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E.L. 27/76

ELLIOTT BAY TAS.

JAN. - FEB. 1981

CONTRACT EXPLORATION - POLTOCK BROS.

CONTENTS.

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PLANS

1. Reconnaissance Geology
Mainwaring River (B.H.P. Road) & Voyager 26
Scale 1:10000
Sheets KT 27/76-1 & 3

2. Mainwaring River Geology
Section 5253800N
Scale 1:10000

3. B.H.P. Track Reconnaissance Geology
Section 5257500N
Scale 1:10000

4. Mainwaring River Stream Sediment
& Rock Sample Locations
Scale 1:10000
Sheets KT 27/76-1 & 3

5. Mainwaring River
-80# Stream Sediment Analysis
Scale 1:10000
Sheets KT 27/76 - 1 & 3

6. Voyager 26 Geology
Scale 1:2500

7. Voyager 26 Profiles - Geology, Magnetics & Soil Geochemistry

a)	Line 10000N	Scale 1:2500
b)	Line 9600N	Scale 1:2500
c)	Line 9200N	Scale 1:2500

8. Voyager 16 Location Plan
Grid & Pan Cons - Rock Samples
Scale 1:10000

9. Voyager 16 Reconnaissance Geology
Scale 1:10000

10. Voyager 16 Pan Con Results
Scale 1:10,000

11. Voyager 16 Profiles Geology, Magnetics & Soil Geochemistry

a)	Line 10000N	Scale 1:2500
b)	9600N	" "
c)	9200N	" "
d)	8800	" "

MAINWARING - B.H.P. ROAD

Reconnaissance geology, stream and soil geochemistry

INTRODUCTION

The area is centred on the Mainwaring River between the western lease boundary and the Mt. Osmund syncline, the B.H.P. Road which extends west from the Ordovician sediments to the coast more or less forms the northern boundary and V26 the southern limit of the area.

The geology is dominated by Cambrian acid - basic volcanics and fine grained sediments. Major airborne magnetic anomalies occur on basic volcanics and AEM anomalies on the fine grained sediments in the west. Mineralization is limited to minor magnetite, pyrite and some native and secondary copper.

Thick vegetation cover in this area restricts access to roads, cut access tracks and main stream channels.

Stream and soil samples in conjunction with geological mapping was carried out in the period 5th Jan - 5th Feb, a total of 21 field days. To carry out this work several of these days were spent clearing helipads and access tracks. See Plan 1.

GEOLOGY

The emphasis in this field program was on the Cambrian rock units, little attention being paid to the ordovician sediments.

Regionally the area is located immediately west of the Ordovician quartzose conglomerates, sandstone and siltstone of the Mt. Osmund syncline. The conglomerates constitute a minor proportion of this sequence.

These quartzose sediments unconformably overly a Cambrian sequence of fine-medium grained acid volcanics, fine grained basic volcanics and phyllites with carbonate horizons. These units have previously been mapped further south - Penders Tuff, Veridian Basics and Sassy Creek Argillite - together comprising the Mainwaring Group, Large 1979-80.

A change from dominantly rhyolitic acid volcanism in the east through basic volcanism to dominantly phyllites in the west is the most prominent feature of the area. Although this change is of gradational interfingering nature the actual contacts between different volcanic types is sharp, marked by a period of fine grained sedimentation which is often pyritic.

Strikes in the area are N-NNW, most beds dipping steeply west, it is assumed that the units also face west, but the only evidence for this was graded bedding in greywackes at 5254500N/376000E. Bedding is often difficult to see, a well developed slaty cleavage in the phyllites being the most prominent feature, this is sub-parallel to the bedding. In the basic volcanics a weak foliation is developed, jointing is pervasive in the rhyolitic rocks with minor quartz sericite schists. On the air photographs there appears to be a fold closure in the Cambrian in vicinity of the E - W section of the Mainwaring, however no evidence for this was seen and is probably due to facies changes and lensing of units to the south. See Plan 1.

From this reconaissance scale mapping faulting was undetected with the exception of the contact between the Ordovician sediments - possible Tyndal group correlates and the acid volcanics see Plan 1, 3.

Stratigraphy - Mainwaring Group

see Plan 1, 2, 3.

1. Rhyolitic crystal tuffs and lavas - <u>Penders Tuff</u>

Outcrop is restricted to the N. - S. flowing E. limb of the Mainwaring, the river is strike controlled. The eastern limit of this unit was only seen on the B.H.P. Road where it is apparently underlain by siltstones and tuffaceous sandstones, however this may be a fault contact.

These acid volcanics are composed of quartz $\gtrless$ feldspar crystals in a vitric groundmass, when the latter forms the main proportion the rock is assumed to be a rhyolitic lava. Crystal size is usually less 3mm with a maximum 5mm, scattered dark chloritic shreds - phiami? are locally abundant, and lithic component is absent.

Within this unit, two horizons of fine basic volcanics and associated chloritic phyllites occur. These are lense like with a maximum thickness of 300m. The lower most contact is marked by pink-white fine grained sediment $<$ 50m thick which may be a carbonate 5255400N/377600E, 5257100N/377750E.

Along the B.H.P. Road scattered black siltstones outcrop within the tuffs, these $<$ 50m thick. From road soil geochemistry the siltstone contain the only Cu Pb Zn mineralization.

Mineralization seen in mapping was confined to minor disseminated pyrite in crystal tuffs see Plan 1.

2. Black siltstones - phyllites.

These sediments are 200-400m thick and mark the end of acid volcanism, underlying the main basic volcanic unit. In the Mainwaring these sediments are pyritic with some secondary copper staining. Within siltstones on B.H.P. Road 75m of medium grained gabbro outcrops, this is possibly intrusive and may occur 2 km. south along the access track just west of the helipad.

3. Basic volcanics - <u>Veridian Volcanics</u>

These are fine grained basaltic tuffs and lavas, massive except for a weak foliation - and possible vesicles filled with epidote and chalcedony. The latter best developed on western contact with black siltstones.

Mineralization in the unit is limited to minor magnetite and finely disseminated native copper 5253575N/376475E (limited in outcrop to 1.M^2). The most prominent air-magnetic anomaly is associated with these basics.

4. Siltstones - tuffaceous wackes - cherts.

These best exposed in the Mainwaring and a south flowing tributary paralleling 376000E. It is assumed that the same horizon extends north to the B.H.P. road where it attains maximum thickness of 800m, lensing to the south, and is apparently absent at V.26. The sediments are probably associated with AEM anomalies 74 & 76.

The sequence in this unit from E - W is:-

- black laminated siltstone, directly overying amygdaloidal basic volcanics. It is the most pyritic unit seen in the area but appears insignificant from the stream geochem.
- tuffaceous wackes and phyllites, the greywackes are fine-medium grained quartzose, probably derived from acid volcanics. Graded bedding occurs and may indicate a west facing. Minor conglomerates composed mainly of siltstone fragments (3-20mm) occur within the greywackes. The coarsest outcropping on the B.H.P. Road are breccia like and contain some basic volcanic detritus.
- dark grey-white cherts form the upper unit of this sequence in the river, they are often associated with a gossanous weathering crust. No sulphide mineralization was seen and the weathering is assumed to be associated with carbonate bands.

The cherts are $<$ 10m thick and underly basic volcanics.

With more detailed inspection this sequence of siltstones, greywacke and chert would most likely indicate the regional facing of the Mainwaring Group.

5. Phyllites.

This upper most part of the sequence extends to the western lease boundary, and is the horizon gridded at V.26. The unit is dominated by phyllites with interbeds of fine basic volcanics, carbonates and siltstone derived conglomerates. In vicinity of the Mainwaring it is characterized by anomalous Cu, Zn, Fe, stream geochem which may be associated with AEM anomalies 75,77 & 78. Phyllites are marone-black, the latter pyritic with some secondary copper staining. Carbonates occur as thin lamina within the phyllite, weathering with a gossanous crust, the fresh rock is white-pink and frequently brecciated. Minor conglomerates only a few metres thick occur, these are composed of siltstone fragment $<$ 10mm. Both carbonates and conglomerates may form a greater proportion of the phyllites, but due to deep weathering and strong cleavage (obscuring siltstone fragments in the conglomerate) they are easily overlooked

Two hundred metres east of the lease boundary large blocks of gabbro occur, and probably outcrop in vicinity of T.D. 6193-5.

6. Black siltstones, tuff sandstones and reworked acid tuffs.

This unit will be described here, assuming that it is the youngest Cambrian sediment, it outcrops immediately west of the Ordovician and may have affinities with the Tyndal Group? However it appears to be structurally part of the Cambrian dipping 40 - 75^{o} W. It is flanked to the east by a thin volcanic breccia containing pyritic clasts (subrounded 5cm).

Stream Geochemistry

One hundred stream sediment samples were collected over 25-30km^2 area, nearly a complete coverage of the Mainwaring system in EL 27/76 over the Cambrian units. See Plan 4.

The samples were sieved to -20 in the field and the -80 fraction analyzed for Cu, Pb, Zn, Fe, Mn, Ag, Au, Sn and W. Background and anomalous levels were only calculated for the first five elements See Table 1. Au. & Ag. are only occasionally greater than detection limit and Sn, W insignificant.

Table 1. Background - anomalous levels for two population N = 100.
NB all results ppm except Fe

	Basic volcanics Phyllite	Acid Volcanics
Cu Background	30 ppm	5
Anom	> 125 ppm	>40
Pb Background	5	
Anom	> 15 ppm	
Zn Background	35	5-10
Anom	> 170	>40
Fe Background	3.6%	0.5%
Anom	> 7.0%	>3.45%
Mn Background	500	70-75
Anom	> 1200	>250

The data was split into two populations through 377000E, on the basis of sediment derived from

- acid volcanics, Ordovician sediments with minor chloritic phyllites and basics
- basic volcanics and phyllites.

The Mainwaring system should have been ideal for stream geochemical exploration, having a deeply incised stream channel cutting across the strike. However large volumes of fine quartz sands derived from the Ordovician sandstone probably mask local changes in bedrock geochemistry. This masking particularly marked on the acid volcanics and extends to the western lease boundary in the river (comparing Mainwaring and side stream Cu Zn Fe anomalies in the west).

Anomalies are few, the most prominent being Cu Zn Fe secondly Au, finally a weak Pb Ag anomaly.

1. Cu Zn Fe

a) Best developed on phyllites and carbonates in the western part of the lease. Maximum values are Cu 155 ppm Zn 180 ppm, Fe 8.7% and Mn 2650 ppm. One horizon of black phyllite with pyrite and secondary copper staining was sampled KR 8387. Soil Cu Zn anomalies at V 26 are probably in this same zone.

b) headwaters of the Mainwaring River (north of B.H.P. Road) and a tributary of Wanderer River. These anomalies Cu Zn associated with gold 0.5 0.05 ppm and silver 1.5 ppm. This zone lies adjacent to the Ordovician sediments in dominantly chloritic phyllites and basic volcanics. Mapping in this area is very limited see Plan 1.

2. Gold

One zone of anomalous values detected, immediately north of the B.H.P. Road, and is partly coincident with the Cu Zn Ag anomaly discussed above (b). This may be a complex structured zone between the acid volcanics and the Ordovician sandstone. 0.183 ppm is the maximum stream gold value, anomalous soil gold occurs 100-200m east on the road in black siltstone. However stream gold isn't detected downstream of this soil anomaly.

3. Pb Ag A weak anomaly occurs in a stream flowing south to the river parallel to 376000E, its headwaters on the B.H.P. Road. Lead values of 15-20 ppm and associated silver 0.5ppm occur in the streams, but the only high lead soil values (195 ppm) are to the east just outside the stream watershed.

The geology here is dominated by basic volcanics and chloratic phyllites.

Soil Geochemistry - B.H.P. Road

A total of 90 "C" horizon soil samples were collected using a power auger at 50m spacings from the Ordovician contact to the western lease boundary. Soils generally thin $<$ 0.5m, outcrop is nearly continuous along the road.

No statistics have been applied to the data and only Cu Pb Zn were plotted see Plan 3. Soil analysis data can be best described in relation to the main rock units.

1. Black siltstone, reworked tuffs, tuffaceous sandstone.

This unit characterized by low background values with the exception of

(a) tuff & tuffaceous breccia at Ordovician contact, max. values Cu 55, Pb 45, Zn 230 ppm.

(b) black siltstones with gold values to 0.7 ppm occur between 650-900W on road (later 25m from river). The gold is associated with maximum Cu 5, Pb 10 and Zn 20 ppm

2. Rhyolitic volcanics with black siltstone horizons. It is only the siltstones that have higher than background metal contents. These are $<$50m thick, the maximum values in two horizons are:

Cu 165, Pb 195 Zn 700
Cu 480, Pb 25 Zn 115

3. Basic volcanics - these have characteristically higher background in Cu & Zn with maximum of 315 and 275 ppm respectively, lead is absent. The maximum occurs close to the basic-black siltstone contact.
4. Tuffaceous wackes - sandstones - chert - black siltstone.

Despite scattered gossan fragments on black siltstones this sequence is geochemically dead, (backed up with two stream samples draining this area). Maximum values of Cu 215, Pb 20 Zn 105 occur close to the lease boundary in talc schists.

VOYAGER 26 GRID

INTRODUCTION

Voyager 26 grid is located approximately 1·6 km SSW of the Mainwaring helipad see Plan 1. Access to the area is only practically attained by helicopter, a landing pad cleared at 100N/10125E see Plan 1.

The grid was designed to cover A.E.M. anomalies 51-53 which lie immediately west of the main magnetic anomaly on basic volcanics, in a sequence dominated by phyllites with minor basics and possible carbonates.

