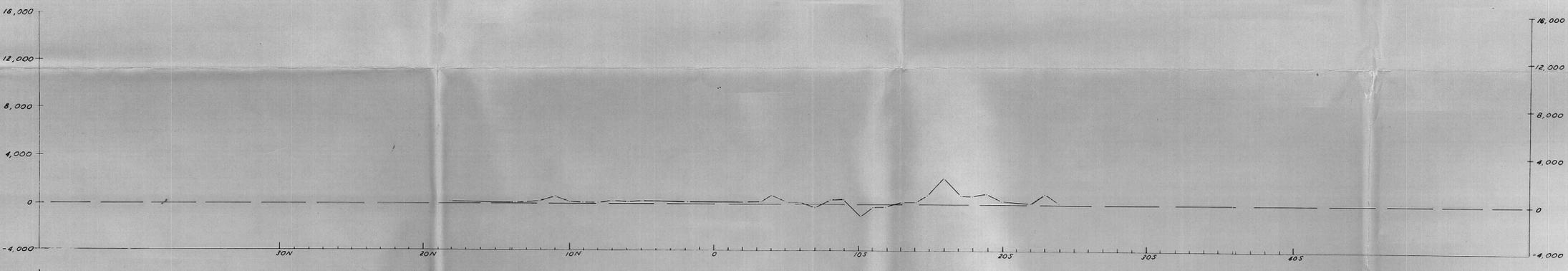
Geochemistry



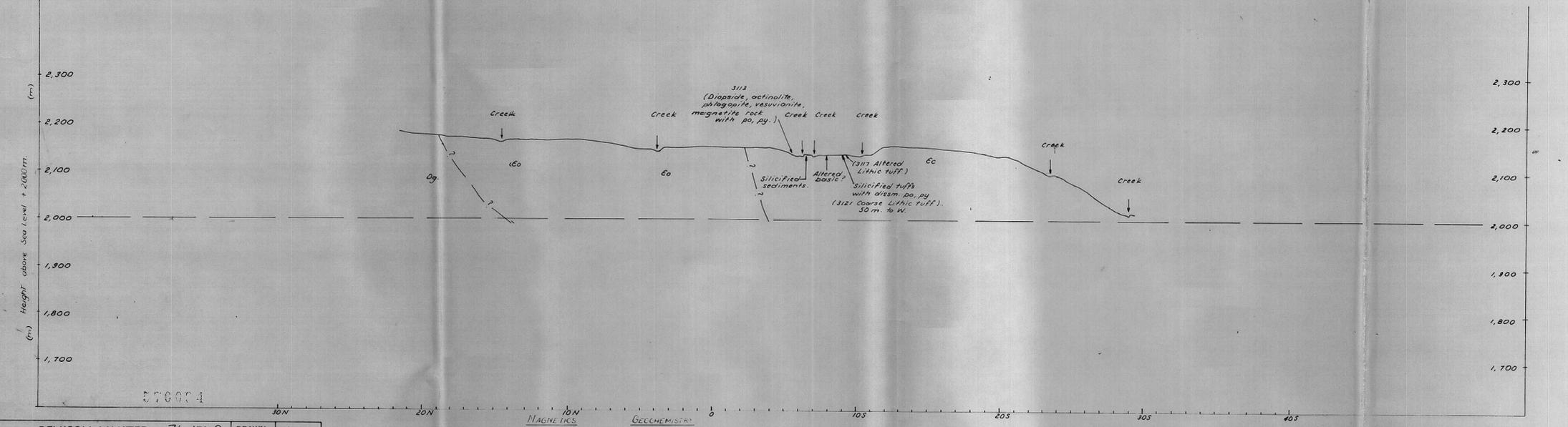
I.P. Data  
*Interpretation Comments*



Ground Magnetics (X)



Topography & Geology



RENISON LIMITED 74-1040	DRAWN R.N.L.
S.P.L. 129	TRACED F.A.C.
TRIAL HARBOUR AREA	DATE 26.3.74
LINE No. 17E 1139	SCALE 1:5000
SCALE: 1:5000 METRES.	DRAWING No.

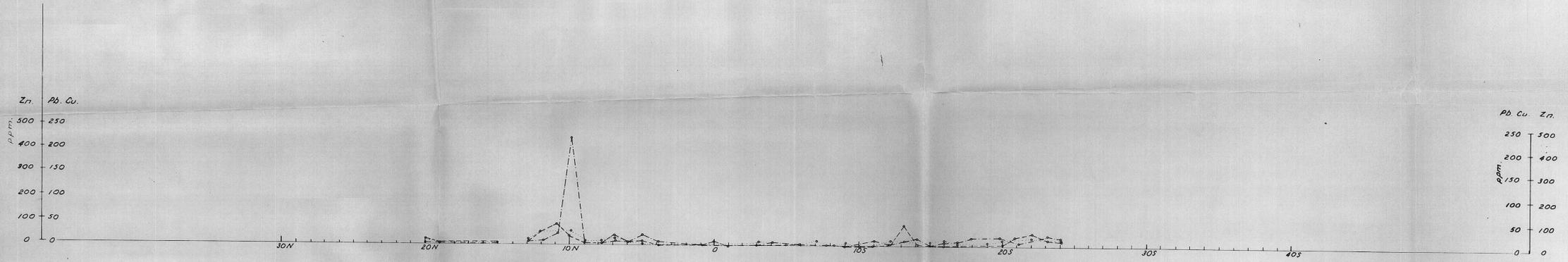
MAGNETICS

Geochemistry

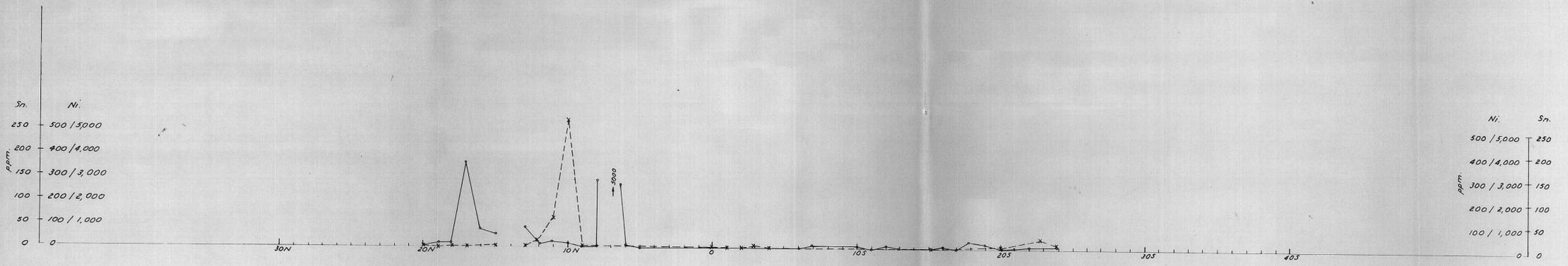
- Zn
- Pb
- Cu
- Sn
- x Ni (100 Scale)
- x Ni (1000 Scale)



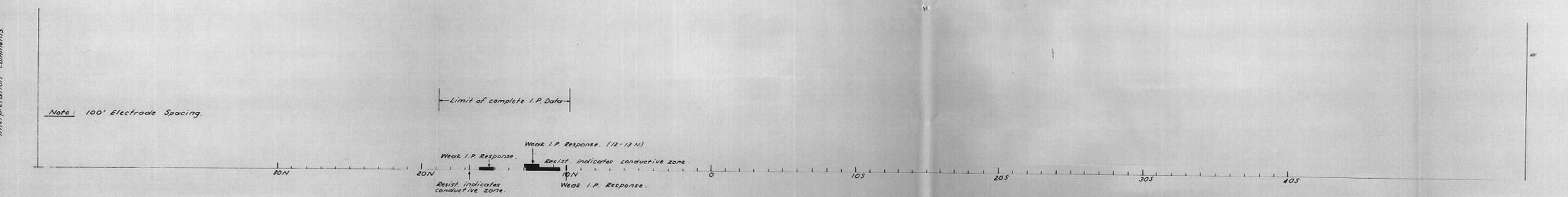
Geochemistry



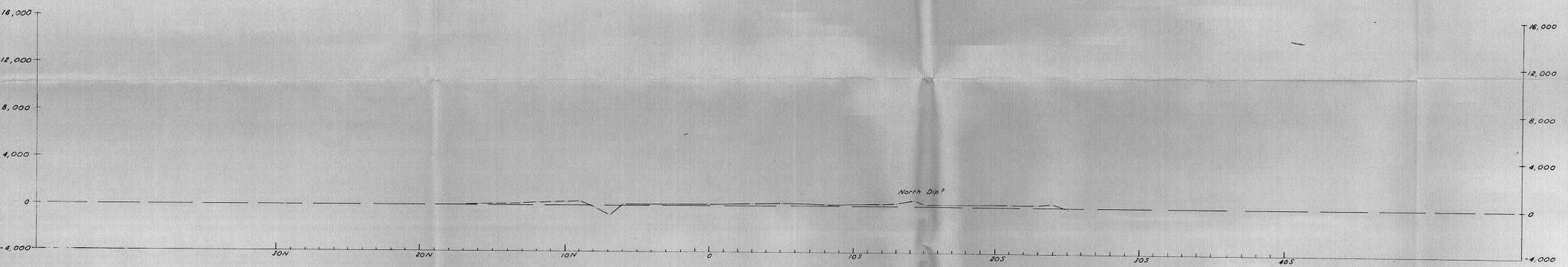
Geochemistry



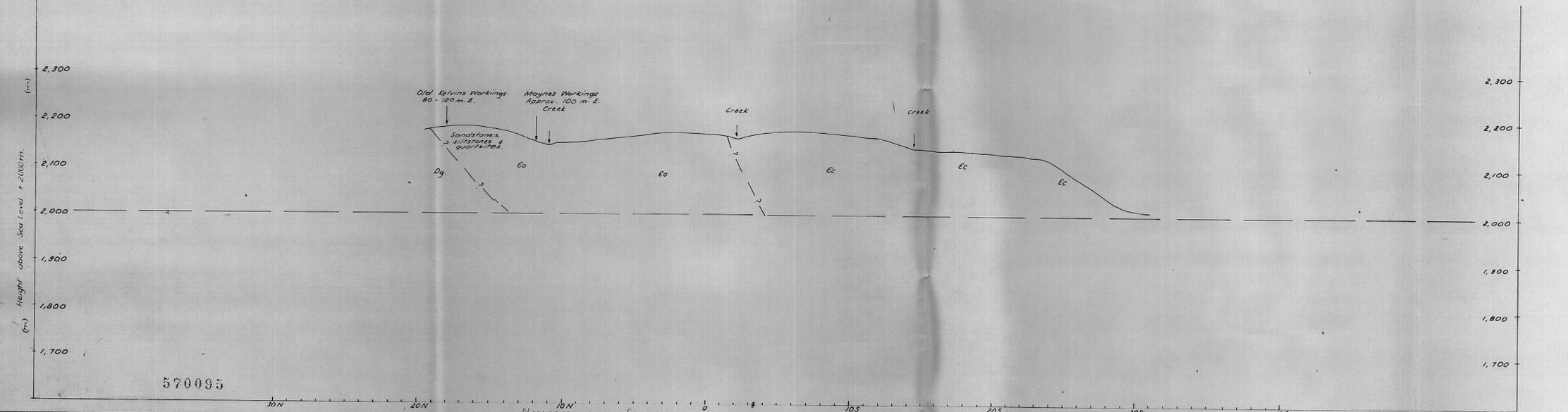
I.P. Data  
Interpretation Comments



Ground Magnetics (X)



Topography & Geology



570095

RENISON LIMITED 74-1040

S.P.L.129  
TRIAL HARBOUR AREA  
LINE N° 18E 1140

SCALE: 1:5000 METRES.

