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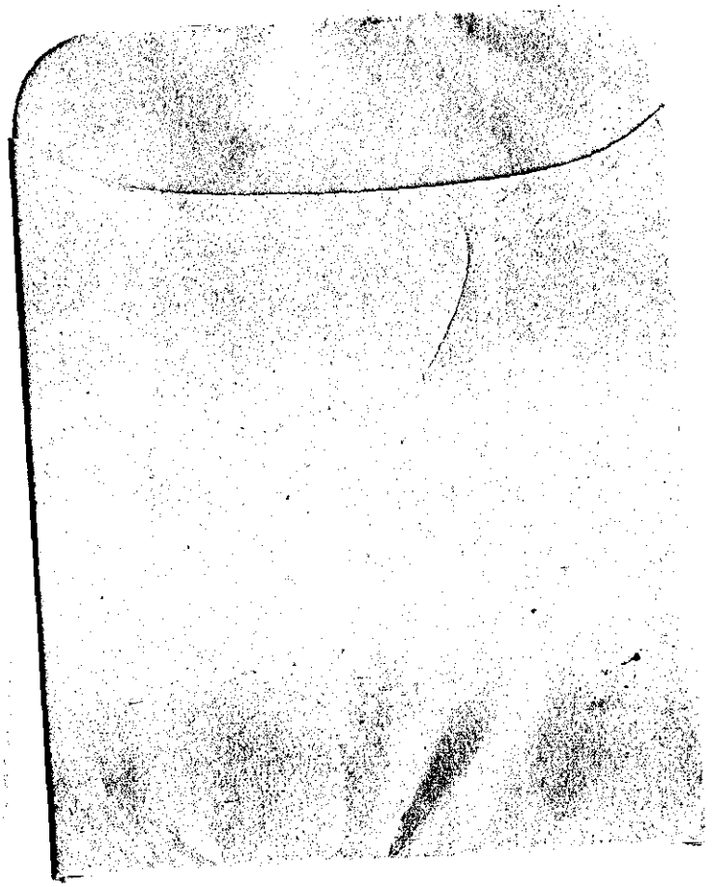
A DIVISION OF PEKO-WALLSEND OPERATIONS LIMITED

PROGRESS REPORT E.L. 1/77, TASMANIA

GRANVILLE EAST PROSPECT
"11000" PROSPECT
BIG ROCKY CREEK PROSPECT

P. HEITHERSAY
DEVONPORT
MARCH 1983

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ABSTRACT THIS REPORT REVIEWS WORK COMPLETED TO MARCH 1983. 4 DIAMOND DRILL HOLES WERE COMPLETED AT GRANVILLE EAST. NO SIGNIFICANT TIN BEARING HORIZONS WERE INTERSECTED. IN THE 11000 PROSPECT, A TIN BEARING IRONSTONE/MAGNETITE ZONE WAS FOUND AND FOLLOWED UP BY DETAILED INVESTIGATION. THE BIG ROCKY CREEK ANOMALY HAS PROVEN TO BE A DEEP SEATED MAGNETIC TARGET WITH NO SIGNIFICANT TIN GEOCHEMISTRY AT SURFACE.

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Mt HEEMSKIRK.

(LOOKING SOUTH FROM GRANVILLE EAST PROSPECT.)

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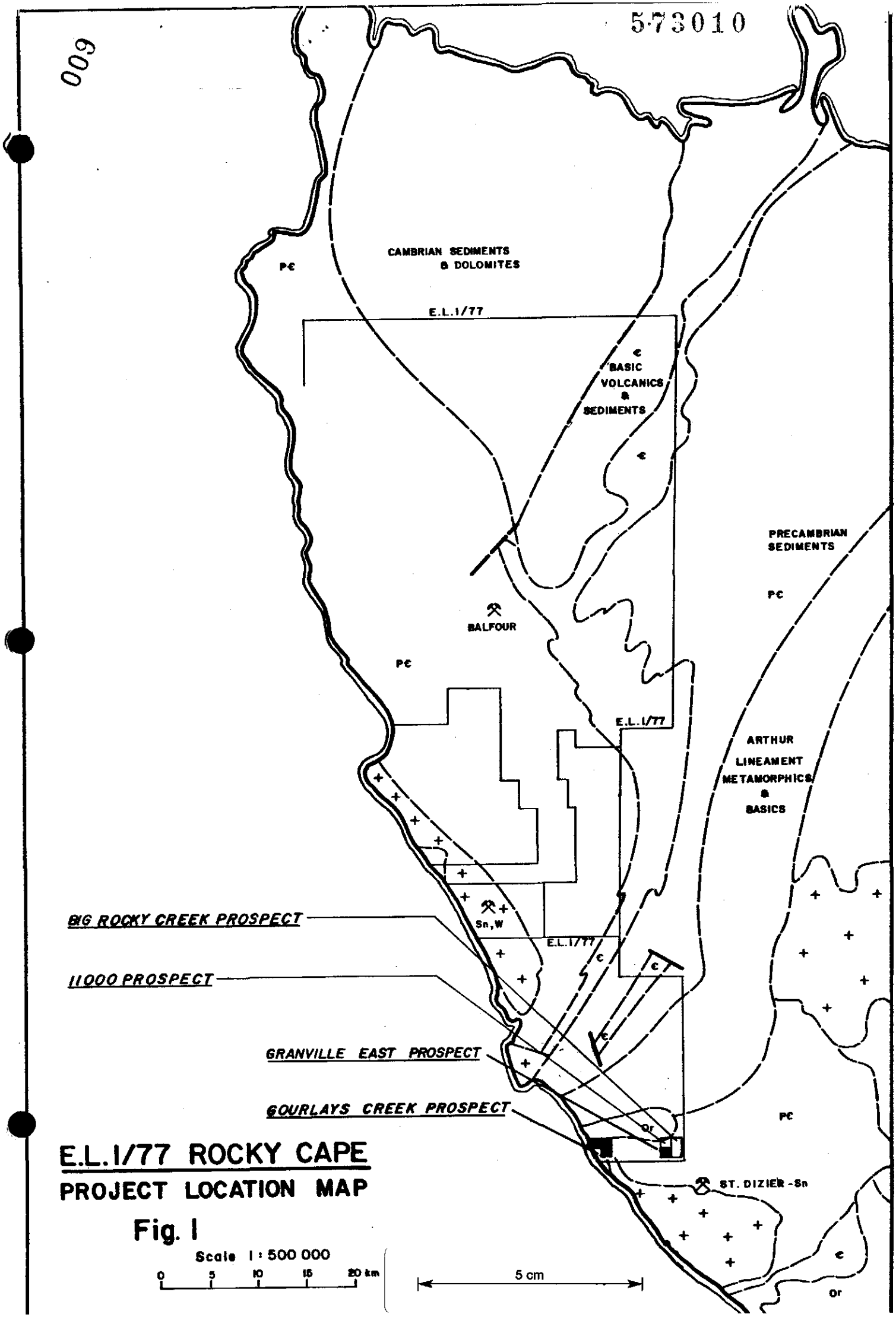
1. INTRODUCTION

The Granville East, Big Rocky Creek and 11000 Prospects lie at the southern end of the Rocky Cape E.L. 1/77, which is held by C.RA. Exploration in joint venture with Geopeko. Exploration completed up to June 1982 is documented in Heithersay and Sumpton, (1982). This report covers work completed up to February 1983 on the three prospects mentioned above. A location map is presented in Figure 1 and a detailed location of individual prospects is shown in Figure 2.

Granville Harbour is a coastal shack settlement 27km WNW of Zeehan in Western Tasmania. This was used as a base, while field work was carried out. Access to the prospects is by H.E.C. roads from Zeehan or alternatively from Tullah via the Lower Pieman Dam site.

009

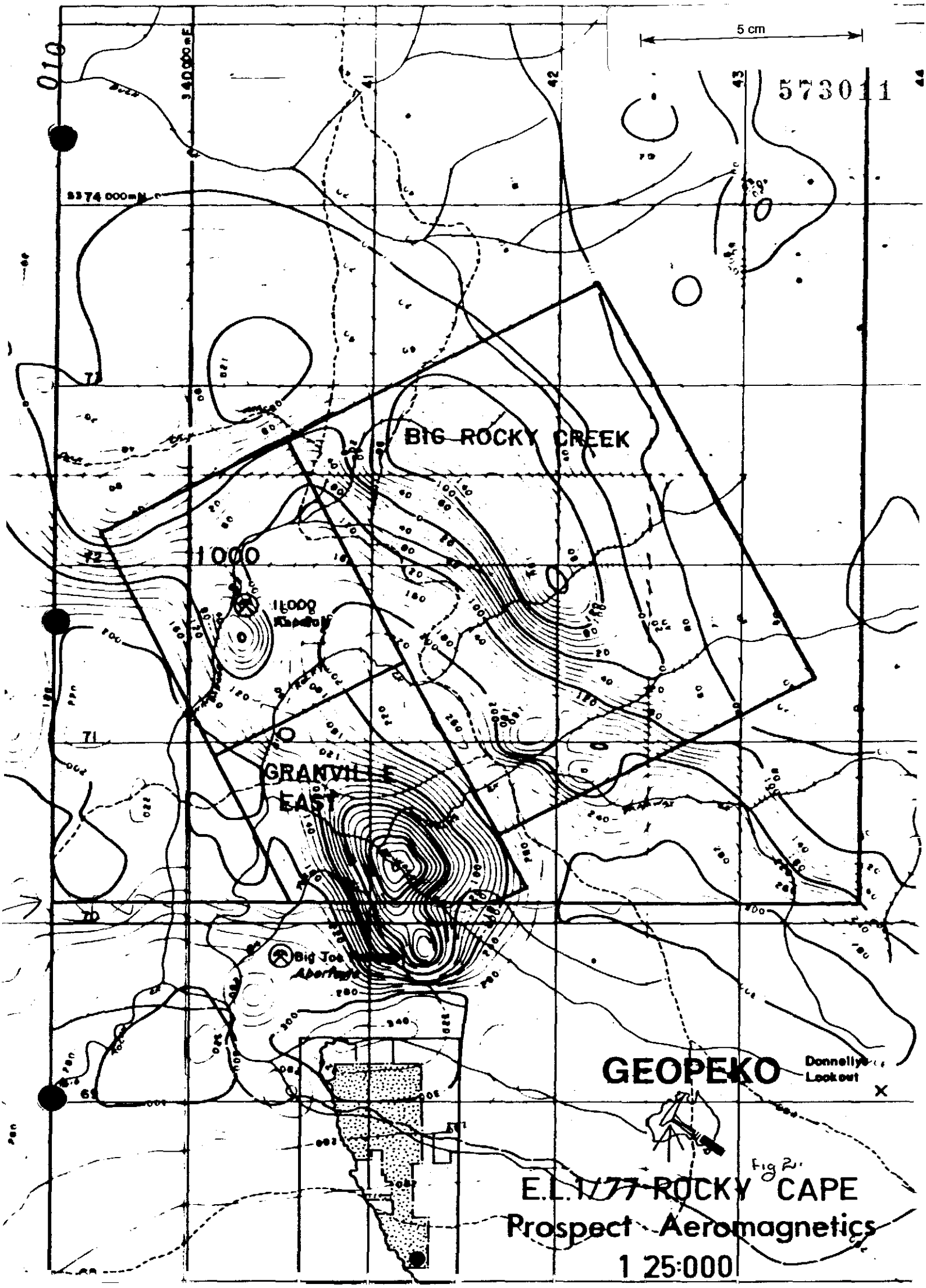
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E.L.1/77 ROCKY CAPE
PROJECT LOCATION MAP

Fig. 1

Scale 1 : 500 000


5 cm
573011
010
340000mE
8374 000mN
BIG ROCKY CREEK
1000
11000
GRANVILLE
EAST
Big Joe
Aberfoyle
GEOPEKO
Donnellys
Lookout
X
Fig 2.
E.L. 1177 ROCKY CAPE
Prospect Aeromagnetics
1 25:000

2. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

2.1 SUMMARY DISCUSSION

The programme completed since June 1982, was designed to assess the Granville East area in detail, by diamond drilling and effective geophysical techniques, whilst bringing outside areas up to the drilling stage. Two further prospects were generated, and named the Big Rocky Creek Prospect and the 11000 Prospect. These prospects were geologically mapped and read for ground magnetics, and selected soil sampling was completed.

The results of drilling at the Granville East Prospect can be summarised as follows:-

DDH 2: Designed to test the main Granville East magnetic anomaly coupled with anomalous Sn, Cu, Zn, As geochemistry and favourable stratigraphy. The hole did not intersect material containing significant tin. However narrow bands of pyrrhotite replacing carbonate was clear. A possible Zn rich halo around the several calcsilicate units was also noted. The amount of magnetic material intersected coupled with a remanent magnetisation effect, is sufficient to explain the magnetic anomaly.

DDH 3: Designed to target on the northern magnetic anomaly, in addition to anomalous stratigraphy containing high Sn, Cu, As and Zn values. No Sn rich material was intersected, however approximately 50m of calcsilicate/ carbonate rock was penetrated. Thin bands of magnetite and pyrrhotite intersected in the hole, were sufficient to explain the magnetic signature.

012

DDH 4: This hole was targeted mainly on highly anomalous Sn geochemistry from the soil sampling programme and a significant SP anomaly. No significant Sn values were recorded from lithologies intersected.

DDH 5: Proposed to intersect the downdip extension of pyrrhotite magnetite mineralization intersected in DDH 1. Although approximately 80cm of massive to semi-massive pyrrhotite was intersected, no anomalous values of Sn were recorded.

Costeaning was limited to the mineralized zone around 9990N, 9760E. Trenching along strike was attempted, proving that the magnetite/siderite tin bearing skarn exists in two pods totalling at least 15m. in strike extent. Although more information is required, it appears that the stanniferous magnetite/siderite rock passes along strike through a massive pyrite-arsenopyrite-chalcopyrite rock which is tin poor, into a banded calcsilicate rock. Hence, geometrically at least, the tin bearing mineralization forms a pipe.

Mineralization exposed in this costean and from DDH 1 was petrologically examined to determine tin species present. A significant part of the tin is acid soluble indicating Sn sulphides. The dominant tin species is hydrocassiterite, a low temperature, secondary mineral. Tin as cassiterite in magnetite also contributes to the mineralization.

The data from the Granville East programme to date is reviewed and detailed recommendations are proposed.

013

The Big Rocky Creek Prospect was geologically mapped, and read for magnetics. Reconnaissance soil sampling was also undertaken. The Big Rocky Creek magnetic anomaly forms a large broad feature which modelling suggests is caused by a wide zone of magnetic material with a depth to top between 194m and 356m. No coherent Sn anomalies were generated in the soil sampling, however potential carbonate bearing black shales were mapped, in the area corresponding to the centre of the magnetic anomaly.

The 11000 Prospect represents the northern extension of the favourable stratigraphy developed in Granville East. A central zone of calcsilicate rock was mapped with outcropping tin bearing ironstone and magnetite. A well defined Sn anomaly emerged from the detailed soil sampling programme defining four distinct geochemically anomalous trends.

Regional stream sediment sampling defined 4 highly anomalous regions, three of which can be related to known, outcropping mineralization. The fourth occurs in the central part of the Big Rocky Creek Prospect. A regional photo lineament and fault study indicates that tin bearing magnetite and pyrrhotite may be defined by the intersection of faults with favourable carbonate horizons.

2.2. RECOMMENDATIONS

Granville East

The Granville East data has been reviewed, and an interpretive geological and geophysical plan is presented in Plan 8. Potential target areas are designated Zones A to G.

014

Zone A

Two costeans are suggested, excavated on lines 9950N and 10 050N between 9740E and 9770E. If encouraging results are forthcoming then two holes are proposed:

DDH 6

Co-ord.	10 050N 9800E
Declin.	50^{o}
Azimuth	231^{o}M
Depth	100m

DDH 7

Co-ord.	9950N 9800E
Declin.	50^{o}
Azimuth	231^{o}M
Depth	100m

Zone B

A costean should be excavated on line 9750N between 9985E and 10 015E, to test the magnetic material on the Lower Oonah/Upper Oonah Formation contact.

Zone C

No further work recommended.

015

Zone D

A costean should be placed on line 9700N between 9510E and 9540E to assess part of the western series of magnetic anomalies.

Zone E

A diamond drill hole of 150m is recommended to test the coincident Sirotem and magnetic anomalies in this zone.

Proposed DDH 8

Co-ord.	9500N 10 100E
Declin.	50°
Azimuth	231° M
Depth	150m.

Zone F

A costean is suggested between 9575E and 9625E on line 10 000N. This will test a potenital Zn rich calcsilicate zone with a coincident magnetic and conductive trend.

Zone G

A diamond drill hole is recommended to assess this calcsilicate zone characterised by coincident magnetic and Sirotem anomalies.

DDH 9

Co-ord.	10 400N 9875E
Declin.	50°
Azimuth	231° M
Depth	300m.

016

Big Rocky Creek Prospect

1. A costean on line 10 700N between 11 450E and 11 550E will assess the rock types under the peak of magnetic profile on this line.

2. Lines 11 100N, 11 500N and 11 900N should be soil sampled to further assess the geochemical signature of this anomaly.

"11000" Prospect

1. The existing grid should be extended eastwards to assess the Lower Oonah/Upper Oonah Foramtion contact.

2. The area around the exposed magnetite/ironstone zone with its characteristic magnetic signature should be infilled with 50m line spacing, and re-read with ground magnetics, to precisely define the magnetic zone.

3. Lines 11 400N and 11 500N should be soil sampled to close of the geochemical trends outlined in this programme.

4. A programme of costeaning should be undertaken to assess the geochemically anomalous areas.

5. Two drill holes are proposed, however these should be modified in light of information forthcoming from the recommendations above.

DDH 10

Co-ord.	11 200N, 9887E
Declin.	50°
Azimuth	231°
Depth	150m

DDH 11

Co-ord.	11 200N, 9775E
Declin.	50°
Azimuth	231°
Depth	150m

Regional Appraisal

1. The tin drainage anomalies outlined in Donnelly's and Tramway Creeks should be followed up with detailed panning and geological mapping.

2. Five target areas have been picked from the photo linear study. Target areas are outlined, however, the programme listed above will address these areas.

3. A series of aeromagnetic anomalies, north of the 11000 and Big Rocky Creek Prospects should be gridded in the configuration detailed in Figure 15. It is suggested that this area be known as the Silver Reward Prospect, due to the small silver-lead prospects to the north east of the gridded area. Initially the area should be geologically mapped and read with magnetics. Similarly Duck Creek and its tributaries should be sampled, to continue the regional drainage sample programme.

3. GRANVILLE EAST

The programme completed since the last major report (Heithersay and Sumpton, 1982) consisted initially of infill gridding to close up the grid to a 50m line spacing, followed by infill magnetics. A Sirotem programme was also completed in this period. The major emphasis during this phase was in drilling the targets which had emerged from detailed exploration in the region. The aims of these drill holes and the results are discussed in detail below. Limited costeaning of potential areas was also undertaken.

3.1 Diamond Drilling Programme

The main effort was spent in drilling favourable targets during the period covered by this report. Details of individual drill holes are discussed below and detailed logs are attached in Appendix 6. Plans 1 and 2 show the position of the drill holes with respect to geology and geophysics.

3.1.1. Summary of DDH 2

DDH 2 was designed to test the following features. (Refer Figure 3 and Plan 3).

1. Coincident Sn, Cu, Zn, As soil anomaly.

2. The main magnetic anomaly in the Granville area. Line 9700N was chosen as the magnetic profile indicated that magnetic material would come closest to the surface on this line.

3. Coincident SP and magnetic anomalies.

4. Outcropping calcsilicate hornfels zones.

019

The hole was collared at 9700N, 9960E with a declination of 50° and azimuth of 231°M. The hole was terminated at 220m. A summary of the rock sequence interesected is as follows:

m	Lithology
0-30.20	Finely laminated spotted black shale and carbonaceous siltstone.
30.20-46.40	Banded white and grey calcsilicate/carbonate sequence. Bands of pyroxene, silica, serpentine and fine grained carbonate. Lesser dendritic masses of sphalerite.
46.40-77.26	Carbonaceous shale/siltstone.
77.26-92.00	Brecciated grey silicified shale/siltstone. Pyrite cementing breccia fragments. Probable fault zone.
92.00-97.20	Silicified black shale? Pyrrhotite along bedding lamellae in part.
97.20-105.00	Pyrrhotite bearing calcsilicate sequence. Pyrrhotite clearly replacement.
105.00-118.20	Calcsilicate bearing silicified mudstone. Bands of tremolite and pyroxene. Zones of banded calcsilicate hornfels.
118.20-120.48	Calsilicate pyrrhotite rock. Mottled banded serpentine pyroxene rock. Discrete bands of pyrrhotite parallel to bedding lamellae.
120.48-124.00	Banded calcsilicate hornfels. Thin bands of pyrrhotite.
124.00-141.55	Finely laminated black shales. Thin laminae and veinlets of pyrrhotite forming 3-5% of the rock.
141.55-145.80	Finely banded carbonate. Fine bands of dolomite with thin laminae of serpentine and pyroxene.
145.80-157.00	Black shales.
157.00-165.10	Silicified grey siltstone.
165.10-172.20	Silicified coarse grained siltstone-possible marker bed.
172.20-175.20	Banded calcsilicate zone. Banded layers of serpentine, pyroxene, tremolite and silica.
175.20-220.00	Finely laminated hornfelsed black shale: Chiastolite and cordierite porphyroblasts.

020

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DDH I — BANDED CALCSILICATE ROCK: Layers of white proxene light grey tremolite grey tremolite grey silica. Blebs of spalerite.



PHOTOMICROGRAPH OF TYPICAL BANDED CALCSILICATE ROCK

5 cm

021



Banded pyrrhotite pyrite
talc, serpentine : DDH 2

Banded pyrrhotite
Melba orebody
Renison Bell.



Pyrrhotite serpentine rock
DDH 2

Banded pyrrhotite
Melba orebody
Renison Bell.

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022

S.I. UNITS

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20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

Finely laminated hornfelsed black shale.
Disseminated and veinlet pyrrhotite

Silicified coarse grained siltstone

Silicified grey siltstone? Grey silicified porcellaneous rock

Black shale. Pyrrhotite in bedding lamellae

Banded Carbonate

Finely laminated black shales Thin lamellae of pyrrhotite

Calcsilicate Pyrrhotite rock. Mottled, banded serpentine pyrrhotite rock

Carbonaceous mudstone. Calcsilicates

Altered calcsilicate. Thin bands of pyrrhotite

Pyrrhotite bearing calcsilicate sequence

Silicified black shale. Thin fractures with Pyrrhotite

Breccia zone : Pyrite cementing fractures in part

Banded black siltstone, shale. Minor carbonate beds

Calcsilicate carbonate sequence. Blebs and veinlets of pyrrhotite

Finely laminated black shale, carbonaceous siltstone
Pyrite common. Pyrrhotite negligible.

5 cm

E.L.1/77 GRANVILLE EAST
DDH 2 -
MAGNETIC SUSCEPTIBILITY

Scale : 1 : 1000

Fig.3

023

At the conclusion of this hole the following points emerged:-

1. Magnetic susceptibility readings indicated that the pyrrhotite rich black shales are high in magnetic material, and uniformly so. Calcsilicate zones can be, particularly when replacement pyrrhotite is present, and the narrow zone between 118m and 124m gives the highest reading. Sumpton (1982) concluded that sufficient magnetic material was intersected in the hole to explain the anomaly. The possibility emerges that the large broad anomaly in this area is due to a significant thickness of magnetic black shale. It is interesting to note that magnetically low areas are confined to fault zones, unaltered carbonates and silicified sandy units. (Refer Figure 3.)

2. Sn values were disappointingly low with assays rarely getting above trace amounts.
Zn values are clearly anomalous, with values as high as 0.48% zinc. Sphalerite occurs as layers and dendritic masses in the calcsilicate units. Zinc is anomalous in the black shales, with a threshold value of around 300ppm. However there is a clear increase in zinc values in the black shales, near calcsilicate/ carbonate units indicating that there may be a zinc rich front in the black shales around the calcsilicate units. This is significant in light of the tin poor sphalerite zone which fringes the Cleveland tin orebodies (Collins 1981). Cu and As values did not assay at anomalous levels.

3. Several calcsilicate zones were intersected, some of which are the down dip extension of calcsilicate units exposed at surface. Pyrrhotite contained in some of these zones is clearly replacement with the mottley layered texture of the original carbonate preserved. The style of pyrrhotite replacement is analogous to that seen at Renison Bell and Cleveland. Replacement pyrrhotite without tin is present at Renison and Mt Bischoff, and should be seen as an encouraging sign.

024

4. With reference to Figure 3, it can be seen that from the surface to approximately 23m, magnetic material is low. This is due to pyrrhotite altering to nonmagnetic pyrite in the oxidising near surface environment. This oxidation process within the pyrrhotite bearing calcsilicate units, which are particularly permeable to groundwaters, may explain the SP anomaly expressed on this line. Similarly groundwater through a fault may be a cause.

3.1.2 Summary of DDH 3

DDH 3 was designed to test the following featues (Refer Plan 4, Figure 4).

1. Coincident Sn, Cu, As, Zn soil geochemical anomalies which form over the linear calcsilicate zone mapped in the area.

2. A magnetic anomaly (300nT above background) with a slightly offset SP anomaly.

3. The along strike extent of mineralization expressed on Line 10 000N around 9750E, which was tested by DDH 1.

A summary of lithologies penetrated by the hole is as follows:-

m	Lithology
3.00-22.70	Laminated banded siltstone. Bands of grey carbonaceous material and white bands.
22.70-44.15	Silicified black siltstone. Finely laminated and banded. Pyrite veinlets. A true hornfels with aphanitic texture.
44.15-65.55	White silicified quartzite.
65.55-116.00	Banded calcsilicate sequence. Thin bands of diopside, serpentine, talc, phlogopite and carbonate with thin lamellae of silica. Numerous fractures filled with brown talc, tremolite. Between 67-68m is a serpentine, pyrrhotite, magnetite siderite rock.
116.00-179.00	Pyrrhotite rich hornfelsed black shale. Minor siderite beds
179.00-219.50	Graded fine grained quartzites. Biotite hornfels in part.

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.1

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.001

.00015

20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

Laminated banded siltstone

Silicified black siltstone. Disseminated pyrite

White silicified quartzite

Serpentine, pyrrhotite magnetite siderite rock.

Banded calcsilicate hornfels

Pyrrhotite rich black shales

Fine grained quartzites

5 cm

E.L.1/77 GRANVILLE EAST
DDH 3 -
MAGNETIC SUSCEPTIBILITY

Scale : 1 : 1 000
Fig. 4

026

The significant results of the hole were the following:-

1. No anomalous Sn values were assayed from the core samples hence the Sn anomaly albeit low order, is unexplained.

2. The downhole magnetic susceptibilities are shown in Figure 4. The magnetic susceptibilities are low compared to DDH 2 and 4. The intense magnetic susceptibility values between 65-68m explain the magnetic anomaly if a remnance factor is introduced.

3. Approximately 50m of calcsilicate/carbonate rock was intersected which is a substantial thickness of potential rock for replacement style mineralization. Similarly the conformable contact between the quartzites and carbonates clearly shows that this contact must by a locus for potential carbonate/calsilicate horizons.

DDH 3 was collared at 10 200N, 9875E with a declination of 55^{o} and an azimuth of 231^{o}M. The hole was terminated at 219.50m.

3.1.3 Summary of DDH 4

DDH 4 was drilled in order to test the following features:- (Refer Figure 5, Plan 5).

1. A - 870mV SP anomaly.

2. Anomalous Sn, As, Cu soil geochemistry. Two values of 2350ppm Sn and 1000ppm Sn were recorded from the soil sampling programme on this line.

3. The hole provides a complete section through line 9700N.

027

The hole was collared at 9700N, 9810E with an azimuth of 231°M and a declination of 50°. The hole was terminated at 233m. A summary of the rock sequences intersected is as follows:-

m	Lithology
0-13.00	Finely banded black shale. Pyrite veinlets.
13.00-20.20	White banded shaly siltstone. Pyrite veinlets.
20.20-35.00	Grey black shale.
35.00-55.80	Banded sandy siltstone. White grey sandy bands with grey black silty bands.
55.80-64.20	Silicified banded rock. Numerous discontinuous white quartz layers with pyrite, pyrrhotite, mica and pyroxene.
64.20-70.00	Altered sandy siltstone. Possibly biotite hornfels.
70.00-99.20	Banded sandy siltstone. Numerous small quartz, pyrite, pyrrhotite lenses or veins which are largely conformable.
99.20-112.50	Grey carbonaceous silicified siltstone. Chiastolite porphyroblasts common in more carbonaceous bands.
112.50-124.30	Sandy siltstone. Graded bedding. Reddish alteration. Disseminated pyrrhotite.
124.30-137.50	Grey sandy siltstone. Reddish alteration. Disseminated pyrrhotite.
137.50-146.00	Finely laminated banded black shale. Bedding laminae contains very fine grained pyrrhotite.
146.00-158.60	Silicified siltstone. Lenses of quartz, tremolite, serpentine.
158.60-233.00	Finely laminated black shale. Pyrrhotite rich constituting between 10 and 20% of interval.

028

The following significant points emerged:-

1. The structural information from this hole indicates that the hole penetrated strata subparallel to dip and strike for most of the length of the hole, indicating that a major flexure occurs in the area. It is however, difficult to correlate sequences from DDH 2 to DDH 4.

2. No calcsilicate units of significance were intersected.

3. Sn values were very low for the entire hole. Zn values recorded a few spot highs with a maximum of 1.61%Zn over a metre sample. This corresponds with a thin band of massive sphalerite in this interval.

4. Magnetic susceptibilities revealed that a significant amount of magnetic material occurs throughout the hole. The black shales commonly contain 10-15% pyrrhotite, whilst some of the sandy units contain up to 15% disseminated pyrrhotite. The fact that the magnetic profile over the section tested by this hole forms the flank of the major anomaly with no discernible anomaly of its own is hard to understand. One possibility is that remnant magnetism in the pyrrhotite has effectively masked any magnetic anomaly which may have been expressed.

5. The -870mV SP anomaly is unexplained.

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029

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.001

.00015

20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

Beginning of susceptibility readings

Finely laminated black shale. Pyrrhotite rich 10-20% throughout.

Sandy siltstone. Disseminated pyrrhotite. Quartz, pyrite, pyrrhotite lenses

Finely laminated black shale 10-15% pyrrhotite

Grey sandy siltstone. 5% disseminated pyrrhotite

Silicified sandy siltstone. Disseminated pyrrhotite = 5%

Grey carbonaceous silicified siltstone. 5% pyrrhotite

Banded sandy siltstone. Generally conformable quartz/pyrite pyrrhotite 'lenses' or beds

Brown red altered sandy siltstone

Silicified banded rock. Quartz, pyrite, pyrrhotite lenses.

Banded sandy siltstone. 5% pyrite. Lenses of quartz pyrite, pyrrhotite.

Finely banded black and grey shale

Disseminated pyrite

5 cm

E.L.1/77 GRANVILLE EAST
DDH 4
MAGNETIC SUSCEPTIBILITY
Scale 1:1000
Fig. 5

3.1.4 Summary of DDH 5

DDH 5 was designed primarily to drill under DDH 1 and test the downdip extension of the pyrrhotite magnetite mineralization intersected in DDH 1. The drill was targeted to intersect this horizon at approximately 100m vertical depth, well below the level of oxidation.

This hole was collared at 9900N 9880E with a declination of 60° and an azimuth of 231°M.

A summary of the lithologies intersected is as follows:- (Refer Figure 6 and Plan 6).

m	Lithology
0-94.70	Finely laminated quartzite. Becomes more silicified with dendritic pyrite at the base of this interval. Biotite hornfels at base.
94.70-106.00	Altered black shale. Pyrrhotite, pyrite in sandy layers. Small scale folding common.
106.00-112.60	Synsedimentary breccia.
112.60-117.00	Tremolite bearing siltstone.
117.00-119.10	Pyrrhotite, silica, serpentine rock. Banded and massive forms. Pyrite clearly replacing pyrrhotite in part. Massive pyrrhotite without gangue minerals also evident.
119.10-122.20	Grey siltstone with carbonate. Patches of pyrrhotite.
122.20-128.00	Finely laminated black shale. Thin bands of yellow carbonate.
128.00-132.00	Black shale with white calcsilicate layers. At 128.30 metres is a 10cm thick band of massive pyrrhotite.
132.00-137.00	Black shale with white tremolitic bands.
137.00-182.00	Banded calcsilicate sequence. Discrete alternations of white tremolite and pyroxene with green serpentine and thin laminae of silica.
182.00-194.00	Black shale.

Significant results are as follows:-

1. Approximately 80cm of massive to semimassive pyrrhotite was intersected in the zone between 117m to 119m. No anomalous assays of Sn were recorded.

3.2 Costean Programme (Refer Plan 7)

Costeaning was confined to the mineralized zone around 10 000N, 9760E. The main aim was to get an understanding of the strike extent of the previously exposed magnetite, siderite, tin bearing skarn zone. The potential horizon was mapped out north and south of the existing costean with close spaced magnetic readings to try and detect the magnetite bearing strata. This approach was not entirely successful as the resulting costean exposed a range of rock types, however the mineralized zone was traceable for 12m. Plan 7 shows the details. If the costean has approximated the strike of the sequence, then it is clear that the exposed mineralization is a pod within a contact metamorphosed carbonate unit now represented by various calcsilicate hornfels. The mineralization itself does appear to change along strike from a magnetite siderite rock, to dense magnetite, and finally to a pyrite-arsenopyrite rock. Although costeaning to the north was unsuccessful due to deep Tertiary gravel, a 2m wide band of massive sulphide was exposed approximately along strike from the exposed mineralization.