Work was accomplished in the period Feb. 1 - Feb 18, a total of twelve field days in which the access track from the Mainwaring camp, helipad clearing, grid line cutting, soil sampling, geological mapping and proton magnetics were completed. An M.S.T. (turam) survey was initiated but the instrument malfunctioned after having only read line 100N.

Line cutting initially involved clearing a 1.6 km. access track due south from the Mainwaring camp to the N.E. corner of the grid. The grid lines were then cut from this point of origin - a total of 3350 m, three lines running 090^{o} True, at 400m spacing connected by a central base line. Lines were marked with bush stakes and flagging tape.

A total of 127 dominantly "C" horizon soil samples were collected (see appendices (i) 4) using a power auger. Soil profiles were generally poorly developed bedrock encountered in the first of 0.5m.

Geological mapping and rock sampling (see appendices (i) 4) was carried out in conjunction with the soil augering. Outcrop on the grid is extremely poor but bedrock is only obscurred by a thin mantle of organic soils. No attempt was made to map between the grid lines, due to thick vegetation and lack of outcrop.

The area is topographically flat, streams of any consequence are limited to the N.W. sector of the grid, the headwaters of a system flowing north to the Mainwaring, exposure is quite good in these streams but due to time limitation wasn't mapped.

Proton magnetics read along lines at 12.5m spacing using a Geometrics G 816 with a remote sensor. See appendices iia, plans 7a-c.

GEOLOGY

Regionally the grid is located in a sequence dominated by phyllites with minor basics and possible carbonate horizons. These units overlie a thick sequence of fine-medium grained basic volcanics see Plan 1.

Further north in the Mainwaring River this stratigraphic position is occupied by black pyritic shales, quartzose tuffaceous wackes, and basic volcanics See Plan 1. It seems likely that a facies change occurs and in the grid area these units are replaced by phyllites which occur further west in the Mainwaring.

At V 26 the sequence strikes N-S, See Plan, only one bedding observed 350^{o} .80^{o} (100N/9525E), all sediments probably dip steeply west. A well developed cleavage is the most prominent feature in the phyllites and may be sub parrallel to the bedding.

It is difficult to split the area into different stratigraphic units, there being a repetition of rock types throughout, with the exception of the basic volcanics which are at the greatest development in the N.E. sector. See Plan 6 & 7. There are essentially three main rock types.

- basic volcanics, fine-medium grained, with minor magnetite and quartz epidote veining.
- chloritic to black phyllites, these may contain occasional greywackes and basic volcanic lenses. At 100N/10012E blocks of hematitic chert occur which would be locally derived but

weren't seen outcropping.

- clay soil unit/phyllites with carbonates and basic volcanics these characterized by soil type, subtle magnetic anomalies, above background Cu values and supporting heavy rainforest. Nowhere were carbonates or volcanics seen outcropping. However similar phyllites in the Mainwaring contain thin brecciated carbonate bands which weather readily.
- In addition to the above types a single outcrop of deeply weathered medium grained basic - probably gabbro occurs at 96N/9500E.

Mineralization in the above units in the grid areas was limited to i) patchy magnetite in basic volcanics 100N/10575E (KR 8436) and 100N/10325E (KR 8439)

ii) pyrite-fine disseminated in cream-brown phyllites associated with blocks of pyritic hematitic chert at 100N/10012E (KR 8440).

iii)minor sulphide fragments? occuring in soils at 100N/10400E (KR 8438), 96N/9775E (KR 8446) the latter associated with Zn 150 ppm in soils.

SOIL GEOCHEMISTRY

The grid area was suited to "C" horizon soil geochemistry, generally soil profiles were poorly developed, bedrock only covered by thin soils.

Soil types can be broadly grouped

(a) skeletal soils on basics and phyllites in well drained, slightly elevated areas.

(b) organic muds with fine angular quartz gravels up to 2m thick overlying unweathered bedrock, restricted to areas of swampy drainage supporting baera-teatree scrub.

(c) deep orange-yellow brown clay soils up to 2m deep, these on slightly elevated well drained areas supporting heavy rainforest with relatively open understory.

Background and anomalous values were calculated for Cu Pb Zn, see Table, these elements profiled. See Plan 7a-c.

TABLE

Background - Anomalous levels Cu Pb Zn

n = 127 all values ppm

	Cu	Pb	Zn
Background	100	10-14	80
Anomalous	> 339	> 20	> 179

Copper and zinc anomalies predominate, these are sometimes associated but frequently seperate to just overlapping. Several scattered lead anomalies also occur. Stream samples taken at 100N/10012E & 10590E draining from the grid area give no indication of Cu Zn Pb soil anomalies (anomalous levels calculated for the Mainwaring stream data), this may be due to their limited drainage area to the south.

Copper values are consistently greater than background on the clay soil unit. This may be a combination of factors,

- -anomalous bedrock
- -greater element build up in the well developed soil profiles.

Five copper anomalies occur, all on line 100N, peaking at 580 ppm, all are single sample peaks.

Zinc values reach a maximum of 475 ppm 110N/9625E, 355 ppm 92N/9700E - four other weaker anomalies occur - all are isolated single sample peaks occuring on phyllites.

Anomalous lead is restricted to two locations

100N/9625E 50 ppm

96N/1000E 485 ppm, 1 ppm Ag.

at both locations black phyllites occur. Scattered values of 20 ppm occur on phyllites and deep clay soils.

MAGNETICS

From the magnetic survey V. 26 can be divided into two main zones (see Plans 7a-c).

(i) N.E. sector, this is a zone of active magnetics associated with basic volcanics with minor magnetite. The magnetic profiles are characterized by sharp gradients and reversals.

(ii) in the remainder of the grid anomalies are more subtle, gradients slight, above a background of 63000 γ suggesting a weakly magnetic stratigraphic unit. There is a consistent association with the clay soil unit.

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VOYAGER 16

INTRODUCTION

The V.16 grid was planned to cover two airborne magnetic anomalies, a zone of dominantly Zn - 80# stream geochem anomalies and previously reported old prospects.

The grid is located north of the junction of Waterloo Creek and the Hudson River in Cambrian dominantly acid volcanics with Tertiary gravel cover.

Field work was carried out in period Feb 19 - March 3rd, a total of 12 days in which the grid was pegged (theodolite used to survey base line and turn off side lines), soil sampled, magnetometored and geologically mapped. Fifteen stream pan concentrate samples were also collected in conjunction with reconnaissance mapping.

The grid consists of 4 lines each 1350m long at 400m spacing running true 090° see Plan 8, a total of 5.4 line km with a central BL at 10000E.

"C" horizon soil samples were taken at 25m intervals using a power auger. Soils were poorly developed .5m being deeper than average. Rock chip samples were taken in lieu of soils in areas of total outcrop. Tertiary gravel cover up to 20m thick (?) precluded sampling in some sections of the grid see Plans 9, however "Jackro" augering would penetrate these gravels and sands, although topography is generally steep the main gravel areas are confined to flat hill tops. See profiles 11 a - d.

Geological mapping was carried out in conjunction with soil augering along grid lines, no attempt was made to map between the lines, but stream traverses in Waterloo Creek and Hudson River were made to get a more complete idea of the local geology. See Plans 9 & 11. Rock samples were collected in the streams and on the grid see appendices (i) 5.

Magnetometery using a Geometrics Proton G816 were recorded along grid lines at 12.5m intervals. See appendices (ii) a, Plans 11 a - d.

Pan concentrates - these were collected mainly in tributaries of Waterloo Creek in the grid area, and a small stream draining the eastern side of the grid. See Plan 8 & 10. Visible gold counts were recorded.

GEOLOGY

The grid covers a sequence of dominantly acid volcanics with minor, fine grained sediments, see Plan 9, these have previously been included in the Hudson River Pyroclastics. The volcanics are dominantly rhyolitic vitric tuffs - crystal tuffs, the latter are chloritic, some tending to be lithic which are characterized by the presence of epidote.

The rocks strike N-S, the individual units will be described from E-W assuming a W. facing. However no evidence for this was seen, dips are usually greater than 80^{o}, facings may be located in the fine-medium grained tuffaceous sediments at the Waterloo - Hudson junction.

Stratigraphy Hudson River Pyroclastics

1. Vitric tuff - scattered quartz feldspar phenocrysts in a dark grey green vitric groundmass. Some have a blocky outcrop pattern and texture suggesting that they may be lavas. This unit outcrops to the E. of lines 88 - 92N, 96 - 100N just extending onto it. There is some evidence that these tuffs-lavas may form the E. flank of the major magnetic anomaly. See Plan 9, Profiles 11c.

2. Crystal tuffs - this rocktype is similar to the above unit but has a greater crystal component, groundmass is vitric, the quartz feldspar proportions vary. Locally there are minor liths with associated epidote. Typically the rocks are chloritic, weathering more readily and developing better soil profiles.

3. Rhyolitic tuffs/lavas - these rocks are the dominating feature of the grid area, outcrop is good, soils sparingly developed. They are typically pink - orange with scattered quartz - feldspar phenocrysts in a vitric groundmass with scattered small pyrite cubes.

4. Siliceous siltstones - tuffaceous wackes, this unit of fine-medium grained sediments occurs within the above rhyolitic unit. Complex gradational contacts between the two can be seen a few metres down stream from the Hudson-Waterloo junction. In this locality the sediments reach maximum thickness of 100m. There is evidence for local small scale folding south of line 88N, to the north the unit becomes less prominent see Plan 9. However blocks of angular float occur east of the BL between 96-100N.

5. Crystal lithic tuffs, these are best exposed in Waterloo Creek between line 88-92N, the contact with the rhyolites can be located to the south in the Hudson River Plan 9. Liths are rounded $<$5cm diameter, usually composed of pink rhyolite, they are scattered and set in a slightly chloritic crystal tuff groundmass. The unit is characterized by the presence of epidote quartz nodules or segregations, often associated with pink albitization?

6. Basic - intermediate volcanics, these outcrop in Waterloo Creek upstream of line 92N, and on line 92N 97^{50} E, forming a minor part of the sequence in small lenticular outcrops $<$ 2m thick. The rocks are dark grey-green, chloritic, flecked with fine chloritized phenocrysts, and contain minor magnetite. They are associated with fine dark grey siliceous siltstones and rhyolitic tuffs.

7. Chloritic feldspar - quartz crystal tuff - this unit outcrops poorly in the S.W. of the grid and is obscured to the north by gravel cover. From the soil and pan concentrate geochemistry this rock type is the most prospective.

<u>Tertiary gravels and sands</u> - these sediments extensively overlie the Cambrian sequence in the N.W. sector of the grid with scattered remnants remaining on hill tops elsewhere see Plan 9. The gravels are composed of quartz, quartzite cobbles derived from the Pre-Cambrian, pink Ordovician quartzite forming minor component.

Mineralization in the grid area is limited

- chlorite magnetite alteration which locally outcrops 92N/9925E in rhyolitic tuffs. The alteration is confined to cleavage surfaces.
- minor fine pyrite cubes in orange-pink rhyolite.

Shallow pits 0.3m deep in ferruginous Tertiary gravels (9980N/9940E) was the only sign of prospecting. The workings reported by B.H.P. weren't located.

SOIL GEOCHEMISTRY

No statistics have been applied to the data, which is limited due to Tertiary gravel cover, and a mixture of soil and rock chip sampling. See Plans 11 a - d.

From the data available two main anomalous zones can be recognized.

(a) Line 88 - 92N / 9300 - 9800E, peaking at 88N/9400-475E
Cu 590 ppm
Pb 1950 ppm, Ag 2.5 ppm
Zn 760
In this area outcrop is generally poor, the geology is apparently dominated by chloritic feldspar quartz crystal tuffs with possible minor basic-intermediate volcanics? Soils with higher values tend to be deeper than average 0.5 - 1.0m, reflecting the soft chloritic nature of the bedrock. This soil anomaly may be associated with the broad magnetic anomaly(see Plan 11a.)

(b) 92N/10325E here a single anomalous sample occurs
Cu 25 ppm
Pb 100 ppm, Ag 2.0 ppm
Zn 225
Outcrop is lacking, the location probably occurs just E. of the chloritic crystal tuff contact with the rhyolite. Although this is a single sample anomaly it is followed to the E by an elevated Zn background.

(c) 100N/10125 - 225E. This anomaly is open to the W, where bedrock is obscurred by gravels. The peak values are Cu 20 ppm
Pb 1150 ppm
Zn 2850 ppm
At this location a thin layer of angular quartz float overlies fine grained chloritic undifferentiated Cambrian tuffs?. Immediately west scattered blocks of fine siliceous siltstone occurs. A weak but distinct magnetic anomaly coincides with the soil geochem.

Stream geochemistry - pan concentrates

Again no statistics have been applied, only 15 samples were collected. Zinc is the most prominent element, a range of 27-3300ppm with half the samples $>$590 ppm. Plan 9 - 10.

Stream Zn bears little relationship to the Cu Pb Zn soil anomalies, the highest stream values 1000-3300 ppm may be associated with the fine siliceous silts - tuffaceous greywacke? see Plan 9-10.

Gold and silver values in the sediments peaked at 6.93 ppm 4.00 ppm respectively, in a small stream draining lithic epidote tuffs and chloritic crystal tuffs with associated Cu Pb Zn Ag soil anomaly on line 88N.

A second gold anomaly occurs at the junction of a small stream draining the E. edge of the grid and the Hudson River, here 0.48 and 2.65 ppm recorded.

Correlation between visual gold pan counts and the

analysis -	TD 6216	4-5 colors	6.93 ppm
	TD 6212-3	-	.48,2.65 ppm
	TD 6202,09,15	1 - 2	-

Magnetics

Within the grid area there are two main magnetic anomalies, the grid adequately covering the air-borne anomalies.