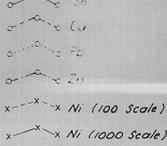


DRAWN	R.N.L.
TRACED	F.A.C.
DATE	26.3.74.
SCALE	1:5000
DRAWING No.	

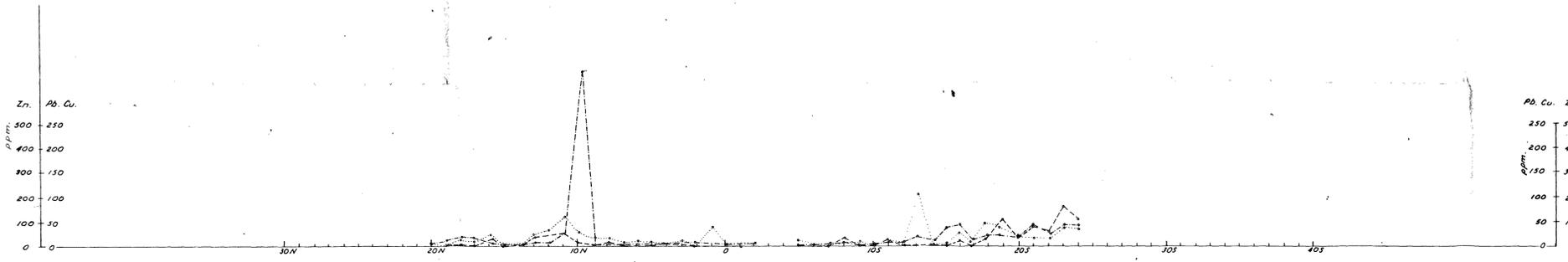
MAGNETICS



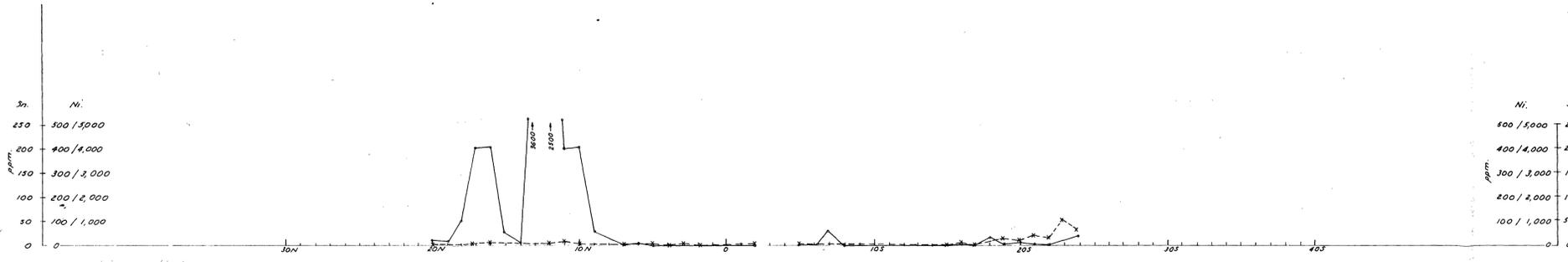
GEOCHEMISTRY



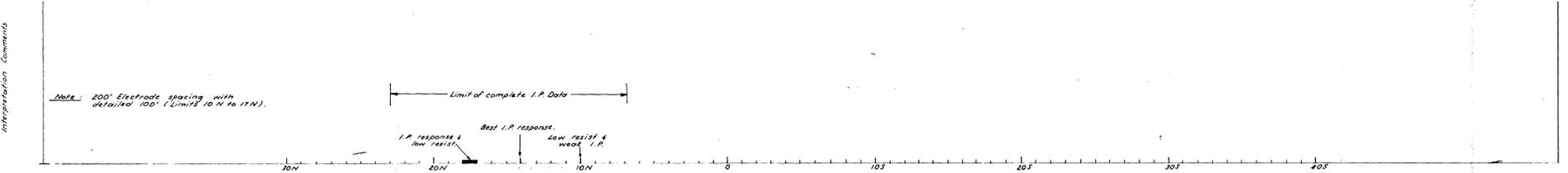
Geochemistry



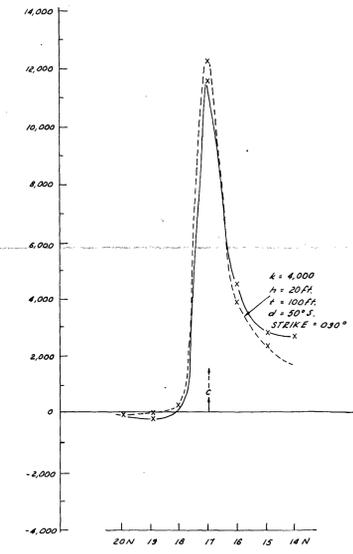
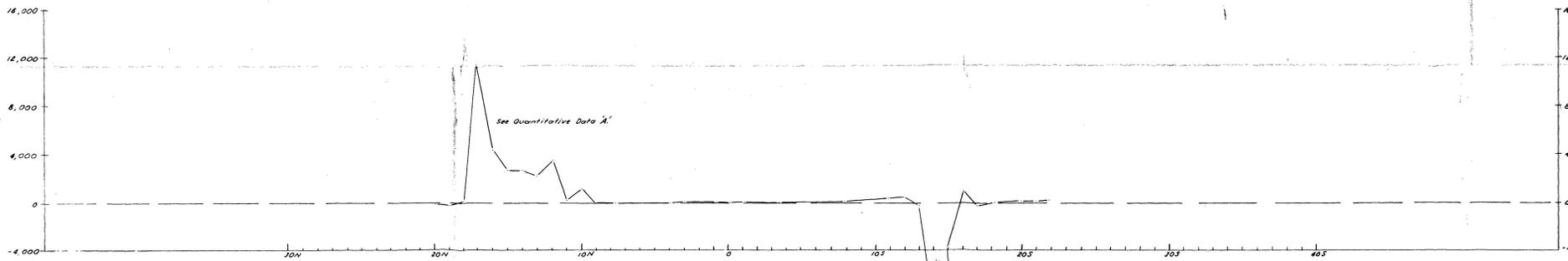
Geochemistry



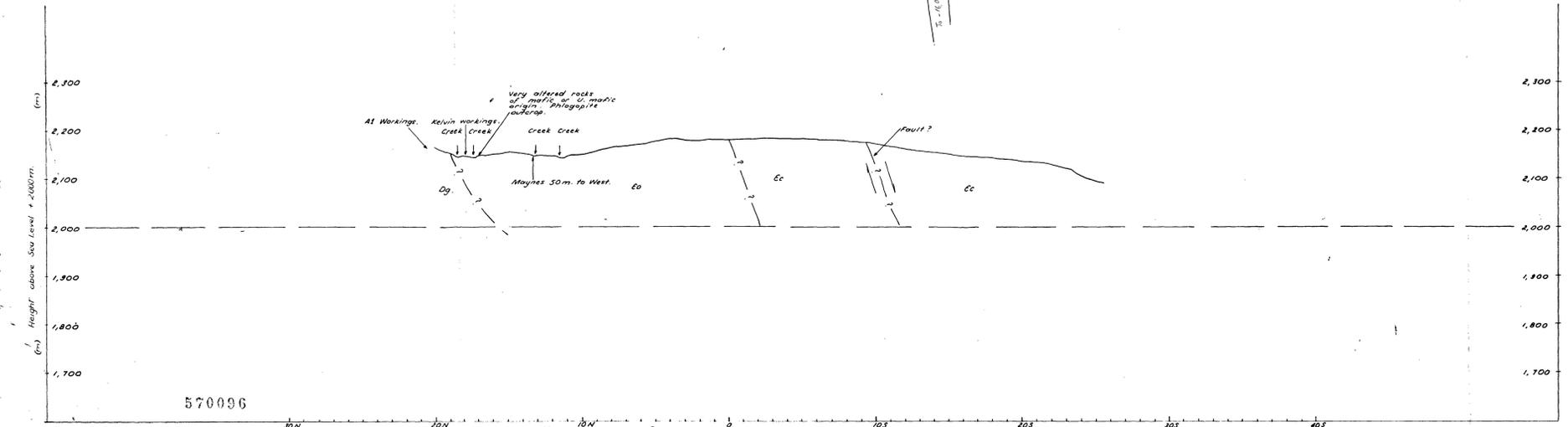
I.P. Data



Ground Magnetics (X)



Topography & Geology



570096

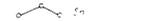
RENISON LIMITED 74-1040  
S.P.L.129  
TRIAL HARBOUR AREA  
LINE NO 19E 1141

DRAWN	R.N.L.
TRACED	R.A.C.
DATE	20.3.74.
SCALE	1:5000
DRAWING No.	

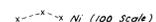
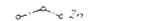
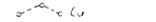
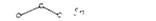
SCALE: 1:5000 METRES