Samples of these sulphides commonly show a granular texture, and range in colour from pyrite gold to dark brown. This texture and colour is typical of pyrite which has replaced pyrrhotite (W. Fander pers. comm.). Hence, the nature of mineralization exposed here is a core of magnetite perhaps in a pipe configuration, with a margin of pyrite and pyrrhotite. Clearly further costeaning across strike is warranted in the region to accurately define the extent and nature of the tin bearing mineralization. Sn assays are shown in profile form in Plan 7.

573033

032

S.I UNITS

.1

.01

.001

.00015

20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

Finely laminated quartzite.

Altered black shale. lenses of pyrrhotite

Pyrrhotite silica serpentine rock

Tremolite bearing siltstone

Syn-sedimentary breccia

Black shale

Black shale with calcsilicate band. Pyrrhotite replacement of some layers

Black shale

Banded Calcsilicate zone

Pyrrhotite bearing black shale.

5 cm

E.L.1/77 GRANVILLE EAST

DDH 5

MAGNETIC SUSCEPTIBILITY

Scale 1:1000

Fig. 6

033

573034



GRANVILLE EAST COSTEAN SHOWING OXIDISED MAGNETITE GOSSAN.

A sharp cut off in Sn values is clear after sample KR 9286. A pod of mineralization re-emerges between samples KR 11260 to KR 12264 with the same mineralogy as the main zone. Tin values are similarly elevated with a maximum of 3.98%. Enrichment in tin is expected, and the problem is outlined in the next section.

3.3 Infill Soil Geochemistry

Soil sampling at intervals of 5.0 metres was undertaken on selected lines. The results are summarised below (see Plans 8, 9 and 11)

Line 9500N: 10 000E-10 100E

This line was designed to test a coincident Sirotem and magnetic anomaly.

Sn values were very low (10ppmSn). Two spot highs of 29 and 41ppm W were returned with irregular values of Zn and Cu. Sulphides were noted in the auger chips, which needs to be followed up.

Line 10 000N; 9550E-9650E

This line was designed to test an area of iron stained shales, picked up while mapping. This coincided with a coincident Sn, Pb, Zn trend delineated in the Jacro soil sampling programme at Granville East.

No significant Sn values were recorded. A high value of 1.13%Zn was returned from sample point 9575E with coincident elevated values in Bi, As, W, Cu and Pb.

Line 10 400N: 9740E-9800E

This line traversed the northern linear magnetic anomaly. A high value of 250ppm Sn with 10%As was recorded at 9750E. High Cu values were also reported.

035

3.4 Granville East Mineralization

Several occurrences of magnetite and pyrrhotite have emerged in the Granville East Prospect. Magnetite is limited to the costean on line 9990N and the narrow intersection in DDH 1. Sn values from the 1m channel samples over the magnetite siderite zone averaged 3%Sn over 10m with one value reaching a high of 11%Sn. These extraordinary values of Sn warranted closer inspection, so samples of the mineralization were sent to Central Mineralogical Services. The detailed report is documented in Appendix 1. H.W. Fander's conclusion was that the dominant tin species was hydrocassiterite, which appears as a whitish leucoxene like mineral as thin plates and cellular aggregates. Fander considered that this hydrocassiterite was introduced from elsewhere, possibly as a result of breakdown of Sn sulphide. Part of the Sn species are acid soluble indicating stannite. The crushed magnetic fraction was assayed and found to have over 1%Sn, indicating that some of the tin is indeed contained in magnetite probably as cassiterite. In addition to this study a 1 metre sample from DDH 1 was selected. The interval from 39-40m was chosen as the metre interval assayed 0.36%Sn. This interval was segmented into approximately 10cm blocks and individually assayed.

036

The results were as follows:-

Sample No	Sn	Cu	As	Zn	Bl
.11471	50	1010	500	Tr	Tr
.11472	500	200	300	300	500
.11473	250	300	300	400	300
.11474	750	750	100	500	500
.11475	300	200	100	200	1000
.11476	100	1000		1500	300
.11477	500	100		100	-
.11478	1%	500		300	Tr
.11479	1.5%			200	-
.11480	1500			2000	-

Samples 11472, 11474, 11478 and 11479 were submitted for petrographic investigation. The detailed report is appended. H.W. Fander's conclusion is that tin is present as fine needle cassiterite. Individual crystals are of the order of 5-10 microns thick, with aggregates attaining a maximum size of 200 microns, generally within quartz and goethite and occasionally in magnetite. Fander suggests that this has formed as a late stage supergene, low temperature formation, that is post dating skarn formation. He also discusses Sn in silicate form released during serpentinisation. Fander's conclusion is that Sn occurs as these two forms and has not moved far from its primary source.

3.5 Review of Granville East Data and Recommendations

An interpretive geological and geophysical map is presented in Plan 8. This is an attempt to draw together the data from previous work outlined in Heithersay and Sumpton (1982), Sumpton (1982), and the results documented in this report. Drilling has shown that there are several potential calcsilicate/carbonate units with substantial thicknesses. Magnetic material in these units allows an interpretation of their strike extent from the detailed ground magnetics. In addition several occurrences of pyrite and magnetite within the prospect underline the potential

037

of these horizons. The targets tested to date are discussed in detail in a previous section, however they have shown that replacement pyrrhotite and to a lesser degree magnetite occur within the calcsilicate units. The mineralization intersected to date has recorded disappointing levels of Sn, however the similarity of the style of pyrrhotite/magnetite replacement with other replacement bodies in Tasmania such as Renison Bell, Cleveland and Mt. Bischoff is obvious.

As a review of the targets generated, the potential zones are designated Zone A to Zone G. (refer Plan 8.) Recommendations for future work are also included.

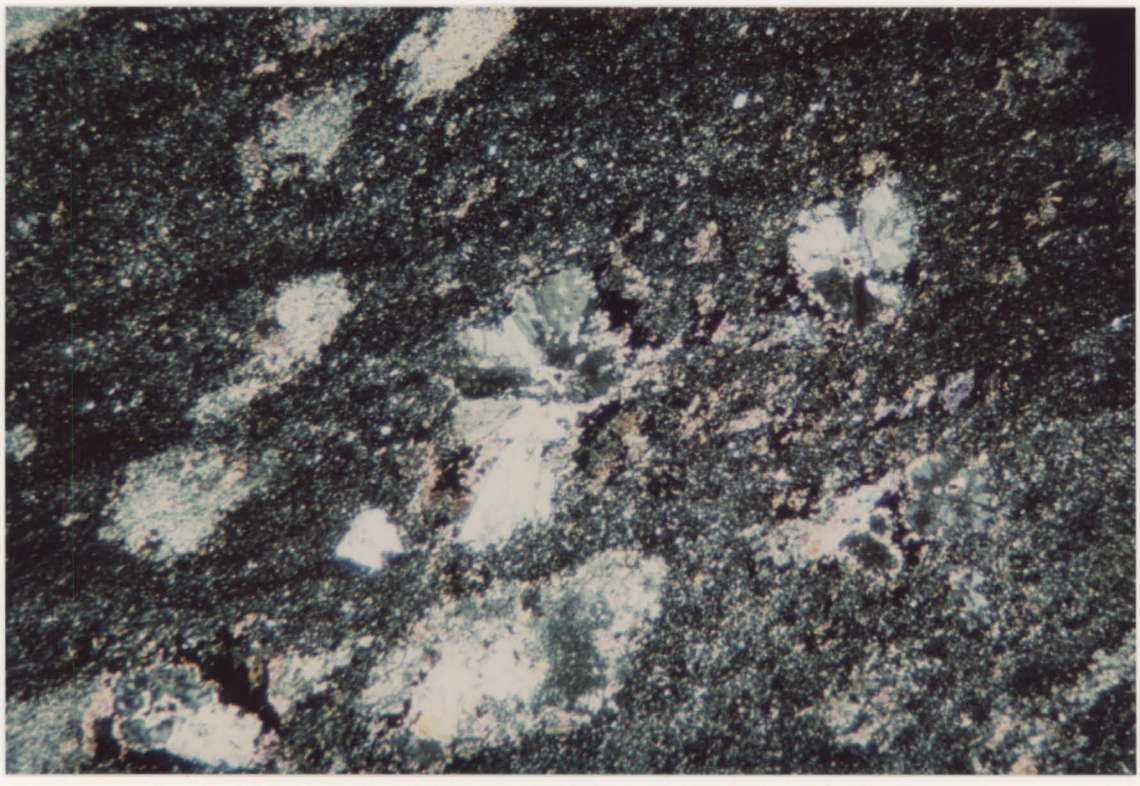
Zone A. (Refer Plan 10 and Figure 7)

The magnetite/pyrrhotite skarn zone within Zone A has been adequately tested at depth by holes 1 and 5. A distinct Sirotem anomaly and magnetic spike characterises this zone and it is probable that the magnetic and conductive zone has a strike length of approximately 150 to 200m. the extraordinary Sn grades encountered in the costean have been explained by secondary enrichment processes, however it is also clear that the magnetite mineralization can contain more than 1% Sn as cassiterite. The creek was above the costean contains significant amounts of cassiterite. The grains of cassiterite are angular and euhedral, often showing crystal faces. It is clear that this cassiterite has been derived from a nearby source, which is logically the skarn unit.

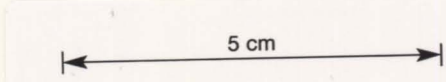
As this occurrence is the only significant Sn discovery to date at Granville East, it deserves more detailed investigation.

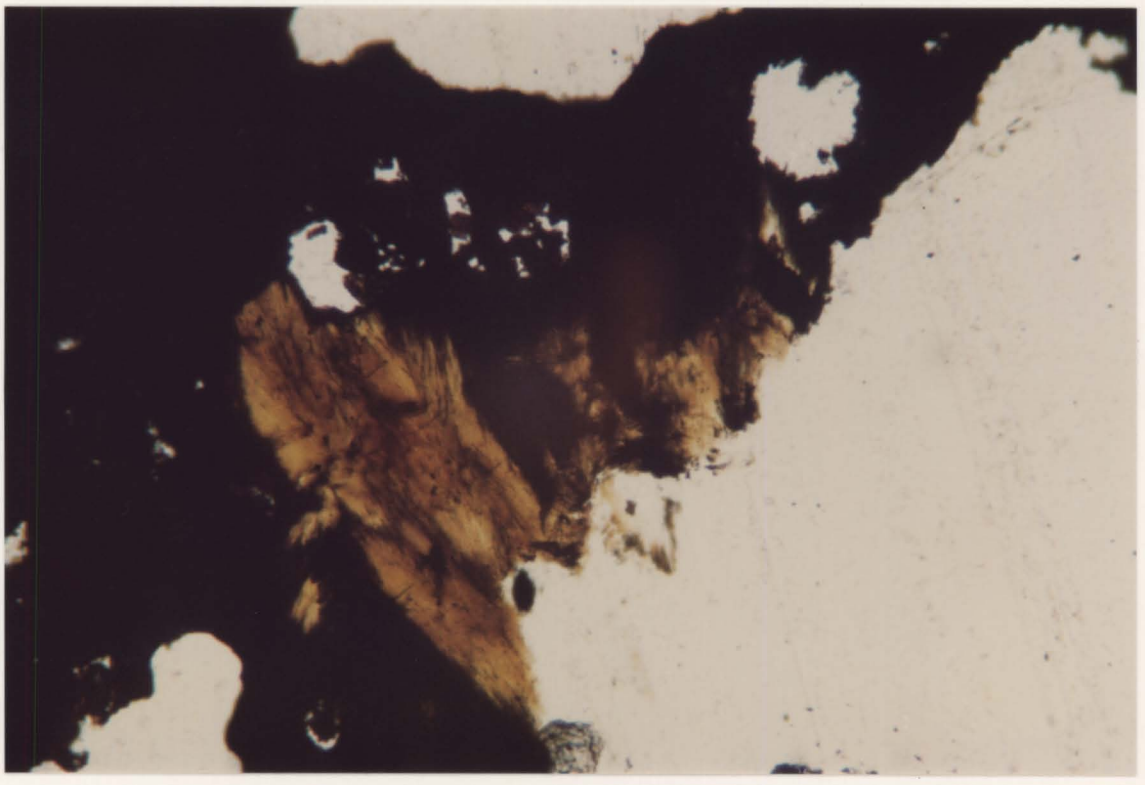


TIN BEARING CREEK WASH OVERLYING OXIDISED TIN BEARING MAGNETITE SKARN.

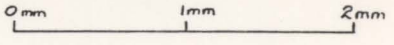


CHIASTOLITE PORPHYROBLASTS WITHIN A BLACK SHALE

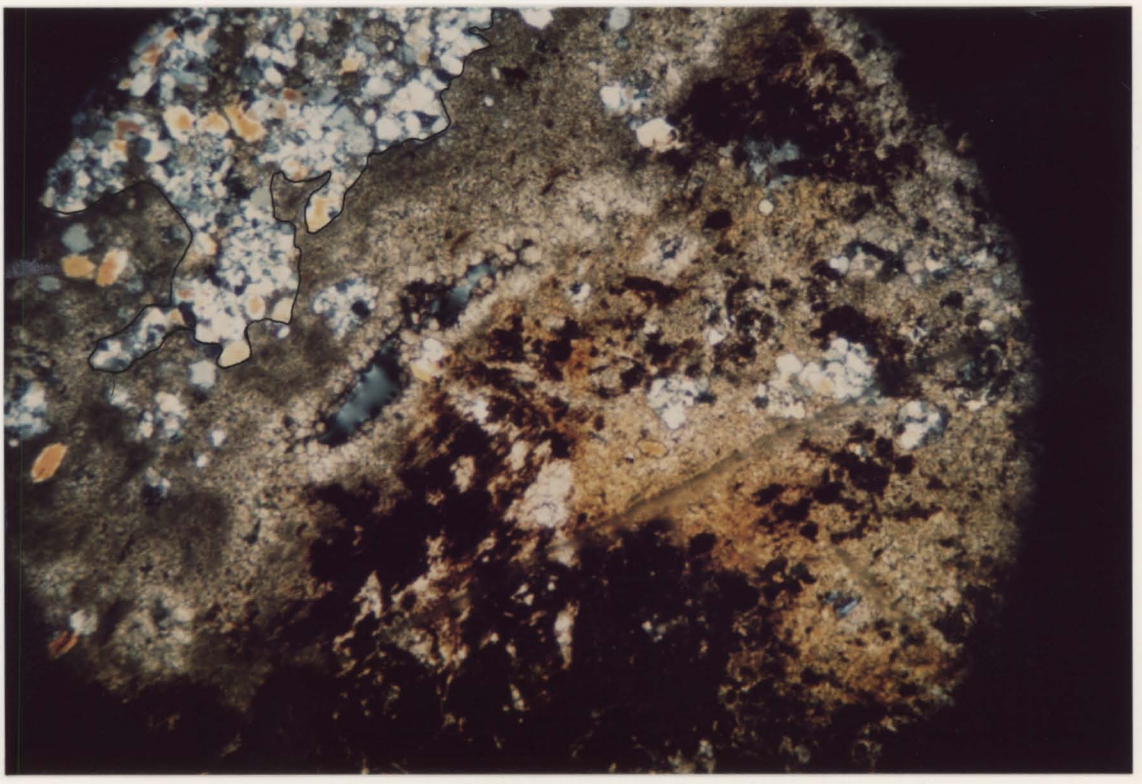




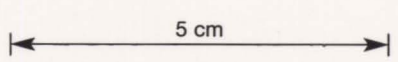
FIBROUS CASSITERITE IN MAGNETITE : COSTEAN SAMPLE.

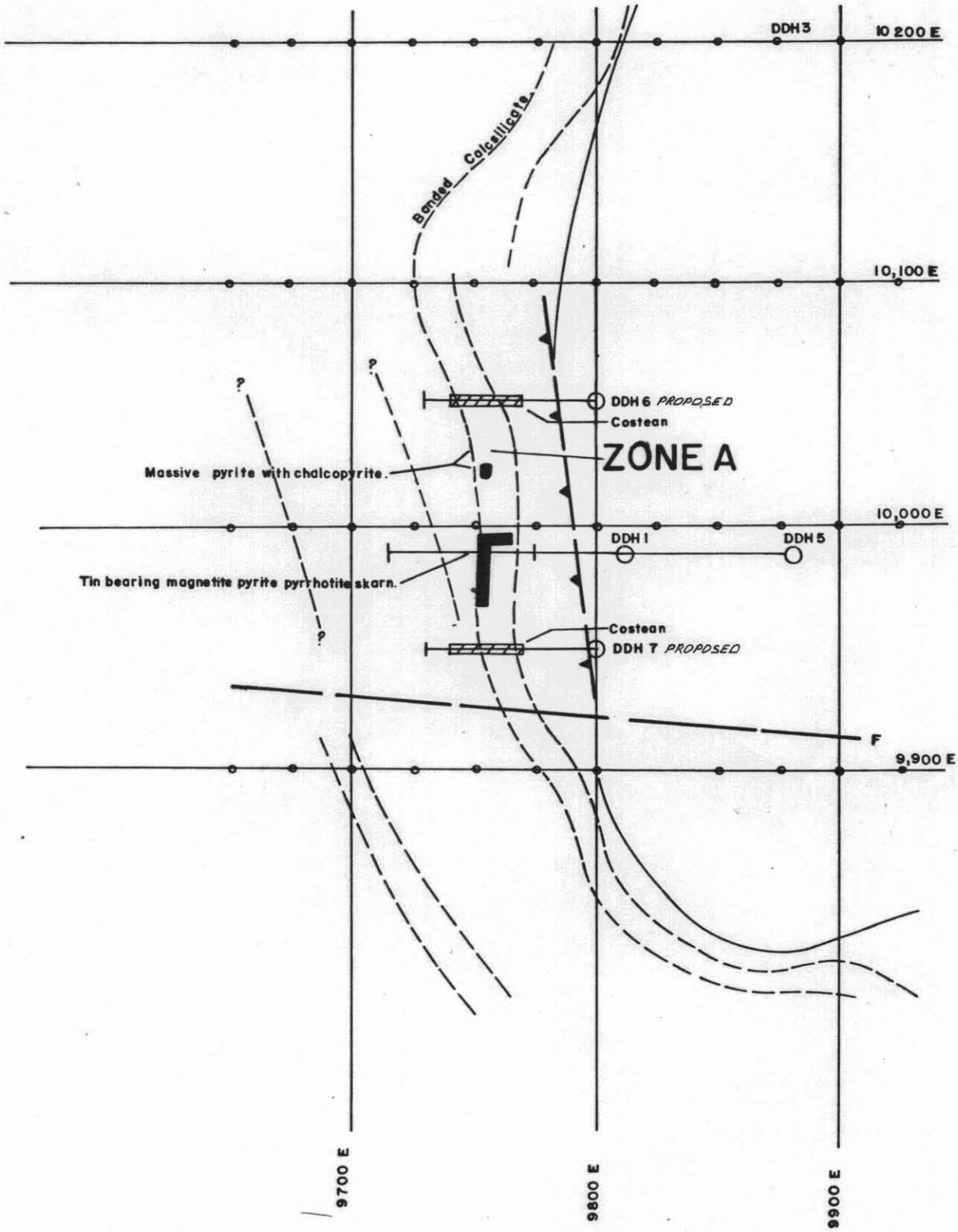


HYDROCASSITERITE.



HYDROCASSITERITE. SILICA GOETHITE: DDH 1



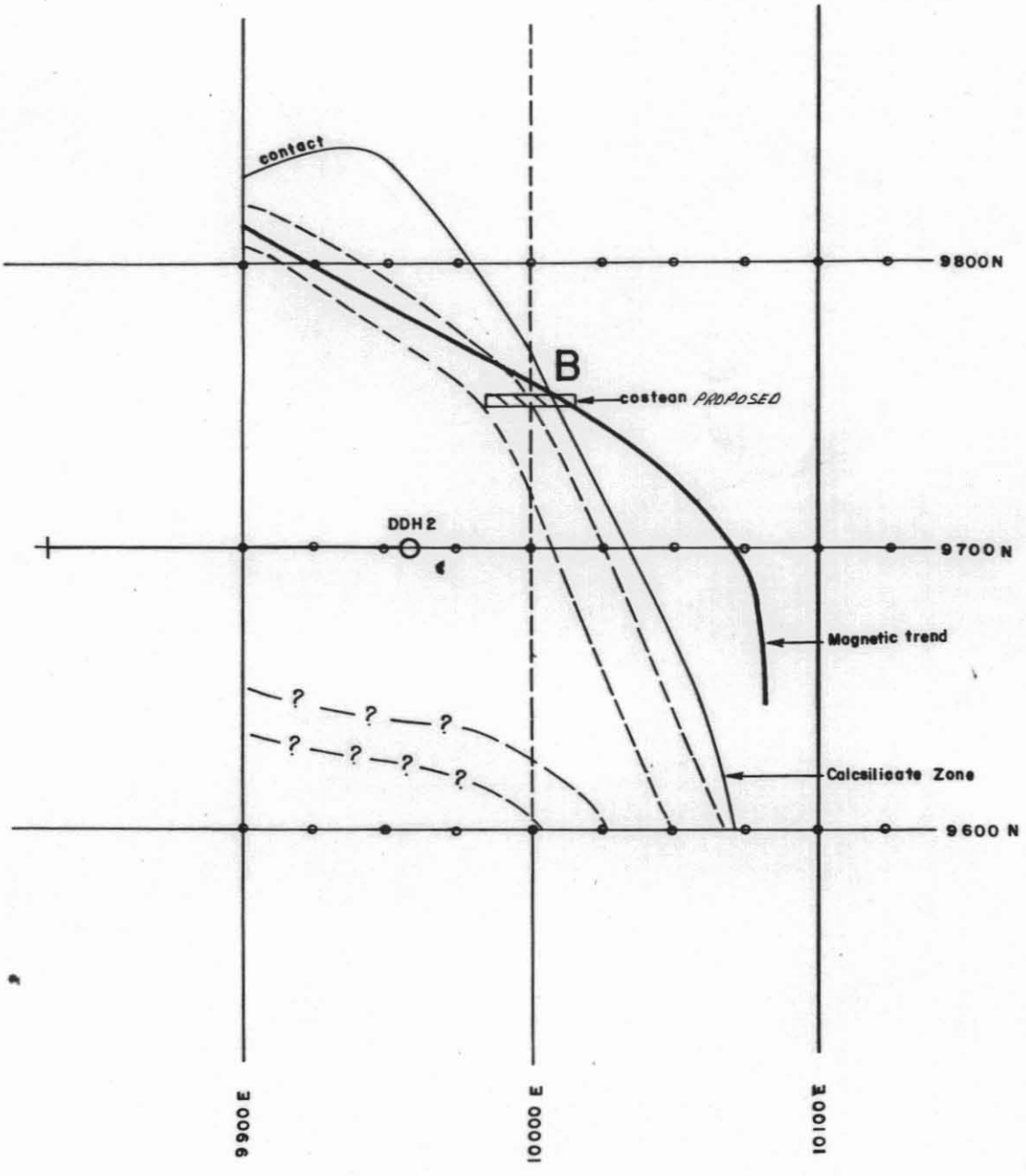


ZONE A RECOMMENDATIONS FIG7 SCALE 1:2500

5 cm

041

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ZONE B RECOMMENDATION FIG 8 SCALE 1:2500.

5 cm

042

At least two costeans are recommended, and if encouraging results are forthcoming then two short diamond drill holes are recommended. It is suggested that two costeans be excavated between approximately 9740E and 9770E on lines 9950N and 10 050N, perpendicular to the strike of the skarn zone. If encouraging rock types emerge then two diamond drill holes should be targeted. A suggested collar position for DDH 6 is 10 050N, 9800E with a dip of 50° and aximuth of 231°M. DDH 7 would be collared on 9950N, 9800E with a declination of 50° and azimuth of 231°M. This small programme would accurately define the style of the skarn mineralization and help to understand the geometry of the tin bearing units.

Zone B (Refer Plan 10 and Figure 8)

Zone B is a magnetic trend which follows the contact of the Lower Oonah quartzites with the Upper Oonah black shales and carbonates. Evidence from DDH 3 suggests that this contact is the locus for a significant thickness of calcsilicate/carbonate rock. As the magnetics mimic this contact, some magnetic material must be present. It is recommended that a costean be placed on line 9750N between 9985E and 10 015E to assess this contact.

Zone C (Refer Plan 10)

Zone C forms the major magnetic anomaly in the area, and is coincident with several calcsilicate and carbonate units. This zone has been adequately tested by DDH 2 and 4. No further work is recommended.

043

Zone D (Refer Plan 10 and Figure 9)

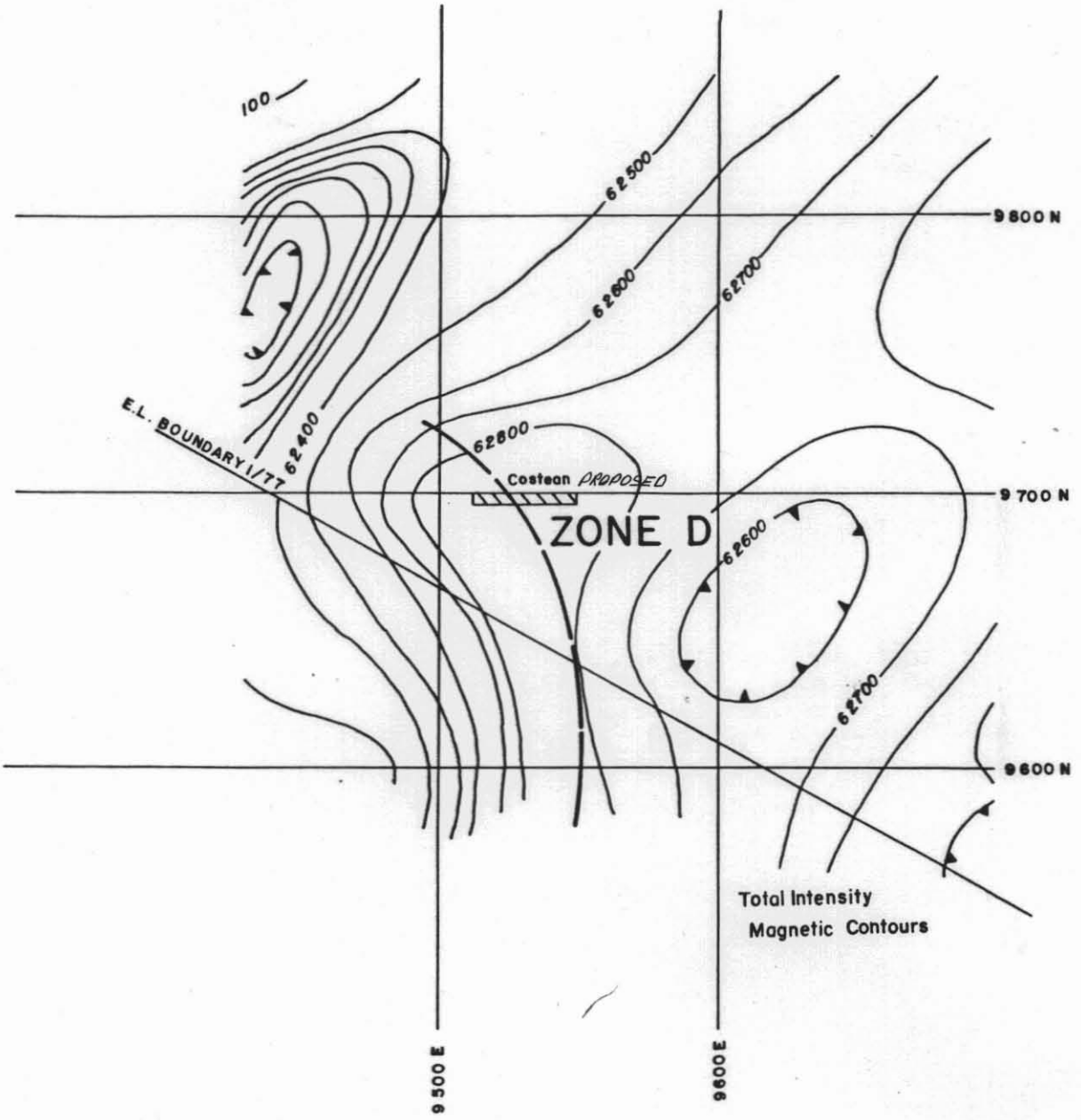
Zone D is defined by some magnetic character, which is part of a north trending line of magnetic anomalies centred roughly on line 9500E. These anomalies are not as coherent as the central zone of anomalies but they are important as they may represent a repetition by folding of the potential skarn horizon. Around Zone D coincident Cu, Pb, Zn and As soil anomalies occur. A costean placed on 9700N between 9510E and 9540E is suggested to assess this trend.

Zone E (Refer Plan 8 and Figure 10)

Zone E contains several favourable criteria for skarn mineralization discovery. A trend of magnetic anomalies coupled with a trend of Sirotem anomalies makes this target attractive. Figure 10 compares magnetic profiles from lines 10 000N and 9500N. The anomaly on line 10 000N corresponds to magnetite/pyrrhotite mineralization which outcrops. The similarity to line 9500N is clear, hence near surface magnetic material could be expected. Similarly a conductive response was recorded onthis line which correlates well with the magnetic spike. Other favourable criteria are its proximity to the quartzite-black shale contact, and a major strike slip fault which terminates the sequence. Faults are clearly important in skarn deposits to channel tin bearing fluids to reactive carbonate rocks. Infill soil sampling, while returning low Sn assays revealed pyrite in rock chips from the auger holes, hence the area warrants investigation. A diamond drill hole of 150m is recommended collared at 9500N, 10 100E with a declination of 50^{o} and azimuth of 231^{o}. Figure 10 shows the proposed drill hole (designated DDH 8) in relation to the magnetic and Sirotem anomalies.

044

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ZONE D RECOMMENDATION **FIG 9** SCALE 1:2500

5 cm

045

Zone F (Refer Plan 10 and Figure 11)

Another magnetic and conductive trend was found in this area. Infill soil sampling recorded low Sn assays, however a value of 1.13%Zn was found, indicating a potential calcsilicate horizon. A costean is warranted based on these indications and it is suggested that it be placed on line 10 000N between 9575E and 9625E.

Zone G (Refer Plan 10 and Plan 9)

Zone G was recommended to be drilled in the first report for Granville East. It was down graded by poor results from DDH 3. However, subsequent to this assessment, the Sirotem programme detected a conductive zone coincident with the magnetic material on line 10 400N. Infill soil sampling recorded 250ppm Sn with 10% arsenic at 9750E. Clearly stanniforous pyrite-arsenopyrite rock is near surface with the possibility of stanniferous pyrrhotite at depth. A drill hole DDH 9 is again proposed for Zone G, with collar position 10,400N, 9875E. Declination 50°, azimuth 231° and final depth of 300m. If the magnetic picture can be further refined, a shallower hole may be sufficient.

573047

046

GROUND MAGNETICS PROFILE
LINE 10 000 N

62 900

62 400

GROUND MAGNETICS PROFILE
LINE 9500 N

62 900

62400

9900E

10000E

Peak of Sirotem Anomaly

10100E

10200E

LINE 9500 N

DATUM: 62400nT

VERT SCALE: 1cm = 100nT

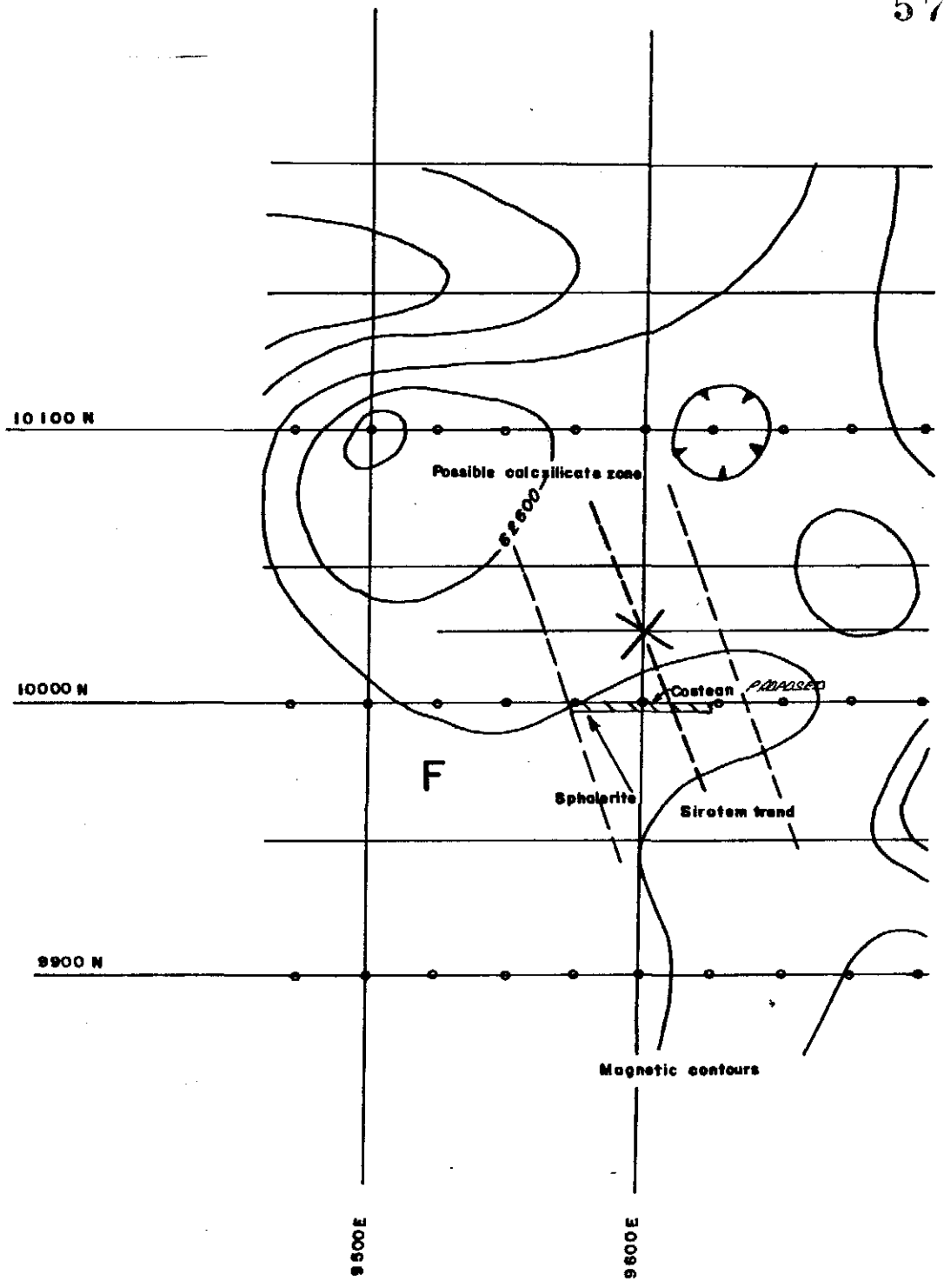
HORZ SCALE: 1:2500

DDH 8 *PROPOSED*

5 cm

ZONE E RECOMMENDATION DRILL HOLE 8

FIGURE 10.