Discussion of the data which is listed in the appendices iib and plotted on profiles plan 11a-d, will be confined to surface evidence of magnetic rock types.

This is limited to -92/9925E chloritic magnetite alteration
-92N 9675-9725 possible chloritic
basic - intermediate volcanic lenses?

APPENDICES (i)

DRAINAGE, ROCK & SOIL SAMPLE Nos.

1. -80 Stream Sediment - Mainwaring System
   TD 6101 - 6201
   See Plan 4.

2. Rock samples Mainwaring River & B.H.P. Road
   KR 8351 - 8435
   See Plan 4.

3. B.H.P. Road "C" horizon soil samples
   TS 5851 (100W) - 5900 (2550W)
   7451 (2600W) - 7490 (4500W)
   KR 8410 - 8435
   See Plan 3.

4. Voyager 26
   Soils TS 11751 - 11877
   Rocks KR 8436 - 8447
   See Plan 7a-c

5. Voyager 16
   Soils TS 9501 - 9682 (not inclusive)
   Pan Cons TD 6202 - 6216
   Rocks Grid lines KR 8448 - 8480
   Recon geology KR 8481 - 8493
   Plans 8 & 11 a - d

APPENDICES (ii)

PROTON MAGNETICS

Voyager 26
" 16

024 Base Line Shall ~ 10,000 East 17th Feb '81

Geopoko Voyager 26 Magnetics

Station	Reading	Time	Remarks
10000N.	63089	2.36pm.	
	112		
	098		
	085		
9900N.	083		
	078		
	077		
	095		
9800 N.	108		
	114		
	112		
	108		
9700N.	092		
	072		
	055		
	047		
9600N.	047		

055025

025 Base Line Sheet 2 ~ 9900 East. 18th Feb '81.

Geopeko Voyager 26 Magnetres.

Station	Reading	Time	Remarks
9600 N.	63483	10.02	
	520		
	389		
	359		
9500 N.	324		
	352		
	378		
	402		
9400 N.	427		
	374		
	258		
	226		
9300 N.	230		
	280		
	273		
	255		
9200 N.	140	10.25 a.	

055026

Line 9600 North Sheet 1 17th Feb '81

Geopeko Voyager 26 Magnetics

Station	Reading	Time	Remarks
9500 E.	63395		
	393		
	469		
	483		
	381		
9550	310		
	143		
	106		
9600 E.	055		
	031		
	023		
	013		
9650	008		
	009		
	008		
	007		
9700 E.	012		
	023		
	023		
	030		
9750	035		
	038		
	050		
	059		
9800 E.	068		
	085		
	108		
	143		
9850	193		
	380		
	414		

055027

Line 9600 North. Sheet) 027 17th Feb '81.

Geopeko Voyager 26 Magnetics

Station	Reading	Time	Remarks
	63381		
9900 E.	463		
	616		
	546		
	509		
9950	454		
	302		
	156		
	081		
10000 E.	057	4.18 pm	Battery change.
	450		
	321		
	148		
	069		
10000 E.	63052	3.35 pm.	
	053		
	051		
	058		
10050	033		
	011		
	009		
	036		
10100 E.	048		
	057		
	300		
	672		
10150	865		
	176		
	055		
	364		055028
10200 E.	62977		

Line 9600 North. Sheet 3. 17th Feb '81.

Geopeho Voyageur 26 Magnetics.

Station	Reading	Time	Remarks.
	62864		
	808		
	785		
10250	967		
	63713		
	616		
10300E.	64142		
	246		
	354		
	372		
10350	344		
	63588		
	305		
	458		
10400E.	64401		
	65127		
	59064		
	63186		
10450	62922		
	63339		
	224		
	083		
10500E	153	3.05p.	

10,000 North Sheet 1. 029 17th Feb 81.

Geopeko Station	Voyager 26 Reading	Time	Magnetics Remarks
9500 E.	63091	2.23 pm	
	021		
	019		
	62989		
9550	991		
	978		
	972		
	960		
9600 E.	965		
	972		
	969		black phyllites.
	980		
9650	992		
	63020		
	031		
	047		
9700 E.	110		
	129		
	058		
	060		
9750	044		
	048		
	093		
	053		
9800 E.	076		
	107		
	128		
	225		
9850	239		
	376		055030
	423		

10.000 North Sheet 2 030 17th Feb. 81.

Geopeko Voyager 26 Magnetics.

Station	Reading	Time	Remarks
	63291		
9900E.	301		
	340		
	498		
	462		
9950	629		
	375		
	187		
	139		
10000E.	091	1.48 pm.	63089 @ 2.36 pm.
	038		
	110		
	222		
10050	228		
	075		
	021		
	62997		
10100E	63005		
	033		End aerail mag.
	006		
	094		
10150	343		
	505		
	354		
	274		
10200E.	156		
	096		
	196		
	241		
10250	497		055031
	64601		

10,000 North Sheet 3 17th Feb '81.

Geopeko Voyager 26 Magnetics.

Station	Reading	Time	Remarks
	65156		
	64498		
10300E.	155		
	61197		
	63131		
	399		
10350	173		
	65973		
	64949		
	283		
10400E.	63974		
	642248		
	801		
	63243		
10450	622		
	64051		
	710		
	029		
10500E.	63473		
	560		
	734		
	64451	~~[illegible]~~ pm.	
10550	65079		
	62934		
	60276	1.14 pm.	
	65060		
10600E.	63052		
			055032

Line 9200 North Sheet 1. 032 18th Feb '81

Geopeko Voyager 26 Magnetics

Station	Reading	Time	Remarks
9500 E.	63226	12.03	
	224		
	236		
	203		
9550	181		
	146		
	112		
	087		
9600 E.	079		
	092		
	048		
	037		
9650	027		
	018		
	013		
	001		
9700 E.	006		
	003	11.48	
	009		
	008		
9750	008		
	009		
	020		
	023		
9800 E.	048		
	028		
	036		
	044		
9850	052		
	086		055033
	117		

Line 9200 North Sheet 2 18th Feb. '81

Geopeko Voyager 26 Magnetics.

Station	Reading	Time	Remarks
	63145		
9900E.	182	11.38	63140 C 10.25
	229		
	211		
	192		
9950	201		
	231		
	297		
	277		
10000 E.	215		
	174		
	238		
	317		
10050	251		
	223		
	243		
	289		
10100 E.	358	10.38	
	471		
	719		
	789		
10150	796		
	669		
	596		
	579		
10200 E.	544		
	454		
	332		
	253		
10250	188		055034
	160		

Line 9200 North Sheet 3. 034 18th Feb '81

Geopeko Voyager 26 Magnetics

Station	Reading	Time	Remarks
	63137	10.49a	
	148		
10300 E.	137		
	135		
	170		
	235		
10350	143		
	335		
	830		
	738		
10400E.	509		
	64149		
	428		
	613		
10450	768		
	348		
	63916	11.05am.	
	64525	11.15am.	
10500 E.	64652	11.16am.	

055035

Base Line Sheet 1 — Saturday 2?-2-91.

Geopeko — Voyager 16 — Magnetics

Station	Reading	Time	Remarks
8800 N.	62852	935 am	62861 @ 10.40 am;
	830		62869 @ 11.55 am.
	847		62844 @ 1.30 pm.
	894		3 readings @ 8800 N
8900 N.	904		10000 E
	906		
	923		
	914		
9000 N.	909		
	936		
	949	9.50 am.	
	973		
9100 N.	994		
	999		
	982		
	970		
9200 N.	63012		
	62981		
	63016		
	075		
9300 N.	109		
	137		
	182		
	231		
9400 N.	243		
	238		
	245		
	253		
9500 N.	235		
	194		
	205		

Base Line. Sheet 2 — Saturday 28-2-'81.

Geopeko — Voyager 16 — Magnetics

Station	Reading	Time	Remarks
9575 N.	63185		
	113	10.05am.	
	128		
	119		
	101		
9700 N.	085		
	069		
	060		
	055		
	052		
9800 N.	040		
	029		
	018		
9900 N.	014		
	007		
	002		
	63000		
10000 N.	62995	10.15am.	

Line 8800 North Sheet 1. 037 Saturday 28-2-81.

Geopeko Voyager 16 Magnetics

Station	Reading	Time	Remarks
9300 E.	62920	12.30	
	932		
	946		
	974		
9350	991		
	985		
	995		
	63049	12.25	
9400 E.	064		
	026		
	62989		
	63008		
9450	062		
	123		
	196		
	276		
9500 E.	231		
	308		
	354		
	117		
9550	094		
	185		
	151		
	183		
9600 E.	219		
	296		
	304		
	208		
9650	150		055038
	135		
	135		

Line 8800 North - Sheet 2. Saturday 28-2-81.

Geopeko Voyager 16 Magnetics.

Station	Reading	Time	Remarks.
	62998		
9700E.	954	12.10	
	926		
	913		
	917		
9750	900		
	875		
	854		
	835		
9800E.	848		
	879		
	988		
	869		
9850	873		
	877		
	881		
	900		
9900	912		
	955		
	909		
	883		
9950	870		
	868		
	865		
	866	11.55a.	
10000E.	869		
	858		
	859		
	853		
10050	852		055039
	859		

Line 8800 North - Sheet 3

Saturday 28-2-81

Geopeko — Voyager 16 — Magnetics

Stations	Reading	Time	Remarks
	62872	11.00 am.	
	900		
10100 E.	955		
	821		
	860		
	870		
10150	877		
	881		
	882		
	891		
10200	900		
	906		
	920		
	932		
10250	942		
	952		
	960		
	968		
10300	976	11.15 am.	
	980		
	981		
	983		
10350	980		
	979		
	977		
	966		
10400	955		
	940		
	923		
	912		
10450	896		

055040

Line 8800 North Sheet 41 Saturday 28-2-81.

Geopeko Voyager 16 Magnetics

Station	Reading	Time	Remarks
	62 882		
	869		
	855		
10500	854		
	856		
	850		
	853		
10550	849	11.30am	
	843		
	830		
	828		
10600	824.		
	826		
	824		
	829		
10650.	830		

Line 9200 North - Sheet 1. 041 Saturday 28-2-'81

Geopeko Voyager 16 Magnetics.

Station	Reading	Time	Remarks
9300 E.	63001	12.45 pm	
	008		
	018		
	039		
9350	066		
	095		
	074		
	083		
9400	100		
	066		
	62998		
	949		
9450	930		
	911		
	901		
	912		
9500	946		
	63020		
	070		
	098		
9550	092		
	067		
	051		
	039		
9600	029		
	063		
	063		
	077		
9650	058		055042
	077		
	207		

Line 9200 North. Sheet 2 042 Saturday 28-2-'81.

Geopeko Voyager 16 Magnetics.

Station	Reading	Time	Remarks.
	63518		
9700 E.	522		
	166		
	022		
	024		
9750	62964		
	936		
	907	1.05 pm.	
	853		
9800 E.	707		
	890		
	960		
	63073		
9850	062		
	078		
	058		
	045		
9900 E.	086		
	151		
	282		
	277		
9950	179		
	096		
	015		
	62975		
10000 E.	978	1.20 pm.	62996 @ 2.05 pm.
	946		
	927		
	920		
10050	920		
	943		

055043

Line 9200 North Sheet 3. 043 Saturday 28-2-81.

Geopeko Voyager 16 Magnetics.

Station	Reading	Time	Remarks
	63003		
	62968		
10100 E.	808		
	840		
	902		
	912		
10150	982		
	63078		
	142		
	077		
10200	067		
	113		
	201		
	240		
10250	268		
	283		
	266		
	240		
10300 E	256	2.25	
	337		
	370		
	310		
10350	306		
	303		
	306		
	312		
10400 E.	321		
	331		055044
	345		
	362		
10450	381		

Line 9200 North Sheet 4 044 Saturday 28-2-'81.

Geopeko Voyager 16 Magnetics.

Station	Reading	Time	Remarks
	63395		
	403		
	407		
10500 E.	404		
	400		
	390		
	375		
10550	359		
	346		
	321		
	302		
10600	286		
	290		
	315		
	343		
10650	346	2.36 pm.	

055045

Line 9600 North Sheet 1. 045 Sunday 28-2-81.

Geopeko Voyager 16 Magnetics.

Station	Reading	Time	Remarks
9300 E.	62998	8.40 am	
	63006		
	004		
	007		
9350	005		
	001		
	62998		
	996		
9400 E.	63000		
	62999		
	63000		
	007		
9450	013		
	023		
	032		
	048		
9500 E.	065		
	089		
	281		
	219		
9550	011		
	015		
	019		
	025		
9600 E.	045		
	016		
	175		
	229		055046
9650	221	8.20 am.	
	303		
	356		

Line 9600 North-Sheet 2. Sunday 1-3-'81.

Geopako Voyager 16 Magnetics

Station	Reading	Time	Remarks
	63316		
9700E.	257		
	232		
	213		
	189		
9750	170		
	166		
	176		
	186		
9800 E.	194		
	184		
	173		
	159		
9850	142		
	130		
	120		
	111		
9900 E.	106		
	095		
	094		
	099		
9950	101		
	110		
	131		
	137		
10000E.	156	~~8.05 am~~ 4.00 pm	Saturday - readings from
10000E.	178 (8.05 am Sunday)		10000E. to 10650 E.
10000E.	155	(3.10 pm.	Saturday)
	158		
	184		055047
	203		

Line 9600 North Lect 3 047 Saturday 1-3-'81.

Geo Je Ko Voyager 16 Magnetics.

Station	Reading	Time	Remarks.
10050	63231		
	263		
	346		
	332		
10100 E.	371		
	406		
	458		
	576		
10150	557		
	603		
	641		
	665		
10200 E.	681		
	711		
	706		
	677		
10250	667		
	644		
	636		
	633		
10300 E.	615		
	607		
	602		
	583		
10350	555		
	524		
	496		
	471		
10400	470		055048
	~~475~~ 457		
	443		

Line 9600 North - Sheet 4 048 Saturday 1-3-81.