MAGNETICS

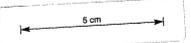


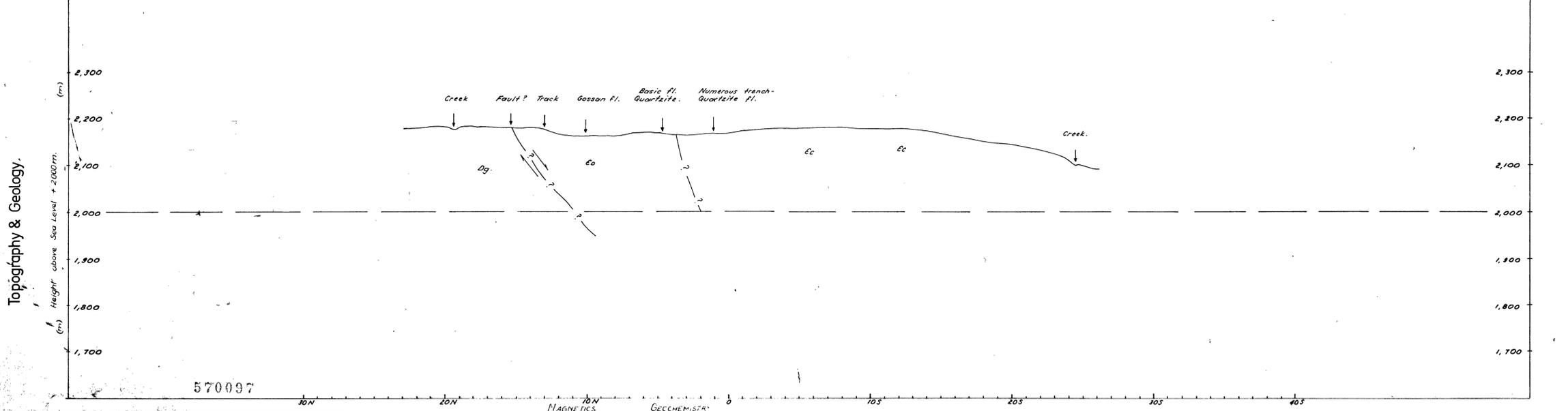
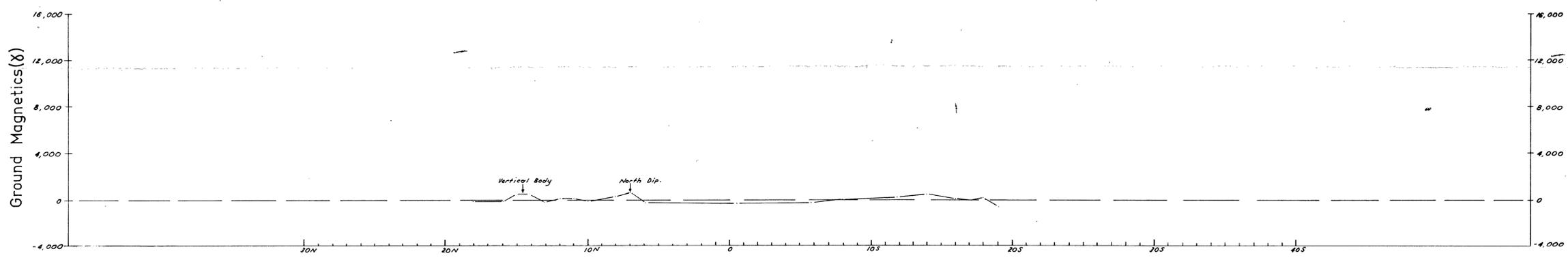
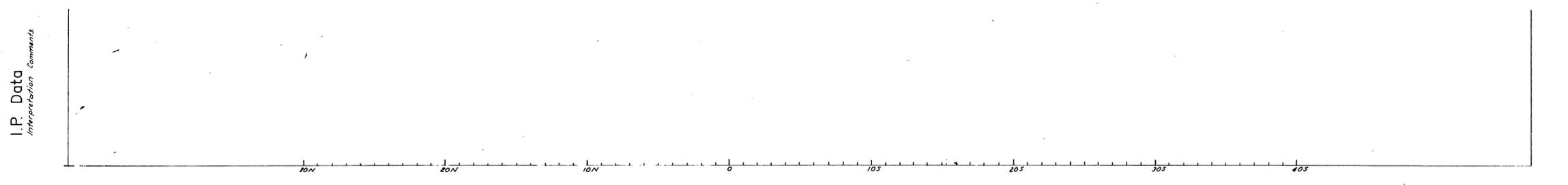
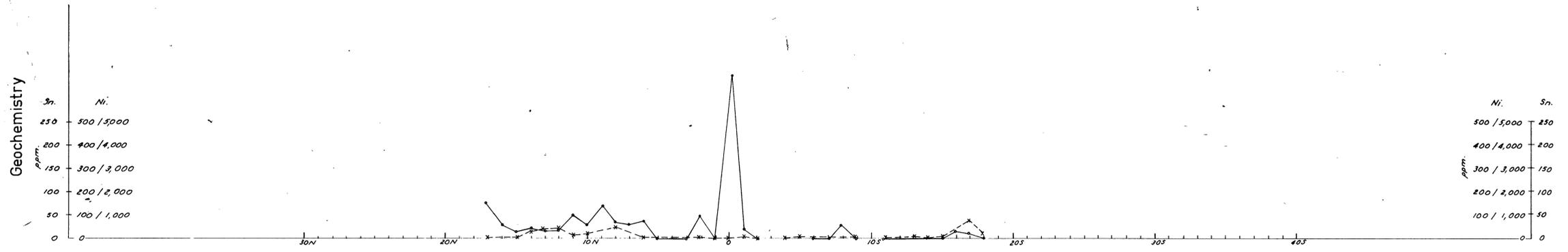
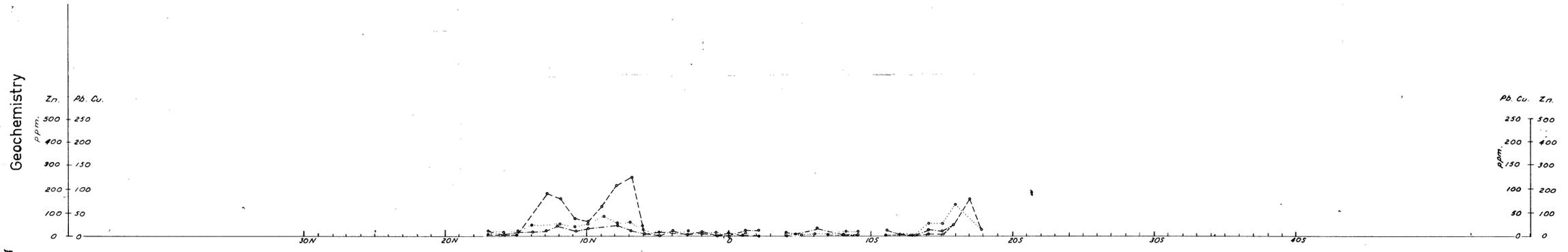
GEOCHEMISTRY



X = Ni (100 Scale)

X = Ni (1000 Scale)





570097

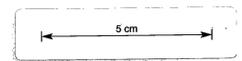
RENISON LIMITED	74-1040	DRAWN	R.N.L.
S.P.L. 129		TRACED	F.A.C.
TRIAL HARBOUR AREA		DATE	28.3.74.
LINE N° 20 E	1142	SCALE	1:5000
		DRAWING No.	

SCALE: 1:5000 METRES.

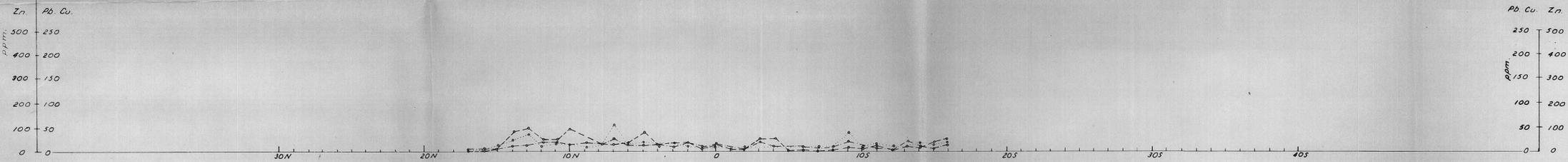
**MAGNETICS**

**GEOCHEMISTRY**

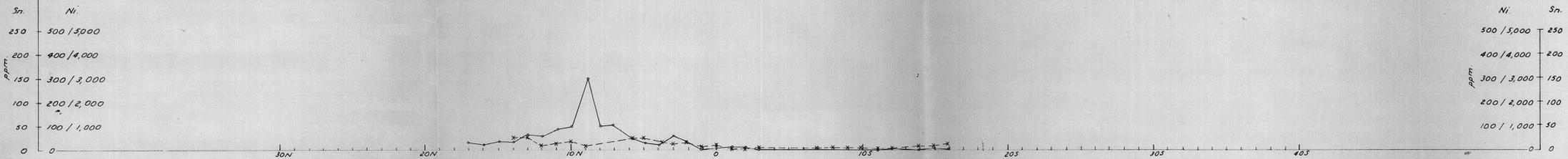
- Sn
- Cu
- Zn
- x—x—x— Ni (100 Scale)
- x—x—x— Ni (1000 Scale)



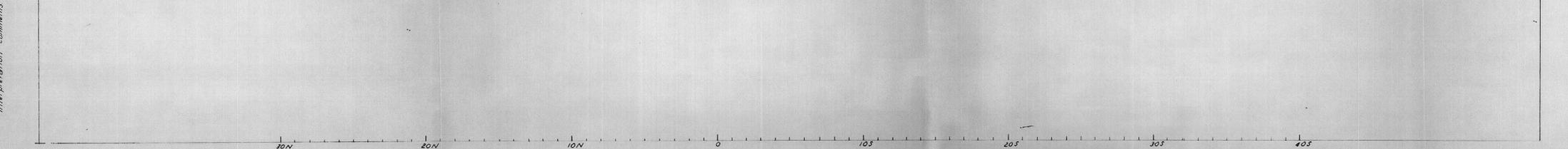
Geochemistry



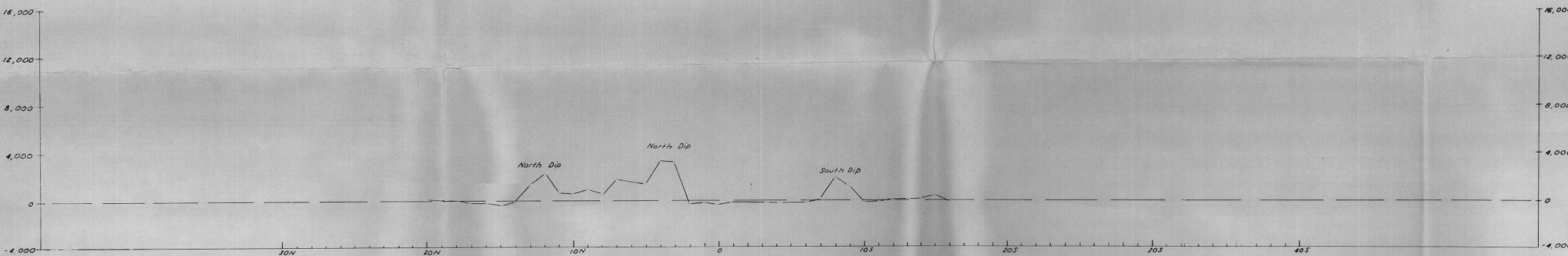
Geochemistry



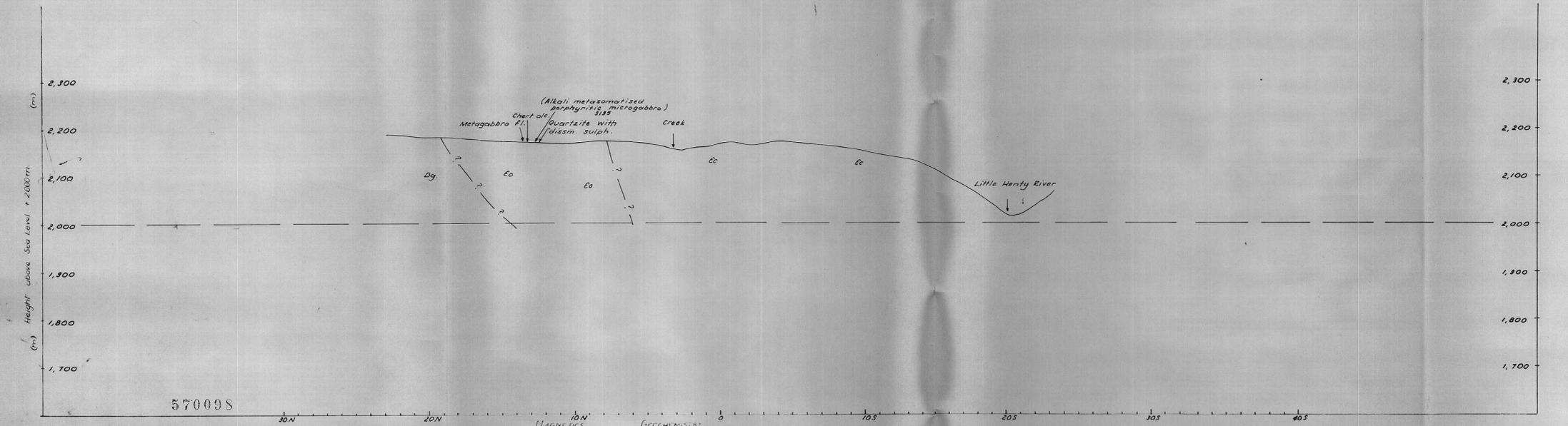
I.P. Data



Ground Magnetics (γ)