ZONE F RECOMMENDATION FIG 11

SCALE 1:250

5 cm

048

4. BIG ROCKY CREEK PROSPECT

The main lead into this prospect was the broad aeromagnetic anomaly northeast of the Granville East anomalies. The successful demonstration of magnetite and pyrrhotite zones at Granville East has provided encouragement to explore other anomalies such as Big Rocky Creek. The large areal extent of this anomaly suggests that a large tonnage body of magnetic material could exist in this region.

The area has been gridded with lines pegged 200m apart, geologically mapped and read for ground magnetics. Reconnaissance soil sampling was completed over the areas of best exposure using the Bombardier mounted Jacro rig.

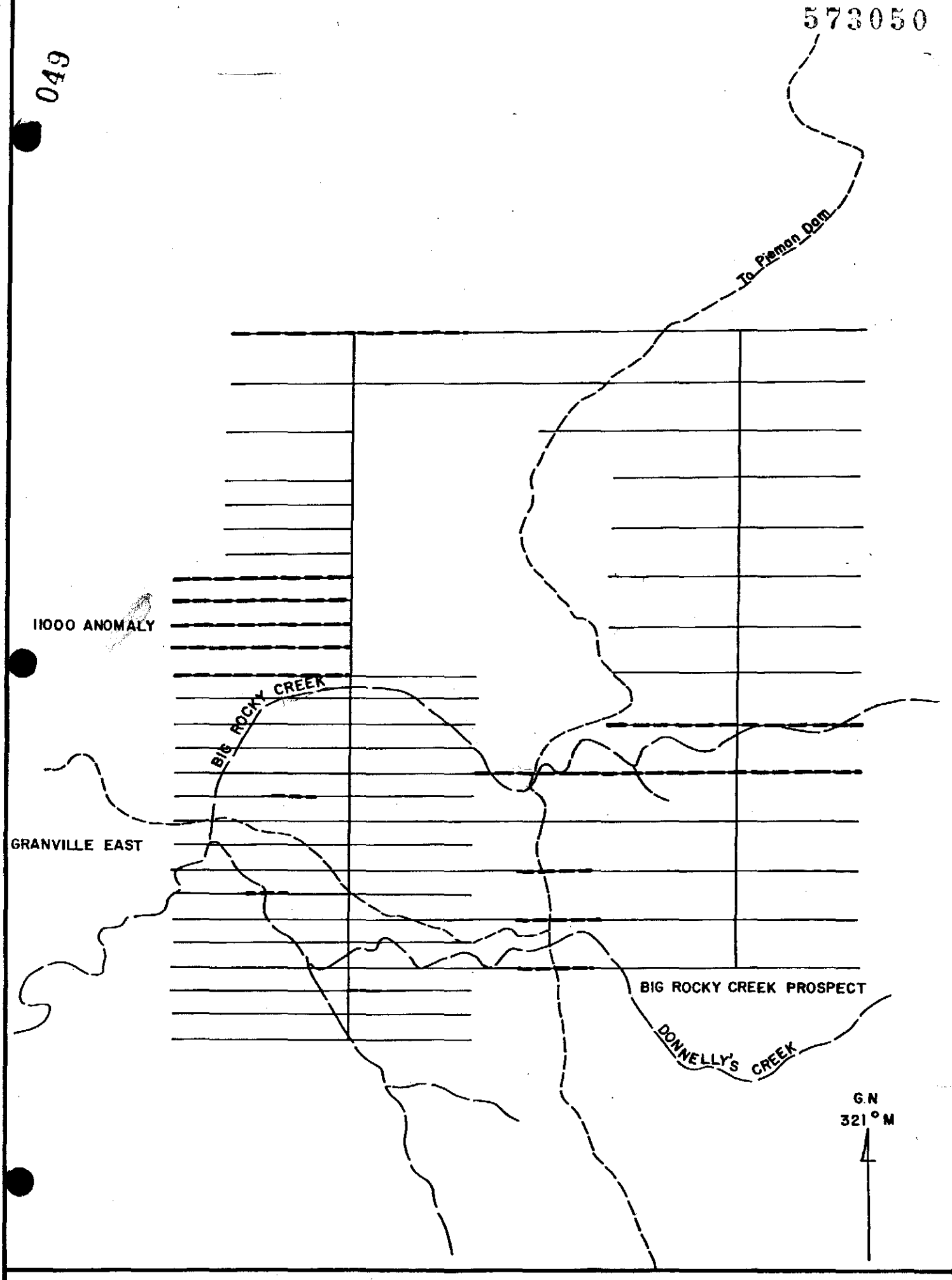
4.1 Geology (Refer Plan 10)

A large proportion of the Big Rocky Creek prospect is covered by Tertiary basalt or the weathered products of basalt. Certainly south of line 10 300N, unweathered basalt predominates as is evident from ground magnetics in this region. North of line 10 700N, iron rich sands and clays, together with characteristic ironstone clasts are seen, probably representing a highly weathered basalt veneer.

Outcrop of Proterozoic rock is poor. Finely laminated to massive, fine grained, grey-white quartzites predominate, mostly as surface float. Outcrop on and near the Pieman road provides good exposures of characterisitic Lower Oonah Quartzite. The quartzite is usually flat laminated, with minor cross bedding structures. Thin clay rick bands sometimes define the top of a bed, while in other instances the sequence is represented by micaceous quartzites, which are characterized by thin partings. Thin, very carbonaceous phyllites also form part of the sequence.

573050

049



Scale 1:20,000

LINES SAMPLED

5 cm

GEOPEKO

ROCKY CAPE E.L. 1/77

FIG 12

" 11000", GRANVILLE EAST, BIG ROCK CREEK PROSPECT LOCALITY MAP

050

These outcrops also provide clues to the style of deformation to be expected in the area. A road outcrop on line 10 300N, clearly shows 3 cleavages or schistosity. S_1 clearly relates to small scale isoclinal folding, and S_2 forms a crenulation cleavage and is possibly related to deformation which warped the original isoclinal folds, such that their hinge lines are steeply and variably plunging. S_3 cleavage, which commonly forms a blocky fracture represents a deformation which has effectively tilted the sequence to the west, and resulted in the easterly dipping, westerly facing sequence, now exposed here.

The sequence covering the Big Rocky Creek magnetic anomaly is less clear. Rock chips gained from soil sampling provide most of the geological data for the area covered by the Big Rocky Creek anomaly. Lithological boundaries cannot be drawn with confidence, however the sequence consists dominantly of quartzites, micaceous quartzites, phyllitic shales and very carbonaceous black shales. Rock chip data suggests that a sequence of black shales lie directly under the peak of the main anomaly. This upgrades its potential, as carbonaceous sequences are clearly hosts to carbonate sequences in the Granville East region.

4.2 Geochemistry

Reconnaissance soil sampling was undertaken over the magnetic anomalies, although it was expected that the deep seated nature of the anomalies would preclude any significant Sn values in the bedrock samples. Geochemical and magnetic data are presented in the form of line profiles.

Lines 9 700N to 10 100N (Refer Plan 14)

Line 9700N: A Sn anomaly (max 55ppm) occurs on this line occurs. No coincident magnetic anomaly occurs on this line, however it is along strike from an anomaly to the north. No supporting base metal values occur. High copper values at the eastern side reflect basalt.

051

Line 9900N: Coincident low order As, Zn, Cu anomalies. Highest Sn value 50ppm.

Line 10 100N: No Sn anomalies. Anomalous values in Cu, Zn, Fe reflecting basalt. No anomalous values in vicinity of magnetic peak. Black shales and carbonates noted in rock chips.

Lines 10 500N and 10 700N (Refer Plan 15A)

These lines were designed to test the best exposure of the Proterozoic sequence causing the Big Rocky Creek anomaly.

Line 10 500N: Generally background levels of Sn were received on this line with the exception of 70ppm Sn at 10 725E, which is roughly coincident with a small magnetic anomaly on the western flank of the main profile. Another isolated value of 75ppm Sn occurs at 11 875E and is coincident with a small magnetic spike. Sand was noted in this sample and contamination from a Tertiary source cannot be disregarded.

Line 10 700N: Weak coincident Cu and Zn anomalies occur in grey phyllites and quartzites. Two spiky Sn anomalies occur between 10 300E and 10 650E which falls on the central portion of the broad magnetic anomaly. These anomalies are both less than 70ppm.

Other lines were sampled to address specific targets. (Plan 15B)

Line 12 300N: This is the northern most line of the current gridding programme. The magnetic profile on this line is weak and broad. Sn values do not rise above background. Other elements are erratic with spot highs in Zn, Pb and Fe.

052

4.3 Geophysics (Refer Plan 16A, B and 17)

The Big Rocky Creek aeromagnetic anomaly forms a lobate shaped contour, some 2km long by 700m wide. Two smaller bullseye type anomalies on the southwestern flank of the main anomaly were also assessed in this programme.

Ground magnetics were read on lines 200m apart. Profiles generated from this work revealed that the main Big Rocky Creek anomaly reaches a maximum intensity of 800nT above background. North of line 10 100N it is a broad and smooth anomaly indicating a deep source. South of line 10 100N the magnetic picture is very noisy, characteristic of magnetite bearing basalt. Indeed basalt has been mapped in the area dilineated by these noisy profiles. Geological mapping has clearly shown that the main anomaly is due to magnetic material probably within black shales and is definitely not caused by basalt.

Modelling of the profiles has been completed by M.F. Flis from CRAE using a tabular or 2D dyke and the ribbon (width depth) model. It was found that the tabular model fitted the data with the most accuracy. It was concluded that the magnetic source is between 194m and 386m. The body has a width of between 200m and 500m which tends to suggest that a large body of pyrrhotite bearing black shale is the most likely source. However, because of its apparent depth, a narrow band of massive pyrrhotite would be hidden in these profiles hence the geophysical methods used in the future will need to fine tune on this possibility. The details of the magnetic modelling is appended.

4.4 Discussion

The lines of soil geochemistry over the Big Rocky Creek magnetic anomalies did not present a coherent picture of the geochemical signature of these anomalies. Patchy Sn values were recorded without good support from other elements, unlike the soil geochemistry at Granville East and the '11,000 prospects. Interpretation of the magnetic profiles suggests that the magnetic material responsible is buried greater than 200m deep. In these circumstances anomalous Sn values could not be expected, however elements such as Cu, As and Fe may be expected to deposit in the near surface environment from groundwaters circulating through the mineralized body. This, clearly, is not apparent from the reconnaissance profiles presented above. Hence soil geochemistry considered in isolation has tended to downgrade the area. This nonwithstanding, further sampling by the Jacro rig or reverse circulation drill rig and costeaning where possible is required to adequately assess the geochemistry of the rock sequence at this prospect.

4.5 Recommendations

1. Costean on line 10 700N between 11 450E and 11 550E. This will assess the rock types under the peak of the magnetic anomaly on this line. Jacro sampling suggests that Tertiary gravel cover is between 2 and 3m thick, hence care will need to be taken with any costeaning.

2. Lines 11 100N, 11 500N and 11 900N should be soil sampled to further assess the geochemical signature of this anomaly.

5. 11,000 PROSPECT

The discovery of outcropping ironstone with anomalous values in Sn, Zn and As led to a detailed examination of the area between 10 900N and 12 300N. This area is now known as the 11,000 prospect. A segment of the 11,000 prospect grid between 10 900N and 11 300N was infilled with lines at 100m spacing and the area was geologically mapped at 1:2500 scale. The prospect was soil sampled using the Jacro power auger where possible, and a portable Stihl power auger where lines became less accessible. Bedrock or 'C' horizon samples were taken where feasible. Tertiary cover made this impossible in some instances however. Rock chips obtained in the sample were separated and examined later to supplement the geological data. Ground magnetics were also read over the prospect.

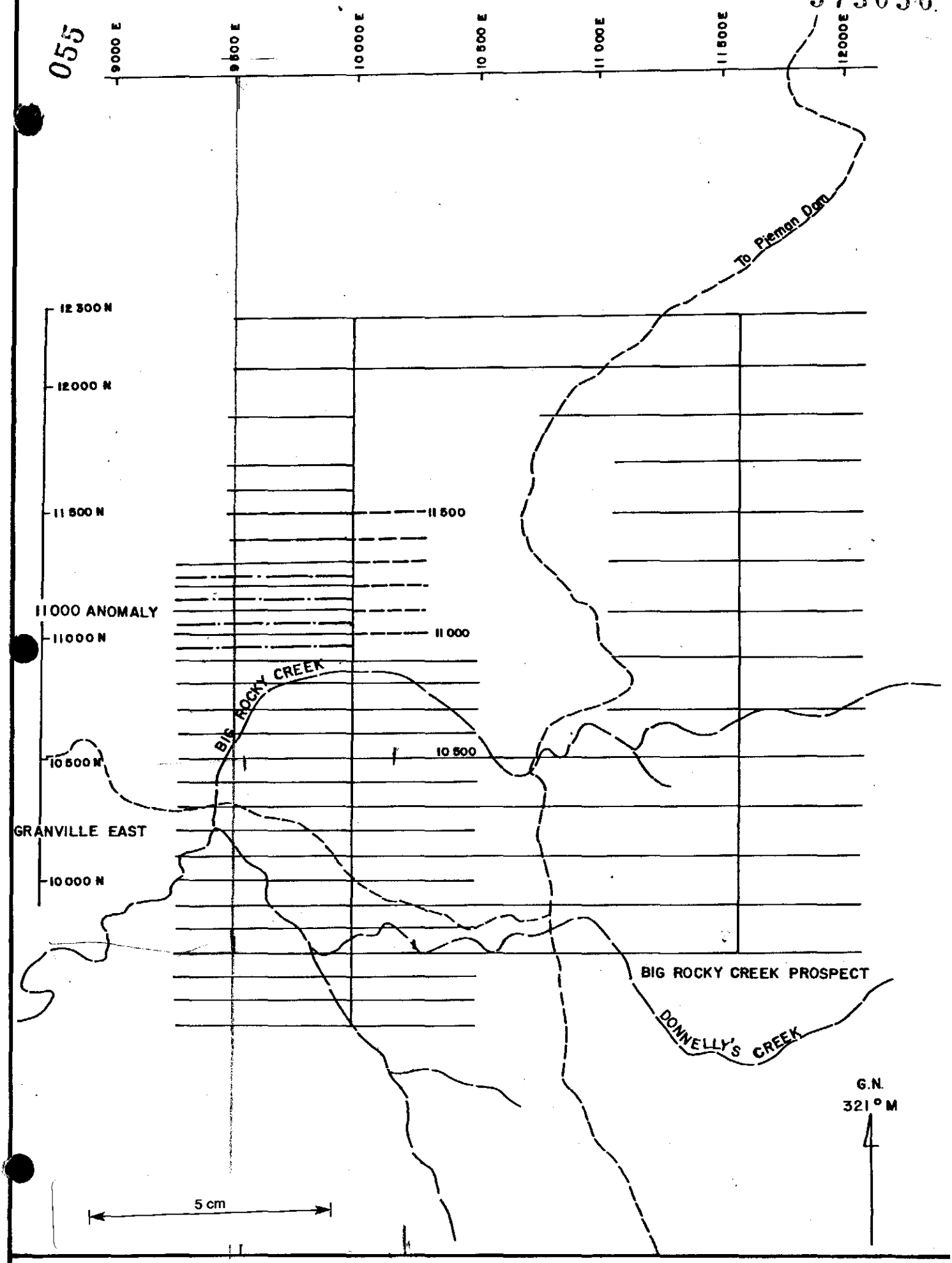
The details of this examination follow.

5.1. Geology (Refer Plan 18)

Geological mapping was hampered by the lack of outcrop in the area. The best approach was found to be mapping in the creeks, however as creeks tend to follow strike a representative section is not seen. The forest line tends to follow the perimeter of remnant Tertiary basalt flows. These basalts are highly weathered with little unaltered basalt remaining. The weathered evidence of basalt is characteristically red clays and sand with ironstone clasts. These clasts also can be seen forming rind around basalt boulders and cobbles. Ubiquitous iron rich sand seen covering a large proportion of the area are probably Tertiary sands which have received a large amount of iron from the breakdown of the overlying basalt. No 'grey billy' was noted however, and would be expected if basalt covered earlier Tertiary sands.

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055



Scale 1 : 20,000

——— Proposed grid extensions : geological mapping, geochemical sampling, magnetics.

—·—·— Proposed infill gridding : magnetics, geological mapping

GEOPEKO

ROCKY CAPE EL. 1/77

FIG 13

" 11000", GRANVILLE EAST, BIG ROCK CREEK

PROSPECT LOCALITY MAP

The Proterozoic sequence consists dominantly of black shales which vary in carbonaceous content. They commonly contain pyrite on bedding/cleavage planes and occasionally exhibit contact metamorphic minerals such as chiastolite. Lesser grey shales and quartzites are part of the sequence.

In a zone delineated by the 'hornfels alteration boundary', rocks which clearly undergone contact metamorphism with a measure of hydrothermal addition. The centre of the zone is occupied by a sequence of calcsilicate hornfels. Cherty silica and tremolite with both magnetite and pyrite were observed in auger cuttings from this zone. An ironstone was located on line 10 200N around 9800E. This ironstone is texturally variable, with some outcrops showing a granular texture defining remnant bedding, while others form blocky massive outcrops. Power augering near the exposure returned substantial magnetite in the sample. Samples of the ironstone returned assays in tin ranging from 100 to 300ppm Sn, while the magnetite assayed 100ppm Sn. Significantly, pyrite chips from a sample taken on line 10 100N (KR 11482) assayed 500ppm Sn.

Surrounding this central calcsilicate, pyrite, magnetite sequence are contact metamorphosed rocks which now fall into the hornfels classification. They generally form a very hard, porcellanous textured rock which is banded with white pyroxene layers and grey silica layers.. Bedding is faithfully preserved, but cleavage is obliterated. Some outcrops had apparent psuedo serpentinite veining. The extent of this contact metamorphic effect is difficult to delineate accurately, however an approximation is shown on the geological plan.

The Lower Oonah/Upper Oonah "Formation" contact is not mapped on this grid, and in fact appears to be some 500m to the east. As this contact is the locus for one major calcsilicate sequence in the Granville East area, the grid should be extended to cover this contact.

A conflict of structural trends is also apparent on the geological plan. Rocks mapped in Kingswood Creek strike at approximately 355°M, whilst magnetics suggest that rocks in the central calcsilicate, magnetite, pyrite zone appear to strike at 321°M.

5.2. Geochemistry (Refer Plans 17 to 26)

C-horizon soil samples were taken on 25m centres.

The grid was sampled for C horizon soil geochemistry centres using a Jacro and portable Stihl power augers. Where appropriate closer spaced sampling was undertaken.

Sampling depths varied markedly from 1m to 17m. This was due largely to Cainozoic sand and gravel cover. Where possible rock chips were collected to enhance geological mapping in the area.. A summary of the geochemistry follows. Samples were seived to -80mesh and analysed by Analabs in Cooee, Tasmania for Sn, W, Cu, Pb, Zn, Ag, Fe, Bi, Mo, As. Sn and W were analysed by XRF, the remainder by A.A.S. The contour intervals used were the same as those used in the Granville East programme.

Sn Geochemistry

Sn exhibits a characteristically small dispersion as is typical for this area. On 12.5m centres, 3 separate values of 362-890ppm Sn were recorded on line 11,200N. The outcropping ironstone corresponds with values of 300-362ppm Sn. The main anomaly extends for approximately 200m and is approximately 150 metres wide. Other lower order anomalies occur to the west of the main centre.

W Geochemistry

W values were generally backgroumd levels of 20ppm W and hence were not contoured.

058

Cu Geochemistry

Cu geochemistry forms an anomaly coincident with the Sn geochemistry. The best development centred on line 11.200N is approximately 100m wide and 200m long. The maximum value of 320ppm Cu occurs in the vicinity of the outcropping ironstone.

A more diffuse anomaly occurs in the northwest corner, probably reflecting basalt.

Pb Geochemistry

A narrow anomaly again coincides with copper and tin around 9775E.between lines 11 100N and 11 300N. A broader anomaly is developed in the northeast corner with a maximum value of 250ppm. This anomaly is unexplained.

Zn Geochemistry

A complex pattern develops with the results from zinc. A broad anomaly coincides with Cu, Pb, Zn and reaches values of 1700ppm Zn. Another broad anomaly occurs in the eastern edge of the prospect, coincident with the Pb anomaly in the similar position. Diffuse character in the west may be due to basalt.

Fe Geochemistry

A narrow linear anomaly extends from 10 900N to 11 300N with maximum values of 28.5% near the ironstone. This is interesting as it may mean the potentially mineralized horizon may extend for 300m. The western basalt is delineated well. Similarly a suggestion of basalt occurs in the southeast corner.

059

Bi Geochemistry

Bismuth forms a very narrow anomaly around the 9880 easting, coincident with Cu, Pb, Zn and Sn. Bismuth shows very little dispersion with a maximum of 750ppm Bi dropping to zero, 20m away. Bismuth seems to correlate well with Sn and should be used as a discriminator.

Mo Geochemistry

Molybdenum is roughly coincident with the main Sn anomaly. However its low values ($<$12ppm) make it of limited usefulness.

As Geochemistry

Arsenic forms a well defined anomaly coincident with Sn. It has a linear extent of approximately 300m and approximately 100 to 150m wide. The maximum value is 380ppm. The main zone occurs on line 11 200N between 9700E and 9750E which is removed from the ironstone outcrop.

Discussion of Geochemistry (Refer Plan 30)

From the soil geochemistry, it is apparent that four anomalous trends are clear. Trend A has coincident Sn, As, Zn and Cu anomalies, and it is probable that this is the surface expression of some pyrite, chalcopyrite $\pm$ arsenopyrite mineralization, of which there are several examples in the region.

Trends B and C with coincident Sn, Bi, As, Zn, Fe possibly indicate tin bearing magnetite zones.

Trend D is as yet an unknown quantity.

060

5.3. Geophysics (Refer Plan 20)

As well as providing the lead into the area, magnetometry has proven to be the primary geophysical tool in the search for concentrations of magnetite and pyrrhotite, which are the primary hosts for tin in Western Tasmania. Through the programme at Granville East, it has become clear that any magnetic profiles generated will be complex due to multitude of contributing factors, such as the size and shape of magnetic sources, together with their variable magnetic properties (Sumpton, 1982).

The magnetics were read on 25m stations using a G816 proton precession magnetometer measuring total field intensity. The linear anomaly detected at Granville East clearly extends northwards, and can confidently be traced up to line 11 700N. Between 10 900N and 11 300N the magnetic signature becomes increasingly complex, with distinct magnetic spikes recorded on lines 11 000N to 11 200N. This indicates that magnetic material comes close to the surface. The similarity between this magnetic character and that generated by magnetite, pyrrhotite mineralization on line 10 000N in the Granville East prospect is clear.

The profiles also indicate that the magnetic source is complex, and in all probability due to a number of narrow magnetic units. This coupled with the steep gradient, mitigates against meaningful modelling. The most intense spike recorded an amplitude of 83000nT, and this coincides with the near surface magnetite/ironstone exposed on this line. The importance of these spikes is that surface expression of the magnetic material should be expected over a strike length of approximately 300m. Similarly a width of approximately 150m of magnetic material is indicated by the profiles.

061

5.4 Discussion

The near surface magnetite, pyrite, ironstone mineralization with accompanying anomalous values in Sn is very encouraging. It is clear that it is another 'pod' of mineralization with as yet unknown grade and size which has formed within the laterally extensive calcsilicate/carbonate unit which was first delineated in Granville East. The evidence from magnetics suggests that the calcsilicate/carbonate zone has a strike extend of at least 1.5km.

Within the 11,000 Prospect itself, 4 distinct zones have emerged showing anomalous geochemical character particularly with respect to tin. A less well defined zone of hornfels grade metamorphism is indicated approximately in the footwall of the exposed mineralization found to date.

5.5. Recommendations

The grid should be extended to cover the following features:-

1. An easterly extension would define the Lower Oonah/Upper Oonah contact exactly, and pick up any other calcsilicate zones, which should be near this contact. Proposed extensions are shown in Figure 13.

2. Part of the grid should be infilled to 50m line spacings and reread for magnetics to exactly define the magnetic zone so that a drill target can be defined accurately.

3. Grid lines 11 400N and 11 500N should be soil sampled to close off the geochemical trends outlined in this programme.

4. A programme of costeaning should be undertaken to assess the geochemically anomalous areas revealed in the soil sampling programme.

It is strongly recommended that this programme be completed before any diamond drill holes are finally approved. However, with the data available two diamond drill holes of 150m each are proposed and are shown in Plan 31.

063

6. REGIONAL EXPLORATION

6.1 Regional Drainage Sampling

During September 1982, Big Rocky Creek and its tributaries were sampled by R. Perring. The details of this study are included in Appendix 4. The aim was to investigate the tin geochemistry of the streams north of the Heemskirk Granite, particularly in light of the tin bearing skarn mineralization known in the area. It was also designed to test the contribution of Sn from Tertiary gravels in the region.

The procedure adopted involved taking a panned concentrate sample and two stream sediment samples at 200m intervals along Big Rocky Creek and its tributaries.

A number of tin drainage anomalies were outlined, with very anomalous drainage in the vicinity of known skarn mineralization. A strongly anomalous area in tin drainage geochemistry was outlined on the south east end of the Big Rocky Creek magnetic anomaly While Tertiary gravels, which underlie basalts in the area, may be the source of this tin, it is also possible that the tin could be skarn derived.

In order to determine the source of the tin, panned concentrate samples from the two most anomalous sites (sites 9906 and 9905) in Donnelly's Creek were examined under binocular microscope. Samples from both sites revealed cassiterite in varying stages of textural maturity. Some grains were clearly crystalline and euhedral while others well rounded. These samples were compared to others which had undergone a Tertiary sedimentation cycle.

064

Perring's conclusion was that the morphology of cassiterite grains could be used to distinguish between Tertiary gravel and skarn derived tin, however some overlap would occur making an absolute distinction difficult. Hence, it was suggested that tin morphology or maturity should be used to rank areas of anomalous drainage geochemistry.

It is the author's opinion that the anomalous zones delineated in Donnelly and Tramway Creek have a high potential for being skarn derived, for the following reasons:-

1. The three other anomalous zones of this order are clearly related to outcropping skarn mineralization, even though the area is blanketted by Tertiary sediments.

2. The observation of euhedral grains of crystalline cassiterite from these sample sites is consistent with the type of cassiterite observed in the recent creek wash overlying the mineralisation exposed in the Granville East 10 000N costean. The cassiterite seen here may therefore also be skarn derived.

3. The proximity of the Big Rocky Creek magnetic anomaly.

Mapping of the Big Rocky Creek grid has delineated dominantly basalt in the area, with no Proterozoic rocks mapped. Hence it is recommended that the source of the tin be tracked down by further panning and mapping in the upper part of Donnelly's and Tramway Creeks.

065

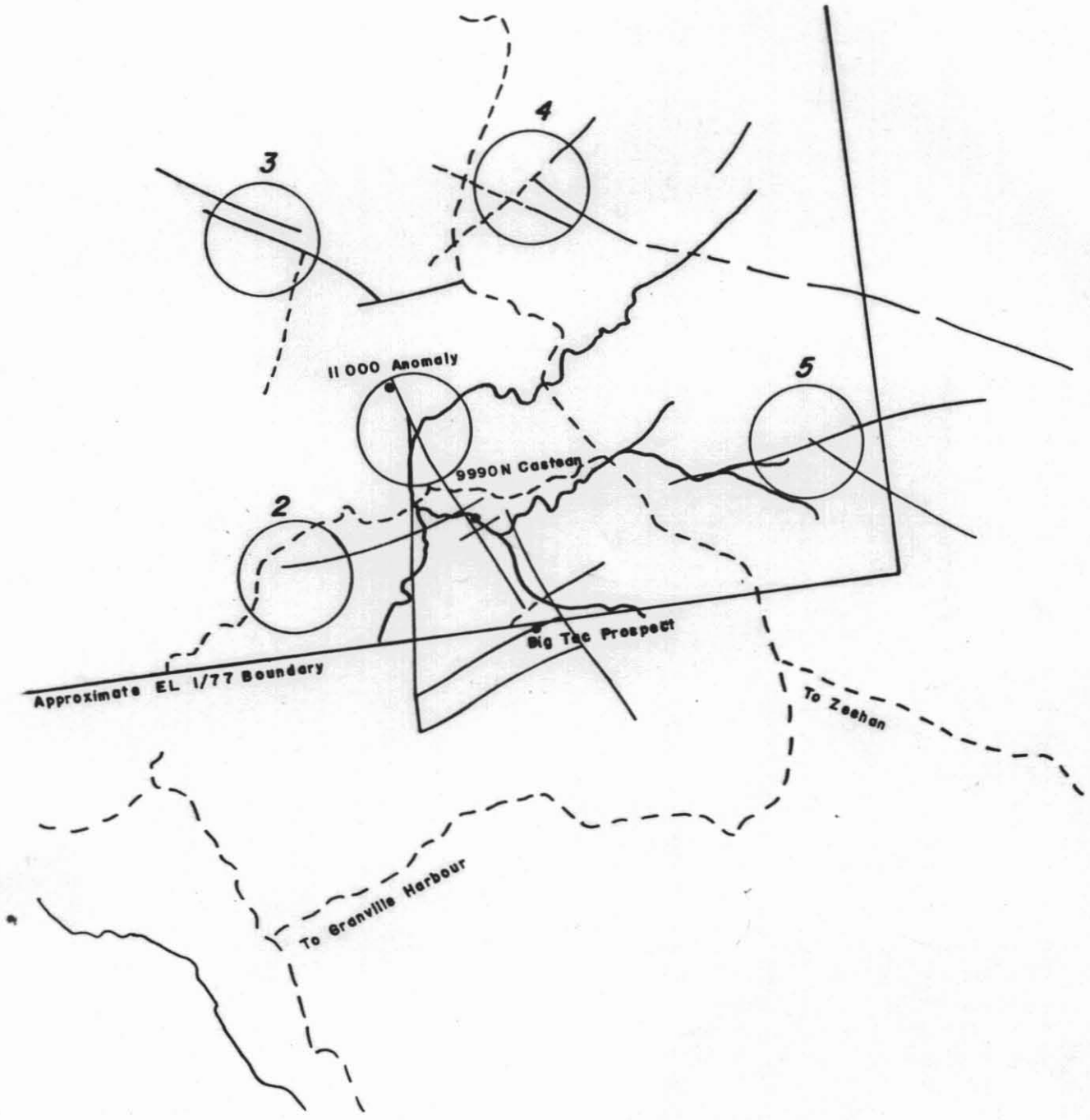
6.2. Photolineaments and Faults in Relation to Mineralization

The potential strike length of the carbonate/calcsilicate units at the Granville East and 11,000 Prospects has been defined for 1.5km at least. Along this horizon several pods of tin bearing mineralization have been located (Big Toe Prospect (Aberfoyle), Granville East 9,990N costean, 11,000 anomaly). The first two of these appear to be relatively small tonnages, whilst the third is yet to be assessed. The problem of why these small deposits occur in this otherwise extensive potential zone needs to be addressed. One mechanism, which is well illustrated by Renison Bell, is the role of faults channelling tin bearing fluids from deep granitic sources into reactive carbonate horizons. Similarly at Cleveland, tin grades clearly decrease away from faults, indicating their importance in the mineralizing process (T. Kwak pers. comm.). Other theories suggest that within tin bearing pyrrhotite replacement deposits, the paragenetic sequence is preceded by a contact metamorphic phase which 'bakes' impure carbonates into an impermeable calcsilicate sequence. Faults through these sequences enable tin bearing fluids to get through this impermeable layer, to unaltered carbonate. (P. Collins pers. comm.).

With this in mind, photo linears and faults were interpreted from 1:40,000 colour aerial photographs. The results are presented in Figure 14. From emperical evidence, it appears that the Big Toe Prospect (Aberfoyle), the Granville East 10 000N costean and the 11,000 anomaly occur where faults and linears firstly intersect themselves or alternatively where they intersect the calcsilicate/ carbonate zones. In detail, a close relation between faulting and pyrrhotite magnetite mineralization is seen in DDH 1. In DDH 2 a fault breccia cemented by pyrite and silica is noted stratigraphically above the banded replacement pyrrhotite seen in this hole.