Geopeko Voyager 16 Magnetics.

Station	Reading	Time	Remarks.
	63436		
10450	431		
	421		
	415		
	405		
10500E.	392	3.35 pm.	
	373		
	353		
	330		
10550	299		
	311		
	360		
	333		
10600E.	241		
	132		
	072		
	038		
10650	015	342 pm.	

055049

Line 10,000 North Sheet 1. 049 Sunday 1-3-81.

Geopeko Voyager 16 Magnetics.

Station	Reading	Time	Remarks
9300 E.	63020	8.48 am.	
	036		
	050		
	065		
9350	075		
	085		
	100		
	112		
9400 E.	125		
	141		
	166		
	192		
9450	222		
	249		
	270		
	280		
9500 E.	286		
	286		
	281		
	266		
9550	257		
	254		
	248		
	240		
9600 E.	246		
	250		
	233		
	213		
9650	200		055050
	219		
	258		

Line 6000 North Sheet 2. 050 Sunday 1-3-81.

Geopeko Voyager 16 Magnetics.

Station	Reading	Time	Remarks
	63289	9.05 am.	
9700E.	311		
	301		
	275		
	249		
9750	221		
	188		
	161		
	140		
9800 E.	128		
	108		
	089		
	080		
9850	071		
	064		
	057		
	047		
9900E.	031		
	026		
	018		
	014		
9950	004		
	62997		
9975	986		
10000E.	980	9.20am.	
10000E.	986 ~~am~~	10.08am	
	977		
	974		
	973		055051
10050	974		
	974.		

Line 10000 North. Sheet 3 Sunday 1-3-81.

Geopeko Voyager 16 Magnetics

Station	Reading	Time	Remarks
	62978		
	984		
10100 E.	63000		
	022		
	075		
	091		
10150	094		
	092		
	096		
	141		
10200	075		
	043		
	020		
	011		
10250	017		
	011		
	62999		
	995		
10300 E.	987		
	983		
	977		
	975		
10350	970		
	964		
	962		
	956		
10400	957	9.40 am	
	955		
	950		
	943		
10450	940		

055052

Line 10,000 North Sheet 4. Sunday 1-3-81.

Geophoto Voyager 16 Magnetics

Station	Reading	Time	Remarks
	62941		
	938		
	935		
10500E.	929		
	928		
	921		
	919		
10550	917		
	918		
	915		
	913		
10600E.	914		
	910		
	907		
	906	9.50 am	
10650	903		

86 - 2524 SS Samples

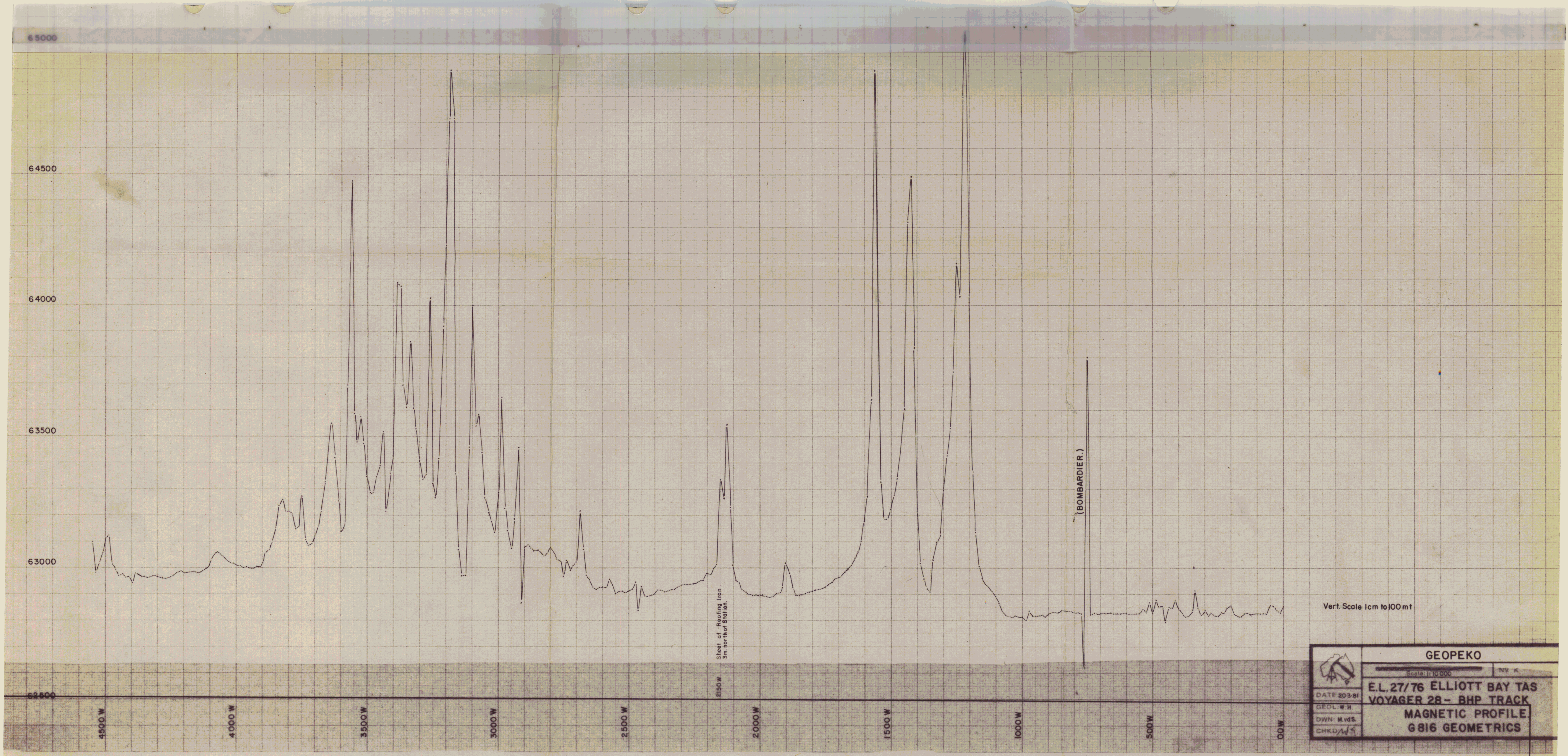
	Cu	Pb	Zn	Au	Ag	Mn	Fe
6201	25	x	20	x	x	45	3900
6200	10	10	20	x	x	210	2.7%
6189	75	x	80	x	x	330	4.3 %
6190	105	T	190	x	x	1100	7.4%
6150	85	x	135	x	x	570	6.2%
6191	15	T	15	x	x	120	1.1%
6192	80	5	135	x	x	2650	6.7%
6194	20	x	25	x	x	155	1.5%
6193	185	T	180	x	x	450	7.7 %
6195	125	x	180	x	x	765	7.6%
6196	15	x	25	x	x	115	1.3%
6197	75	x	130	x	x	960	5.7%
6198	30	x	90	x	x	890	5.0%
6199	40	x	105	x	x	1050	5.2%
6149	15	x	15	x	x	100	9250
6148	155	T	160	x	x	780	8.7
6147	100	T	135	x	x	1050	6.3
6125	15	T	25	x	x	105	9100
6126	50	x	90	x	x	460	4.7%
6128	35	T	65	x	x	390	3.9
6129	40	T	65	x	x	365	4.0%
6130	15	10	25	x	x	590	1.6%
6131	40	5	30	x	x	550	3.45
6132	30	5	20	x	x	470	3.25
6133	105	10	75	x	x	900	7.0
6134	35	15	20	x	x	350	3.56
6135	10	5	5	x	x	105	1.33
6136	20	10	25	x	x	2100	3.6
6137	20	x	20	x	x	700	2.5
6138	20	5	15	x	x	470	2.7
6139	35	10	25	x	x	530	3.8
6140	25	10	10	x	.5	550	3.16
6141	20	x	5	.008	x	365	2.0

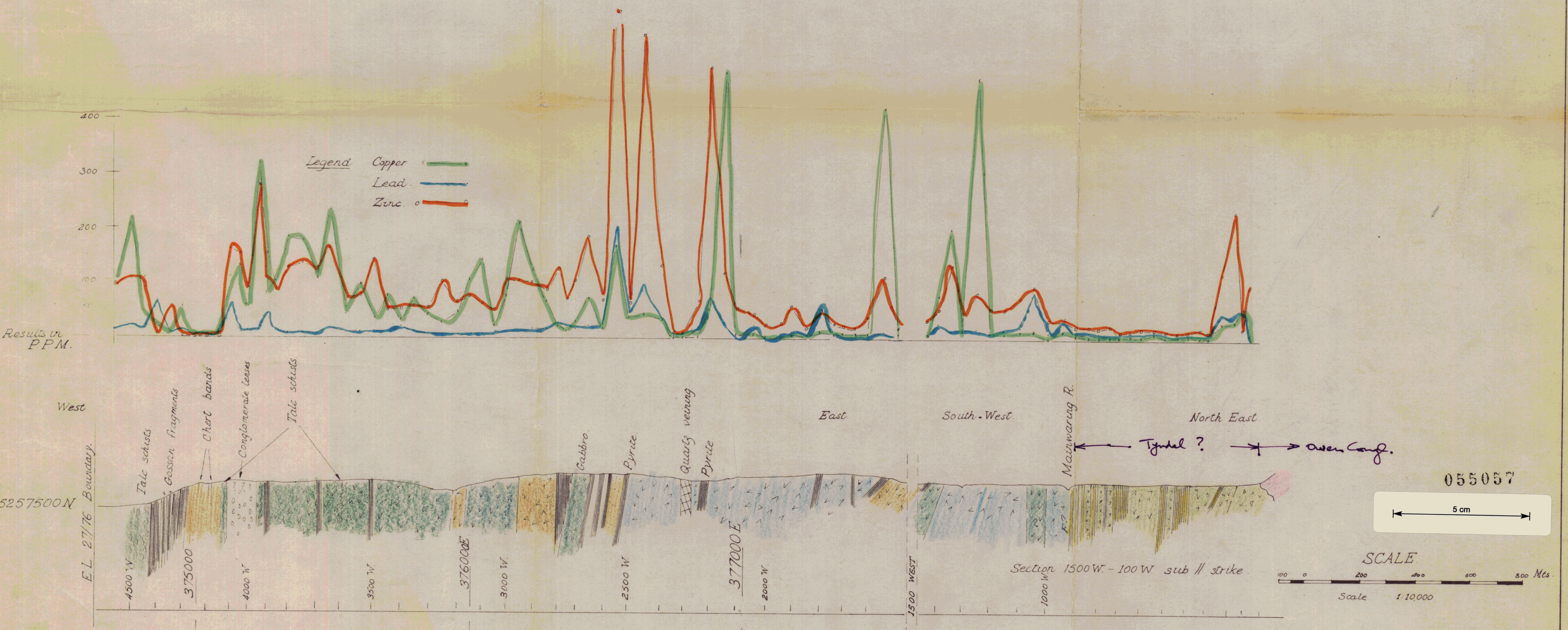
86-2524

	Cu	PB	ZN	Au	Ag	Mn	Fe%	
6105	10	x	5	x	x	80	4100	
6101	20	10	10	x	x	285	2.5	
6102	10	x	5	x	x	55	3500	
6104	10	x	5	x	x	90	4350	
6103	10	x	5	x	x	50	3200	
6107	5	x	x	x	x	65	5200	
6108	10	x	x	x	x	[illegible] 75	~~3950~~ 3850	
6109	10	x	x	x	x	45	3750	
6110	x	x	x	x	x	55	3100	
6111	x	x	10	x	x	90	3700	
6112	x	x	x	x	x	50	2800	
6153	5	5	10	x	x	275	9950	
6155	5	5	15	x	x	60	6500	
~~6154~~	5	5	10	x	x	70	3200	~~75~~
6152	5	5	15	x	x	125	3200	75975
6151	5	5	25	x	x	55	5650	
6178	5	5	10	x	x	5	2500	
6179	x	5	5	x	x	70	4050	
6180	x	5	10	x	x	75	7900	
6161	x	5	10	x	x	60	8100	
6160	x	5	10	x	x	10	2150	
6159	5	10	10	x	x	315	1.0	
6158	x	5	10	.050	X	220	7950	
6157	5	5	5	.050	1.5	95	7000	
6156	5	x	10	.017	x	10	2550	
6170	90	10	40	x	x	290	3.45	
6171	10	5	10	x	x	130	7000	
6172	5	5	10	.058	x	90	6500	
6173	40	10	30	x	x	205	1.5%	
6174	5	5	10	x	x	60	6350	
6175	x	5	10	.025	x	85	5950	
6176	65	45	70	x	.5	250	1.18	
6177	15	20	45	.008	.5	120	1.34%	

86-2524

	CU	PB	ZN	AU	Ag	Mn	Fe%
6142	90	5	55	x	x	750	5.3
6143	20	10	15	x	x	500	3.3
6144	40	5	30	x	.5	625	4.15
6145	50	10	45	x	.5	760	4.8
6146	35	5	25	x	.5	300	2.5
6166	50	10	75	.017	.5	490	3.5
6167	60	15	50	x	x	790	4.6
6165	30	15	50	x	x	640	3.6
6164	40	10	65	x	x	665	4.6
6163	20	15	35	x	x	570	3.5
6162	5	20	25	x	.5	500	2.45
6127	10	x	25	x	x	90	6700
6188	10	x	15	x	x	70	5050
6187	20	T	35	x	x	370	3.4
6186	30	x	50	x	x	450	3.5
6185	5	x	5	x	x	35	2250
6184	5	x	5	x	x	45	2300
6183	5	T	5	x	x	55	2200
6182	10	x	10	x	x	155	1.6
6181	5	x	T	x	x	45	2500
6124	5	x	x	x	x	30	2500
6119	5	x	x	x	x	65	3900
6123	5	x	x	x	x	30	2250
6122	5	5	x	x	x	35	2200
6121	5	10	x	x	x	95	3800
6120	5	x	x	x	x	50	3150
6117	15	x	x	x	x	175	1.02
6118	5	x	x	x	x	50	3050
6116	5	x	x	x	x	45	3600
6115	10	5	x	x	x	120	6850
6114	10	x	5	x	x	120	9600
6113	10	x	x	x	x	120	1.03
6106	15	x	110	x	x	180	1.4.