Topography & Geology



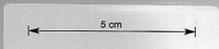
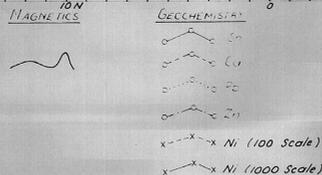
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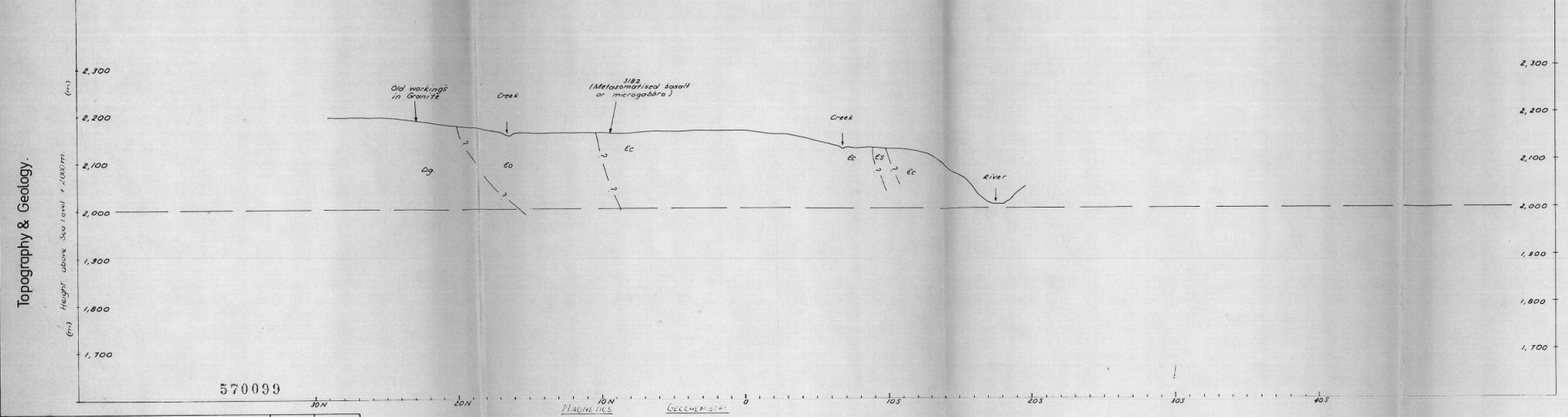
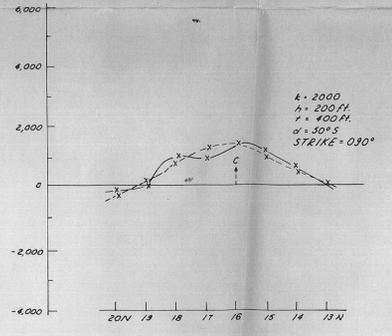
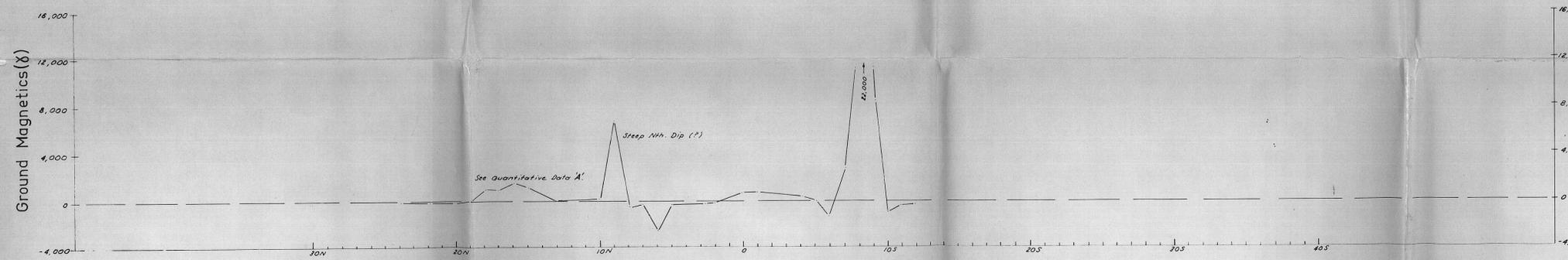
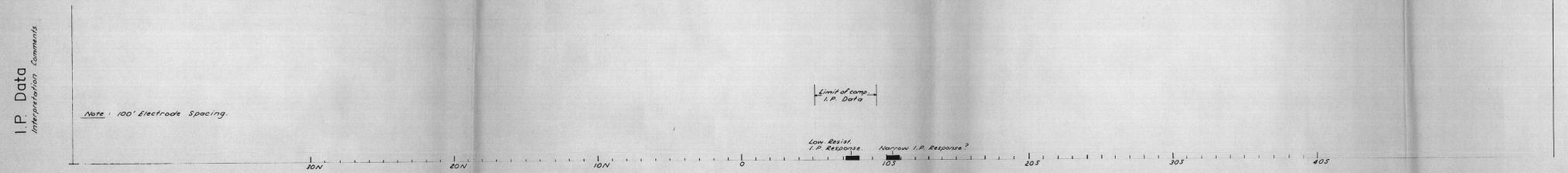
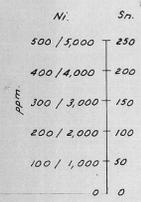
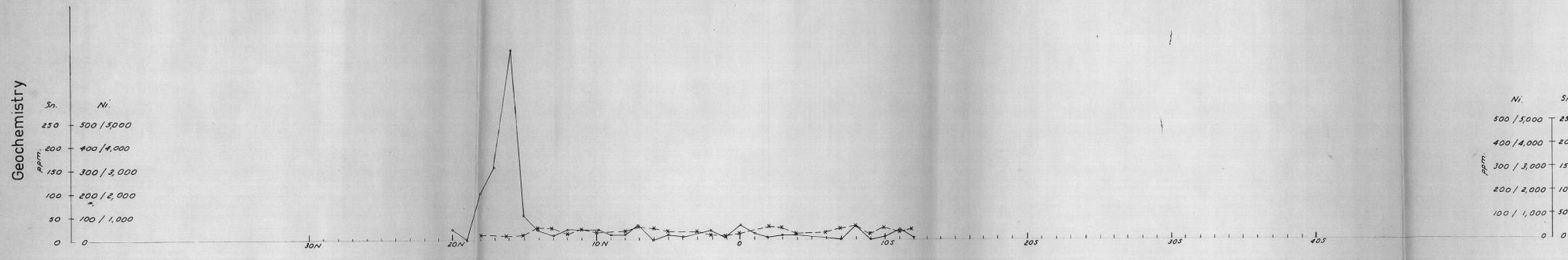
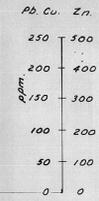
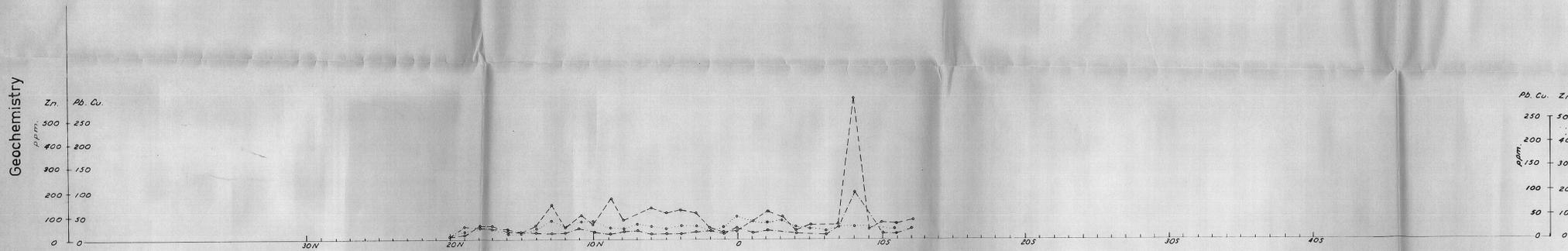
RENISON LIMITED 74-1040

S.P.L.129  
TRIAL HARBOUR AREA  
LINE NO 21E 1143

DRAWN	R.N.L.
TRACED	F.A.C.
DATE	27.2.74.
SCALE	1:5000
DRAWING No.	

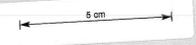
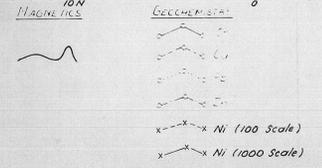
SCALE: 1:5000 METRES.





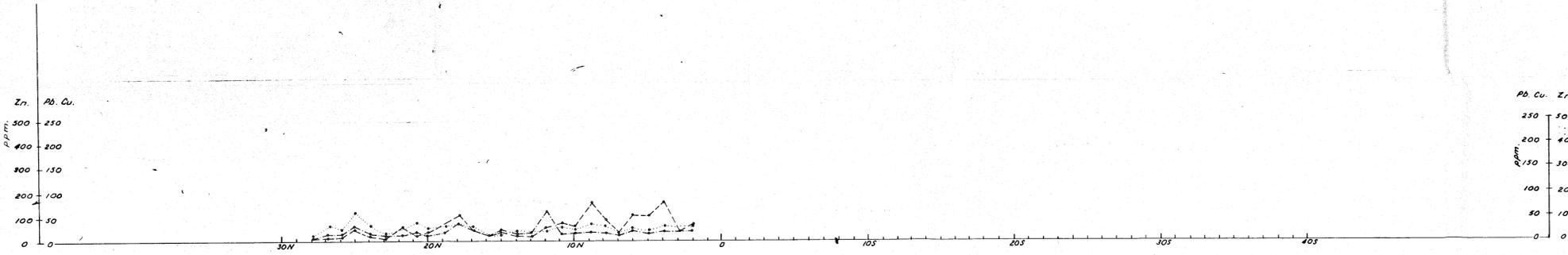
570099

REINSON LIMITED	74-1040	DRAWN	R.N.L.
S.P.L.129		TRACED	P.A.C.
TRIAL HARBOUR AREA		DATE	27.2.74.
LINE N° 22 E 1144		SCALE	1:5000
SCALE: 1:5000 METRES		DRAWING No.	