573067

990



Well defined linear

Possible linear

Target area

E.L. 1/77 Rocky Cape

Lineament Identification

Scale 1:40 000

FIG 14

5 cm

067

Five areas have been highlighted for investigation in the regional appraisal. The target areas are shown in Figure 14 and are transposed onto Figure 15 for clarity.

Target 1: This encompasses the 11,000 Anomaly. Two major linears appear to intersect in the vicinity of the stanniferous magnetite ironstone lobe. A detailed programme is proposed in Section 5.5.

Target 2: This well defined linear appears related to a magnetically anomalous lobe which is clear from the airborne magnetics, north west of the main Granville East anomaly. Proposed grid extensions from the Granville East grid are shown in Figure 15.

Target 3: Several well defined linears cross through one of the aeromagnetic anomalies included in the proposed Silver Reward Prospect. The programme proposed in Section 6.3 will address this target.

Target 4: Intersections of several linears at the northern end of the Big Rocky Creek anomaly indicates that closer inspection is warranted in this area of the prospect.

Target 5: This target encompasses the southern end of the Big Rocky Creek anomaly and a small lobe at the end of this anomaly. The significance of this target is underlined by anomalous drainage geochemistry coming from this region. (Refer Section 6.1 for discussion and recommendations).

6.3. Silver Reward Prospect

The Silver Reward Prospect consists of a series of magnetic anomalies north of the 11,000 and Big Rocky Creek Prospects. Two possibilities are suggested by the aeromagnetics. The first is that anomalies A and B (Refer Figure 15) form the closure of a major fold structure, with Granville East, and the '11,000' Prospects as one limb and Big Rocky Creek anomalies on the other limb. The other and more likely possibility is that anomalies B, C and D are the continuation of the 11,000 anomaly whilst anomaly A is the continuation of Big Rocky. The region is clearly prospective from the encouraging results emerging from the other prospects. A proposed grid is outlined in Figure 15. Initially the grid should be geologically mapped and

068

read with magnetics. Similarly Duck Creek and its tributaries should be sampled, to continue the regional drainage sampling programme.

069

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070

APPENDIX 1

Two large rock samples were sent to Central Mineralogical Services to determine the tin phases present. The two specimens KR 11458 and KR 11459 were taken from 1 m. zones which assayed 8.79% Sn and 4.71% Sn. respectively. The sample positions are shown in Plan 7. Appendix 1 is the result of this study.

A.C.S. Laboratories Pty. Ltd.
50 MARY STREET
UNLEY, S.A. 5061
P.O. BOX 3
UNLEY, S.A. 5061
PHONE: 272 5733

071

ANALYTICAL RESULTS

573072

Samples from: C.M.S.
Area:
Samples of: Magnetite Con.
Preparation: Pulverised
Batch No.: A 4499

Sheet No.: 1
Date: 9.7.82

SAMPLES WILL BE DISPOSED OF AFTER TWO MONTHS UNLESS WE ARE OTHERWISE ADVISED

Sample Description	Sn ppm
KR11458	1.74%
Magnetic Fraction.	

A.C.S. Laboratories Pty. Ltd.
50 MARY STREET
UNLEY, S.A. 5061
P.O. BOX 3
UNLEY, S.A. 5061
PHONE: 272 5733

072

ANALYTICAL RESULTS

573073

Samples from: C.M.S.
Area: S.A.
Samples of: Liquor
Preparation: None
Batch No.: A 4480

Sheet No.: 1
Date: 15.6.82

SAMPLES WILL BE DISPOSED OF AFTER TWO MONTHS UNLESS WE ARE OTHERWISE ADVISED

Sample Description	Sn mg	
KR 11458	133	(Solution from acid treatment)

This = 0.67% soluble Sn
or 7.6% of total Sn (8.79%).

ANALYTICAL METHODS: AAS following dilution in 2N HCl

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573074

APPENDIX 2

Petrographic investigation of drillcore from DDH 1

REPORT CMS 82/11/17

Ten core samples from the Granville project were received; four of these (11472, 11474, 11478, 11479) were to be examined, and thin-sections were prepared; they are described below.

11472 (T.S. 44472)
This is a sheared serpentinous rock with abundant pyrrhotite; it is believed to be a serpentinised Mg-silicate skarn. Rocks of this type have been termed "pseudo-serpentinites" to signify their serpentinous character, but non-igneous origin. Some of these skarns contain Sn in silicate form, generally distributed through several phases; upon serpentinisation, the Sn is released and usually appears as hydrocassiterite or poorly-crystalline ultrafine cassiterite which is hard to detect and positively identify, generally forming thin films and fine cloudy aggregates.

This rock consists mainly of pale green-yellow fibrous serpentine minerals forming matted masses, with subparallel lenses of severely decomposed pyrrhotite (black, soft masses in hand specimen) and now consisting of fine pyrite-marcasite. There are minor magnetite veins and semi-conformable masses, and small patches of fine siderite. No cassiterite was identified, but there are thin films of a whitish opaque substance thought to be hydrated SnO_2. Patches of fractured apatite occur sporadically.

11474 (T.S. 44474)
This rock consists dominantly of massive sulphides, with streaks of serpentinous material; thus, the mineral assemblage is similar to that of 11472, but the mineral proportions are different.

The sulphides occur as subparallel lenses of massive pyrite and of severely altered pyrrhotite which is actively oxidising (Fe sulphate efflorescence). There are interstitial wisps of fibrous serpentine minerals (?antigorite). A few small patches of magnetite are embedded in the sulphides, but this mineral is much scarcer than the hand specimen would suggest; the black colour is due to decomposed pyrrhotite.

Apatite occurs as crushed grains, and is partly replaced by carbonate. The rock is sheared and has well-developed preferred orientation. There are streaks of dark, fine-grained siderite. No Sn minerals were identified with any certainty, but are believed to occur as secondary phases.

11478 (T.S. 44478)
This is a weathered, oxidised ?skarn consisting of weathering products; fine cassiterite was clearly identified and, although it is thought to be supergene, it may be primary. The rock differs significantly from 11472/74, in composition and in fabric, reflecting differences in the fresh materials. Whereas 11472/74 comprised

Mg-silicate assemblages such as chondrodite-humite and diopside (as seen in fresher rocks in that region), this rock is believed to have been more calcic, with tremolite-actinolite, vesuvianite-garnet; the rock is not sheared, but shows typical skarn-type fabric.

The rock consisted mainly of prismatic crystals of an amphibole, with interstitial ?garnet, magnetite and minor apatite. The silicates are represented by clay-goethite-quartz pseudomorphs. Small siderite patches are present, and there are masses of altered, actively oxidising pyrrhotite. Opaline silica occurs in places, replacing siderite.

Cassiterite forms small subradiating aggregates of ultrafine acicular crystals ("needle tin"); individual crystals are seldom more than 5-10 μ thick, and aggregates attain a maximum size of 200 μ. The cassiterite occurs in goethite and quartz, occasionally in magnetite; most of the evidence suggests late-stage, supergene, low-temperature formation, i.e. postdating skarn formation, but clearly this would need to be based on comparison with fresh material.

11479 (T.S. 44479)
This rock closely resembles 11478, and is a severely altered and weathered skarn originally consisting of large amphibole crystals and interstitial Ca-Fe silicates, now represented by typical secondary minerals such as clays, quartz, goethite and opaline silica occurring as good pseudomorphs; interstitial magnetite is present. Cassiterite is recognisable as small (< 100 μ) groups of radiating needles, in goethite; in places, there is a ?hydrocassiterite phase as ultrafine isotropic material intergrown with goethite. Some goethite patches contain very numerous minute stellate groups of cassiterite needles.

There is a contrast between 11472/74 and 11478/79, and it may well be that this is reflected in the Sn contents as well as the general mineralogy. In both sets of rocks, the Sn is essentially indigenous, i.e. it has not migrated to any extent, but is in situ. However, its present form is different from its original form; in 11472/74, the Sn was in silicate form and was released during serpentinisation. In 11478/79, the needle tin is thought to have been deposited as a late phase which also caused retrograde alteration of the skarn. In the writer's experience, needle tin is not a primary constituent of pyrometasomatic rocks (skarns) - these carry silicate Sn and/or well-crystallized cassiterite.

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573077

APPENDIX 3

Big Rocky Creek Magnetic Anomaly Modelling

Author: M.F. Flis

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573078

CRA EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

LEVEL 4, BELLERIVE QUAY,
CAMBRIDGE ROAD, BELLERIVE, 7018, TASMANIA, AUSTRALIA

P.O. BOX 138
BELLERIVE 7018
TELEGRAMS: CRAEX
TELEX: AA57144
TELEPHONE: 44 3533
AREA CODE: (002)

IN REPLY PLEASE QUOTE

10th February, 1983.

Memorandum To: T.W.DICKSON

Copy: D.SUMPTON

From: M.F.FLIS

Subject: BIG ROCKY CK. MAGNETITE ANOMALY MODELLING

Herewith the inversion of ground mag data on line 10500mN of the Big Rocky Ck. grid.

Data was inverted using two models : the tabular, or 2D dyke, model and the ribbon (width depth) model. Fitted parameters for both models are:-

	TABULAR	RIBBON 1	RIBBON 2
Magnetization	269±2	-	-
Magnetization x thickness	(106,524)	239,600±3,400	236,100±3,600
Dip	82±1° West	27±2° West	82° West (set)
Position	11410±3mE	11500±4mE	11400±0
Half Width	198±2m	-	-
Depth Extent	-	325±7m	466±5m
Depth to top	194±3m	386±4m	360±13
Norm. Weighted St.dev. of fit	0.0074	0.0101	0.012

The tabular model fits the data to a far better degree.

Magnetization - thickness products agree fairly well between both models - being a factor of 2 different. The magnetization parameter of the tabular model allows for a maximum equivalent magnetite content of approximately 1.5%.

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Due to the highly correlative nature of the depth and width (thickness) parameters, the increased depth of the ribbon models is to be expected. In this regard, the only'sure thing' which can be stated is that the magnetic source is most likely to be somewhere between 194 and 386 metres deep on this line. The width of the tabular model is disconcerting, and obviously must to reconciled with a geological model before any further work is done.

MARCUS FLIS

ITERATION NUMBER 13
****

PARAMETER	KEY	START	LIMITS		FITTED	TOLERANCE	RANGE
MAGNET	1	3.000E+01	1.0E+01	3.0E+03	2.688E+0	5.0E+00	2.1E+00
DIP	1	9.000E+01	4.5E+01	1.4E+02	9.790E+01	5.0E+00	6.0E-01
BASE LEVEL	1	3.170E+02	0.0E-01	0.0E-01	3.514E+02	1.0E+00	3.8E+00
BASE SLOPE	1	-1.800E-01	0.0E-01	0.0E-01	-4.968E-02	1.0E-01	9.4E-03
POSITION	1	1.140E+04	1.1E+04	1.2E+04	1.141E+04	1.2E+01	2.9E+00
HALF WIDTH	1	3.400E+01	1.0E+01	1.0E+03	1.978E+02	1.0E+00	1.7E+00
DEPTH	1	1.000E+02	5.0E+01	5.0E+02	1.935E+02	5.0E+00	2.8E+00
INCLNATN	0	-7.200E+01	0.0E-01	0.0E-01	-7.200E+01	0.0E-01	0.0E-01
DECLNATN	0	5.100E+01	0.0E-01	0.0E-01	5.100E+01	0.0E-01	0.0E-01
VERTICAL	0	0.000E-01	0.0E-01	0.0E-01	0.000E-01	0.0E-01	0.0E-01
TRAV DIR	0	1.300E+01	0.0E-01	0.0E-01	1.300E+01	0.0E-01	0.0E-01

POSITION	WEIGHT	OBS	FITTED
10500.0000	10.00	381.	366.
10550.0000	10.00	361.	365.
10600.0000	10.00	358.	365.
10650.0000	10.00	354.	365.
10700.0000	10.00	370.	367.
11000.0000	10.00	455.	445.
11025.0000	10.00	464.	465.
11050.0000	10.00	484.	488.
11075.0000	10.00	522.	517.
11100.0000	10.00	547.	550.
11125.0000	10.00	588.	590.
11150.0000	10.00	635.	635.
11175.0000	10.00	683.	685.
11200.0000	10.00	734.	740.
11225.0000	10.00	795.	797.
11250.0000	10.00	852.	854.
11275.0000	10.00	916.	909.
11300.0000	10.00	964.	961.
11325.0000	10.00	1010.	1007.
11350.0000	10.00	1053.	1048.
11375.0000	10.00	1090.	1082.
11400.0000	10.00	1099.	1109.
11425.0000	10.00	1121.	1129.
11450.0000	10.00	1140.	1141.
11475.0000	10.00	1152.	1145.
11500.0000	10.00	1150.	1141.
11525.0000	10.00	1127.	1128.
11550.0000	10.00	1094.	1106.
11575.0000	10.00	1067.	1077.
11600.0000	10.00	1037.	1041.
11625.0000	10.00	1002.	999.
11650.0000	10.00	960.	955.
11675.0000	10.00	921.	909.
11700.0000	10.00	869.	865.
11725.0000	10.00	821.	822.
11750.0000	10.00	784.	783.
11775.0000	10.00	742.	746.
11900.0000	10.00	708.	713.
11825.0000	10.00	681.	684.
11850.0000	10.00	654.	657.
11875.0000	10.00	635.	633.
11900.0000	10.00	613.	611.
11925.0000	10.00	590.	592.
11950.0000	10.00	576.	574.
11975.0000	10.00	565.	558.
12000.0000	10.00	539.	543.
12025.0000	10.00	530.	530.

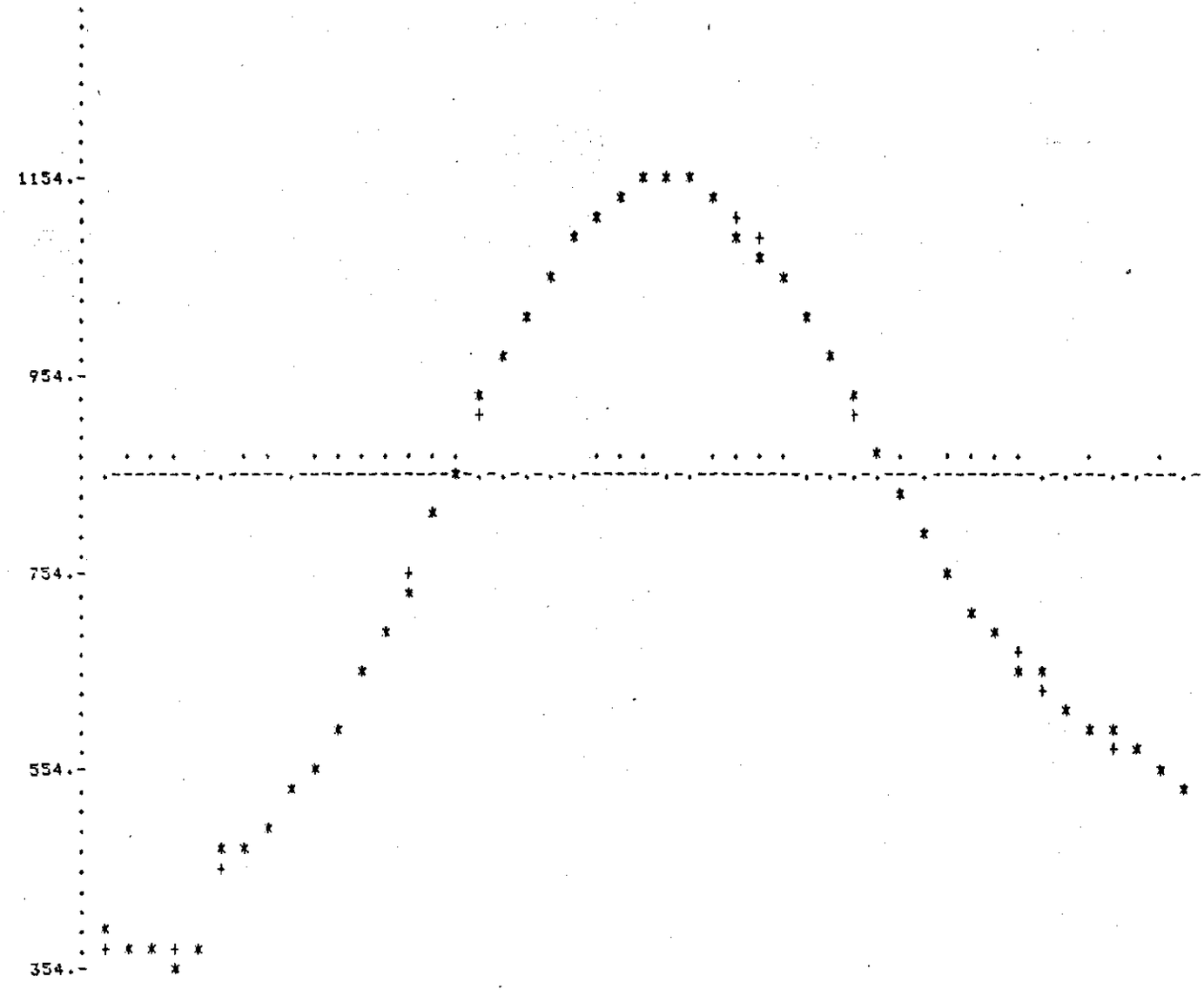
NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT 0.0074

079

5730080

080

MAGMOD PLOT OF FIT 1



MODEL TABULAR TITLE BIG ROCKY CK. GRID LINE

NUMBER OF STATIONS 47 MAX AMPLITUDE 798. X INCREMENT 2 COLUMNS PER STATION. Y INCREMENT OF 20. GAMMAS PER LINE.
FIELD DATA CURVE...%*% FITTED CURVE...%+% ERROR CURVE...%.%
NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT .0074 PARFIT FLAG 2 ERROR CURVE DATUM 854.000

5730081

ITERATION NUMBER 47
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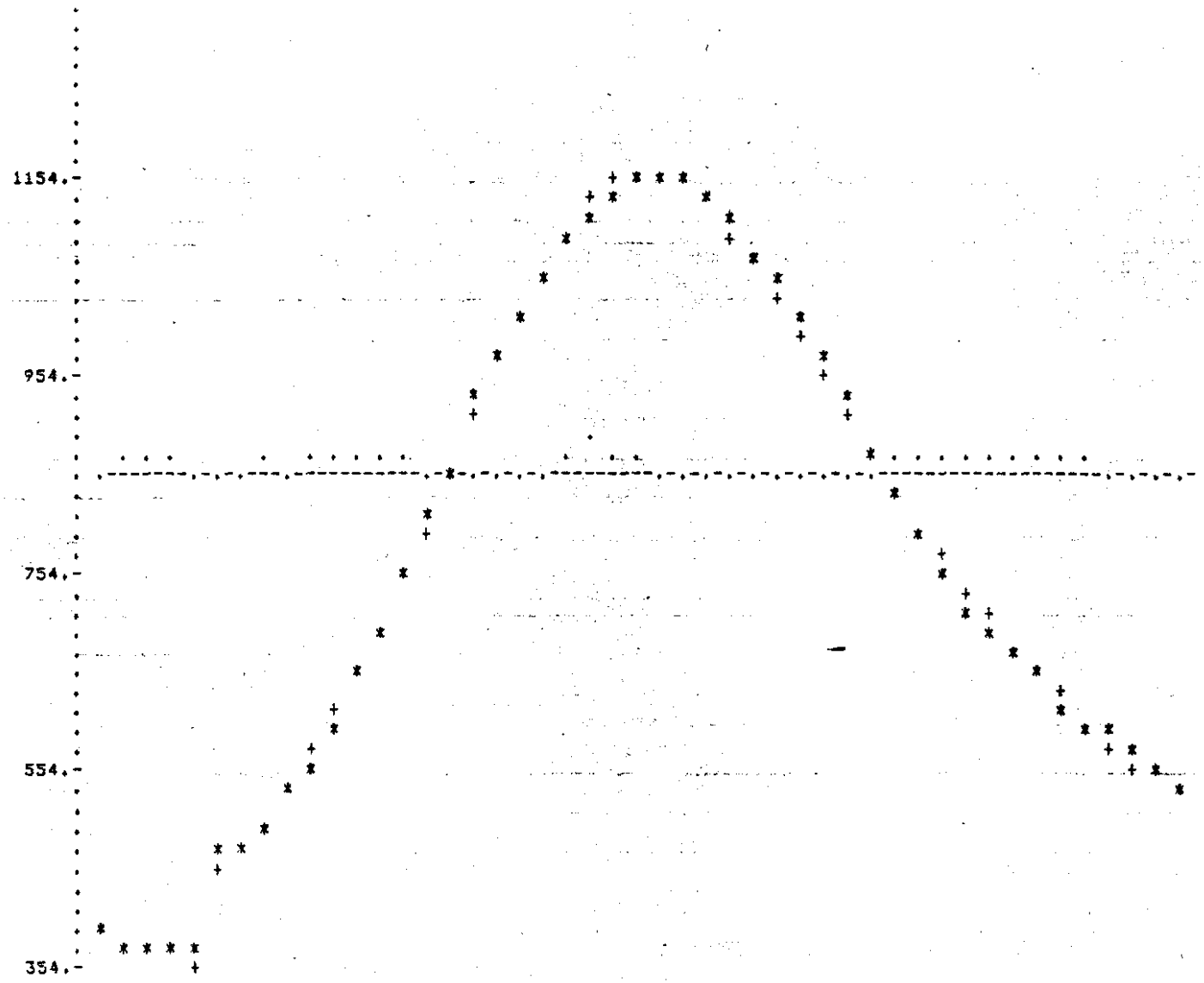
PARAMETER	KEY	S	LIMITS		FITTED	TOLERANCE	RANGE
MAGNET	1	3.000E+02	1.0E+02	3.0E+05	2.361E+05	5.0E+01	3.6E+03
DIP	0	9.300E+01	4.5E+01	1.7E+02	9.300E+01	0.0E-01	0.0E-01
BASE LEVEL	1	3.510E+02	0.0E-01	0.0E-01	4.675E+02	1.0E+00	0.0E-01
BASE SLOPE	1	-1.800E-01	0.0E-01	0.0E-01	-6.945E-02	1.0E-01	6.1E+00
POSITION	1	1.140E+04	1.1E+04	1.2E+04	1.140E+04	1.2E+01	1.5E-02
WIDTH	1	3.600E+01	1.0E+01	1.0E+04	4.663E+02	2.0E+01	4.6E+00
DEPTH	1	1.000E+02	5.0E+01	5.0E-02	3.501E+02	5.0E+00	1.3E+01
INCLNATN	0	-7.200E+01	0.0E-01	0.0E-01	-7.200E+01	0.0E-01	0.0E-01
DECLNATN	0	5.100E+01	0.0E-01	0.0E-01	5.100E+01	0.0E-01	0.0E-01
VERTICAL	0	0.000E-01	0.0E-01	0.0E-01	0.000E-01	0.0E-01	0.0E-01
TRAV DIR	0	1.300E+01	0.0E-01	0.0E-01	1.300E+01	0.0E-01	0.0E-01

POSITION	WEIGHT	OBS	FITTED
10500.0000	10.00	381.	380.
10550.0000	10.00	361.	372.
10600.0000	10.00	358.	364.
10650.0000	10.00	354.	358.
10700.0000	10.00	370.	354.
11000.0000	10.00	455.	439.
11025.0000	10.00	464.	462.
11050.0000	10.00	484.	489.
11075.0000	10.00	522.	519.
11100.0000	10.00	547.	555.
11125.0000	10.00	588.	594.
11150.0000	10.00	635.	638.
11175.0000	10.00	683.	685.
11200.0000	10.00	734.	737.
11225.0000	10.00	795.	790.
11250.0000	10.00	852.	846.
11275.0000	10.00	916.	902.
11300.0000	10.00	964.	956.
11325.0000	10.00	1010.	1007.
11350.0000	10.00	1053.	1052.
11375.0000	10.00	1090.	1091.
11400.0000	10.00	1099.	1120.
11425.0000	10.00	1121.	1140.
11450.0000	10.00	1140.	1149.
11475.0000	10.00	1152.	1148.
11500.0000	10.00	1150.	1138.
11525.0000	10.00	1127.	1119.
11550.0000	10.00	1094.	1093.
11575.0000	10.00	1067.	1062.
11600.0000	10.00	1037.	1026.
11625.0000	10.00	1002.	988.
11650.0000	10.00	960.	948.
11675.0000	10.00	921.	908.
11700.0000	10.00	869.	868.
11725.0000	10.00	821.	830.
11750.0000	10.00	784.	793.
11775.0000	10.00	742.	758.
11800.0000	10.00	708.	725.
11825.0000	10.00	681.	694.
11850.0000	10.00	654.	665.
11875.0000	10.00	635.	639.
11900.0000	10.00	613.	614.
11925.0000	10.00	590.	593.
11950.0000	10.00	576.	571.
11975.0000	10.00	565.	552.
12000.0000	10.00	539.	535.
12025.0000	10.00	530.	519.

NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT 0.0120

28082 57308

MAGMOD PLOT OF FIT 1



MODEL RIBBON TITLE BIG ROCKY CK. GRID LINE

NUMBER OF STATIONS 47 MAX AMPLITUDE 798. X INCREMENT 2 COLUMNS PER STATION. Y INCREMENT OF 20. GAMMAS PER LINE.
FIELD DATA CURVE...%*% FITTED CURVE...%+% ERROR CURVE...%.%
NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT .0120 PARFIT FLAG 2 ERROR CURVE DATUM 853.725

573083

ITERATION NUMBER 46
****

PARAMETER	KEY	STEP	LIMITS		FITTED	TOLERANCE	RANGE
MAGNET	1	3.000E+02	1.0E+02	3.0E+05	2.396E+05	5.0E+01	3.4E+03
DIP	1	9.000E+01	4.5E+01	1.7E+02	1.529E+02	5.0E+00	1.5E+00
BASE LEVEL	1	3.510E+02	0.0E-01	0.0E-01	5.021E+02	1.0E+00	5.1E+00
BASE SLOPE	1	-1.300E-01	0.0E-01	0.0E-01	-1.967E-02	1.0E-01	1.2E-02
POSITION	1	1.140E+04	1.1E+04	1.2E+04	1.150E+04	1.2E+01	3.9E+00
WIDTH	1	3.600E+01	1.0E+01	1.0E+04	3.252E+02	2.0E+01	5.6E+00
DEPTH	1	1.000E+02	5.0E+01	5.0E+02	3.858E+02	5.0E+00	4.0E+00
INCLNATN	0	-7.200E+01	0.0E-01	0.0E-01	-7.200E+01	0.0E-01	0.0E-01
DECLNATN	0	5.100E+01	0.0E-01	0.0E-01	5.100E+01	0.0E-01	0.0E-01
VERTICAL	0	0.000E-01	0.0E-01	0.0E-01	0.000E-01	0.0E-01	0.0E-01
TRAV DIR	0	1.300E+01	0.0E-01	0.0E-01	1.300E+01	0.0E-01	0.0E-01

POSITION	WEIGHT	OBS	FITTED
10500.0000	10.00	381.	381.
10550.0000	10.00	361.	372.
10600.0000	10.00	358.	364.
10650.0000	10.00	354.	357.
10700.0000	10.00	370.	351.
11000.0000	10.00	455.	435.
11025.0000	10.00	464.	459.
11050.0000	10.00	484.	488.
11075.0000	10.00	522.	520.
11100.0000	10.00	547.	557.
11125.0000	10.00	588.	598.
11150.0000	10.00	635.	643.
11175.0000	10.00	683.	691.
11200.0000	10.00	734.	742.
11225.0000	10.00	795.	794.
11250.0000	10.00	852.	848.
11275.0000	10.00	916.	902.
11300.0000	10.00	964.	953.
11325.0000	10.00	1010.	1002.
11350.0000	10.00	1053.	1046.
11375.0000	10.00	1090.	1084.
11400.0000	10.00	1099.	1114.
11425.0000	10.00	1121.	1136.
11450.0000	10.00	1140.	1148.
11475.0000	10.00	1152.	1150.
11500.0000	10.00	1150.	1143.
11525.0000	10.00	1127.	1126.
11550.0000	10.00	1094.	1102.
11575.0000	10.00	1067.	1070.
11600.0000	10.00	1037.	1034.
11625.0000	10.00	1002.	994.
11650.0000	10.00	960.	952.
11675.0000	10.00	921.	909.
11700.0000	10.00	869.	866.
11725.0000	10.00	821.	825.
11750.0000	10.00	784.	787.
11775.0000	10.00	742.	750.
11800.0000	10.00	708.	717.
11825.0000	10.00	681.	686.
11850.0000	10.00	654.	658.
11875.0000	10.00	635.	633.
11900.0000	10.00	613.	611.
11925.0000	10.00	590.	591.
11950.0000	10.00	576.	573.
11975.0000	10.00	565.	557.
12000.0000	10.00	539.	543.
12025.0000	10.00	530.	531.