KEY

(i) Reworked acid tuffs, tuff sandstone & black siltstones
(ii) Quartz > feldspar crystal tuffs & lavas. Lithic component minor
(iii) Basic volcanics, fine grained lavas, tuffaceous sediments & chloritic phyllites
(iv) Greywackes, quartz rich with black-red chert horizons
(v) Dark grey-black siltstones, frequently pyritic

GEOPEKO EXPLORATION	E.L. 27/76
B.H.P. TRACK, ELLIOTT BAY, TAS. RECONNAISSANCE GEOLOGY	
Date FEB. 1981	
Compiled R.A.P.	
Drawn N.S.P.	3466
Checked R.A.P.	KT27/76-1

86-2524

MAINWARING GEOLOGY 1: 10 000

KEY

Cambrian

(i) Reworked acid tuffs, tuff sandstones & black siltstones.

(ii) Quartz ≥ feldspar crystal tuffs & lavas. Lithic component minor

(iii) Basic volcanics, fine grained lavas, tuffaceous sediments and chloritic phyllites.

(iv) Siltstones, black-grey pyritic.

(v) Greywackes, quartz rich with black-red chert horisons.

(vi) Phyllites with basic volcanic & carbonate lenses.

PLAN 1

86-2524

DATE: JAN 1981

GEOLOGIST: RAP

DRAWN: NSP

CHECKED: RAP

GEOPEKO

A DIVISION OF PEKO-WALLSEND OPERATIONS LTD

SCALE: 1:10 000

No. KT27/76-3

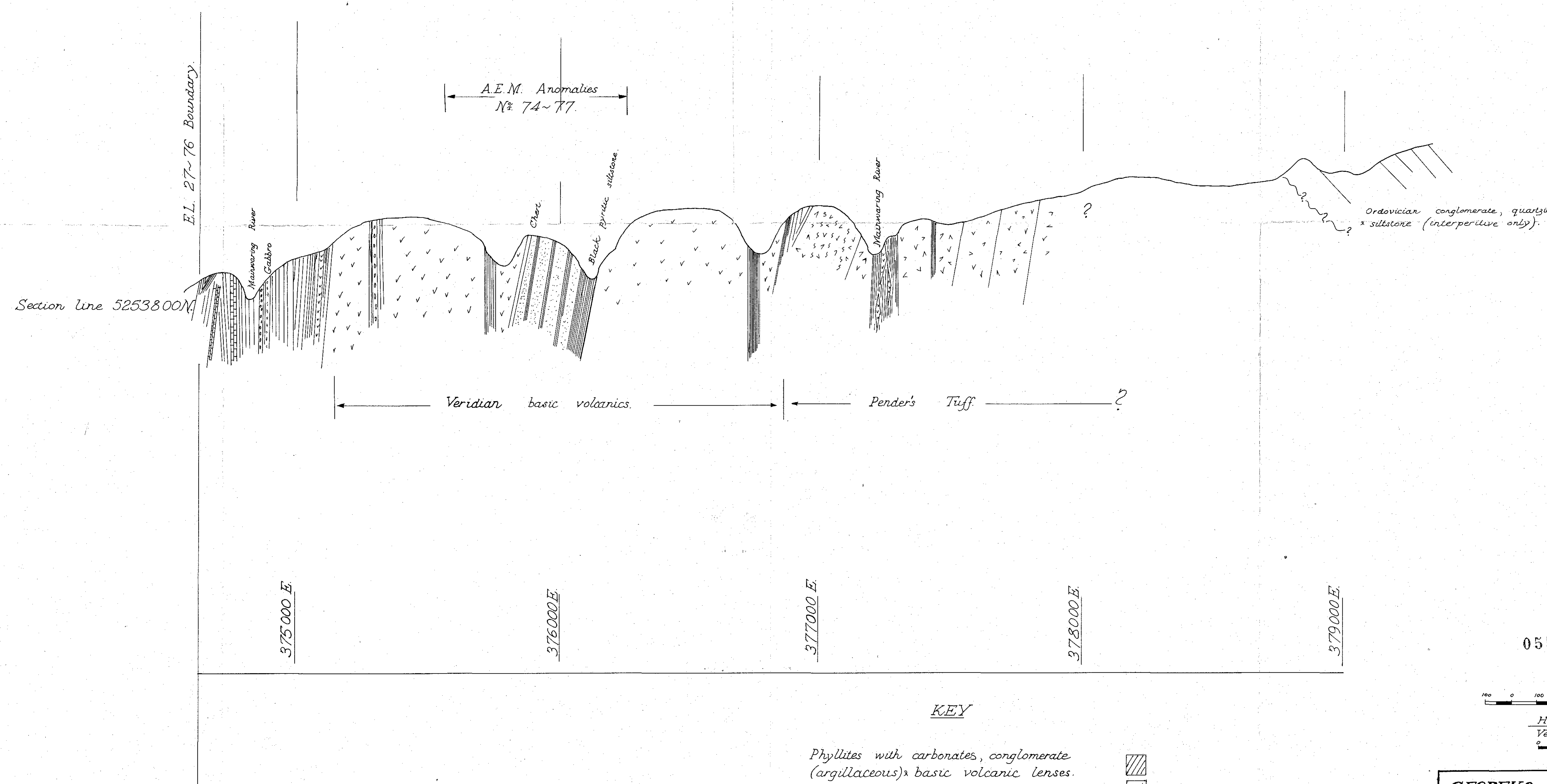
055058 E.L. 27/76 3465

ELLIOTT BAY, TASMANIA

Reconnaissance Geology

Mainwaring R. & Voyager 26.

KT27/76-1	KT27/76-2
KT27/76-3	KT27/76-4
KT27/76-5	KT27/76-6
KT27/76-7	KT27/76-8



KEY

Phyllites with carbonates, conglomerate (argillaceous) & basic volcanic lenses.	
Basic volcanics.	
Greywackes ~ quartz rich.	
Dark grey ~ black siltstones, frequently pyritic	

055059

SCALES

Horizontal 1:10,000

Vertical 1:3000

Metres.

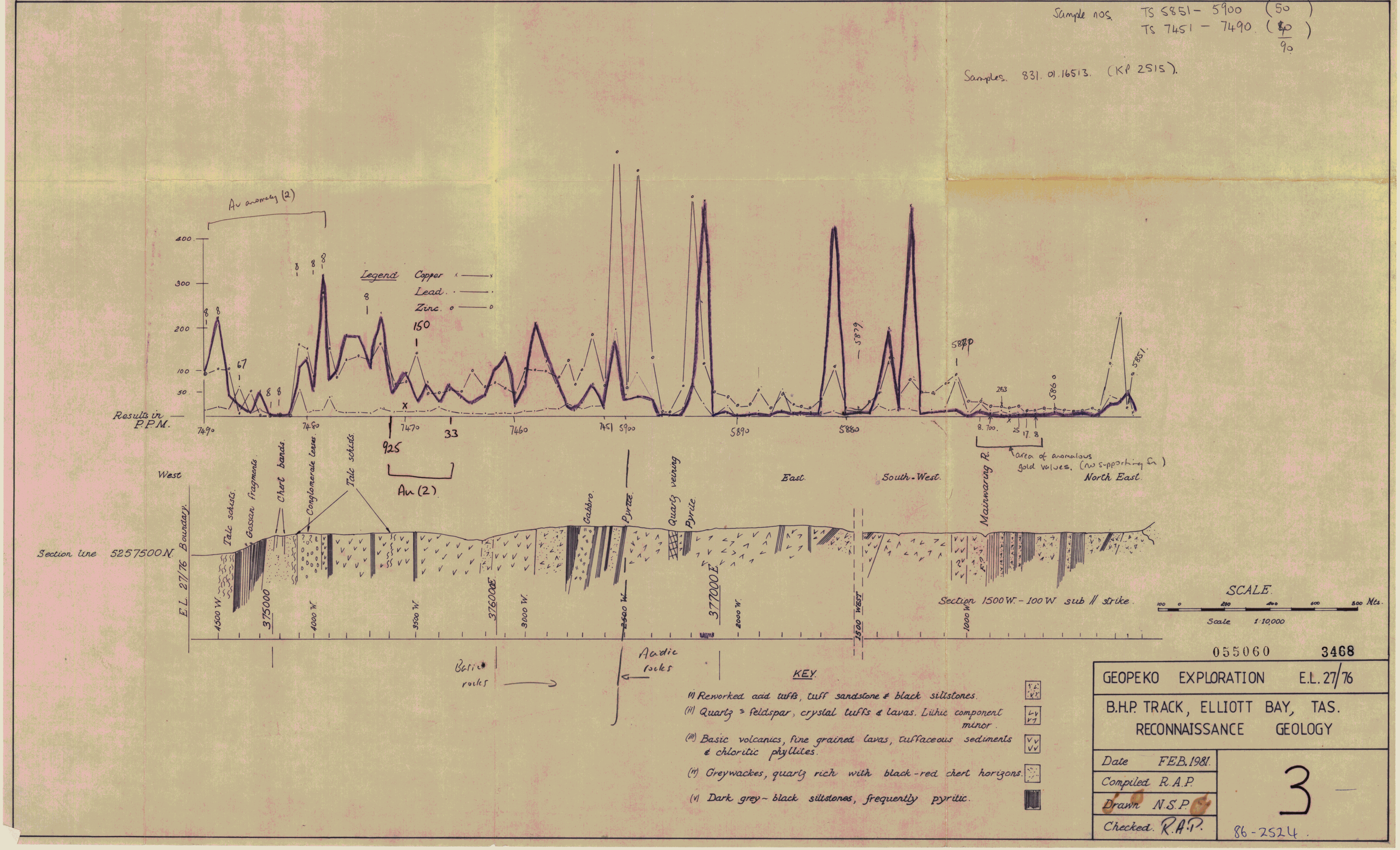
3467

GEOPEKO EXPLORATION E/L 27-76

Mainwaring River Geology.
Section 5253800 N.

Date Feb 1981.	2
Compiled R.A.P.	
Drawn N.S.P.	
Checked R.A.P.	

86-2524



Sample nos. TS 5851 – 5900 (50)
TS 7451 – 7490 (40)
90
Samples. 831. 01. 16513. (KP 2515).
Au anomaly (2)
400
300
200
100
50
Results in P.P.M.
Legend Copper x — x
Lead · — ·
Zinc o — o
8 8
67
8 8
8 8 8
8
150
925
33
Au (2)
7490
7480
7470
7460
7451 5900
5890
5880
5879
5870
5861
263
8. 700.
25
17. 8
area of anomalous gold values. (no supporting Cu)
West
East.
South-West.
North East.
Talc schists.
Gossan fragments
Chert bands
Conglomerate lenses.
Talc schists
Gabbro.
Pyrite.
Quartz veining
Pyrite.
Mainwaring R.
Section line 5257500 N.
E.L. 27/76 Boundary.
4500 W.
375000
4000 W.
3500 W.
376000 E
3000 W.
2500 W.
377000 E
2000 W.
1500 WEST
1000 W.
Section 1500 W. – 100 W sub // strike.
SCALE.
100 0 200 400 600 800 Mts.
Scale 1:10,000
Basic rocks
Acidic rocks
KEY.
(i) Reworked acid tuffs, tuff sandstone & black siltstones.
(ii) Quartz ± feldspar, crystal tuffs & lavas. Lithic component minor.
(iii) Basic volcanics, fine grained lavas, tuffaceous sediments & chloritic phyllites.
(iv) Greywackes, quartz rich with black-red chert horizons.
(v) Dark grey – black siltstones, frequently pyritic.
055060
3468
GEOPEKO EXPLORATION E.L. 27/76
B.H.P. TRACK, ELLIOTT BAY, TAS.
RECONNAISSANCE GEOLOGY
Date FEB. 1981.
Compiled R.A.P.
Drawn N.S.P.
Checked. R.A.P.
3
86-2524.

3469

4

5 cm

86-2524

055061

GEOPEKO
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD

SCALE: 1 10 000

No. TS27/76-1+3

DATE: Feb. 1981
GEOLOGIST R.A.P.
DRAWN: N.P.S.N.P.
CHECKED: R.A.G.

Sheet 1. E.L. 27/76
ELLIOTT BAY, TASMANIA
Mainwaring River.
Stream sediment & rock sample locations.

TS27/76	KT27/76-2
KT27/76-3	KT27/76-4
KT27/76-5	KT27/76-6
KT27/76-7	KT27/76-8

Key

Cu	Ag
Pb	Mn
Zn	Fe
Au	

3470

055062

5 cm

GEOPEKO

A DIVISION OF PEKO-WALLSEND OPERATIONS LTD

SCALE: 1:10 000

No. KT27/76-3

DATE: FEB 1981

GEOLOGIST: R.A.P.

DRAWN: N.S.P.

CHECKED: R.A.P.