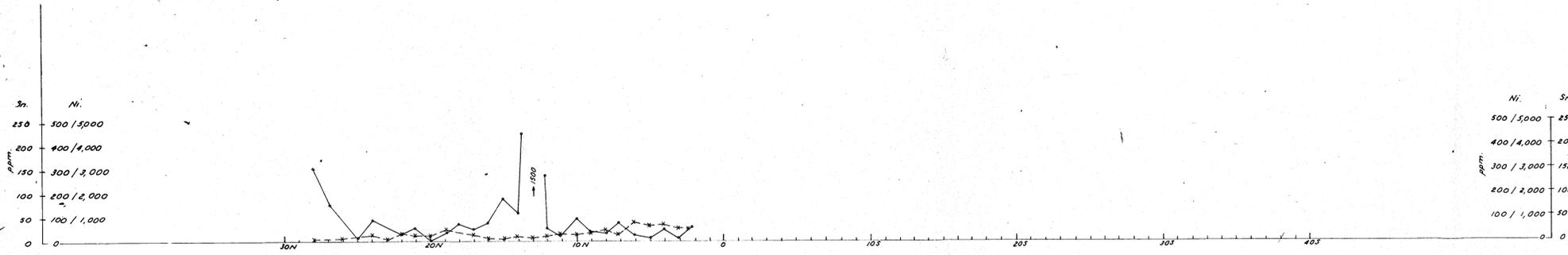




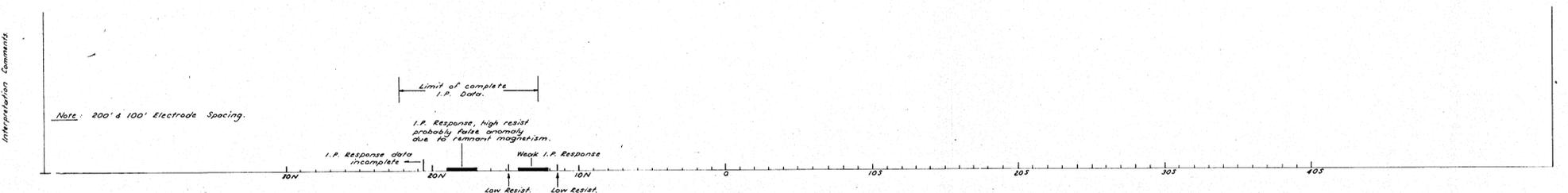
Geochemistry



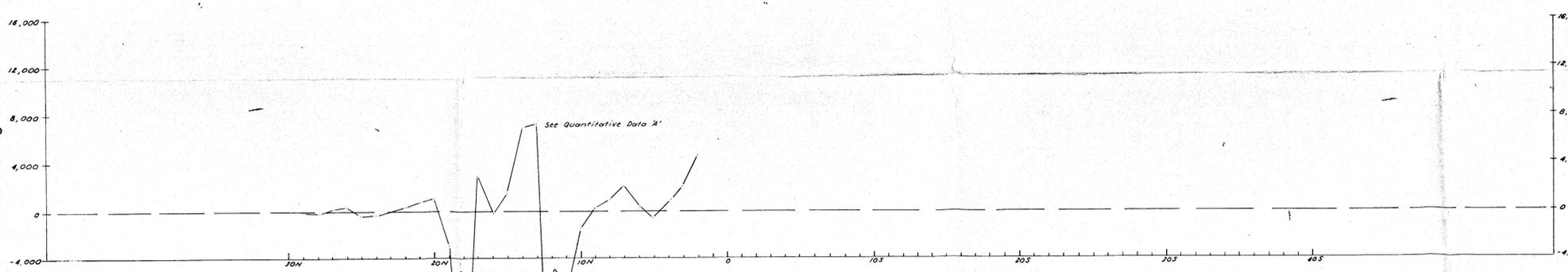
Geochemistry



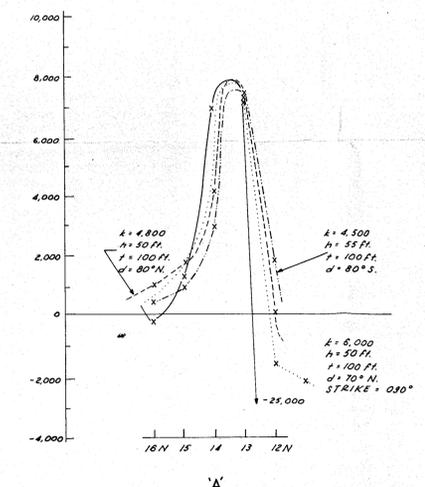
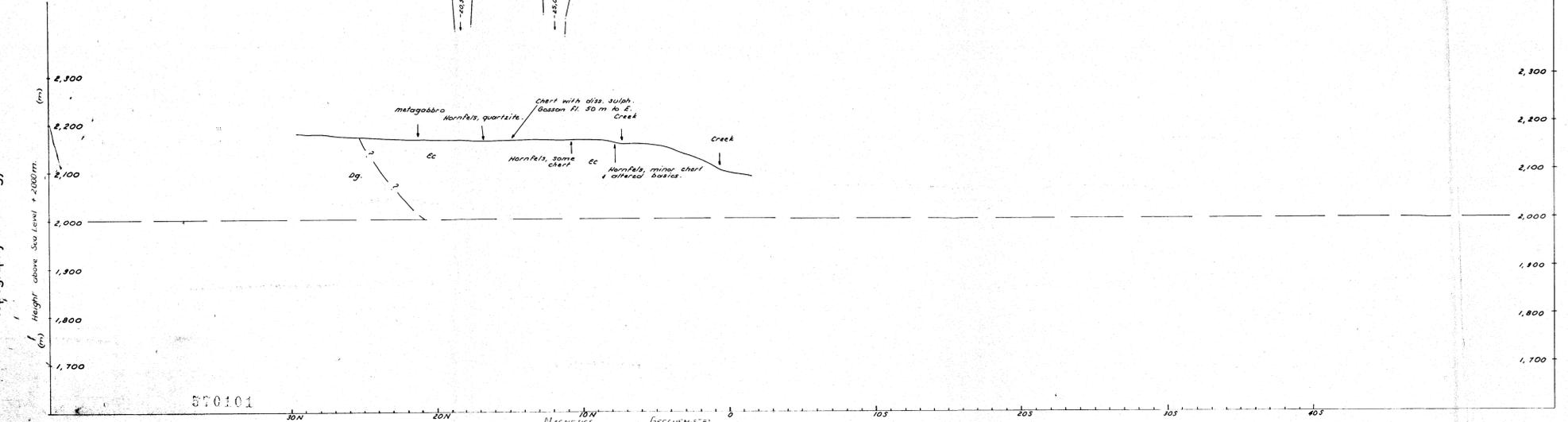
I.P. Data



Ground Magnetics (δ)



Topography & Geology



RENISON LIMITED	74-1040	DRAWN	R.A.L.
S.P.L. 129		TRACED	S.A.C.
TRIAL HARBOUR AREA		DATE	27.2.74
LINE NO 24 E	1146	SCALE	1:5000
SCALE: 1:5000 METRES		DRAWING No.	

570101

MAGNETICS

Geochemistry

Zn

Pb

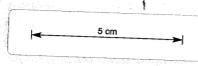
Cu

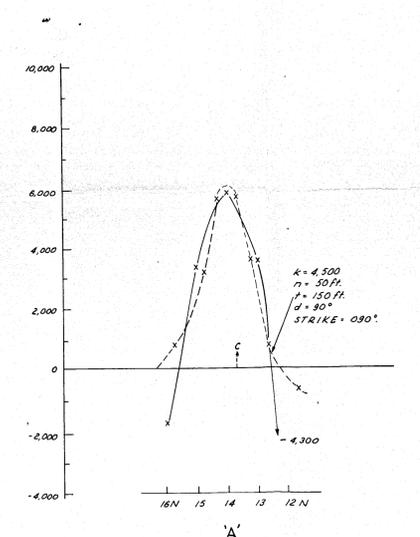
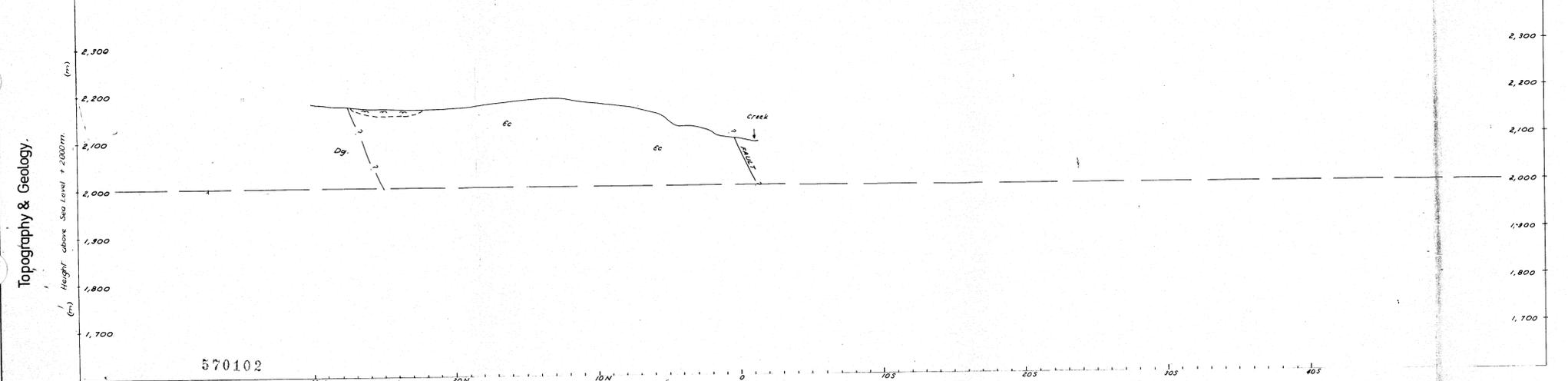
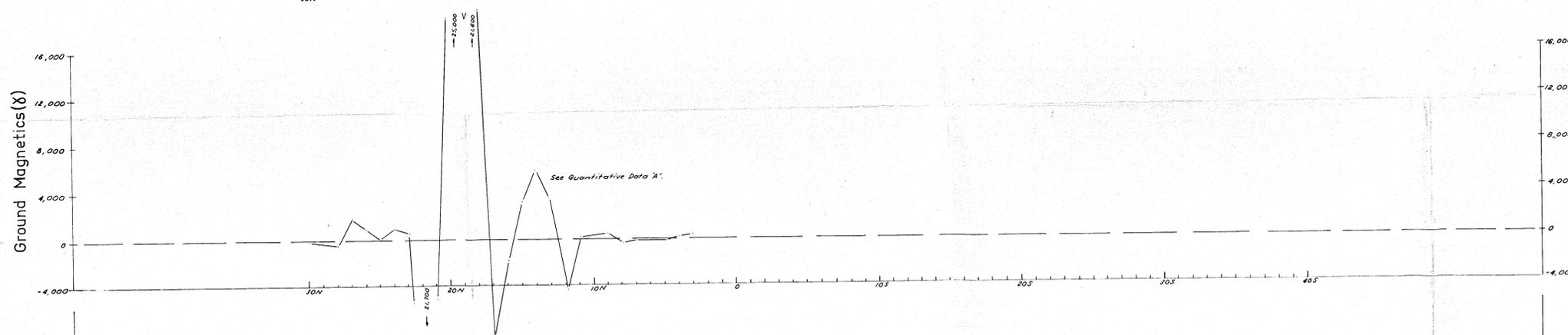
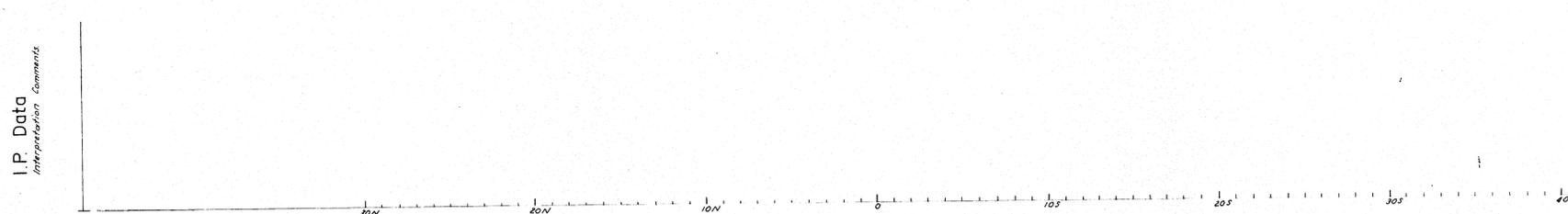
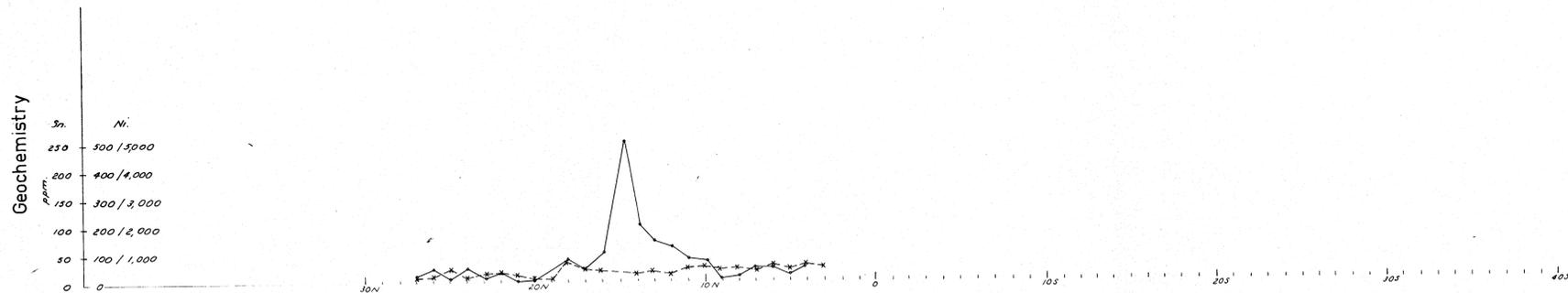
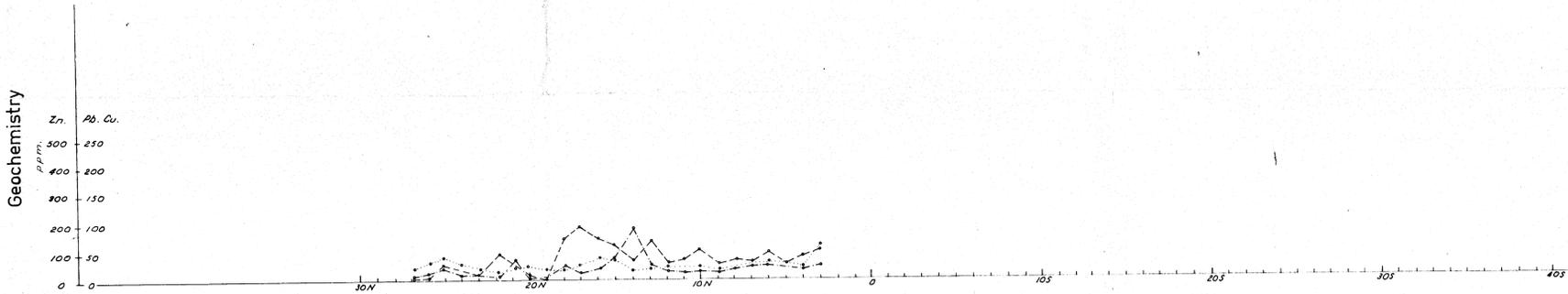
Ni