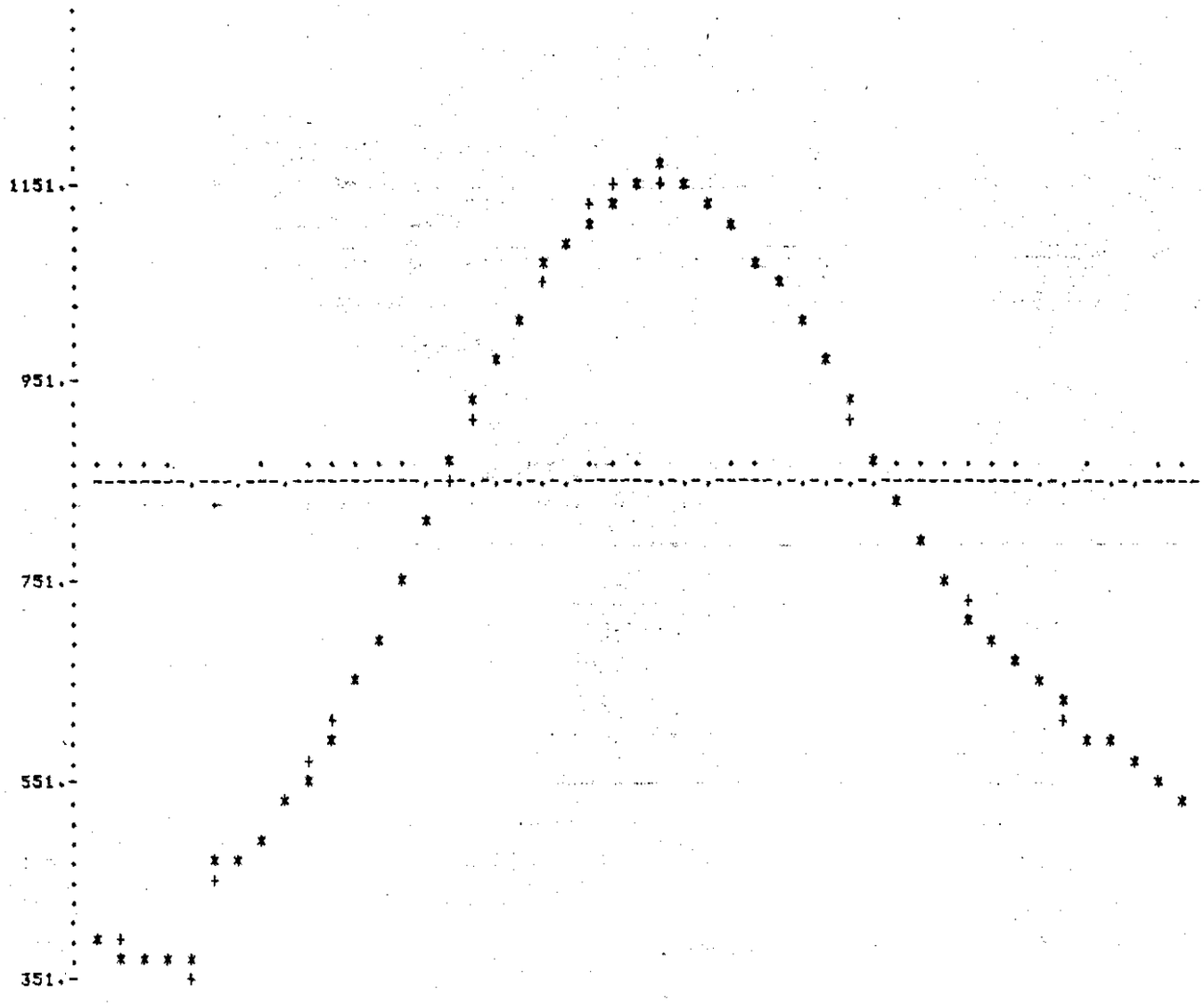
NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT 0.0101

083

5730084

084

MAGMOD PLOT OF FIT 1



MODEL RIBBON TITLE BIG ROCKY CK. GRID LINE

NUMBER OF STATIONS 47 MAX AMPLITUDE 801. X INCREMENT 2 COLUMNS PER STATION. Y INCREMENT OF 20. GAMMAS PER LINE.
FIELD DATA CURVE...%*% FITTED CURVE...%+% ERROR CURVE...%.%
NORMALIZED WEIGHTED STANDARD DEVIATION OF FIT .0101 PARFIT FLAG 2 ERROR CURVE DATUM 851.213

573085

573086

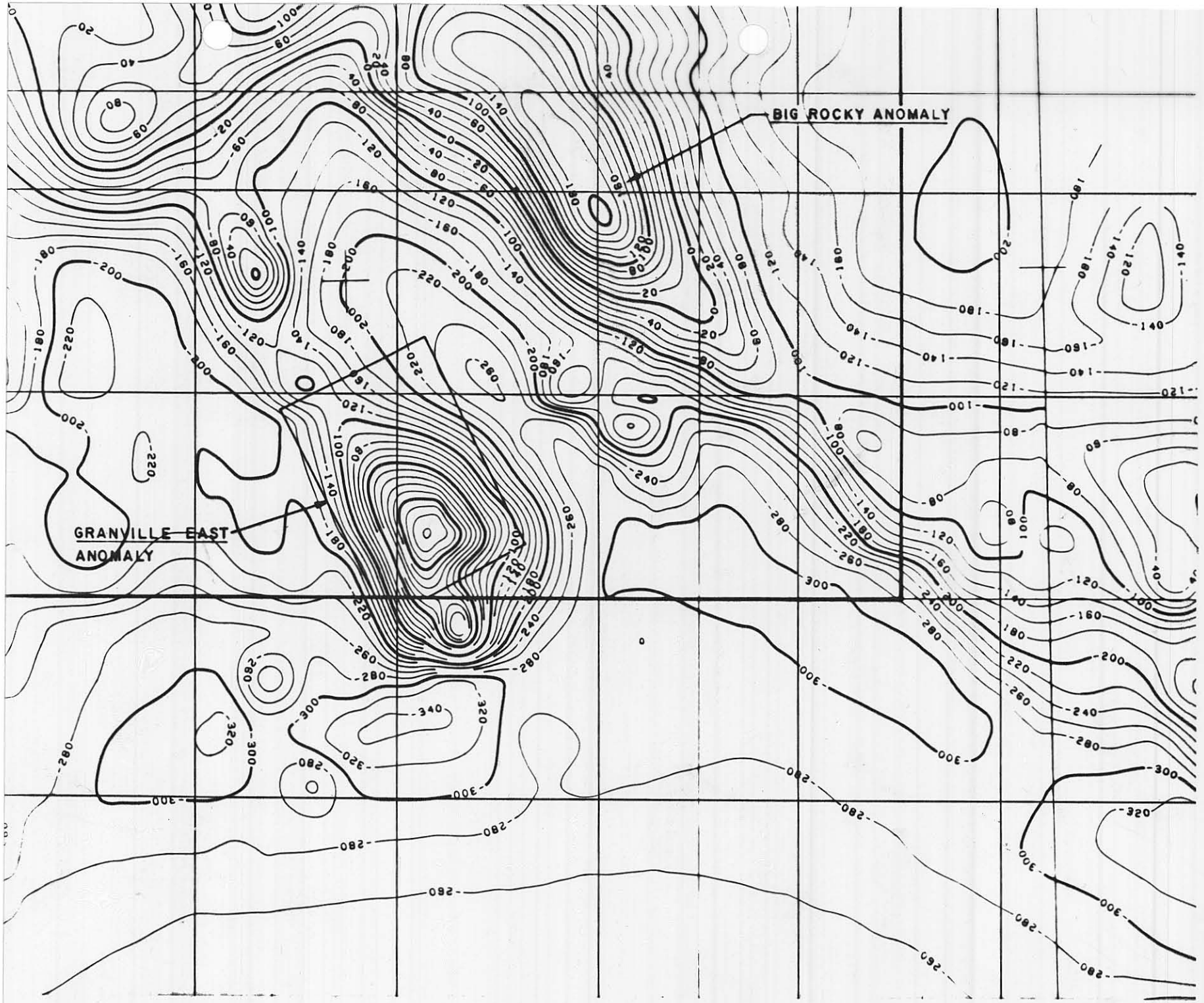
085

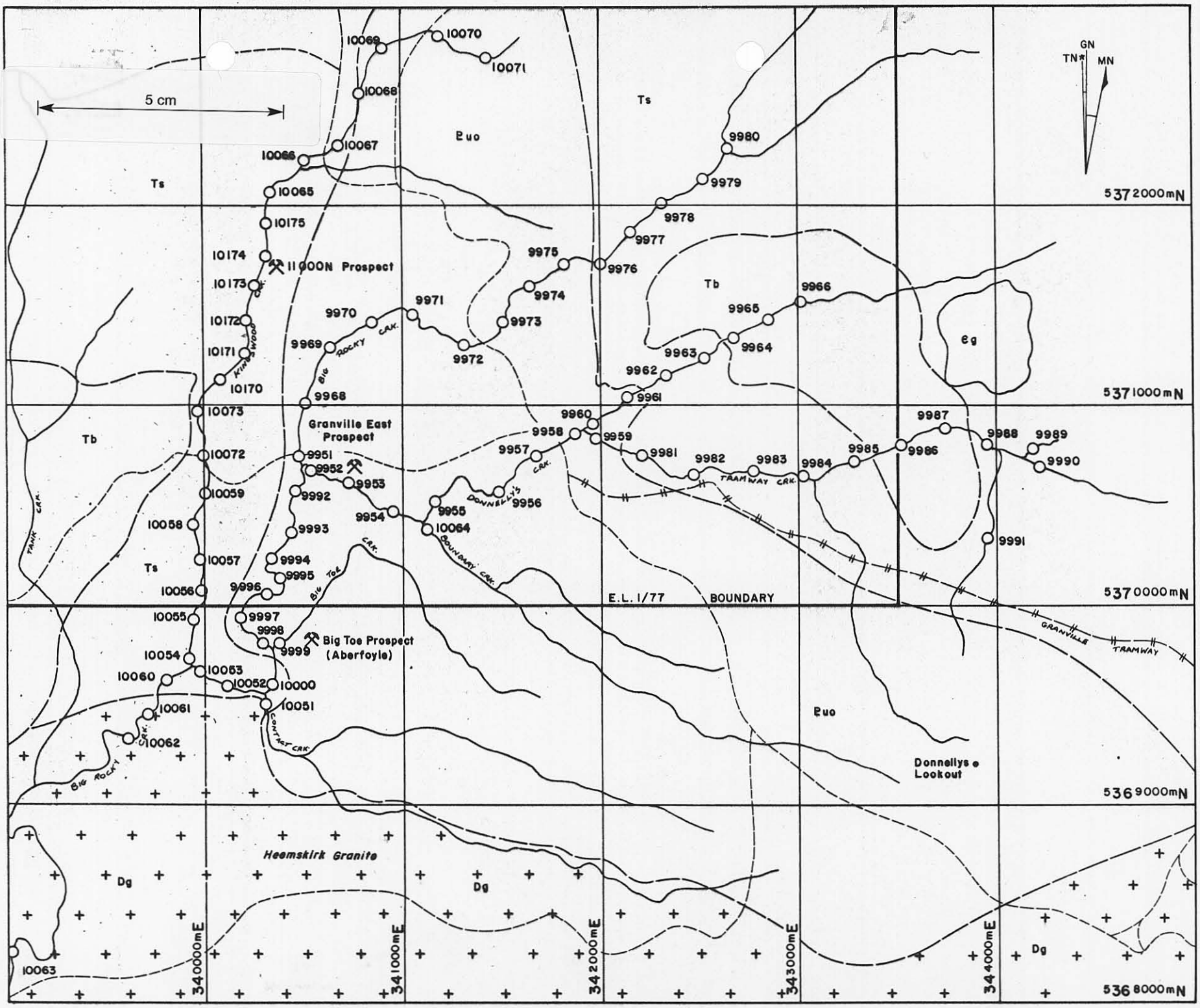
APPENDIX 4

Drainage Sampling in the Granville Area within E.L. 1/77

Microscopic Investigation of Cassiterite in Drainage Samples from the Granville Harbour Area.

Author R. Perring


BIG ROCKY ANOMALY
GRANVILLE EAST
ANOMALY



GEOPEKO

STREAM SEDIMENT DRAINAGE SAMPLE NUMBERS E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

PЄ Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

Eg — Cambrian gabbro

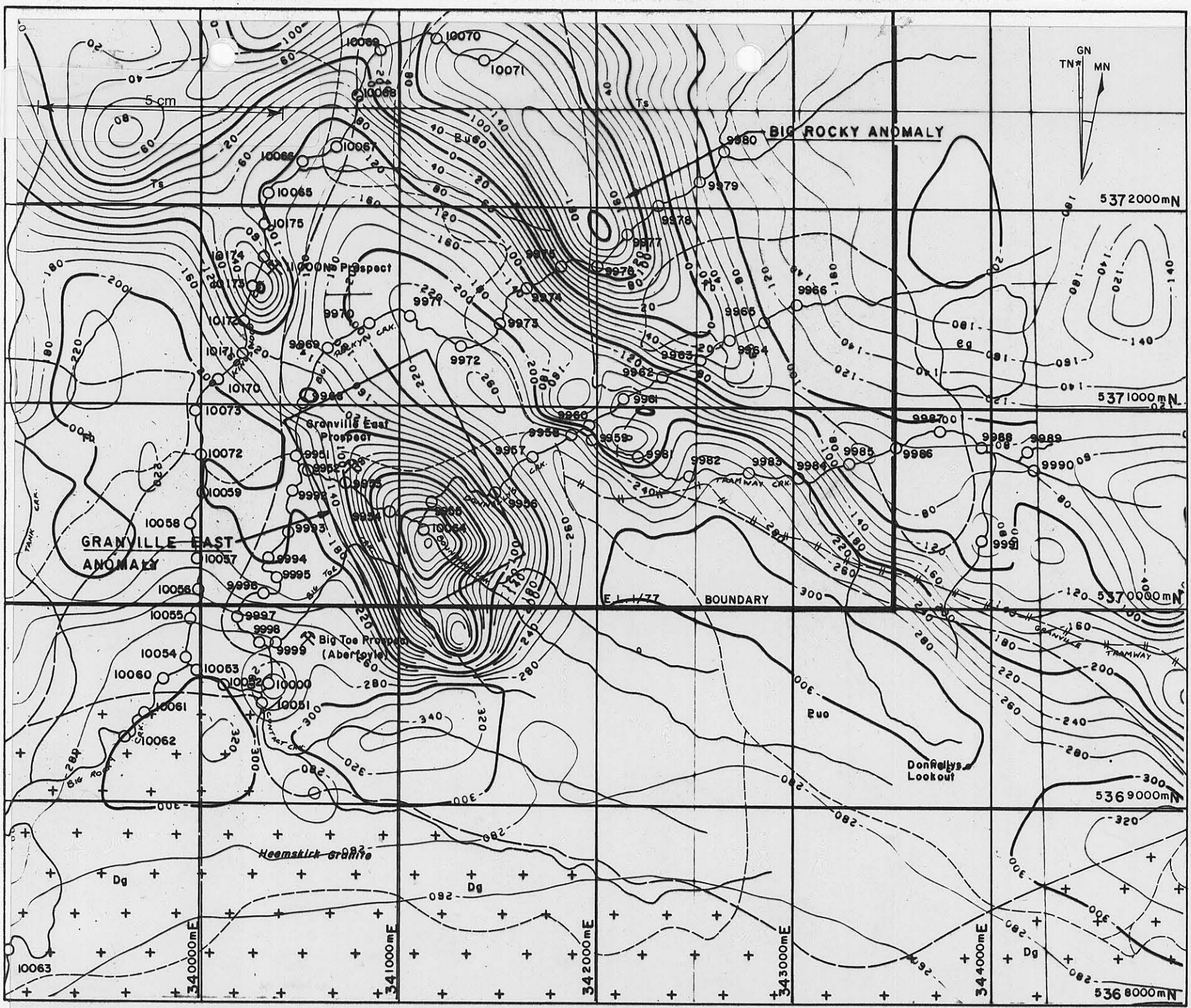
- sample locality
- geological boundary
- tracks
- creek

○ Sample used in orientation survey to determine optimum size fraction for routine analysis.

FIG. 1

100

23 47330 88



GEOPEKO

STREAM SEDIMENT DRAINAGE SAMPLE NUMBERS E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

PC TERT.

- Ts — sand, silt, clay
- Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

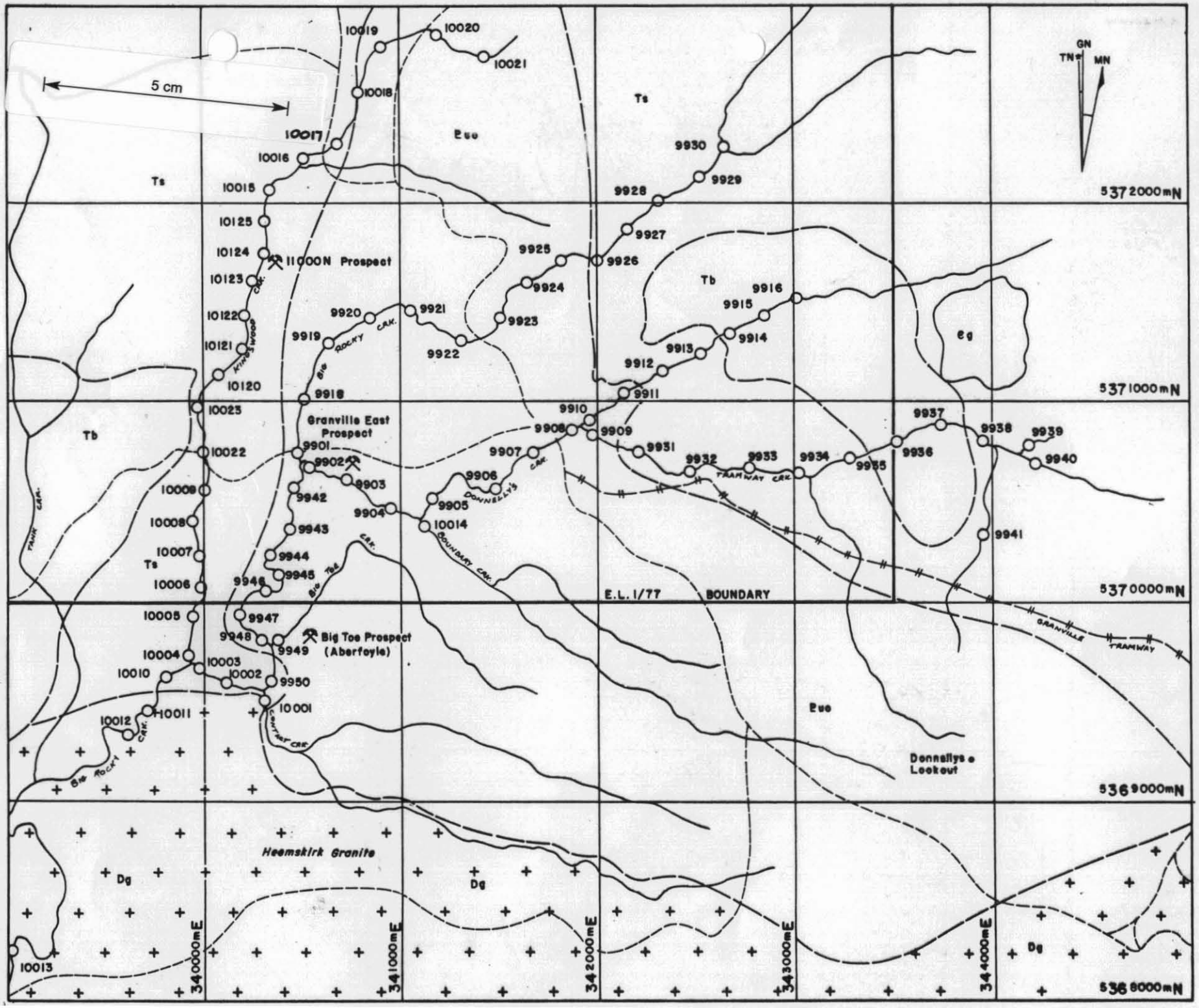
- Tb — Tertiary basalt
- Dg — Devonian granite
- Eg — Cambrian gabbro

- sample locality
- geological boundary
- tracks
- creek

○ Sample used in orientation survey to determine optimum size fraction for routine analysis.

FIG. 1

102
100
5/3/88



GEOPEKO

PANNED CONCENTRATE DRAINAGE SAMPLE NUMBERS E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

P€ Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

€g — Cambrian gabbro

- sample locality
- geological boundary
- tracks
- creek

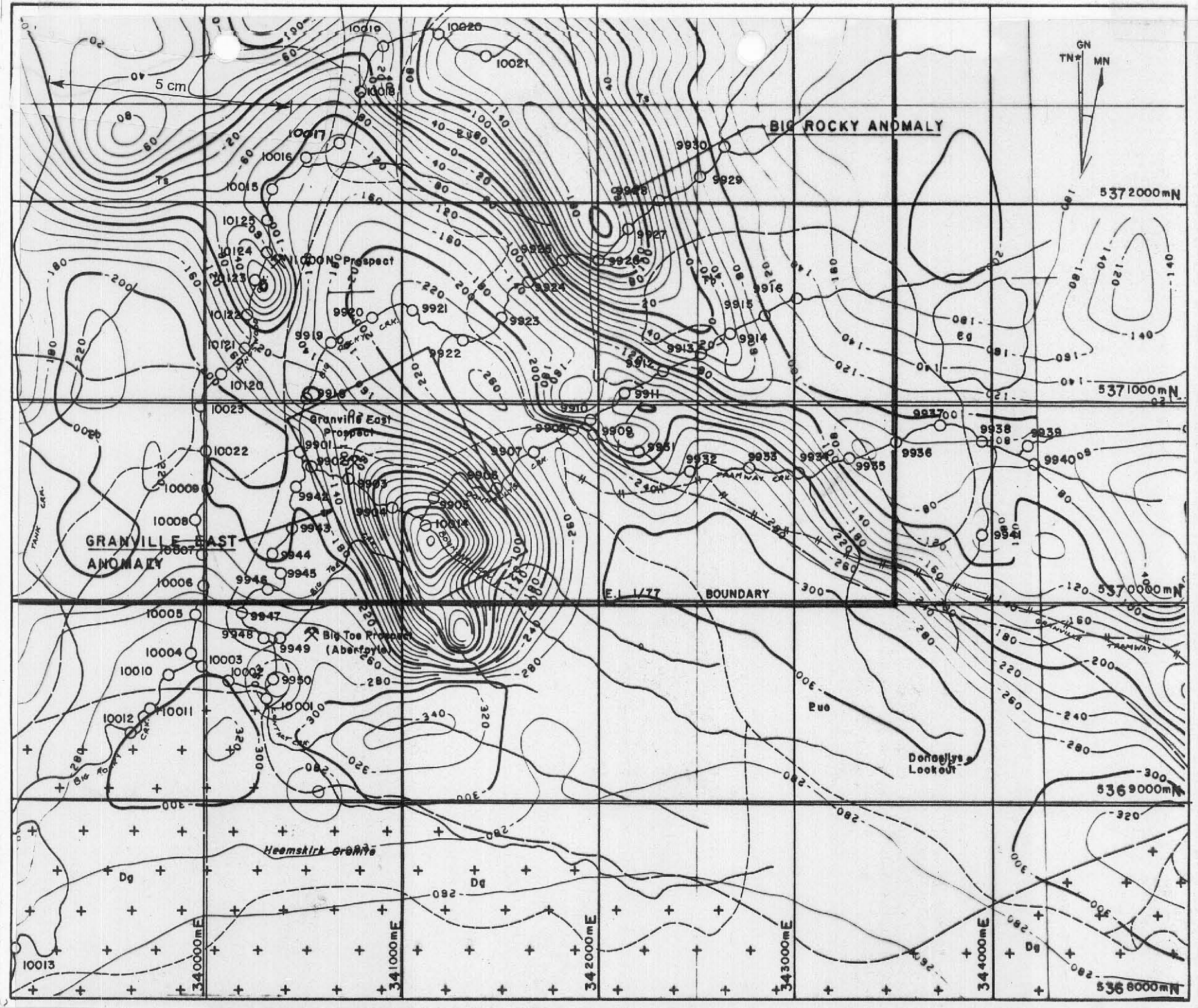
SAMPLE SITE RANKING

- Excellent
- Good
- Medium
- Poor

FIG. 2

10153

57308



GEOPEKO

PANNED CONCENTRATE DRAINAGE SAMPLE NUMBERS

E.L.1/77 ROCKY CAPE

metres

0 — 1000

1:25000

REFERENCE

TERT.	Ts	sand, silt, clay
PC	Euo	Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb	Tertiary basalt
Dg	Devonian granite
Eg	Cambrian gabbro

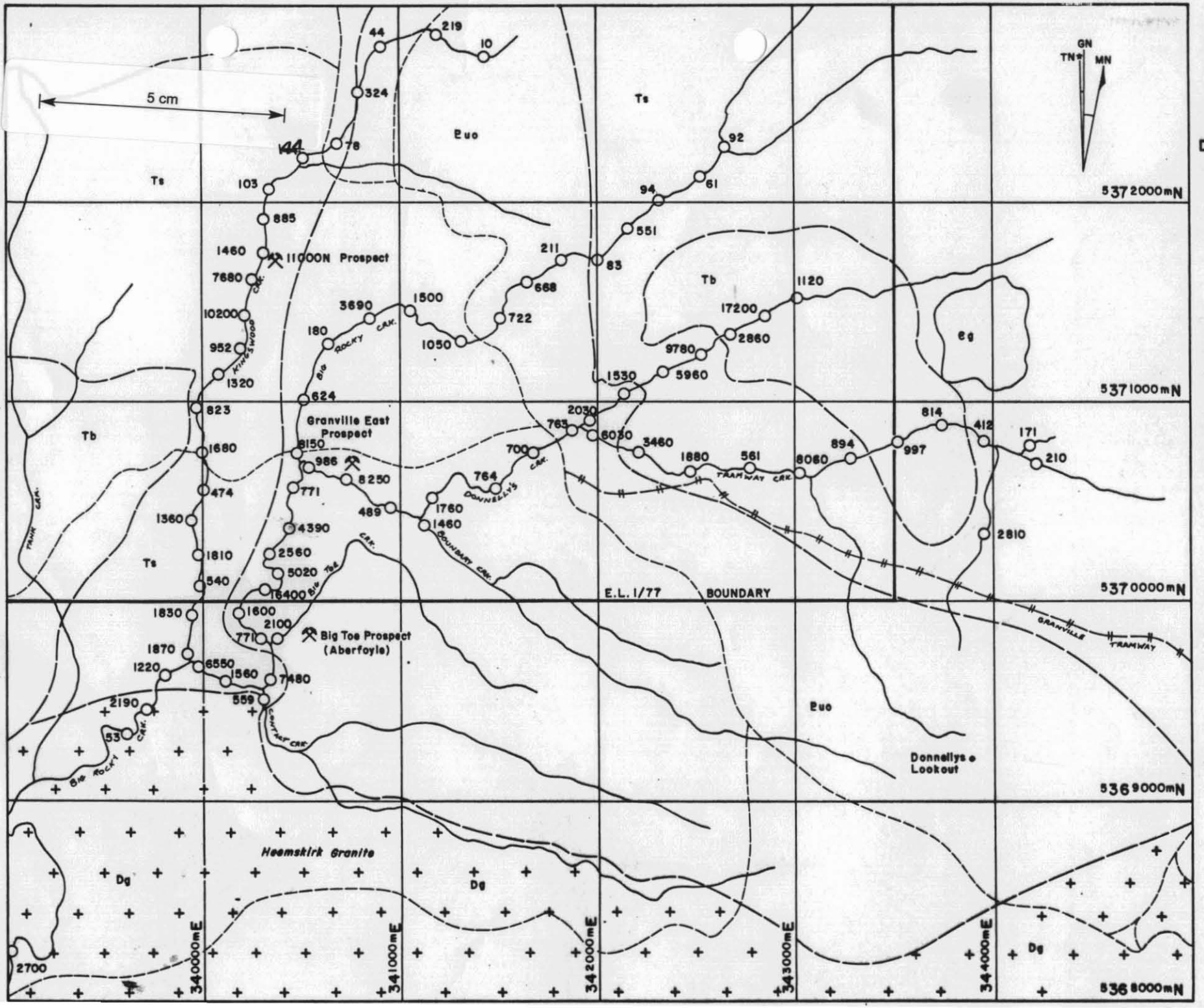
- sample locality
- geological boundary
- tracks
- creek

SAMPLE SITE RANKING

- Excellent
- Good
- Medium
- Poor

FIG. 2

102 (1981)
101
523089



GEOPEKO

103

Sn ppm

PANNED CONCENTRATE

DRAINAGE GEOCHEMISTRY

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

PC Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

Eg — Cambrian gabbro

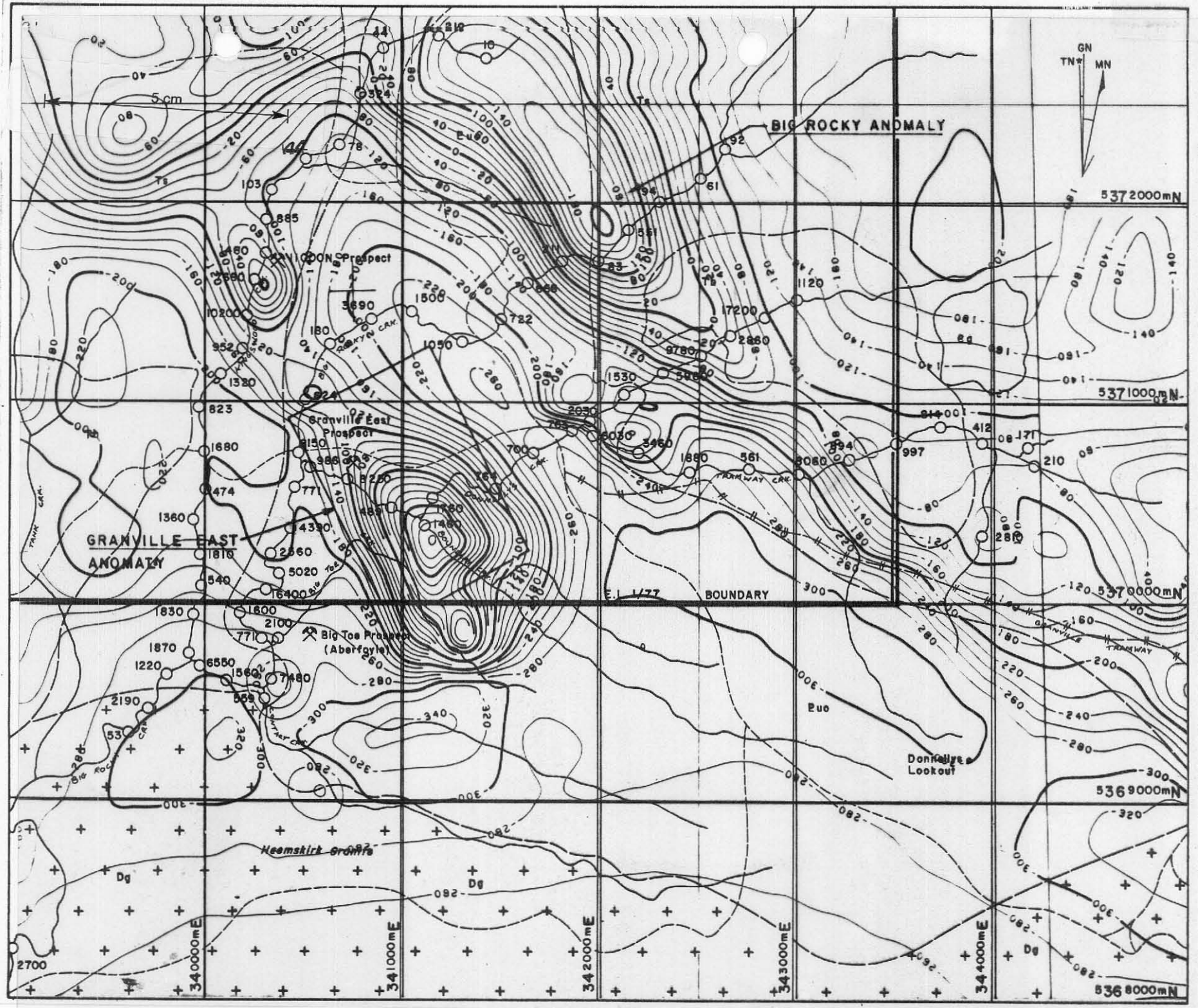
- sample locality
- geological boundary
- tracks
- creek

Sn ppm

- ○ >6400
- ○ 3200-6399
- ○ 1600-3199
- ○ 800-1599
- ○ 0-799

FIG.3

573090



GEOPEKO

Sn ppm

PANNED CONCENTRATE

DRAINAGE GEOCHEMISTRY

metres

0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

PC Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

Eg — Cambrian gabbro

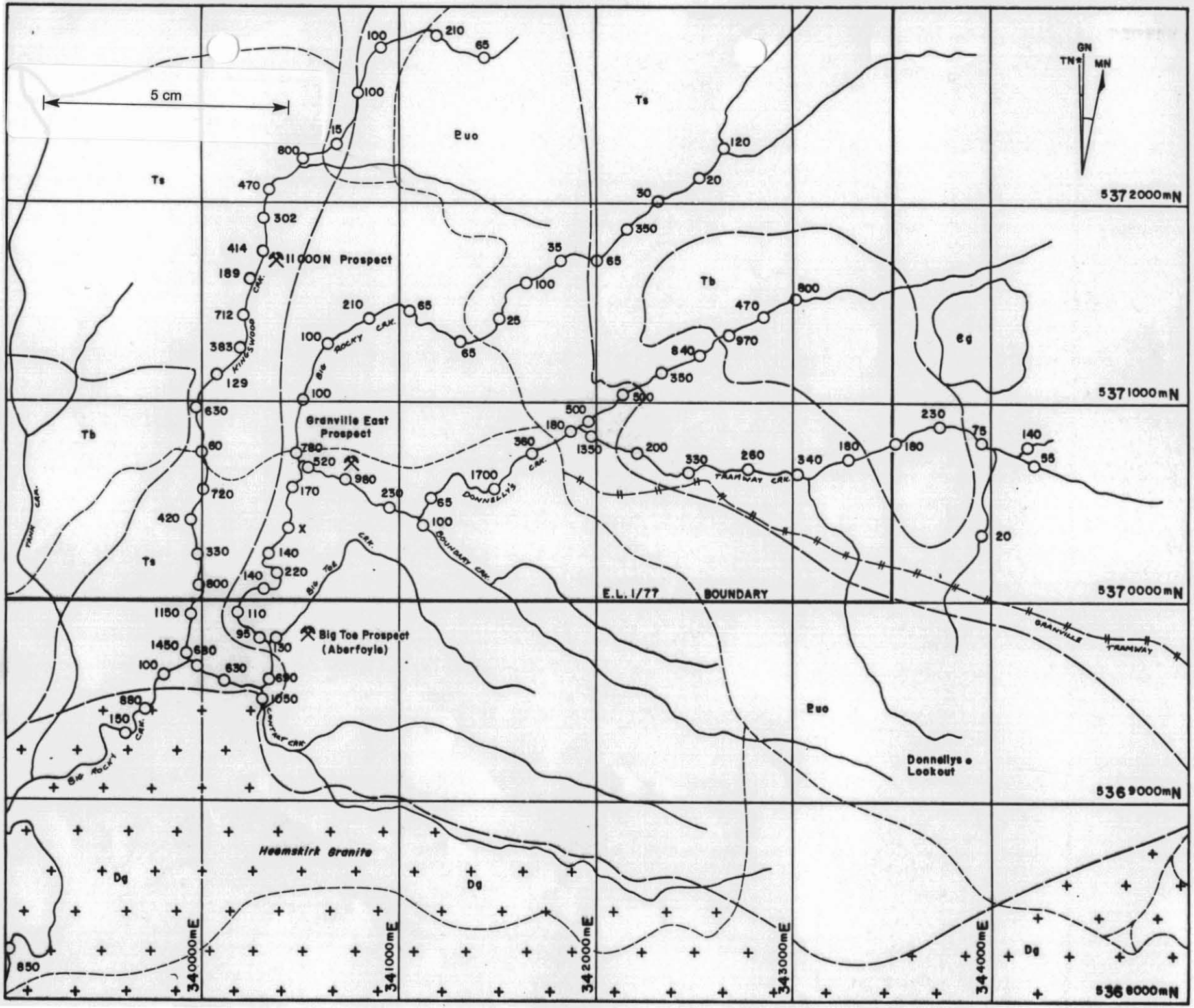
- sample locality
- geological boundary
- tracks
- creek