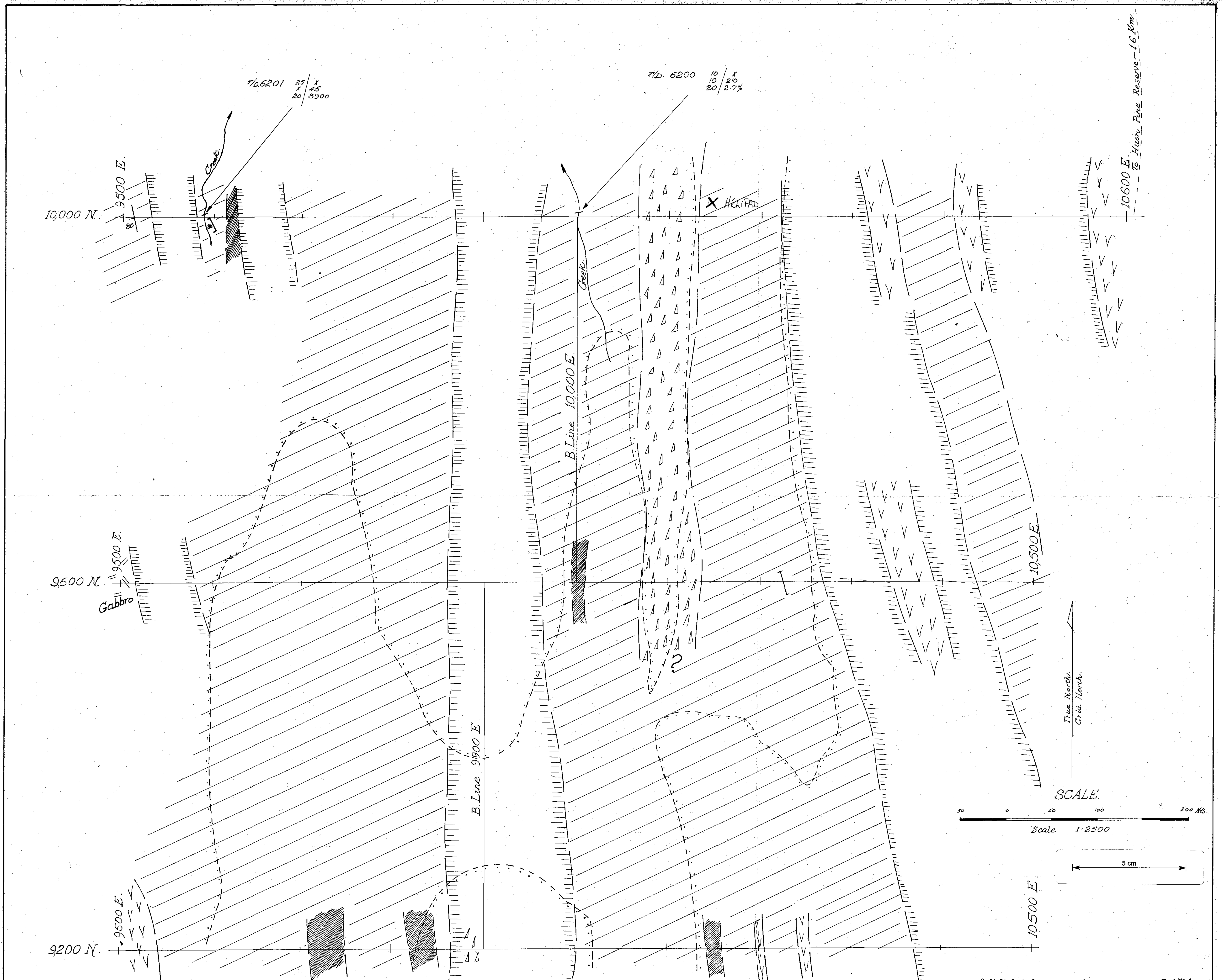
E.L. 27/76
ELLIOTT BAY, TASMANIA

MAINWARING RIVER.

-80# Stream sediment analysis.

86-2524

KT27/76-1	KT27/76-2
KT27/76-3	KT27/76-4
KT27/76-5	KT27/76-6
KT27/76-7	KT27/76-8

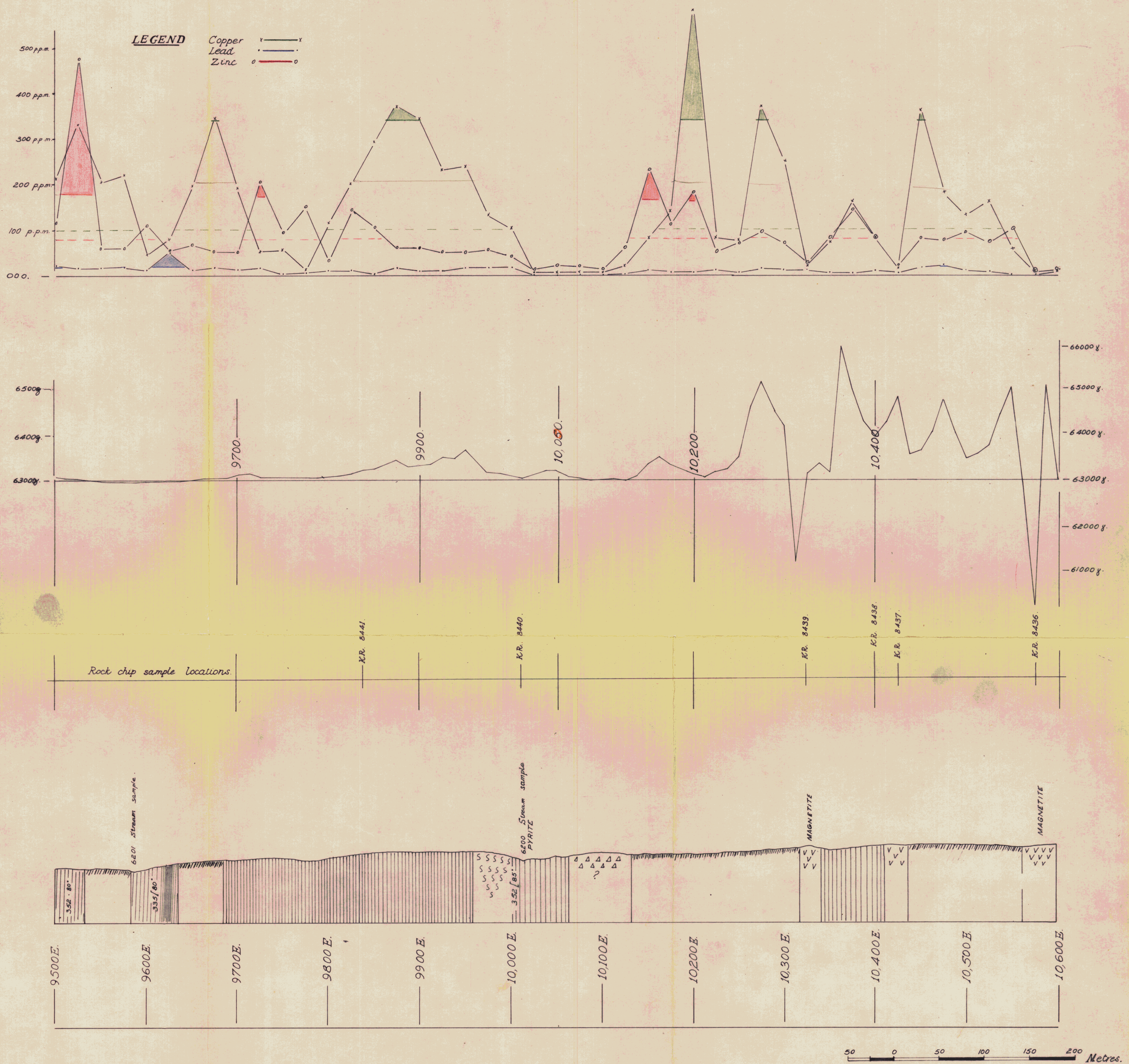


055063 86-2524 3471

KEY

Cambrian	(i) Phyllites grey-green.	
	dark grey to black.	
	(ii) Basic volcanics ~ fine grained.	
	(iii) Clay soils developed on phyllites, basics & carbonates?	
	(iv) Quartz float	
Vegetation	Eucalyptus dominant with rain forest understory	Treetree, Banksia, Baera, cut grass thicket.

GEOPEKO EXP. EL. 27-76	
Voyager 26 ~ GEOLOGY	
Date Feb '81.	6
Compiled R.A.P.	
Drawn N.S.P.	
Checked R.A.P.	



SCALE 1:2500.

Grid lines 270°-090° True.

KEY

CAMBRIAN	Phyllites green/grey	
	black	
	Basics - fine grained volcanics	
	Schists - talc?	
	Clay soils over phyllites with basics & carbonates.	
	Quartz float	

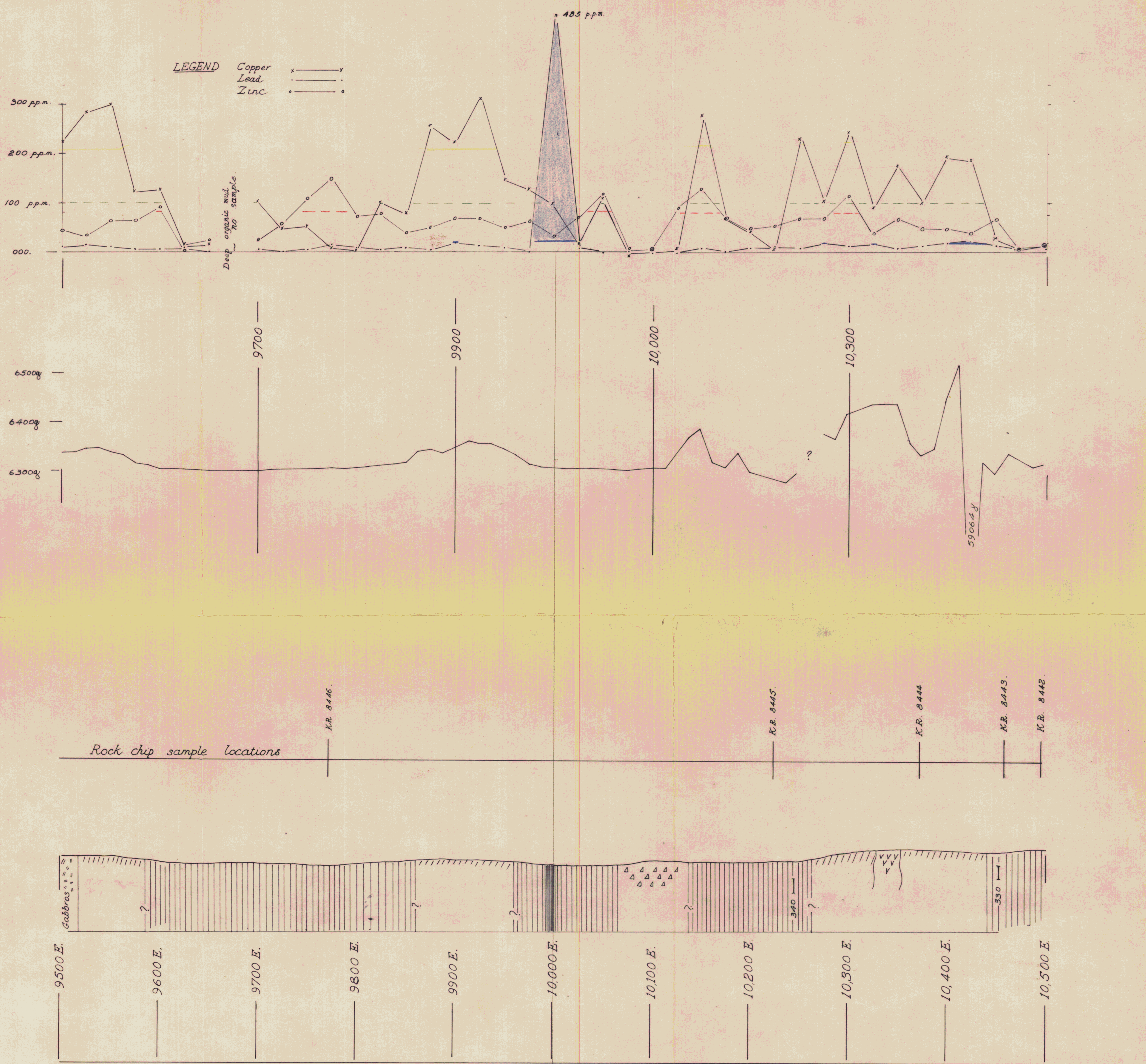
055064

86-2524

GEOPEKO EXPLORATION E.L. 27/76

ELLIOTT BAY, TAS.
VOYAGER 26 GRID - Line 10,000 North

Date FEB 1981.	3472
Compiled R.A.P.	7a
Drawn N.S.P.	
Checked R.A.P.	



50 0 50 100 150 200 Metres.

SCALE 1:2500.

Grid lines 270° - 090° True.

5 cm

KEY

CAMBRIAN Phyllites - green/grey

black

Basics - fine grained

Clay soils over phyllites with basics & carbonates ?

Quartz float.

055065

GEOPEKO EXPLORATION, E.L. 27/76

ELLIOTT BAY, TAS.