Sn

(100 Scale)

(1000 Scale)





RENISON LIMITED 74-1040	DRAWN R.N.L.
S.P.L.129	TRACED C.A.C.
TRIAL HARBOUR AREA	DATE 20.3.74
LINE NO. 25E 1147	SCALE 1:5000
SCALE 1:5000 METRES.	DRAWING No.

MAGNETICS

Geochemistry

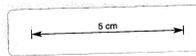
Zn

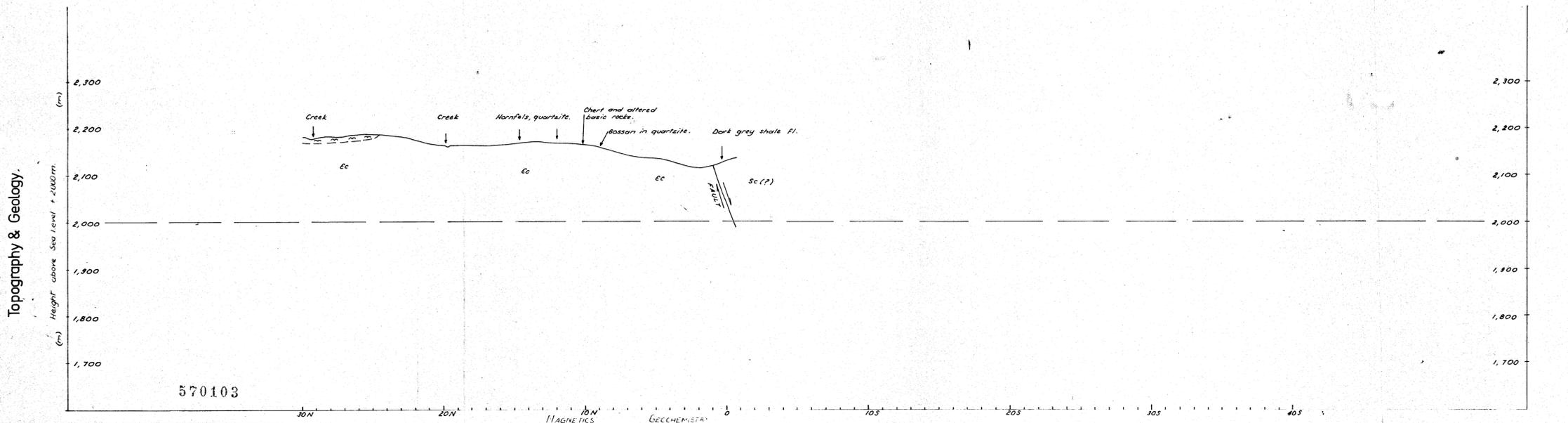
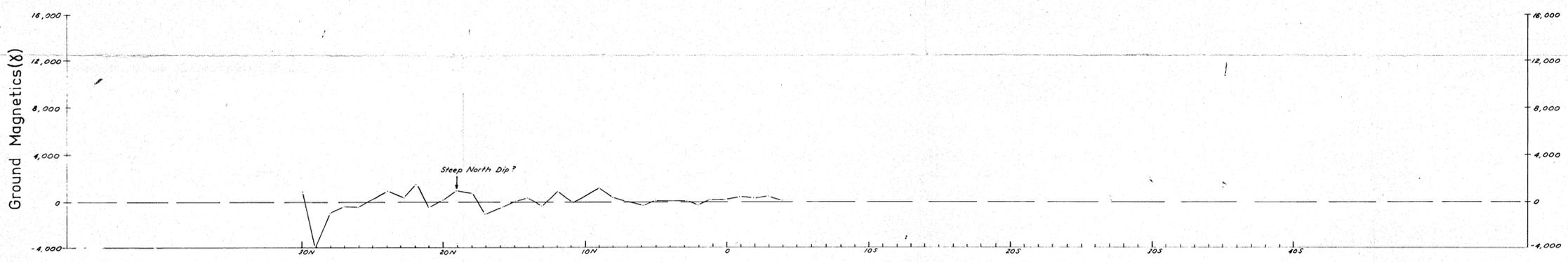
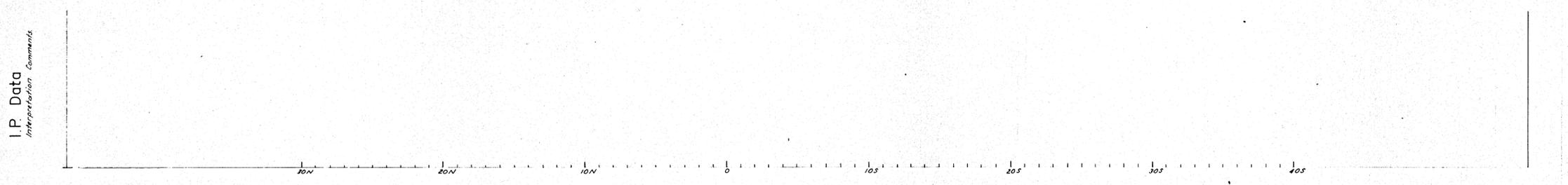
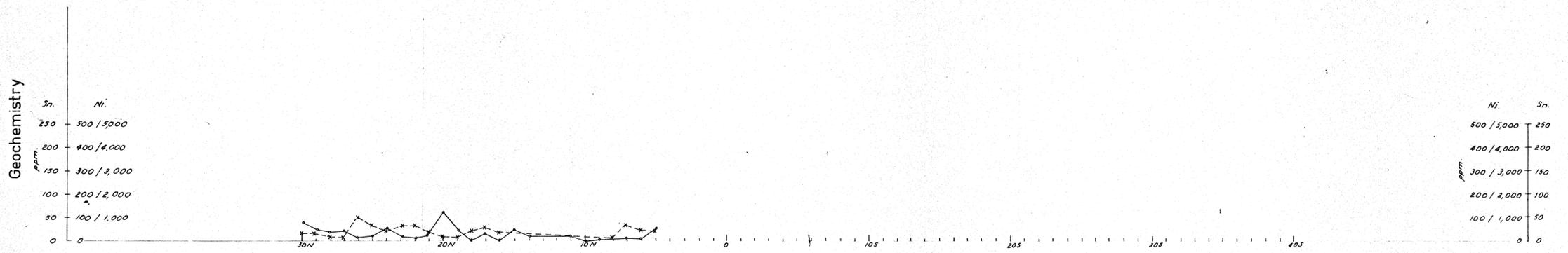
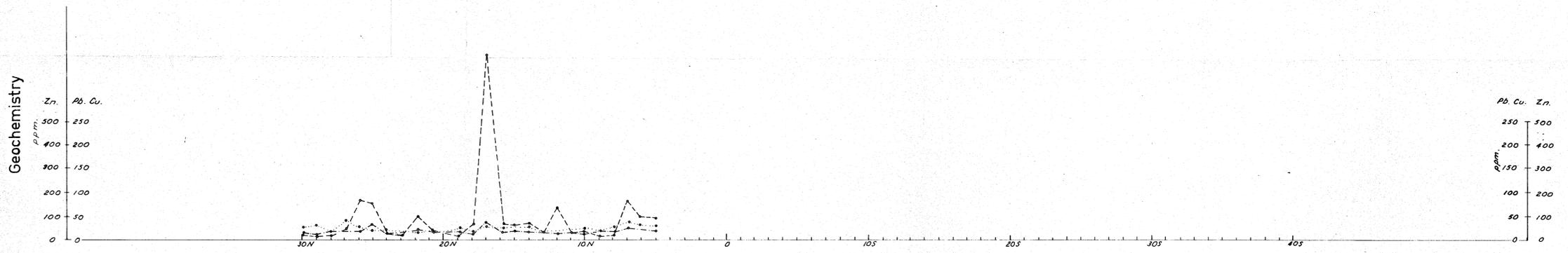
Pb

Cu

Ni (100 Scale)

Ni (1000 Scale)