Sn ppm

- >6400
- 3200-6399
- 1600-3199
- 800-1599
- 0-799

FIG.3

103
102
15 3087
573090



GEOPEKO

Sn ppm -80mesh

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

PC Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

Eg — Cambrian gabbro

- sample locality
- geological boundary
- tracks
- creek

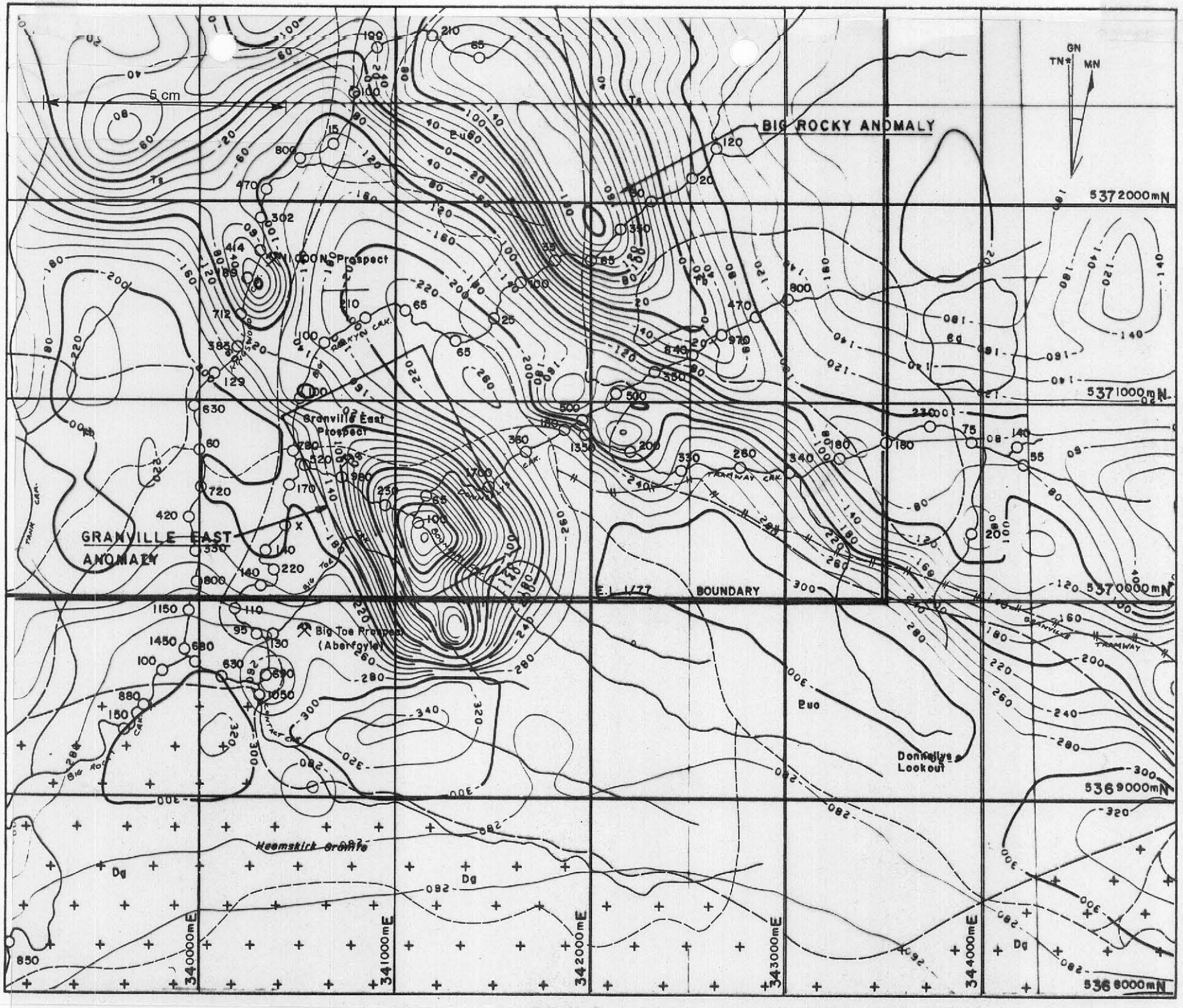
Sn ppm

- ○ >1600
- ○ 800-1599
- ○ 400-799
- ○ 200-399
- ○ 0-199

FIG.4

092

5730901



GEOPEKO

Sn ppm - Soil

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres

0 1000

1:25000

REFERENCE

TERT. Ts sand, silt, clay

PS Euo Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb Tertiary basalt

Dg Devonian granite

Cg Cambrian gabbro

- sample locality
- geological boundary
- tracks
- creek

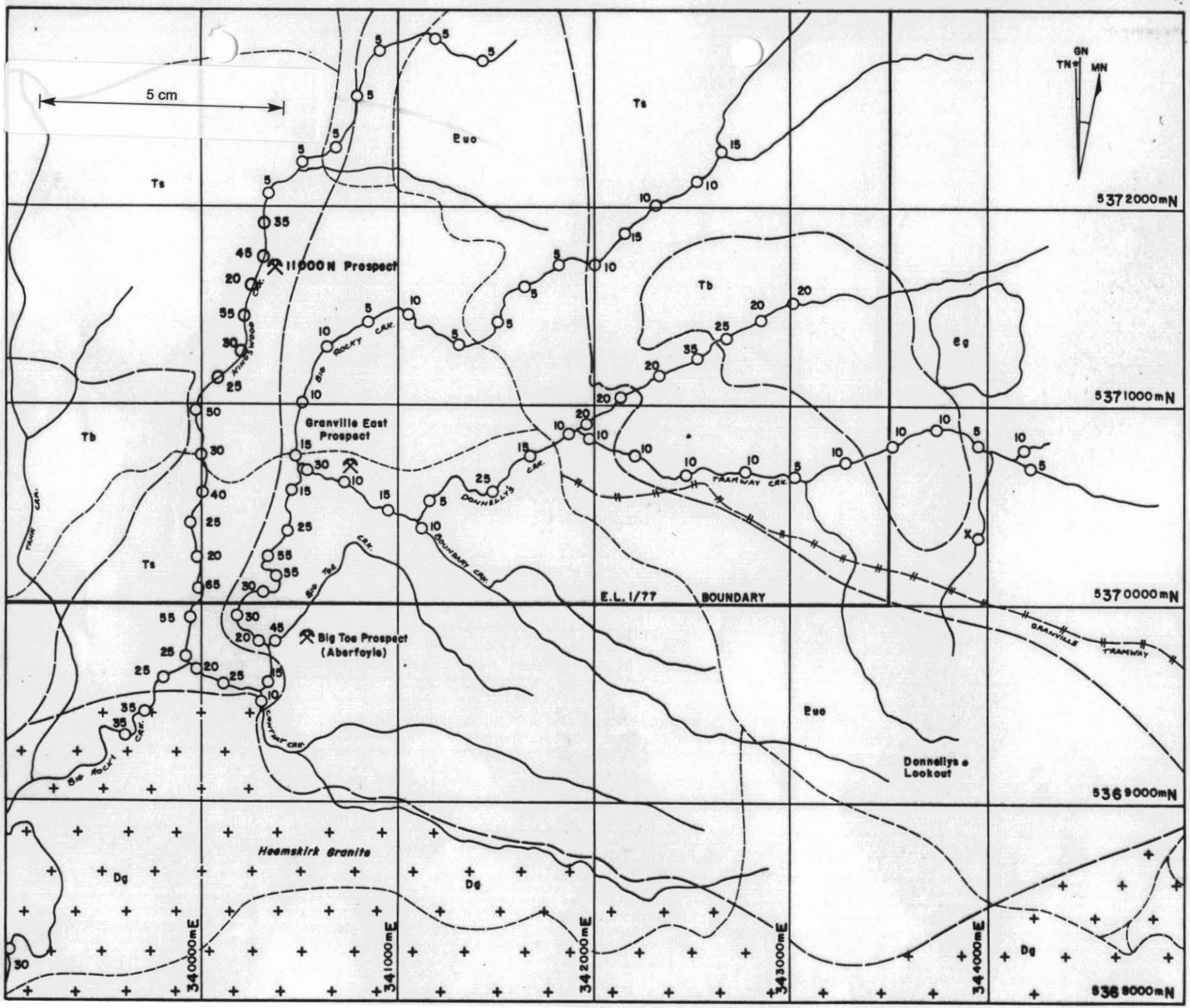
Sn ppm

- >1600
- 800-1599
- 400-799
- 200-399
- 0-199

FIG.4

092

57301



GEOPEKO86

Zn ppm -80 mesh

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

PC Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

Eg — Cambrian gabbro

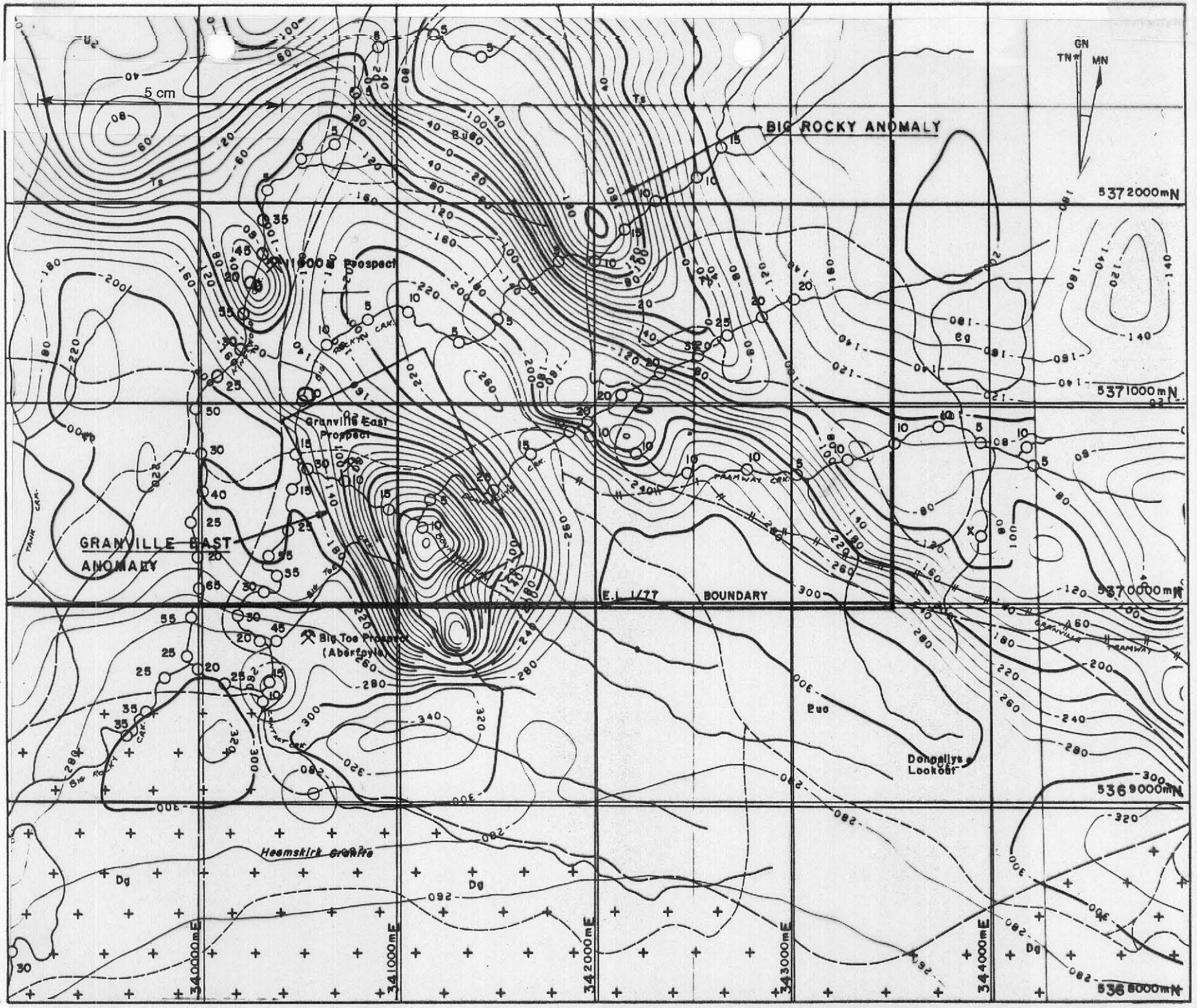
- sample locality
- geological boundary
- tracks
- creek

Zn ppm

- > 35
- 16-35
- X-15

FIG. 5

5730 92



GEOPEKO 86

Zn ppm -6 3581

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres

0 1000

1:25000

REFERENCE

TERT.	Ts	sand, silt, clay
PC	Euo	Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb	Tertiary basalt
Dg	Devonian granite
Eg	Cambrian gabbro

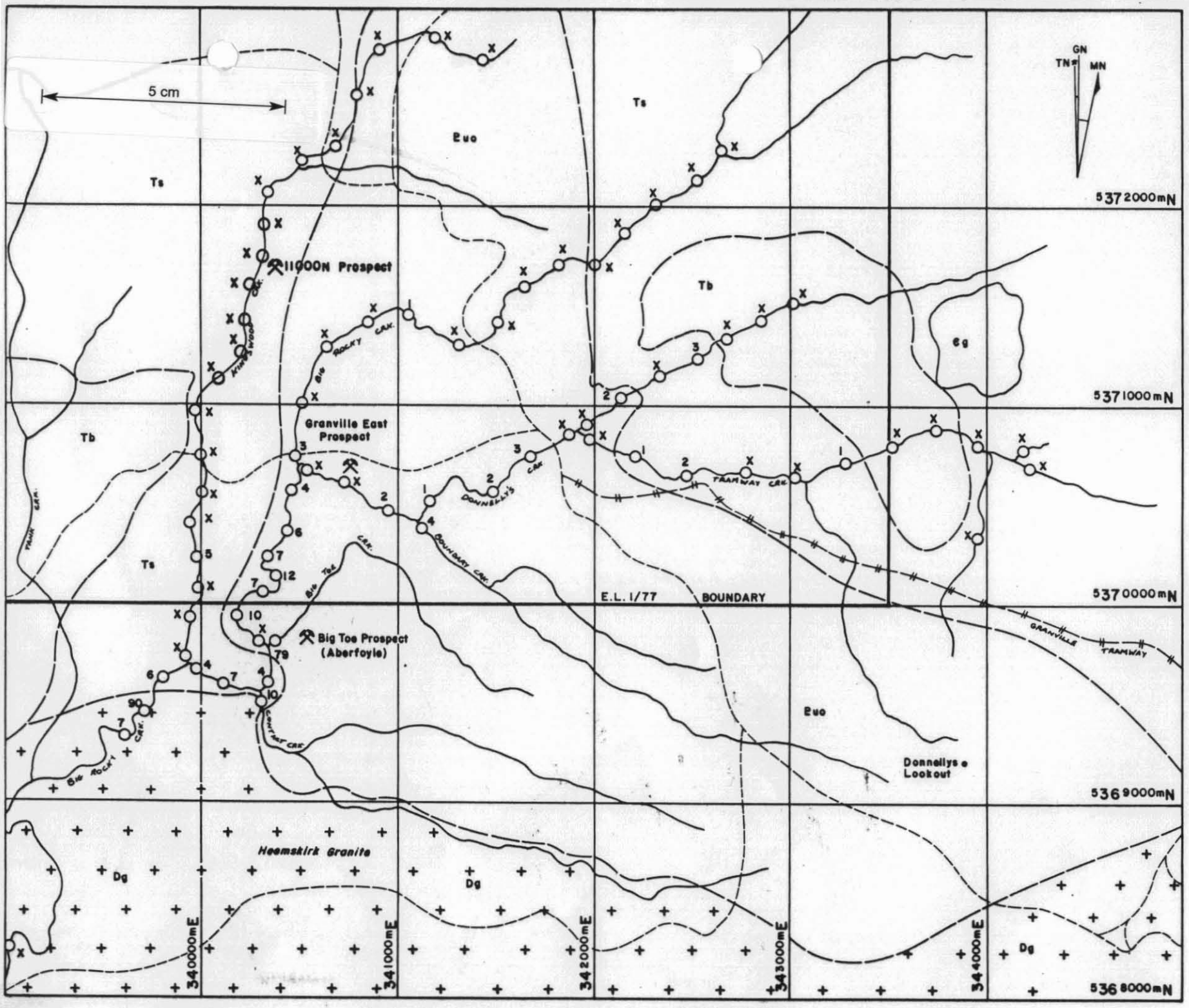
- sample locality
- geological boundary
- tracks
- creek

Zn ppm

- > 35
- 16-35
- x-15

FIG.5

23/3/82



GEOPEKO

087

As ppm -80 mesh

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

P€ Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

€g — Cambrian gabbro

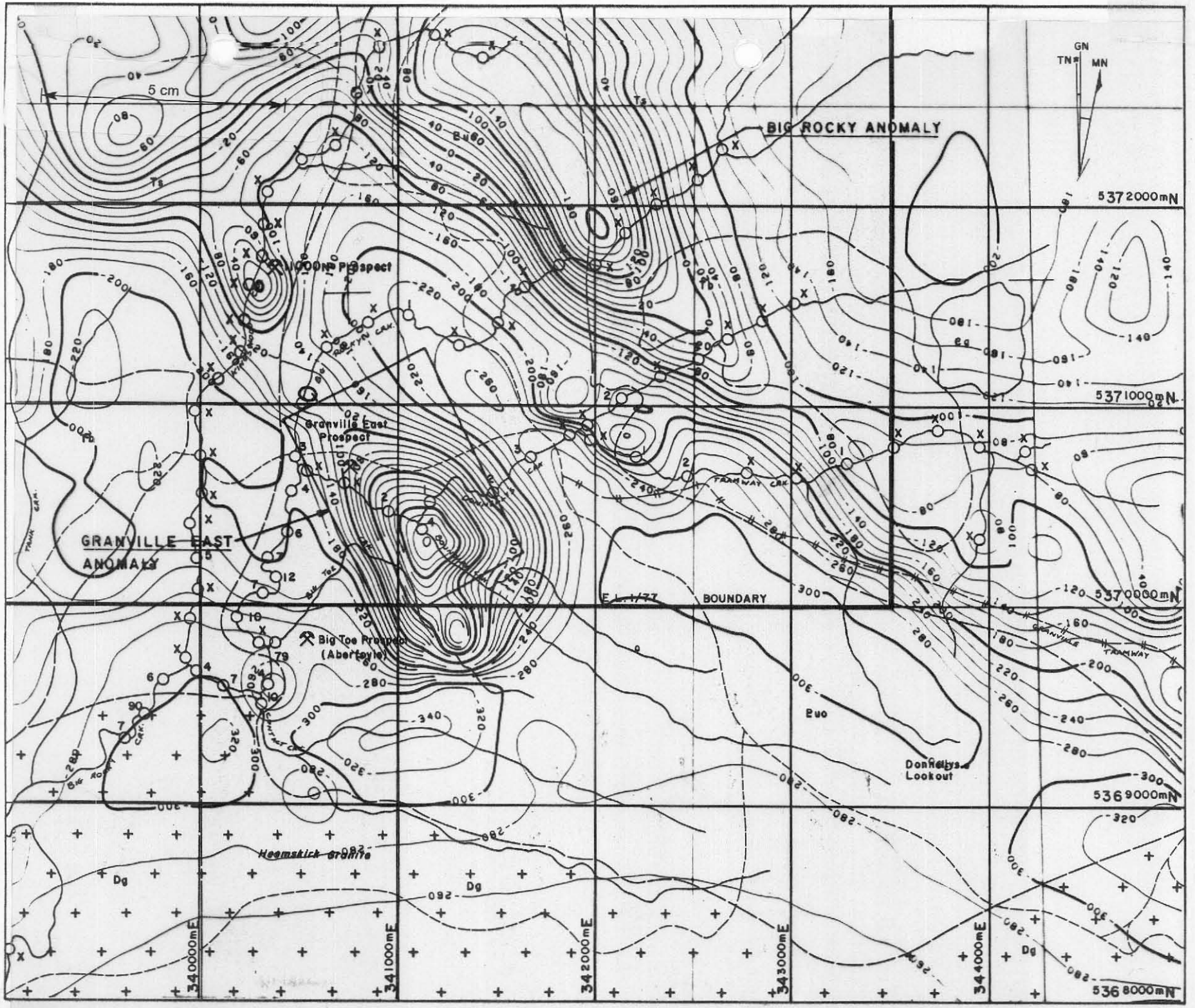
- sample locality
- geological boundary
- tracks
- creek

As ppm

- > 12
- 7-12
- 4-6
- X-3

FIG. 6

52303



GEOPEKO

As ppm - 80 mesh

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

P€ Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

€g — Cambrian gabbro

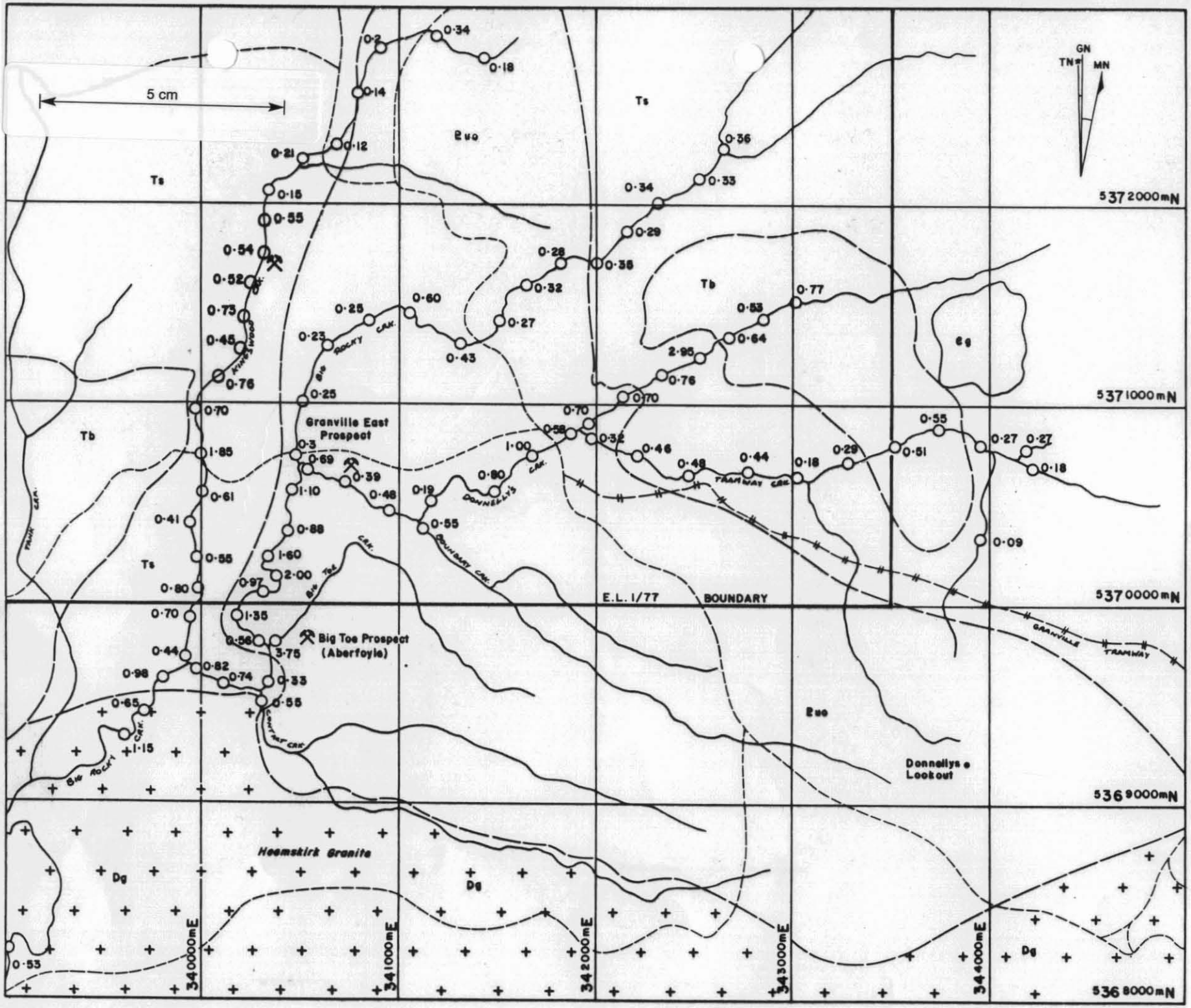
- sample locality
- geological boundary
- tracks
- creek

As ppm

- > 12
- 7-12
- 4-6
- X-3

FIG. 6

102087
15/3/87
252093



GEOPEKO 088

Fe % -80 mesh

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

P€ Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

€g — Cambrian gabbro

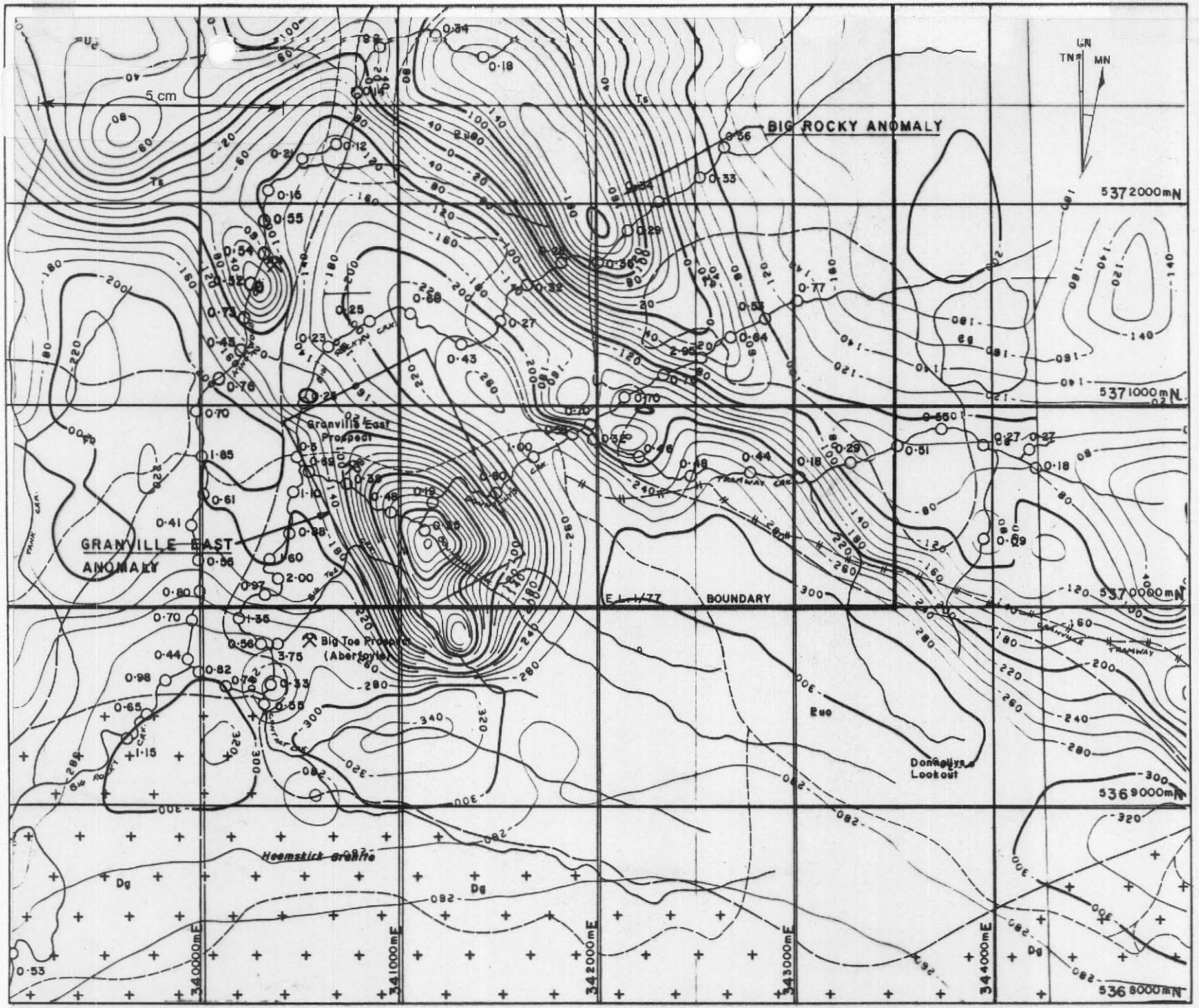
- sample locality
- geological boundary
- tracks
- creek

Fe %

- > 2·00
- 1·01 - 2·00
- 0·51 - 1·00
- 0 - 0·51

FIG. 7

52094



GEOPEKO 088

Fe % -80 MESH

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres

0 1000

1:25000

REFERENCE

TERT. Ts sand, silt, clay

PE Euo Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb Tertiary basalt

Dg Devonian granite

Cg Cambrian gabbro

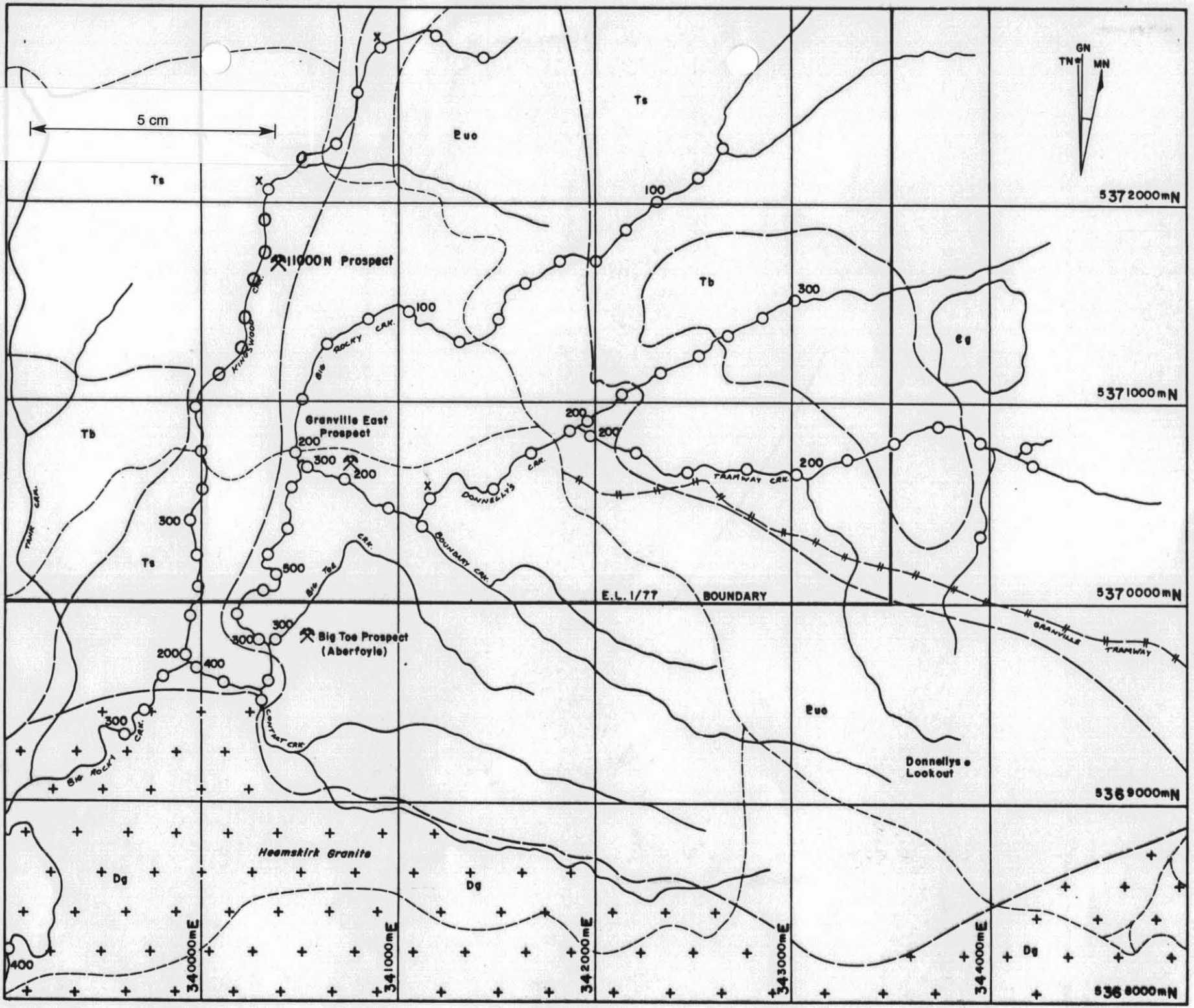
- sample locality
- geological boundary
- tracks
- creek

Fe %

- > 2·00
- 1·01 - 2·00
- 0·51 - 1·00
- 0 - 0·51

FIG. 7

E 60276



GEOPEKO 089

F ppm -80 mesh

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

PC Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

Eg — Cambrian gabbro

○ sample locality

—— geological boundary

----- tracks

~~~ creek

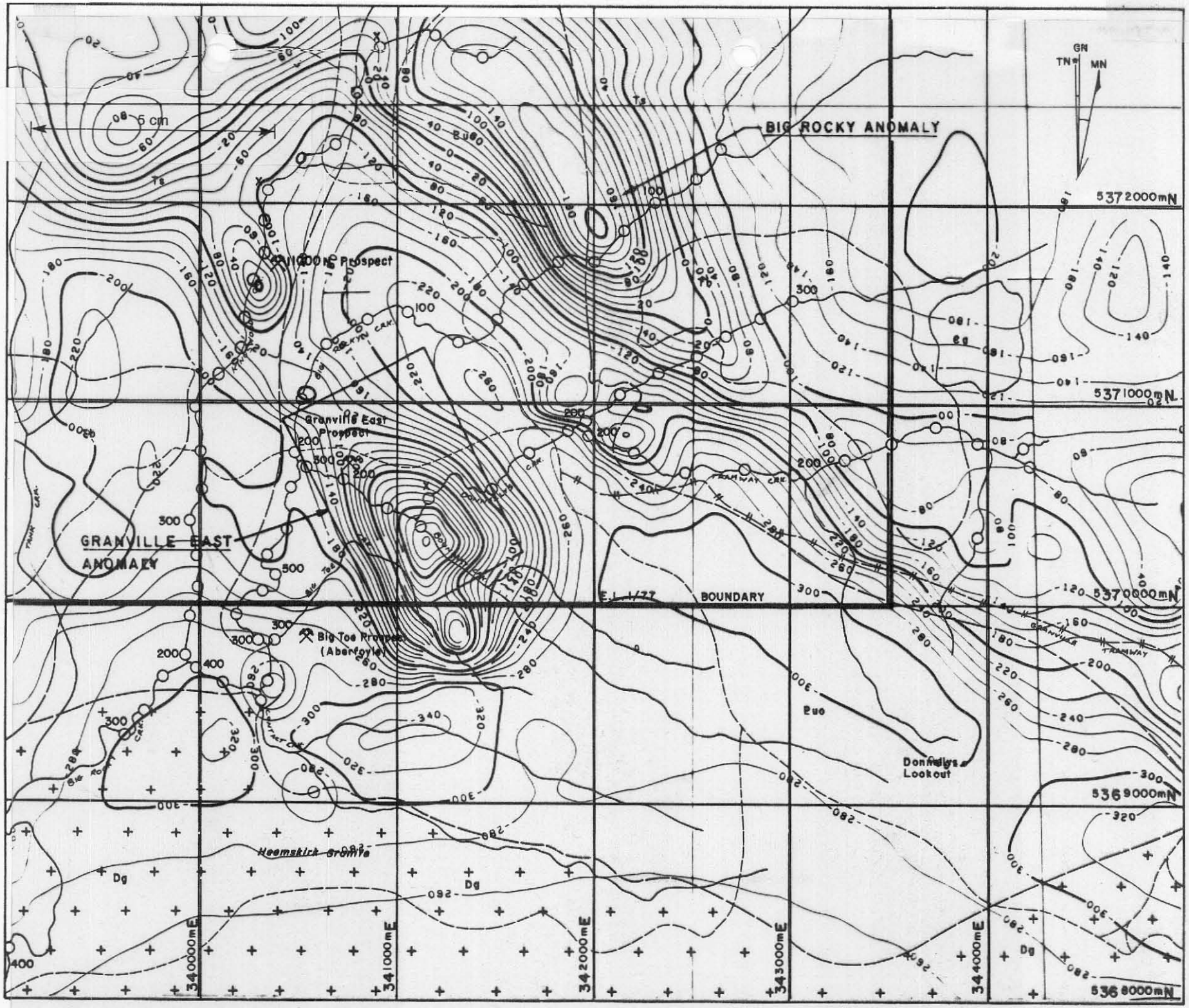
F ppm

○ > 200

○ X-200

FIG. 8

5730095
~~~