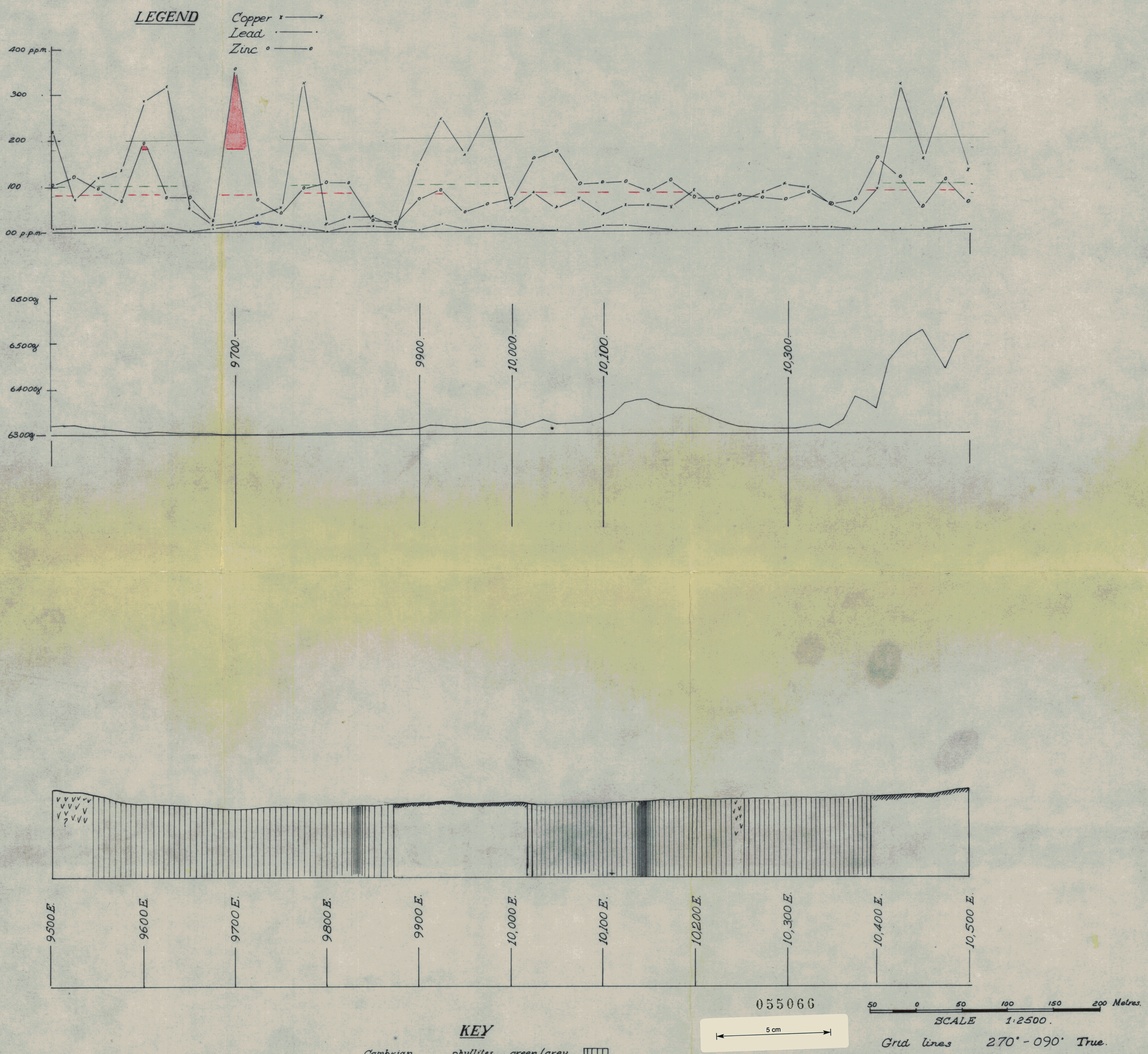
VOYAGER 26 GRID - Line 9600 North.

Date	FEB. 1981
Compiled	R.A.P.
Drawn	N.S.P.
Checked	R.A.P.

3473

7.b

86-2524



055066

5 cm

KEY

Cambrian — phyllites, green/grey

black

basic, fine grained

clay soils over phyllites with basics & carbonates?

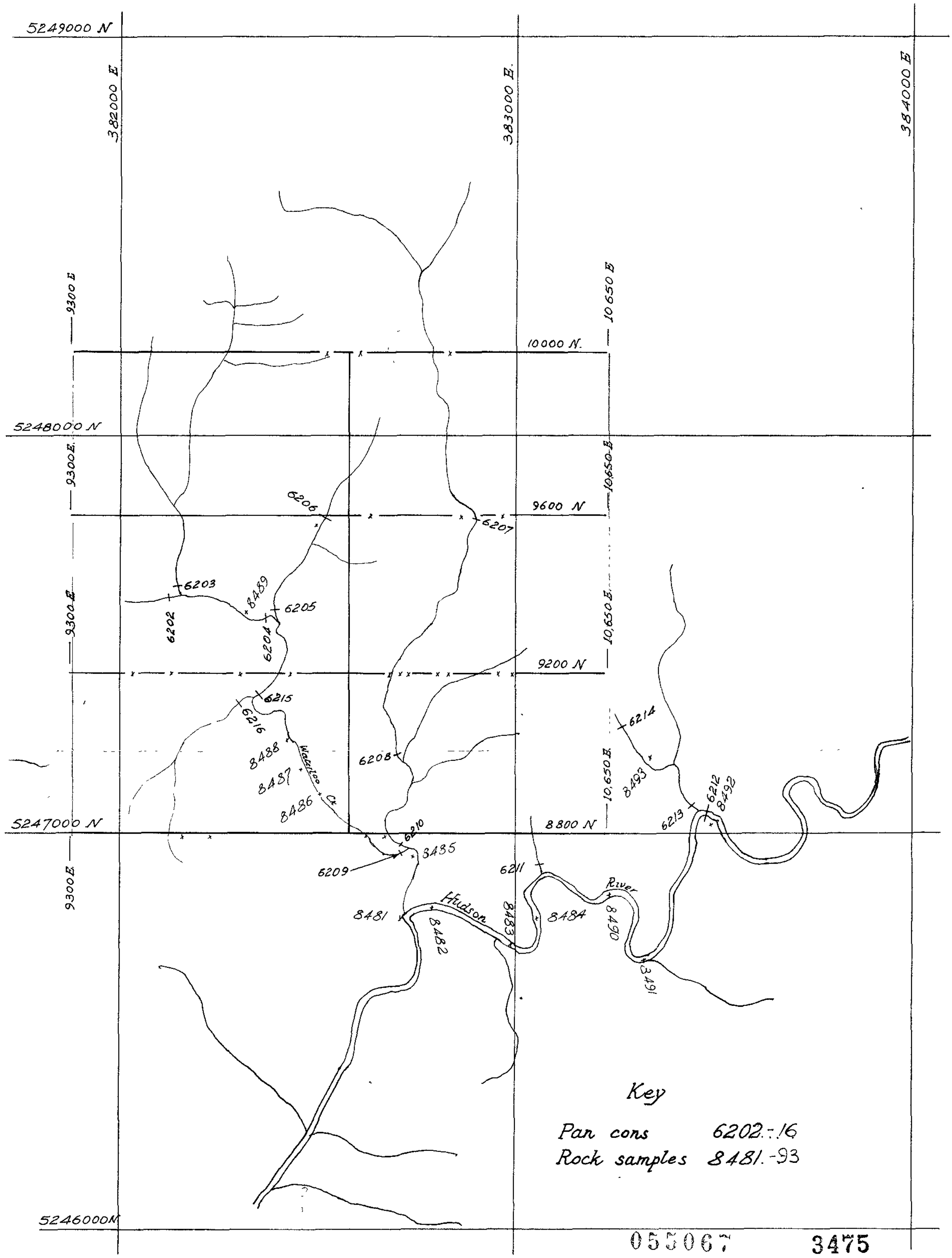
GEOPEKO EXPLORATION E.L. 27/76

ELLIOTT BAY, TAS.

VOYAGER 26 GRID - Line 9200 North.

Date FEB. 1981.	3474
Compiled R.A.P.	7.C
Drawn N.S.P.	
Checked R.A.P.	

86-2524



055067 3475

GEOPEKO EXPLORATION, E.L. 27/76.

VOYAGER 16, LOCATION PLAN.
Grid ~ Pan cons.~ Rock samples.

Date FEB 1981	8
Compiled R.A.P.	
Drawn. N.S.P	
Checked R.A.P.	

86-2524

055068

KEY

Tertiary	Gravel-sand, qartz quartzite derived.	Cambrian	
Undifferentiated ~ no outcrop.		(i) Siliceous silts, tuffaceous wackes.	
		(ii) Tuff crystal lithic (<5cm.) with epidote (liths nodules?)	
(iii) Tuff &/or rhyolite lava, quartz feldspar phenocrysts.			
(iv) Tuff quartz ≤ feldspar crystal - chloritic, minor liths.			

GEOPEKO EXPLORATION ~ E.L. 27/76

VOYAGER 16
RECONNAISSANCE GEOLOGY

Date FEB '81	9.
Compiled, R.A.P.	
Drawn N.S.P.	
Checked R.A.P.	86-2524.

3477

055069

Scale. ~ metres

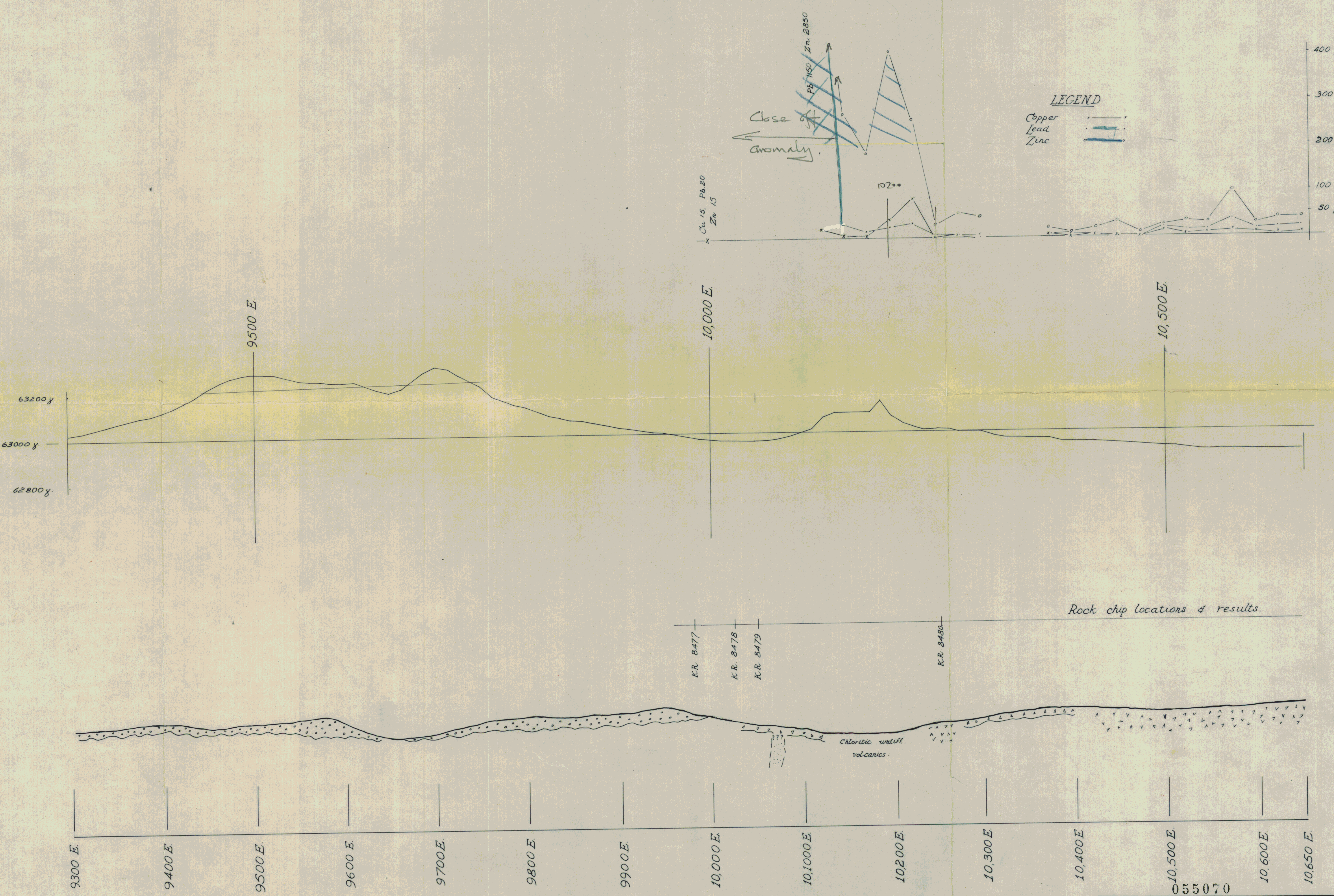
100 0 100 300 600 800

Scale 1:10,000

5 cm

GEOPEKO EXP. E.L.27-76.	
Voyager 16 Pan Con. Results	
Date Feb. 1981.	10
Compiled R.A.P.	
Drawn N.S.P.	Checked. R.A.P.

86-2524



055070

3478

Grid lines 270° ~ 090° True.

KEY

RECENT	Angular quartz float	
TERTIARY	Grav-sand quartz quartzite derived	
CAMBRIAN	Siliceous silts, tuffaceous wackes	
	Tuff &/or rhyolite lava, quartz feldspar phenocrysts.	