REXON LIMITED 74-1040

S.P.L. 129

TRIAL HARBOUR AREA

LINE NO. 26 E 1148

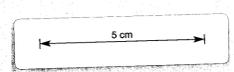
SCALE 1:5000 METRES

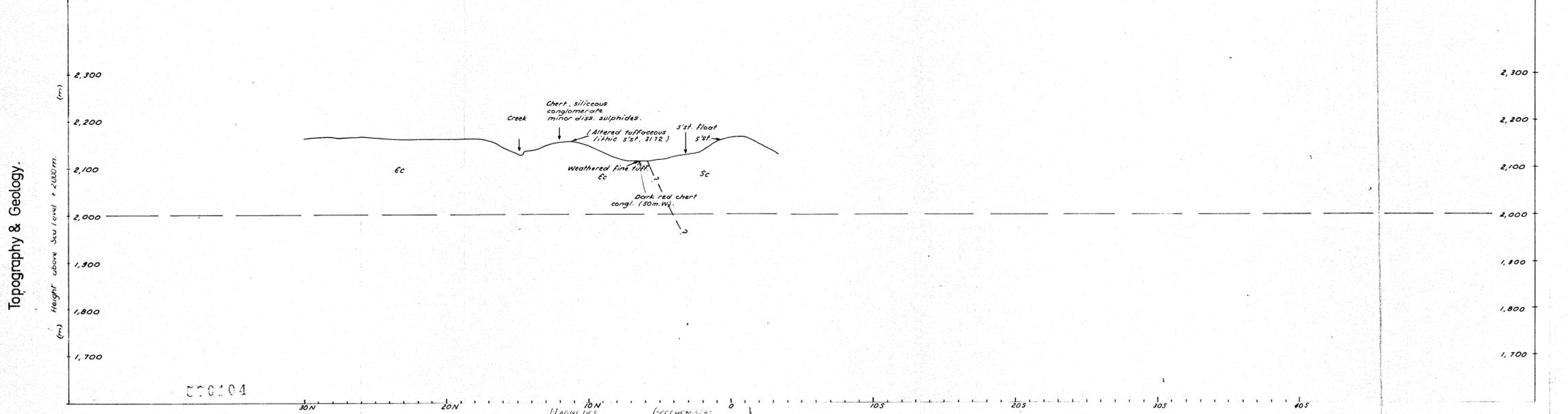
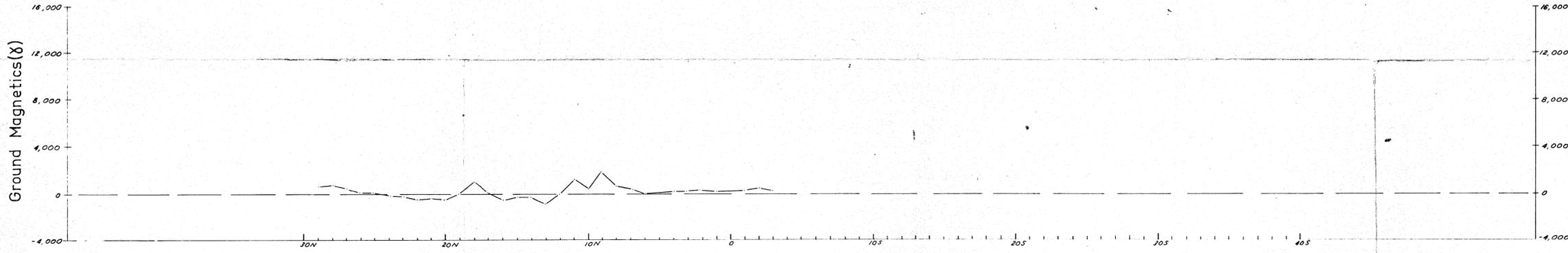
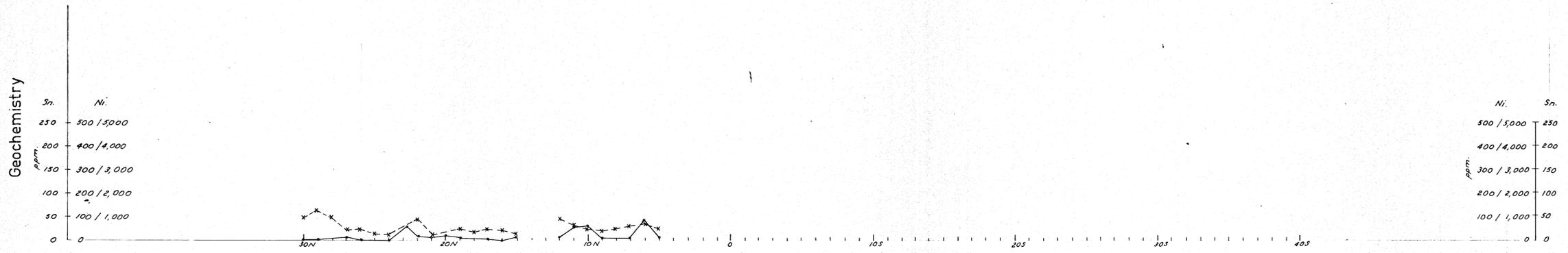
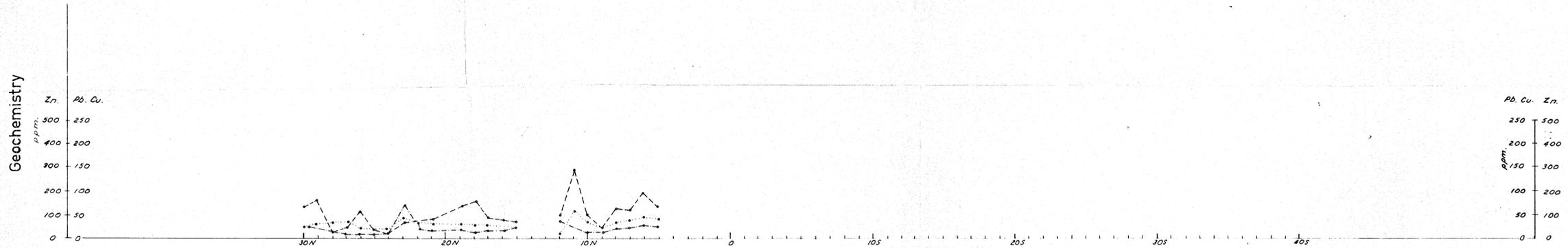
DRAWN	R.N.L.
TRACED	F.A.C.
DATE	28.3.74
SCALE	1:5000
DRAWING No.	

**MAGNETICS**

**GEOCHEMISTRY**

- - - - - Zn
- - - - - Pb
- - - - - Cu
- - - - - Sr
- - - - - Ni (100 Scale)
- - - - - Ni (1000 Scale)





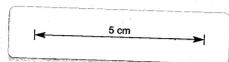
RENISON LIMITED 74-1040	DRAWN R.N.L.
S.P.L.129	TRACED F.A.C.
TRIAL HARBOUR AREA	DATE 28.1.74
LINE NO. 27E 1149	SCALE 1:5000
SCALE 1:5000 METRES	DRAWING No.

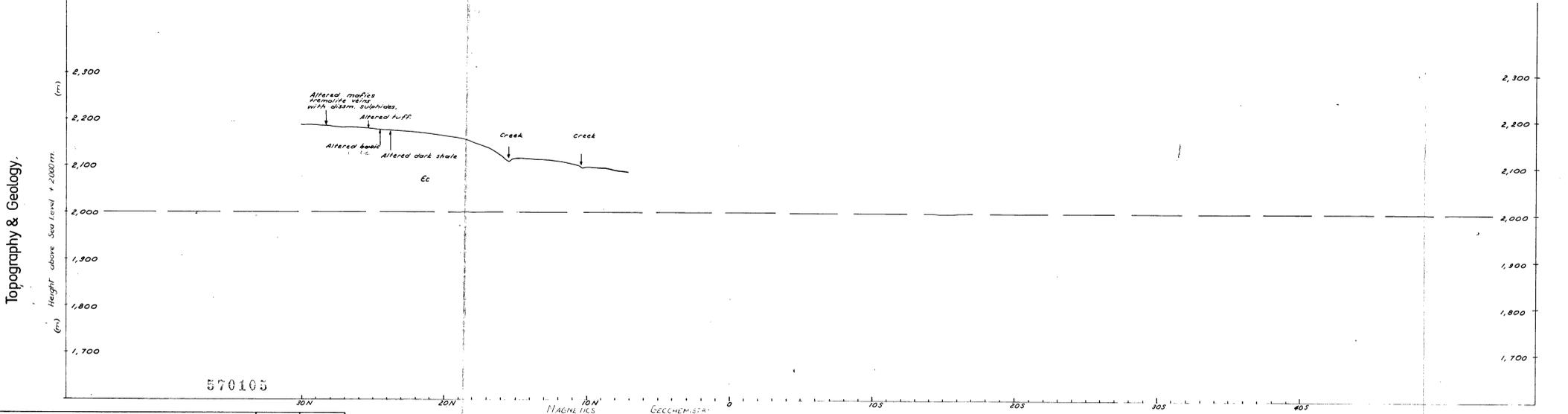
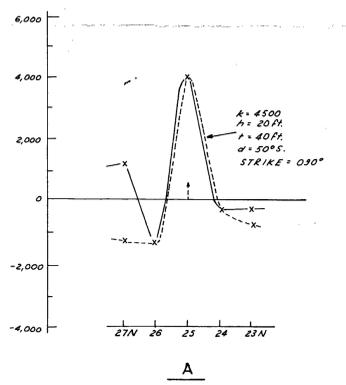
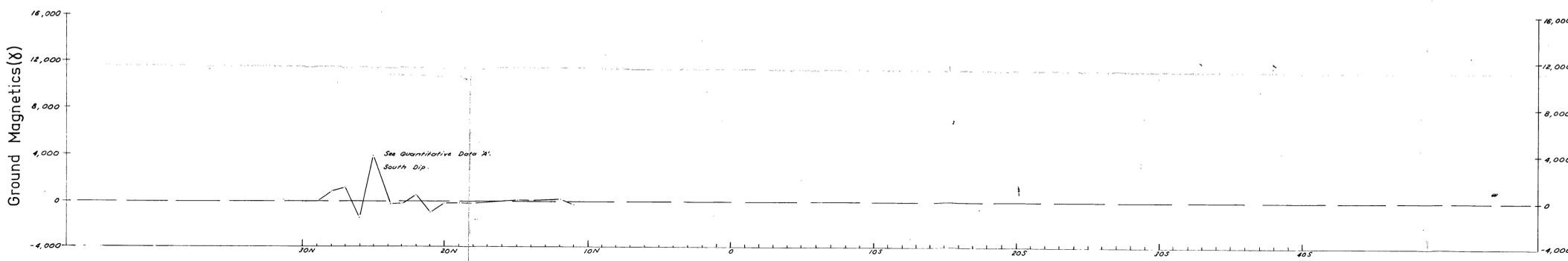
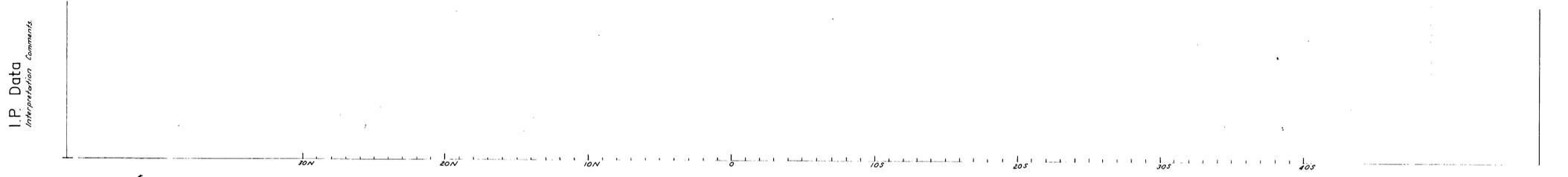
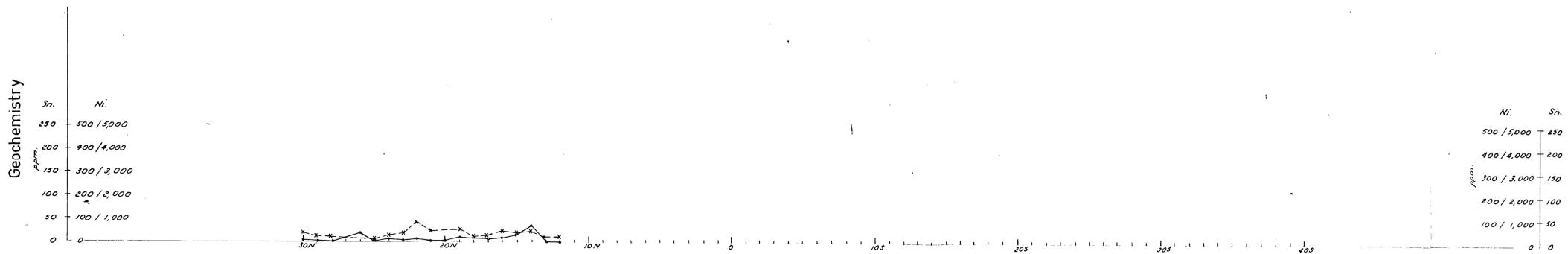
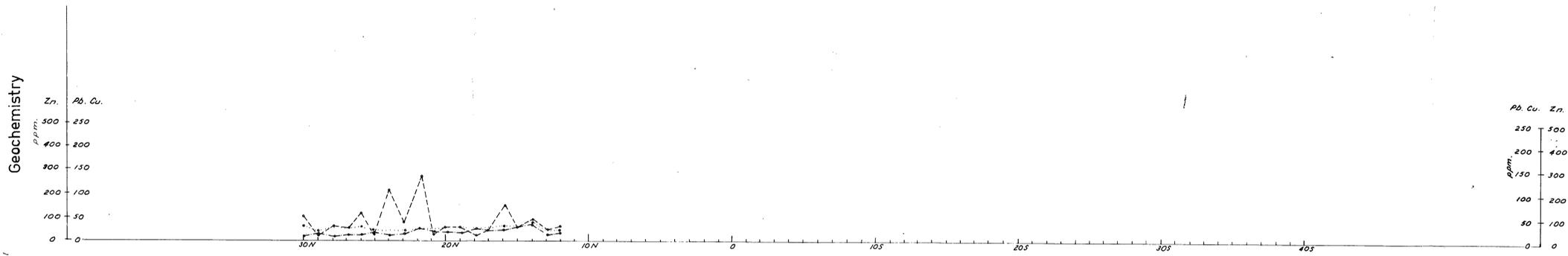
MAGNETICS