GEOPEKO

F ppm -80

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

REFERENCE

TERT. Ts — sand, silt, clay

P€ Puo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

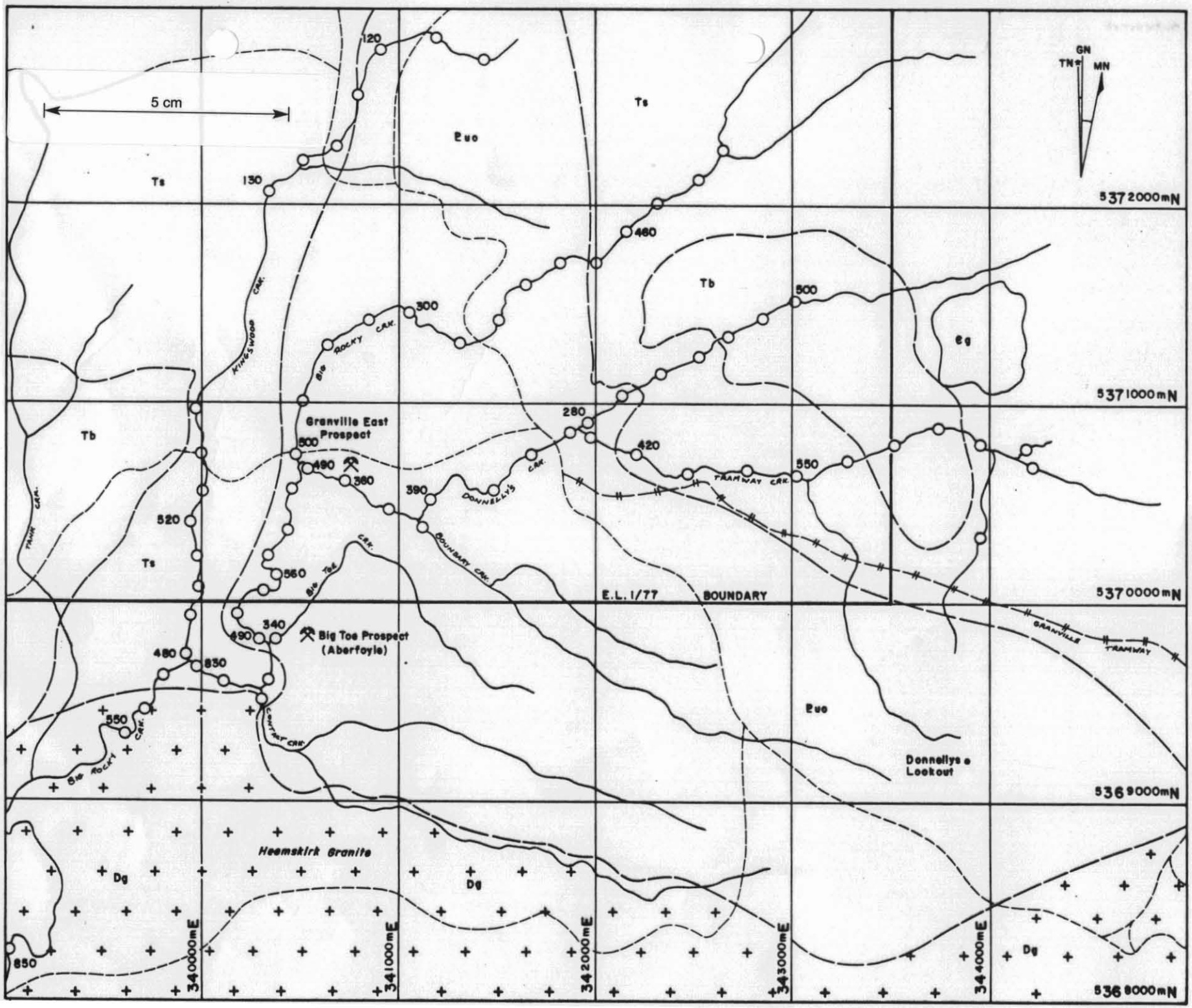
Eg — Cambrian gabbro

- sample locality
- geological boundary
- tracks
- creek

F ppm

- > 200
- X-200

FIG. 8



GEOPEKO

090

B ppm -80 mesh

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

PC Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

Cg — Cambrian gabbro

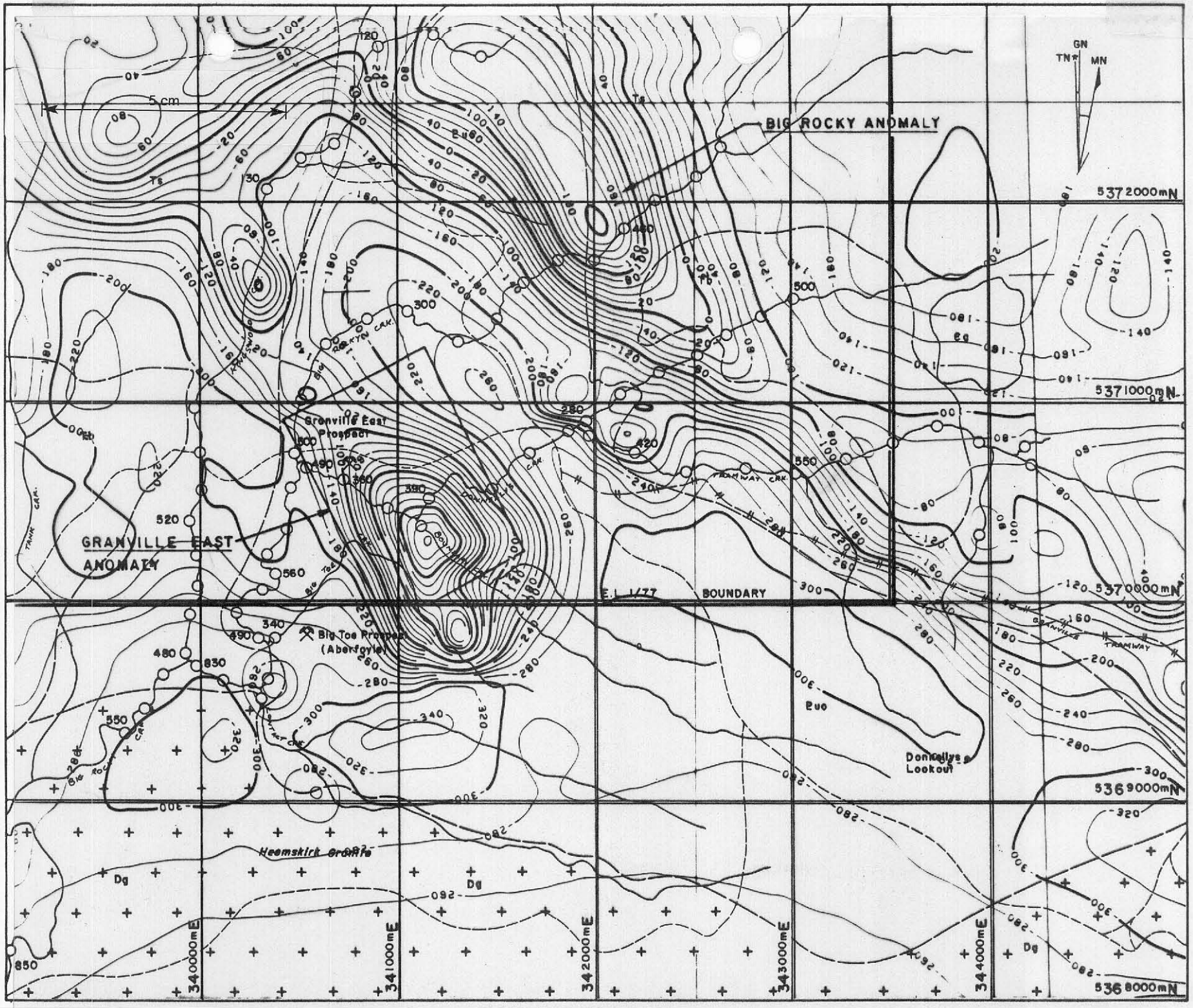
- sample locality
- geological boundary
- tracks
- creek

B ppm

- > 800
- 401-800
- 201-400
- 0-200

FIG. 9

573096



GEOPEKO

B ppm - 8[illegible]090

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT.	Ts	sand, silt, clay
P€	Euo	Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb	Tertiary basalt
Dg	Devonian granite
Eg	Cambrian gabbro

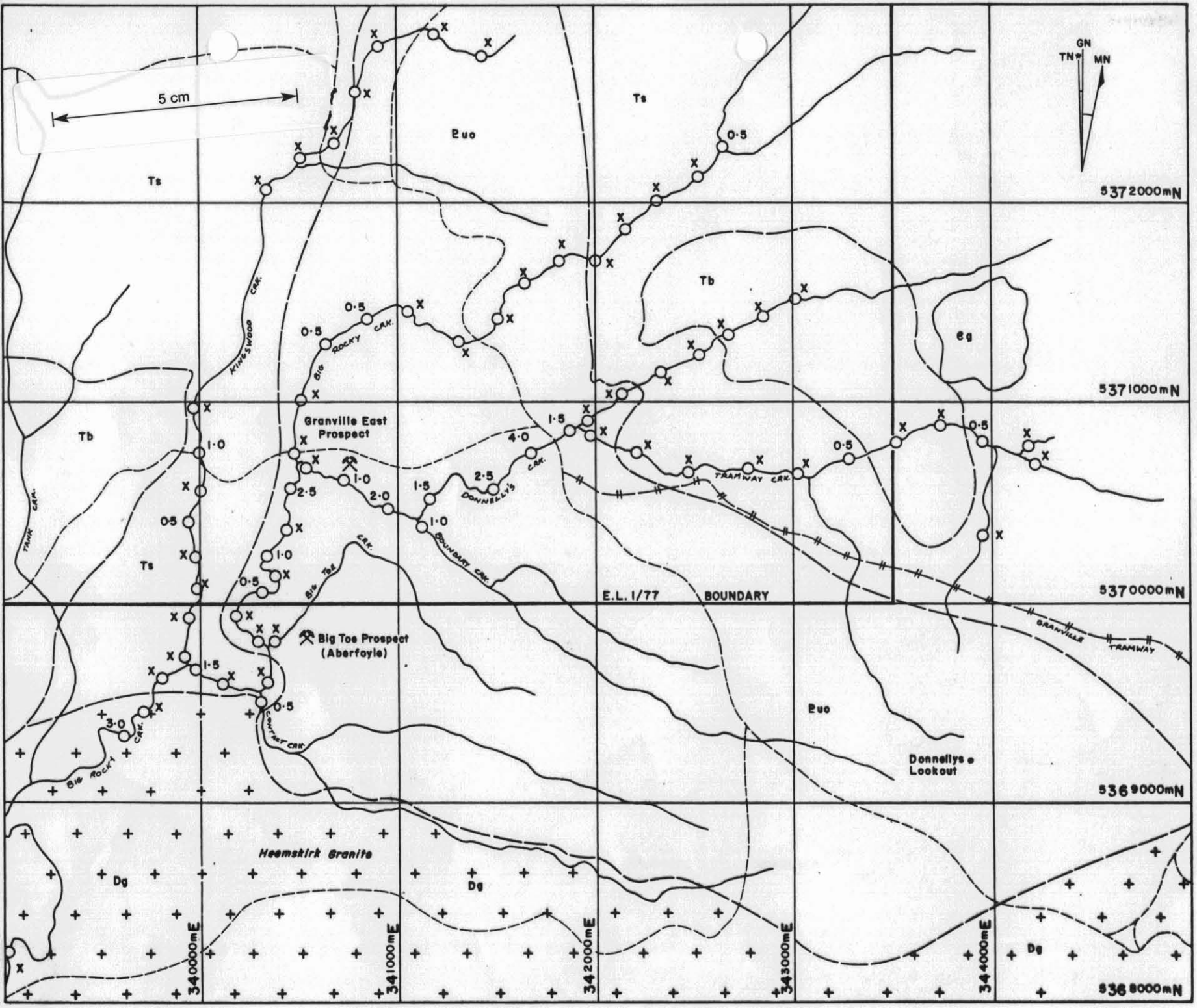
- sample locality
- geological boundary
- tracks
- creek

B ppm

- > 800
- 401-800
- 201-400
- 0-200

FIG. 9

96033



GEOPEKO

Mo ppm -80mesh

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

PC Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

Eg — Cambrian gabbro

○ sample locality

—— geological boundary

---- tracks

~~~ creek

Mo ppm

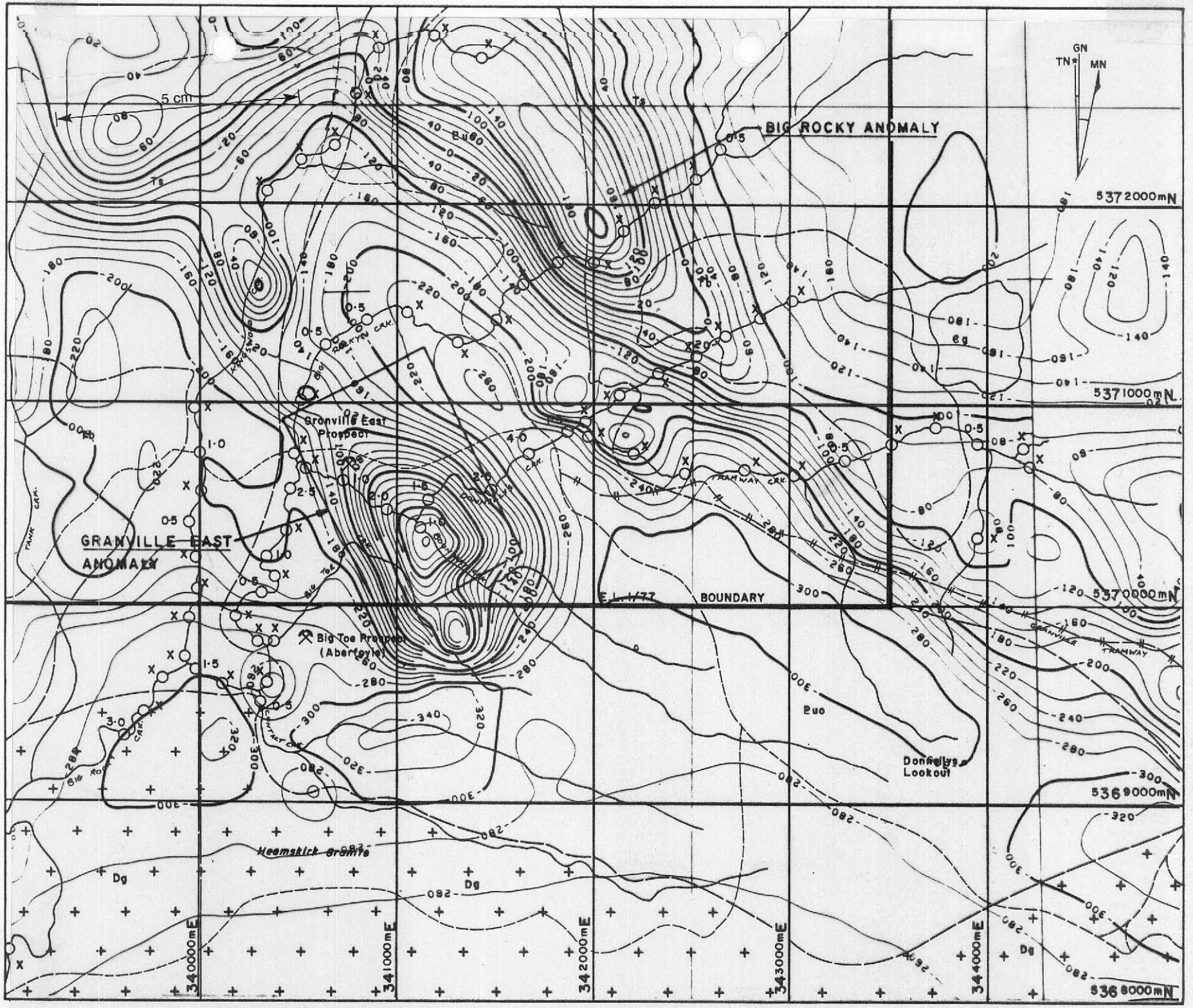
○ > 2

○ X - 1·99

FIG. 10

091

5730097
~~~



GEOPEKO

Mo ppm - 8

DRAINAGE GEOCHEMISTRY

E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

PC Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

Eg — Cambrian gabbro

- sample locality
- geological boundary
- tracks
- creek

Mo ppm

- ⊙ ≥ 2
- ⊙ X - 1·99

FIG. 10

T60

102 (1987)

093

REPORT CMS 82/5/18

Samples KR 11457, KR 11458

Two Sn-bearing samples were received for mineralogical examination, with particular reference to the occurrence of Sn phases.

Thin-sections were prepared and examined; these showed that, essentially, KR 11457 is an oxidised equivalent of KR 11458; thus, the main thrust of the investigation was directed towards the nature of the Sn phases in KR 11458.

A representative portion of the sample was crushed to -36 mesh B.S.S. (i.e. -425 μ), and this material was used for all further procedures.

1. A 20 gm fraction was boiled in strong HCl for one hour; the solution was assayed and found to contain 0.67 % Sn - this is "acid soluble Sn".

2. The insoluble residue was examined under the stereobinocular microscope; no cassiterite was detected, but there are numerous fragments of a whitish leucoxene-like mineral, as thin plates and cellular aggregates. This same material is recognisable in thin-section, where it is seen to occur along cleavage-planes of siderite, apparently replacive.

   Grains of this whitish material were hand-picked, and an X-ray powder photo was prepared; the pattern was consistent with poorly crystallized cassiterite. Further grains were heated to redness for 2-3 minutes and then X-rayed, giving a sharper pattern due to some recrystallization and/or loss of bound H_2O. The substance is semi-isotropic, often with fibrous textures, with a refractive index in the 1.59 to 1.60 range.

   All these parameters are consistent with hydrocassiterite; other minerals considered (but eliminated) were wickmanite, schoenfliesite and varlamoffite.

   The hydrocassiterite was evidently introduced from elsewhere; it may have been a mineral in its own right (perhaps in the form of stannic acid which was neutralised and precipitated when it encountered the siderite). However, it may have formed from the breakdown of, say, an Sn sulphide.

   The hydrocassiterite would be expected to be slightly acid-soluble, as demonstrated (1. above).

3. Another 50 gm portion was superpanned, and the concentrate was separated into magnetic and non-magnetic fractions, using a hand-magnet. The non-magnetic fraction was found to consist mainly of sulphides, with minor siderite and sulphide/magnetite composites. The sulphides were pyrite and arsenopyrite; much of the pyrite is pyritised pyrrhotite. No Sn sulphides were identified, nor would they be expected, in view of such a low soluble Sn content (0.67 %). Again, no "orthodox" cassiterite was seen in this fraction.

4. The magnetic fraction from the superpanner concentrate was assayed, but the sample was not reliable, because of the abundance of composites; hence, the assay of 1.74 % Sn cannot be regarded as the Sn content of magnetite; nevertheless, it is possible that magnetite could contain some Sn, but regardless of this it is clear that the dominant Sn phase is hydrocassiterite.

5. Examination of KR 11457 shows that the same whitish phase is present in the goethite boxworks (derived from siderite) and, by inference, is also hydrocassiterite.

Large Thin-Section

A transparent overlay was prepared and the various bands were numbered; they are individually described below:

1. Microgranular diopside, intergrown fibrous tremolite, fine carbonaceous(?) pigmentation.
2. Mainly fine matted tremolite with embedded fine diopside. Internal quartzose zones, and an outer zone of quartz with relict fine banding (?chert).
3. Mainly diopside, with poikiloblastic tremolite, passing into tremolite zones with diopsidic bands.
4. Fibrous tremolite, intergrown with talc, and some embedded diopside.
5. Thin quartz band with microgranular diopside selvedges.
6. Mainly fine matted fibrous tremolite.
7. Wider quartz band with diopside selvedges.
8. Matted fibrous tremolite with small diopside grains.
9. Coarser granular diopside with intercalated tremolite bands and scattered talc poikiloblasts (bright interference colours).

Isolated arsenopyrite crystals are scattered through the rock.

H.W. Fander, M. Sc.

GEOPEKO
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

INTER-OFFICE MEMO

TO: R.R. LARGE DATE: 5-11-82

FROM: R. PERRING COPIES TO:

SUBJECT: DRAINAGE SAMPLING IN THE GRANVILLE AREA WITHIN E.L. 1/77

1. INTRODUCTION

Big Rocky Creek and its tributaries were sampled in September 1982 to investigate tin geochemistry in streams north of the Heemskirk Granite. Two styles of tin mineralization have been identified in the area. The Oonah Quartzite and Slate is host to skarn tin mineralization at the Granville East, 11000N, and Big Toe Prospects (see figure 1). Tertiary gravels which occur extensively through the area contain alluvial tin, and one deposit is currently being mined one kilometre • east of Donnellys Lookout. Tin is shed both from the skarns and gravels into the streams and contributing to the drainage geochemistry. Samples were analysed for a range of elements to investigate the drainage geochemical signature of known skarn mineralization.

2. PROCEDURE

A panned concentrate sample and two stream sediment samples were taken at 200 metre intervals along Big Rocky Creek and its tributaries from a total of 72 sites (see figure 1).

A full dish of unsieved gravel with an average weight of 8.0kg wet (7.5kg dry) was panned down to give a concentrate with an average weight of approximately 25grams. The original sample was unsieved to prevent dissimilar prepanning concentration resulting from one sample consisting of more coarse fraction than another. Average concentration by panning was 300 times. Samples were selected, as far as possible from similar quality heavy mineral trapsites. Site ranking is given in Figure 2. Panned concentrate samples were analysed for Sn and W.

Two stream sediment samples (A and B) were taken at each site. Nine "A" samples was used in a size fraction orientation survey for tin geochemistry. All B samples was submitted for analyses after the results of the orientation survey were known. The minus 80 mesh fraction was analysed for Cu, Pb, Zn, Ag, Fe, As, Sn, W, Bi and Mo. Nineteen B samples were also analysed for B and F. The range of assay results are given in Table 1.

3. ORIENTATION SURVEY

Nine drainage samples from Donnellys Creek (see figure 1) were selected for an orientation survey to determine the optimum size fraction for routine tin analyses. Each sample was sieved into five fractions and analysed for Sn and W. The results of tin geochemistry and fractions analysed are given in Table 2. The -80mesh fraction gave highest tin assays in six samples, and the +80mesh to -60mesh fraction gave highest assays in three samples. It was decided to routinely analyse the -80mesh fraction. All samples contained tungsten at or below the limits of detection (4ppm).

4. RESULTS OF GEOCHEMISTRY

TIN (Panned Concentrates)

Four areas strongly anomalous in tin geochemistry have been outlined (see figure 3). Two samples from the vacinity of the Granville East tin prospect assayed 8150ppm and 8250ppm Sn. Three samples from the lower reaches of Big Rocky Creek within the vacinity of Aberfoyle's Big Toe prospect assayed 6550ppm 7480ppm and 16400ppm Sn. Two samples from Kingswood Creek immediately downstream from the 11000N prospect assayed 7680ppm and 10200ppm Sn. A fourth area defined by two samples from Donnelly's Creek and one from Tramway Creek which assayed 9780ppm, 17200ppm and 8060ppm Sn respectively, falls on the southeast end of the Big Rocky aeromagnetic anomaly. Tertiary gravels in this area may be contributing to the drainage geochemistry.

TIN (-80Mesh)

The highest tin assay (1700ppm Sn) came from Donnelly's Creek on the northeast margin of the Granville East grid area (see figure 4). Donnelly's Creek is weakly anomalous in tin in its upper reaches and immediately downstream from the Granville East prospect. A number of samples from the lower reaches of Kingswood Creek are also anomalous in tin geochemistry.

ZINC

Zinc assays ranged from 5ppm to 65ppm Zn. The lower reaches of Kingswood and Big Rocky Creeks and the upper reaches of Donnelly's Creek are weakly anomalous in zinc geochemistry (see figure 5). Tertiary basalts may be contributing to the zinc geochemistry in Kingswood and Donnelly's Creeks although Tramway Creek which also drains through Tertiary basalt isn't anomalous in zinc. The sample taken immediately downstream from the Granville East tin prospect was not anomalous in zinc geochemistry and consequently zinc appears to be unsuitable as an indicator of skarn mineralization. Generally there appears to be no correlation between tin and zinc geochemistry.

ARSENIC

Arsenic assays range from 1ppm to 90ppm As. The lower reaches of Big Rocky Creek are weakly anomalous in arsenic geochemistry (see figure 6). There is no correlation between arsenic and tin geochemistry.

IRON

Iron assays range from 0.85% to 3.75%Fe (see figure 7). There is good correlation between iron and zinc geochemistry.

FLUORINE AND BORON

Fluorine geochemistry is highest in samples taken within one kilometre of the Heemskirk Granite (see figure 8). Boron geochemistry is highest on the contact, and within the Heemskirk Granite and is most probably related to tourmaline alteration.

OTHERS

Copper, lead, silver, bismuth, molybdenum and tungsten geochemistry was very weak and shows little character.

5. DISCUSSION

A number of tin drainage anomalies have been outlined, with strongly anomalous drainage in the vacinity of known skarn mineralization. Of the range of elements investigated, no element conclusively gave a geochemical signature which could be used to discriminate between skarn derived tin mineralization and Tertiary tin. Results of the drainage geochemistry should be reviewed on the completion of the regional mapping when the contribution of various lithologies to the geochemistry can be more fully appreciated.

An area strongly anomalous in tin drainage geochemistry has been outlined on the south east end of the Big Rocky aeromagnetic anomaly and may represent skarn derived mineralization. This tin anomaly however also coincides with Tertiary gravels, which are thought to underlie the basalts in the area, and may be contributing to or causing the anomaly.

To further qualify the tin drainage geochemistry, sample sites strongly anomalous in tin should be resampled. The mineralogy, morphology, and possibly the trace element geochemistry of stanniferous minerals should be investigated, and compared with samples taken from known skarn and Tertiary sources.

TABLE 1

RANGE OF ASSAY RESULTS

ELEMENT	LOWEST ASSAY	HIGHEST ASSAY
Cu	< 5ppm	15ppm
Pb	< 5ppm	25ppm
Zn	< 5ppm	65ppm
Ag	< 0.5ppm	1.0ppm
Fe	0.085%	3.75%
Bi	< 2ppm	4ppm
Mo	< 0.5ppm	4.0ppm
As	< 1ppm	90ppm
Sn (-80mesh)	< 10ppm	1700ppm
W (-80mesh)	< 10ppm	20ppm
Sn (pan con)	10ppm	17200ppm
W (pan con)	< 4ppm	53ppm
B	120ppm	850ppm
F	< 100ppm	500ppm

TABLE 2

RESULTS OF SIZE FRACTION ORIENTATION SURVEY FOR TIN

Sample NO	+20	-20 to +40	-40 to +60	-60 to +80	-80
TD 9951	6	14	238	1050	1250
TD 9952	X	X	15	147	311
TD 9953	12	19	154	512	478
TD 9954	X	X	11	191	69
TD 9955	X	X	7	29	222
TD 9957	4	10	46	222	121
TD 9962	31	9	63	254	981
TD 9964	X	X	X	190	376
TD 9966	X	21	30	19	1100

U.S.A. Sieve Series (A.S.T.M. Specification)

Mesh No	Aperture (mm)
20	0.850
40	0.425
60	0.250
80	0.180

GEOPEKO
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

INTER-OFFICE MEMO

TO: R.R. LARGE DATE: 29-11-82

FROM: R.J. PERRING COPIES TO:

SUBJECT: MICROSCOPIC INVESTIGATION OF CASSITERITE IN DRAINAGE SAMPLES FROM THE GRANVILLE HARBOUR AREA.

INTRODUCTION

Cassiterite panned from Tertiary gravels and streams draining known skarn mineralization was investigated under a binocular microscope to establish whether the morphology of cassiterite could be used to discriminate between tin derived from a Tertiary gravel source and tin derived from a skarn. Contrasting morphology could be used to eliminate areas of anomalous tin drainage geochemistry resulting from cassiterite shed from deposits of Tertiary gravel.

Panned concentrate samples were obtained from the following sources:

1. Recent wash immediately overlying the Granville East calc silicate horizon.
2. Gravels from Donnelly's Creek adjacent to the Granville East calc silicate horizon (site 9903, see figure 1).
3. Gravels from a stream draining the St. Dizier skarn deposit.
4. Tertiary gravels from a pit 1km east of St. Dizier.
5. Soils from Specimen Hill at Balfour.
6. Gravels from site 9906 in Donnelly's Creek, from which a sample assayed 1700ppm Sn (-80mesh stream sed.).
7. Gravels from two sites, 9913 and 9915, in upper Donnelly's Creek which assayed 9780ppm and 17200ppm Sn (pan. con.) respectively.

RESULTS

1. Fifty grams of cassiterite was panned from gravels (recent wash) overlying the Granville East calc silicate horizon. Approximately 10% of all cassiterite grains have at least one crystal face. Grains over 2mm in diameter tend to be more euhedral having 3 or 4 crystal faces while those less than 2mm in diameter usually have a hackly angular surface with no crystal form. There are no signs of abrasion or rounding on any grain and the cassiterite could not have travelled far if moved at all.
   The more euhedral the grain the darker the colour of the grain.

106

2. The concentrate panned from Donnelly's Creek adjacent to the Granville East costean consisted of angular and well rounded quartz, well rounded tourmaline (which had probably been through Tertiary sedimentation), a few well rounded grains of cassiterite (probably also Tertiary), one grain of semi crystalline subhedral cassiterite, and a few hackly (angular) grains of cassiterite which couldn't have moved far along the stream and point to a primary source of cassiterite close by.

3. Gravels were panned from a stream draining through the St Dizier skarn deposit. The concentrate consisted of angular grains of quartz, magnetite, cassiterite, a few grains of euhedral cassiterite, and two grains of angular tarnished pyrite. There is no Tertiary derived component in the sample and the morphology of the grains points to a source of cassiterite and magnetite close by.

4. Cassiterite was obtained from Tertiary gravels 1km east of St. Dizier from an operating tin show. It was assumed the cassiterite would have undergone considerable rounding in the high energy Tertiary depostional environment however cassiterite less than 2mm in diameter was surprisingly angular (subhedral to euhedral) indicating very little attrition. The sample also consisted of tourmaline and pyrite. The pyrite was consistantly euhedral or angular and may not be detrital but have grown in the relatively humic Tertiary gravel. Striations are clearly visible on the surface of tourmaline crystals again indicating a surprising lack of attrition. Cassiterite over 2mm in diameter showed some rounding and is slightly darking in colour than cassiterite from Granville East; characteristics which could be used to distinguish Teritary gravel and skarn derived tin.

5. For purpose of comparison, cassiterite was panned from soils at Specimen Hill-Balfour to investigate the morphology of cassiterite from a quartz stockwork style of mineralization. Ninety percent (90%) of all grains were euhedral and dark brown-black in colour compared with the cassiterite at Granville East which is lighter in colour and considerably less crystalline.