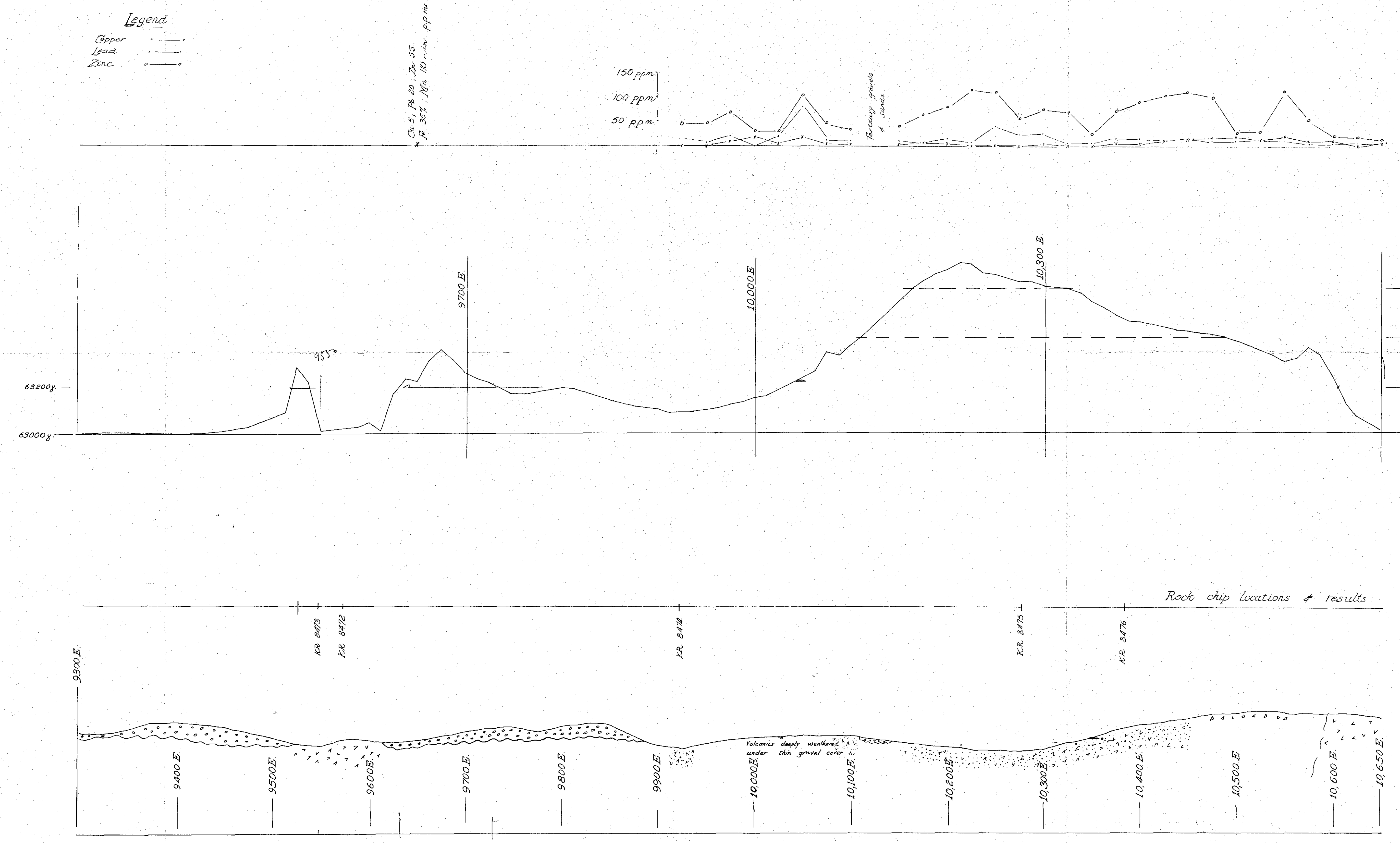
SCALE

50 0 50 100 200 300 Metres.

Scale 1:2500

5 cm

GEOPEKO EXPLORATION	E.L. 27 76
ELLIOTT BAY, TAS VOYAGER 16 GRID ~ Line 10,000 North	
Date FEB. 1981.	11a.
Compiled R.A.P.	
Drawn N.S.P.	
Checked R.A.P.	86-2524



Grid lines 270° ~ 090° True.

KEY

Recent	Angular quartz float	
Tertiary	Gravel-sand, quartz quartzite derived	
Cambrian.	(i) Tuff &/or rhyolite lava, quartz feldspar phenocrysts in vitric ground mass.	
	(ii) Tuff, quartz ± feldspar crystal chloritic, minor liths.	
	Undifferentiated ~ no outcrop	

SCALE

50 0 100 200

Scale 1:2500

5 cm

055071

3479

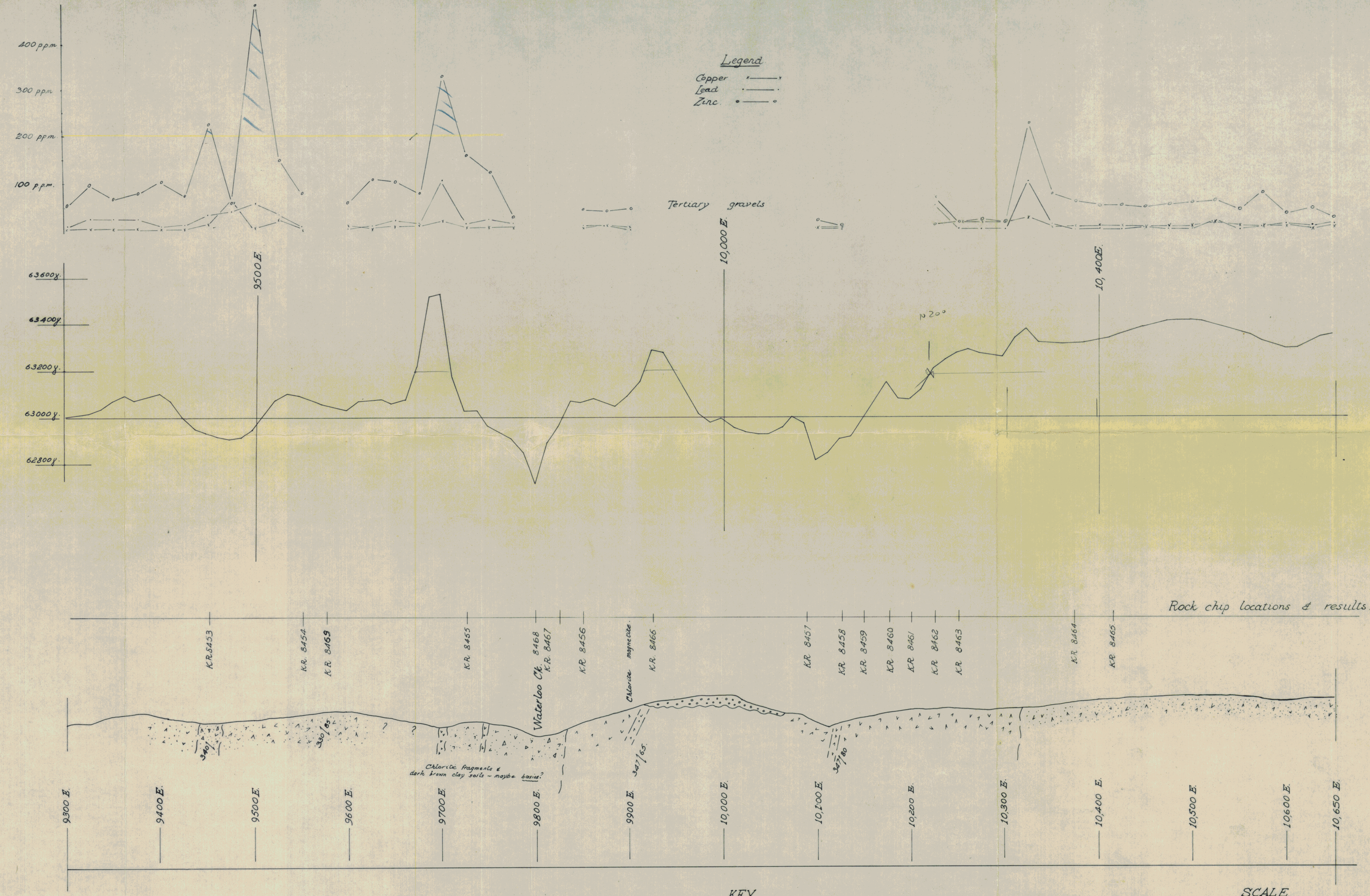
GEOPEKO EXPLORATION E.L. 27/76

ELLIOTT BAY, TAS.
VOYAGER 16 GRID ~ Line 9600 North

Date FEB. 1981.
Compiled R.A.P.
Drawn N.S.P.
Checked R.A.P.

11.b.

86-2524.



Grid lines 270° ~ 090° True

KEY

Tertiary — Gravel/sand quartz quartzite derived.

Cambrian (i) Tuff quartz ≥ feldspar crystal, generally chloritic, minor liths.

(ii) Tuff crystal lithic (<5cm) with epidote (lith-nodules?)

(iii) Tuff &/or rhyolite lava, quartz feldspar phenocrysts in vitric ground mass.

(iv) Basic fine grained chloritic lenses < 2 metres thick.

Undifferentiated ~ no outcrop.

055072

SCALE

50 0 100 200 Metres

Scale 1:2500

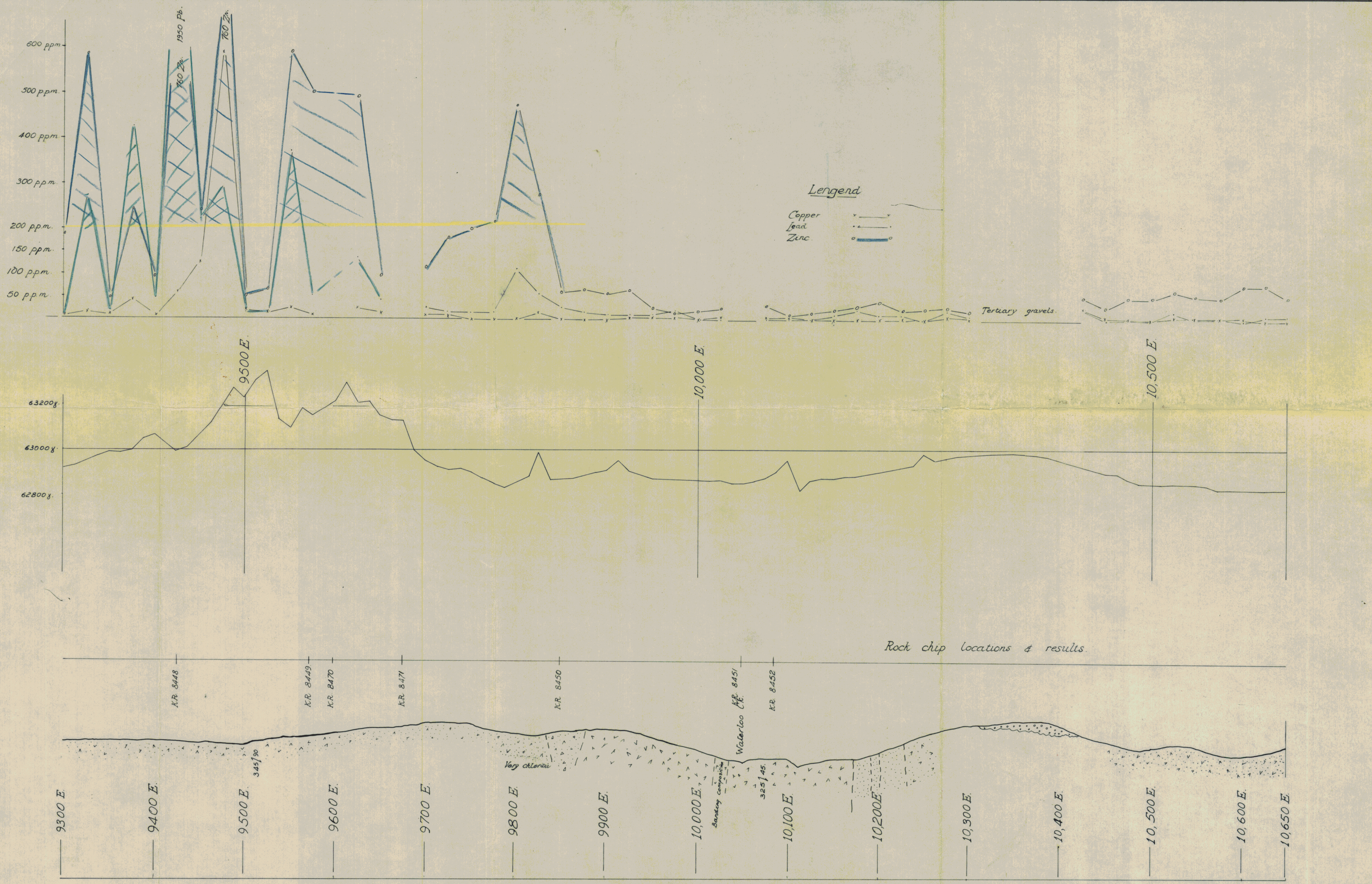
3480

GEOPEKO EXPLORATION E L 27 76

ELLIOTT BAY, TAS.
VOYAGER 16 GRID ~ Line 9200 North

Date FEB. 1981	11.c
Compiled R.A.P.	
Drawn N.S.P.	
Checked R.A.P.	

86-2524



055073

Grid lines 270° ~ 090° True.

Undifferentiated – no outcrop

KEY

Tertiary — Gravel/sand quartz & quartzite derived

Cambrian — (i) Siliceous silts – tuffaceous wackes.

(ii) Tuff &/or rhyolite lava, quartz feldspar phenocrysts in vitric ground mass.

(iii) Tuff, crystal lithic (< 5 cm) with epidote (lith,-nodules?).

(iv) Tuff quartz & feldspar crystal chloritic, minor liths

SCALE

50 0 100 200 Metres

Scale 1:2500.

5 cm

3481

GEOPEKO EXPLORATION E.L. 27 76

ELLIOTT BAY, TAS.

VOYAGER 16 GRID ~ Line 8800 NORTH

Date	FEB. 1981
Compiled	R.A.P.
Drawn	N.S.P.
Checked	R.A.P.

11.d

86-2524