Geochemistry

X-X-X Ni (100 Scale)

X-X-X Ni (1000 Scale)





RENISON LIMITED 74-1040

S.P.L.129  
TRIAL HARBOUR AREA  
LINE Nº 28 E 1150

SCALE: 1:5000 METRES

DRAWN	R.N.L.
TRACED	F.A.C.
DATE	29.3.74
SCALE	1:5000
DRAWING No.	

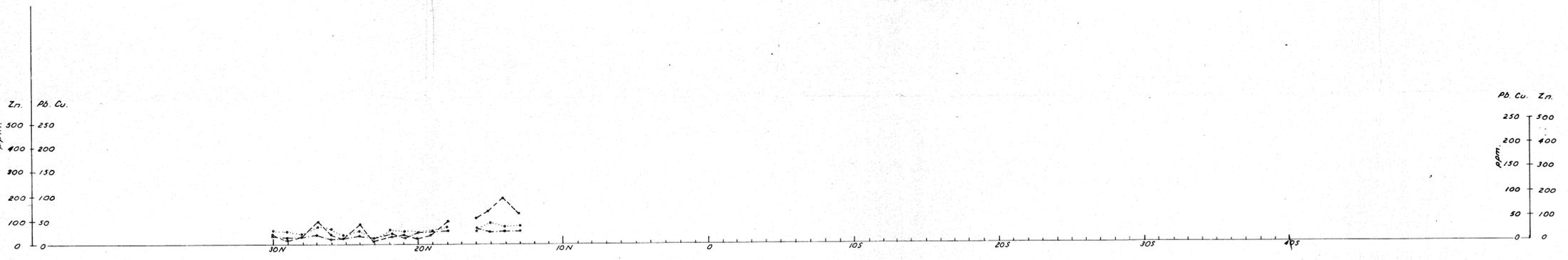
**MAGNETICS**

**GEOCHEMISTRY**

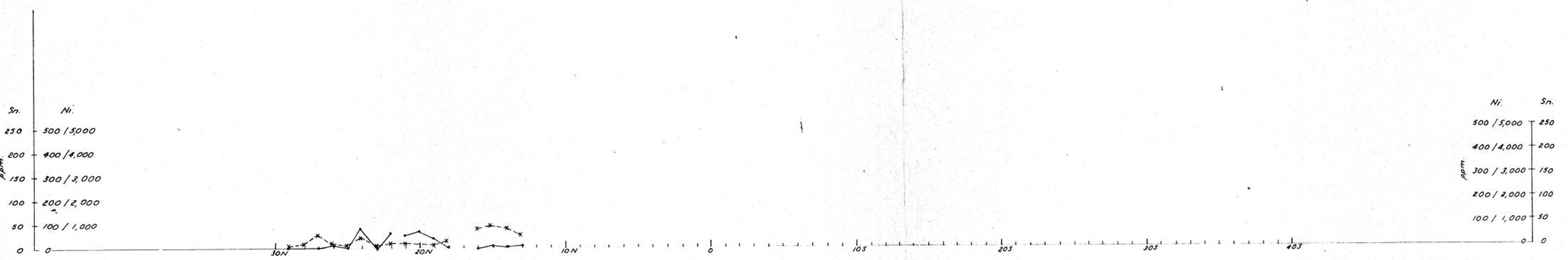
— Ni (100 Scale)  
— Ni (1000 Scale)



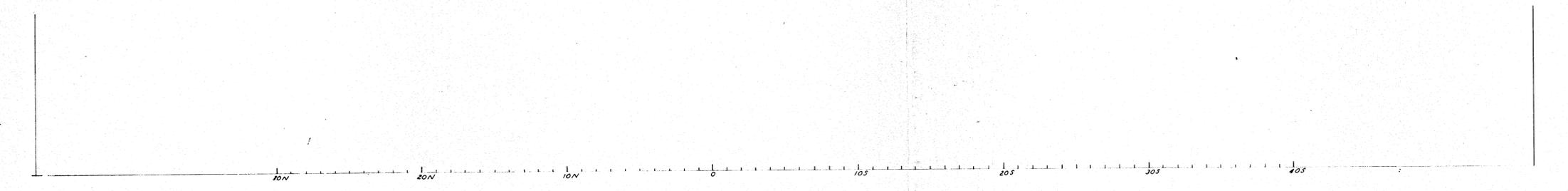
Geochemistry



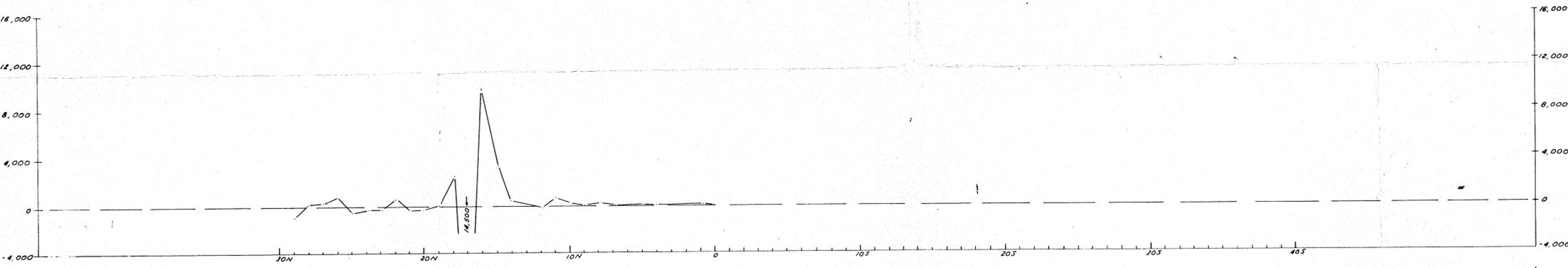
Geochemistry



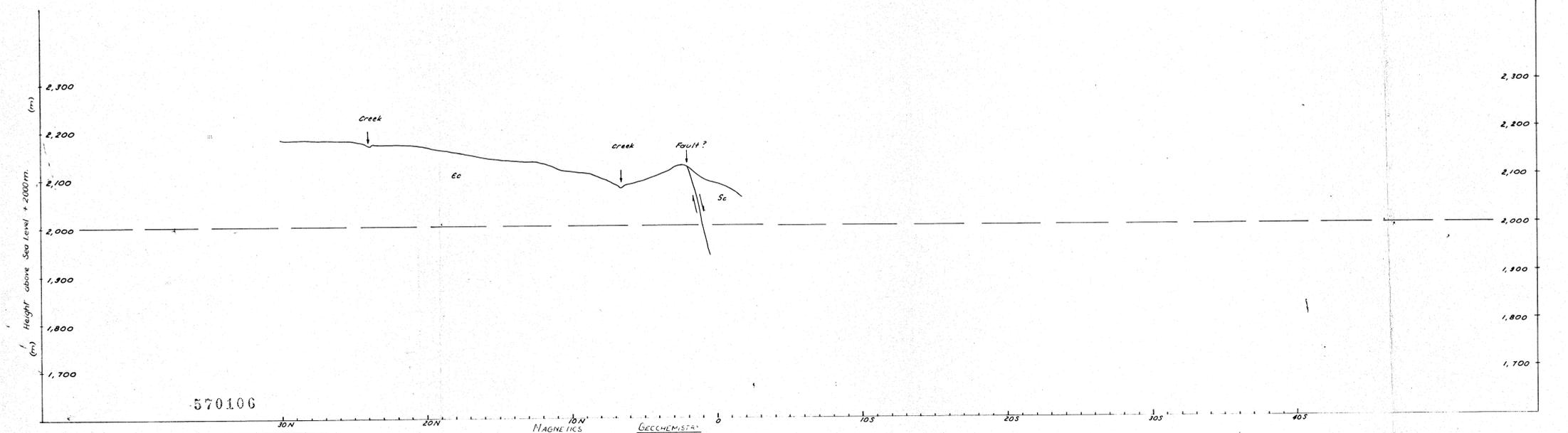
I.P. Data  
*Interpretation Comments*



Ground Magnetics (γ)



Topography & Geology



RENISON LIMITED	74-1040	DRAWN	R.N.L.
S.P.L.129		TRACED	F.A.C.
TRIAL HARBOUR AREA		DATE	27.2.74.
LINE N° 29E	1151	SCALE	1:5000
SCALE 1:5000 METRES		DRAWING No.	

MAGNETICS

GEOCHEMISTRY

- Pb
- Cu
- △—△—△— Zn
- x—x—x— Ni (100 Scale)
- x—x—x— Ni (1000 Scale)