6. Panned concentrate from site 9906.

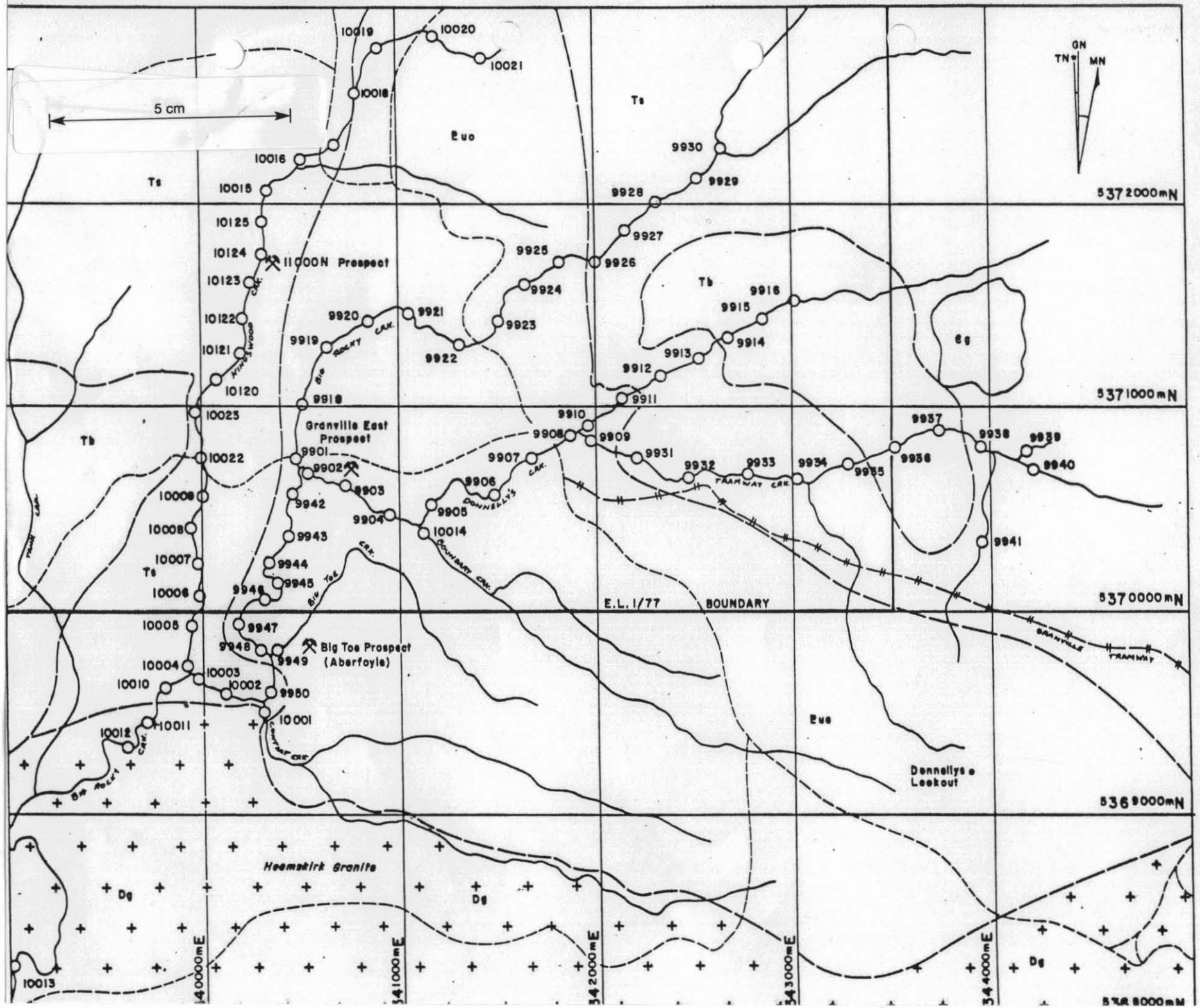
   All grains of quartz and tourmaline were very well rounded as was most of the cassiterite however there were a couple of grains of cassiterite, one 3mm in diameter which was crystalline and showed no signs of rounding, and another 1.5mm in diameter which was slightly rounded (as rounded as the Tertiary derived cassiterite). Conflicting observations however some importance must be placed on this area because of the cassiterite which looked as though it hadn't travelled far.

7. Panned concentrate from site 9915.

The concentrate consisted of quartz, tourmaline, topaz, garnet and cassiterite. Most grains were well rounded. A few grains of cassiterite showed crystal faces which had been frosted and edges which had been rounded by attrition. A couple of grains of cassiterite showed fresh crystal faces or angular hackly surfaces which may indicate a source of cassiterite other than Tertiary gravels in the vicinity. Most of the well rounded cassiterite would be from Tertiary gravels.

CONCLUSIONS

It is possible to use the morphology of cassiterite to distinguish between Tertiary gravel and skarn derived tin, however because the Tertiary cassiterite isn't that well rounded it means cassiterite derived from a skarn that had been transported downstream 100 metres or so in a high energy flow may assume the morphology of cassiterite which had been through Tertiary sedimentation. Therefore morphology of cassiterite should not be used to exclude areas from follow-up but used to rank areas and give priority to areas where samples contained euhedral or angular grains of cassiterite.



GEOPEKO

PANNED CONCENTRATE DRAINAGE SAMPLE NUMBERS E.L.1/77 ROCKY CAPE

metres 0 1000

1:25000

REFERENCE

TERT. Ts — sand, silt, clay

PC Euo — Donah Quartzite & Slate

IGNEOUS ROCKS

Tb — Tertiary basalt

Dg — Devonian granite

Eg — Cambrian gabbro

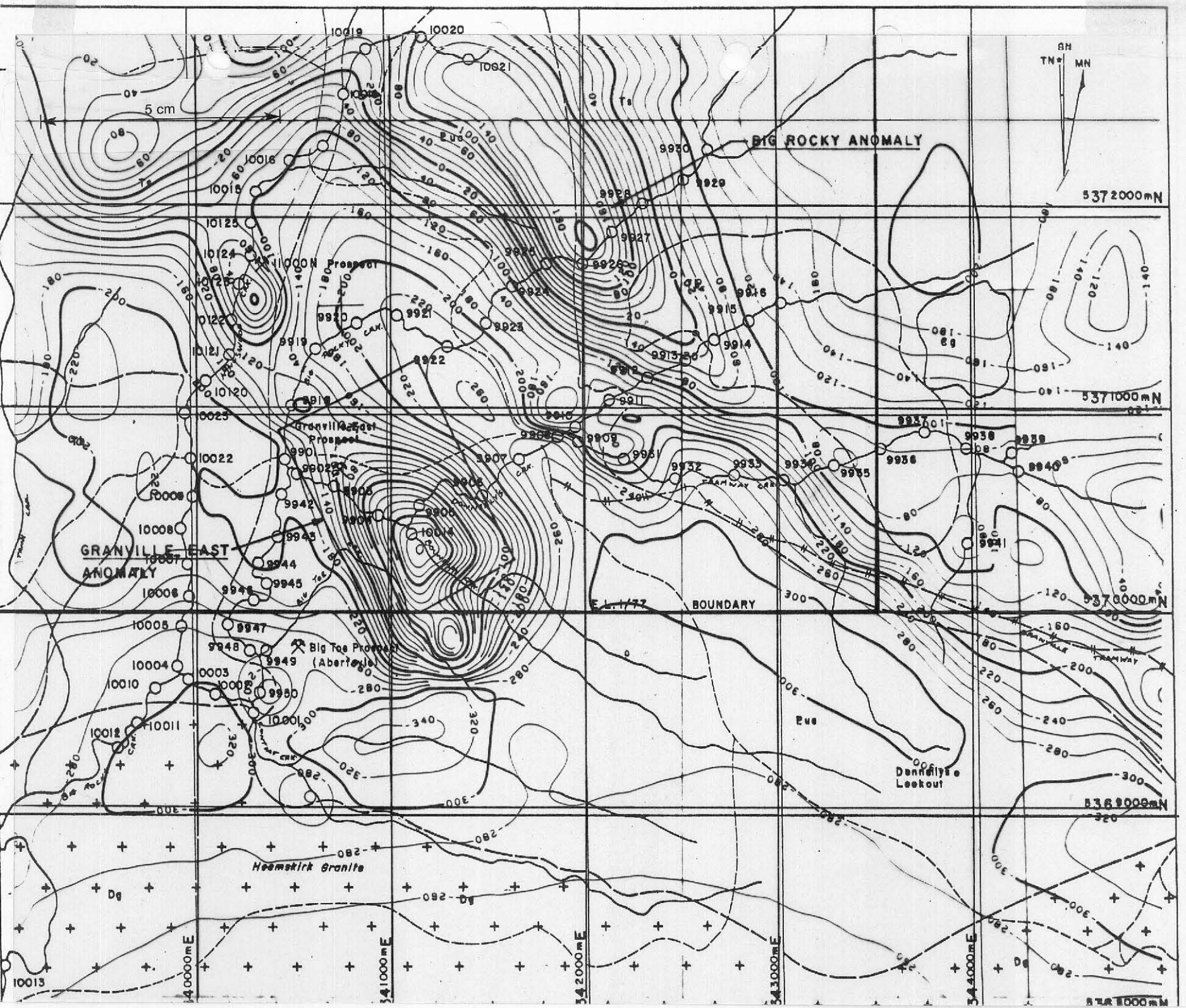
- sample locality
- geological boundary
- tracks
- creek

SAMPLE SITE RANKING

- Excellent
- Good
- Medium
- Poor

FIG. 1

108
573108



GEOPEKO

PANNED CONCENTRATE DRAINAGE SAMPLE NUMBERS
E.L.1/77 ROCKY CAPE

metres
0 1000

1:25000

REFERENCE

TERT
- Ts — sand, silt, clay

PE
- Eue — Oonah Quartzite & Slate

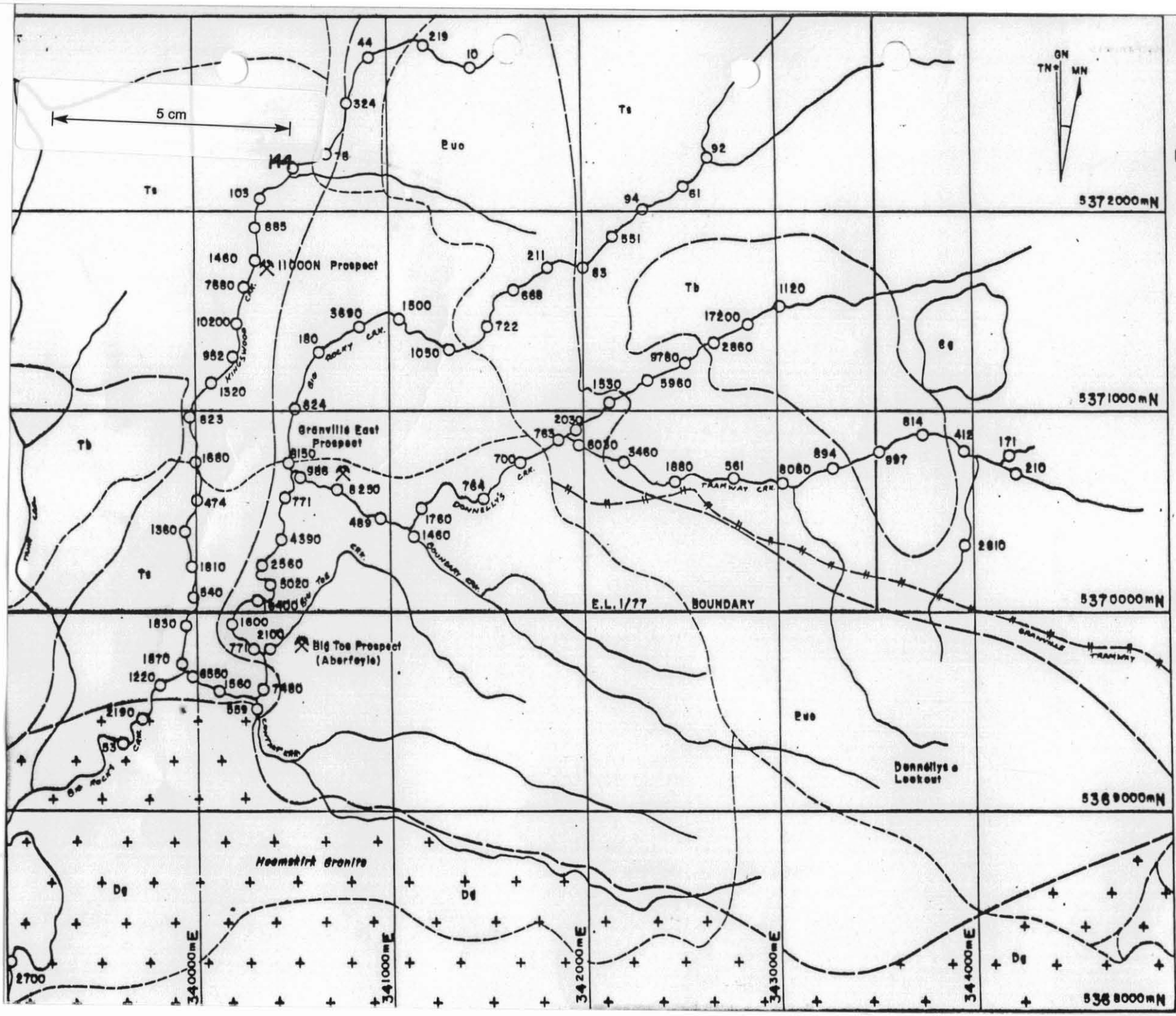
IGNEOUS ROCKS
- Tb — Tertiary basalt
- Dg — Devonian granite
- Cg — Cambrian gabbro

- sample locality
- geological boundary
- tracks
- creek

SAMPLE SITE RANKING
- Excellent
- Good
- Medium
- Poor

FIG. 1

102 1977
108
5473
108



GEOPEKO

Sn ppm

PANNED CONCENTRATE

DRAINAGE GEOCHEMISTRY

metres 0 — 1000

1:25000

REFERENCE

TERT
- Ts — sand, silt, clay

PC
- Euo — Oonah Quartzite & Slate

IGNEOUS ROCKS
- Tb — Tertiary basalt
- Dg — Devonian granite
- Cg — Cambrian gabbro

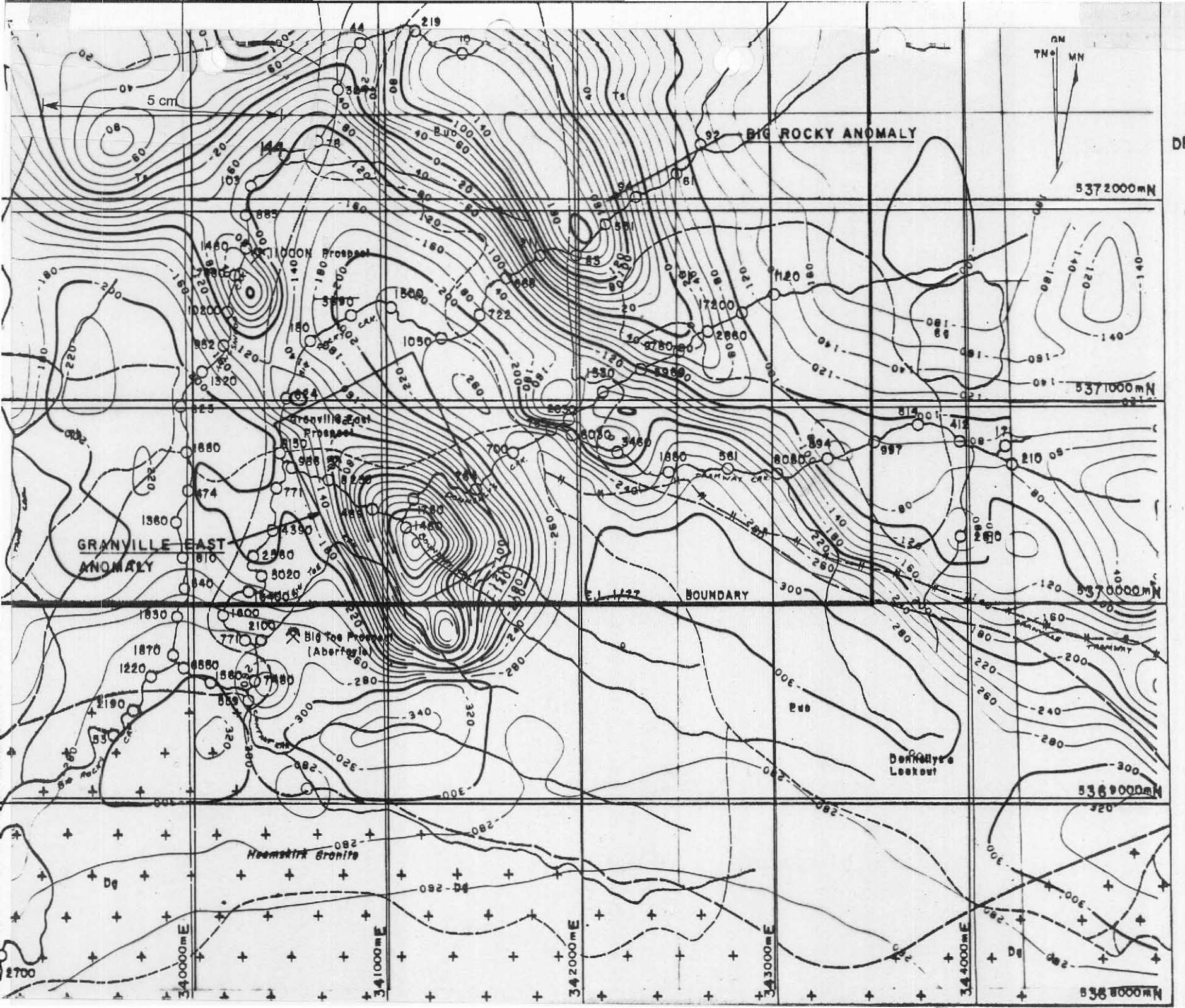
- sample locality
- geological boundary
- tracks
- creek

Sn ppm
- ≥6400
- 3200-6399
- 1600-3199
- 800-1599
- 0-799

FIG. 2

109

5273109



GEOPEKO

PANNED CONCENTRATE DRAINAGE GEOCHEMISTRY

metres 0 1000

1:25000

REFERENCE

TERT
- Ts — sand, silt, clay

pC
- Dvq — Oonah Quartzite & Slate

IGNEOUS ROCKS
- Tb — Tertiary basalt
- Dg — Devonian granite
- Cg — Cambrian gabbro

- sample locality
- geological boundary
- tracks
- creek

Sn ppm
- ≥8400
- 3200-8399
- 1600-3199
- 800-1599
- 0-799

FIG. 2

109
52/13/109

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name ROCKY TOPE E.L. 1177 No. ..... Sample numbers ..... Collected by GEOPEKO Sheet no

Area / Prospect GRANULITE EAST Date 1/10

Map / Photo reference ..... COSTEAN SAMPLES Analysed by ANALABS DPO no

A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
	ss * oc f s	fl	wi	al	co	ca	pH		Sn	W	Cu	Pb	Zn	Fe	Ag	Bi	Mo	As		
		o/c sample type ***																		
		s sample type ****																		
KR. 9251									11	4	50	X	15	1.80	X	4	5.5	20	0-1m	COSTEAN LINE 9990N
9252									17	X	75	70	15	4.25	X	X	10.5	170	2m	
9253									6	X	70	X	10	2.30	X	X	6.5	55	3m	
9254									12	X	75	10	15	2.05	X	2	14.0	19	4m	
9255									26	X	80	15	35	2.35	0.5	X	8.0	39	5m	
9256									X	X	100	30	20	2.30	X	X	5.5	60	6m	
9257									10	X	90	20	15	2.20	X	X	2.5	73	7m	
9258									49	X	80	25	30	3.05	X	X	19	86	8m	
9259									252	13	80	25	30	3.05	X	X	20.5	250	9m	
9260									60	X	160	15	50	4.90	X	X	8.5	73	10m	
9261									270	X	145	30	50	8.40	X	2.0	90	330	11m	
9262									262	X	190	55	120	7.40	X	X	10.0	750	12m	
9263									442	X	155	45	170	5.65	X	6	5.0	680	13m	
9264									467	19	80	25	70	2.10	X	X	X	59	14m	
9265									4.8%	88	200	30	70	25.6	X	42	X	5400	15m	
9266									4.71%	69	375	40	90	22.2	X	50	X	3000	16m	
9267									1.91%	87	260	30	195	16.0	X	74	X	4400	17m	
9268									8130ppm	24	265	15	45	9.75	X	48	X	6600	18m	
9269									2.89%	62	210	30	80	4.50	X	16	X	2600	19m	
9270									7000ppm	89	165	20	100	4.90	X	26	X	2600	20m	
9271									6550	43	160	10	60	2.60	X	30	X	3900	21m	
9272									3820	12	125	10	60	3.35	X	22	X	5300	21m	
9273									11.2%	263	345	15	270	2.50	X	62	X	9	22m	

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name: Rocky [redacted] EL 1/71 No. ..... Sample numbers: [redacted] Collected by: Gecko Sheet no: [redacted]

Area / Prospect: GRANVILLE EAST Date: .....

Map / Photo reference: ..... Analysed by: ..... DPO no: .....

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type ***	s sample type ****	Carbon	Metal content ppm or % Sn	W	Cu	Pb	Zn	Fe	Ag	Bi	Mo	As	Grid ref	Geological Observations
9274											5750 ppm	43	215	15	505	9700	X	120	11.0	300	23	
9275											481 ppm	17	600	35	55	9250	0.5	250	8.0	1900	24	
9276											143 ppm	X	45	5	20	9150	X	6	1.5	36	25	
9277											8.79%	234	420	50	180	21.7	0.5	72	0.5	7200	01	
9278											2.51%	275	195	145	195	20.1	0.5	58	3.5	6200	02	N.S. extension line 9990N
9279											3.14	112	660	60	180	36.8	X	94	1.5	1.75%	3	
9280											9620	30	660	35	65	17.1	0.5	96	1.0	7000	4	
9281											2.63	78	800	150	350	28.2	1.0	94	3.0	8500	5	
9282											3.61	96	310	20	60	9.35	X	42	0.5	4500	6	
9283											4.93	101	395	20	65	24.8	X	86	2.5	6300	7	
9284											3.67	75	270	15	60	7.70	0.5	56	2.0	6400	8	
9285											4.44	84	690	25	45	9.80	1.0	34	4.5	5200	9	
9286											7.02	163	950	45	65	7.70	0.5	46	6.0	1200	10	

111

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description .fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name Rocky Cape EL 1/77 No. ..... Sample numbers 12251 - 12264 Collected by PH Sheet no .....

Area / Prospect GRANVILLE Date .....

Map / Photo reference ..... COSTEAN SAMPLES Analysed by ANALABS DPO no .....

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type ***	s sample type ****	Carbon	Metal content ppm or % Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref	Geological Observations
12251											1420	22	85	690	195	X	7.80	X	1.0	2300	10-11	
12252											145	20	95	840	95	X	1.75	6	0.5	200	11-12	
12253											406	37	35	245	90	X	2.10	2	1.0	100	12-13	
12254											396	26	70	130	90	X	2.25	12	0.5	270	13-14	
12255											245	10	45	50	65	X	1.05	4	0.5	100	14-15	
12256											99	11	40	440	80	X	1.00	X	X	66	16-17	
12257											474	40	85	20	65	X	6.85	X	3.5	78	17-18	
12258											100	15	35	5	125	X	1.80	4	2.0	42	18-19	
12259											75	20	40	X	100	X	1.95	6	1.0	300	19-20	
12260											6350	61	50	5	80	X	2.35	12	3.0	400	20-21	
12261											1.64%	64	20	X	15	X	1.15	18	1.0	720	21-22	
12262											5600	33	50	X	100	X	2.20	9	1.0	2200	22-23	
12263											3.98%	181	30	X	20	X	3.65	53	0.5	95	23-24	
12264											7650	41	10	X	10	X	1.00	2	1.0	20	24-25	

Geological Observations 112

N-S extension of costean Line 9990N

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

APPENDIX 5

Soil Sampling Programme

Geochemical Ledger Sheets

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name P.L. 1/77 No. Sample numbers 20252 - 20273 Collected by R.O., D.R., Sheet no. 1

Area / Prospect Big Box Creek Date

Map / Photo reference Analysed by ANALABS DPO no. 114

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples	Depth	Metal content ppm or % Sn ppm	W. ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 9700N	Geological Observations
20252									1.0	15	x	10	25	65	x	0.32	x	<	2	10,700E	Quartzite with mica
20253									1.0	10	x	5	10	30	1.5	0.3	x	x	3	10,725E	Quartzite
20254									0.8	x	20	10	10	40	1.5	1.15	2	x	2	10,750E	Black shale and hornfels
20255									0.8	30	x	5	25	40	0.5	0.47	x	x	x	10,775E	Quartzite
20256									1.2	40	x	5	15	30	x	0.995	x	x	x	10,800E	Quartzite-hornfels. Micaceous
20257									1.0	55	x	x	15	20	x	0.185	x	x	x	10,825E	Micaceous Quartzite
20258									1.0	20	x	5	10	10	x	0.29	x	x	x	10,850E	Quartzite and black shale Soil change to dark brown
20259									2.0	40	x	10	15	15	x	0.715	x	x	7	10,875E	Quartzite and carbonate?
20260									0.6	40	x	15	30	45	0.5	0.335	x	x	<	10,900E	Quartzite
20261									0.5	10	x	20	15	30	x	0.305	x	x	3	10,925E	Quartzite
20262									0.7	10	10	30	25	30	x	5.45	x	x	12	10,950E	Yellow-brown soil
20263									0.8	20	x	10	20	45	x	5.10	x	x	12	10,975E	Siltstone - light brown soil + basalt.
20264									1.0	10	x	125	25	80	x	19.00	x	x	7	11,000E	Weathered basalt ± magnetite.
																				9900N	
20265									1.5	50	x	5	15	15	0.5	0.225	2	x	3	10,700E	Quartzite - layered hornfels
20266									2.6	20	x	30	20	30	1.0	0.53	x	x	8	10,725E	Quartzite
20267									1.0	20	20	5	10	30	1.0	0.675	x	x	2	10,750E	Quartzite
20268									1.0	20	10	5	10	10	x	0.475	x	1.0	4	10,750E	Quartzite Duplicate.
20269									1.2	15	x	10	20	30	x	4.6	4	x	10	10,775E	Grey brown soil/quartzite
20270									1.0	10	x	5	10	10	x	0.475	x	1.0	4	10,800E	Light brown soil/quartzite
20271									2.5	25	x	110	20	55	x	12.0%	x	0.5	100	10,825E	Green shale - quartzite
20272									2.0	7	x	25	20	15	x	16.5	x	x	10	10,850E	Yellow brown soil ± quartzite
20273									2.0	10	x	30	25	60	x	11.0	x	x	8	10,900E	Yellow-red brown soil. quartzite-siltstone

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name... E 1/77 ... No. ... Sample numbers... ... Collected by... R.O., D.R. ... Sheet no ?

Area / Prospect... Big Rox Creek ... Date... Dec 1982

Map / Photo reference... ... Analysed by... ANALABS ... DPO no...

A 02143

115

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples	Depth	Metal content ppm or % Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 9900N	Geological Observations
20274									1·0	10	x	15	5	20	x	4·10	x	x	17	10900E	Basalt
20275									1·0	9	15	80	15	75	x	17·0	x	x	7	10,925	Basalt.
20276									1·0	15	x	95	20	75	x	16·5	x	x	7	10,950	Dark red brown soil
20277									1·0	15	x	100	20	70	x	1·4%	x	x	13	10,975	Red brown soil - Basalt
20278									1·0	3	x	90	20	120	x	160	x	x	5	11,000	Basalt - grey brown soil
																				10,100N	
20279									1·2	15	x	5	15	20	1·5	2·1	x	x	82	10,700E	Light brown soil. Quartzite
20280									1·2	20	x	25	15	30	x	3·0	x	x	63	10,725E	Yellow grey soil Quartzite
20281									1·1	10	x	25	20	15	x	0·66	x	x	4	10,750E	Light grey soil Quartzite
20282									1·8	x	x	40	20	40	x	2·30	x	x	7	10,775E	Green grey soil Quartzite
20283									1·2	15	10	10	20	20	x	1·50	2	x	7	10,800E	Grey brown soil ± black shale
20284									0·6	x	10	15	15	25	x	0·985	x	x	10	10,825E	Light grey brown quartzite
20285									0·8	4	70	35	30	35	x	2·65	2	x	10	10,850E	Brown soil ± carbonate + quartzite.
20286									1·0	3	x	20	20	20	x	8·10	x	x	5	10,875E	Yellow red brown soil
20287									1·0	8	x	15	20	25	x	9·15	x	x	6	10,900E	Yellow red brown soil. Quartzite ± carbonate
20288									1·0	7	x	25	20	30	x	11·5	x	x	4	10,925E	Yellow brown soil ± Ironstone
20289									1·0	4	x	40	20	40	x	11·5	x	x	4	10,950E	Yellow brown soil clay
20290									1·0	10	x	35	30	50	x	8·00	x	x	5	10,975E	Red brown soil clay
20291									1·1	10	x	85	15	60	x	18·00	x	x	6	11,000E	Red brown clay
20292									1·0	5	x	85	10	55	0·5	13·5	x	x	x	11,025E	Yellow clay
20293									1·2	3	x	80	25	70	x	16·0	x	x	6	11,050E	Red brown clay ± magnetite
20294									1·0	9	x	80	15	65	0·5	15·5	x	x	5	11,075E	Red-brown clay
20295									1·2	10	x	80	15	60	1·0	14·0	2	x	8	11,100E	Red-brown clay.

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. ..... Sample numbers ..... Collected by R.O., D.R. Sheet no. 3

Area / Prospect Big Box Creek Date DECEMBER 1982

Map / Photo reference A 02143 Analysed by ANALABS DPO no.

116

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples	Depth	Metal content ppm or % Sn ppm	W. ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 11,100 N	Geological Observations
20296									1·2	8	x	110	20	70	0·5	15·5	2	x	5	11,125	Red, brown, clay
20297									1·1	7	10	110	25	75	x	8·25	x	x	6	11,150	Red brown clay
20298									0·8	6	x	70	25	65	1·0	13·5	x	x	7	11,175	Red brown clay
20299									0·9	6	x	10	15	55	0·5	18·5	x	x	7	11,200E	Red brown clay
																				10,500N	
20300									?	7	x	15	10	30	x	1·90	2	x	11	10,500E	Yellow brown soil, quartzite
20301									1·2	7	x	20	10	30	0·5	1·85	2	x	14	10,500E	Yellow brown soil
20302									1·8	9	10	15	x	25	x	1·80	x	x	5	10,525E	Pink green soil. Sandy quartzite
20303									2·5	8	x	5	x	20	x	1·95	2	x	12	10,550E	Yellow brown iron rich hornfels
20304									2·5	5	x	5	x	15	x	1·10	x	x	5	10,575E	Pink sandy soil, quartzite
20305									2·5	7	10	10	10	25	0·5	1·85	x	x	6	10,600E	Yellow brown sandy soil quartzite
20306									2·2	6	x	15	x	10	0·5	1·85	x	x	8	10,625E	Yellow sandy soil quartzite
20307									3·0	6	x	30	10	10	0·5	0·435	x	x	7	10,660E	Grey shale
20308									1·6	x	x	10	x	20	x	1·05	x	x	7	10,675E	Grey shale. Light brown soil
20309									1·5	9	10	15	5	10	1·0	0·86	x	0·5	7	10,700E	Light brown sandy soil. Quartzite.
20310									2·5	70	x	35	5	15	10	1·75	x	x	10	10,725E	Grey talcey soil. Light coloured shale
20311									2·5	x	x	20	x	20	x	1·40	x	x	16	10,750E	Black shale
20312									1·0	15	x	10	x	15	0·5	0·805	x	x	10	10,800E	Grey brown clay sandy quartzite
20313																				10,825E	White grey sandy soil, Quartzite
20314																				10,825E	White-grey sandy soil Quartzite
20315									1·0	10	x	5	x	15	0·5	0·805	x	x	10	10,850E	Grey brown sandy soil, Quartzite
20316									1·2	8	x	40	5	50	x	3·9	x	x	17	10,875E	Green grey soil Quartzite and shale
20317									2·5	4	x	30	5	35	x	3·7	2	x	15	10,900E	Yellow-brown clay quartzite

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. ..... Sample numbers ..... Collected by R.O., D.R. Sheet no 4

Area / Prospect Big Bob Creek Date .....

Map / Photo reference ..... Analysed by ANALABS DPO no .....

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples	Depth	Metal content ppm or % Sn ppm	W. ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 10,800N	Geological Observations
20318									2·2	8	X	20	5	25	x	3·20	x	x	11	10,925	Yellow brown clay . Quartzite
20319									1·8	5	X	5	X	15	x	0·54	x	x	5	10,950	Light brown soil . Brown shale
20320																				10N/0N 11,000E	Taky grey brown soil . Phyllite shale
20321									2·5	6	X	35	x	25	x	4·50	x	x	17	10N/0N 11025 E	Yellow-brown soil . Phyllite shale + quartzite
20322									1·5	4	X	20	5	35	x	2·95	x	x	13	10N/0N 11050 E	Brown sandy soil . Quartzite
20323									1·8	10	X									11080E	Light brown soil . Quartzite
20324									1·8	8	X	20	X	15	0·5	0·78	x	x	5	10N/5N 11,100	Quartzite. Yellow brown soil
20325									11	8	X	20	X	15	0·5	0·79	4	x	6		Repeat
20326									2·0	15	X	10	x	25	X	0·35	x	x	2	11,125E	Grey brown soil . Phyllitic shale + quartzite
20327									0·5	7	X	5	X	5	X	0·285	x	x	3	11,150 E	Light brown sandy soil . Quartzite
20328									1·6	10	X	10	X	10	X	0·355	x	x	3	11,175 E	Light brown sandy soil Quartzite
20329									1·5	10	X	10	x	30	0·5	0·635	2	x	3	11,200 E	Light brown sandy soil . Quartzite
20330									1·5	x	x	40	x	30	x	0·695	x	x	4	11,225 E	Grey brown soil . phyllitic shale . Quartzite
20331									1·6	7	X	15	x	20	x	0·985	x	x	10	11,250 E	Grey sandy clay . Quartzite + qtz rich shale
20332									1·6	10	x	25	X	35	0·5	1·3	x	x	7	10,470N 11,275E	Brown soil . Quartzite .
20333									2·5	7	X	30	10	40	0·5	3·45	x	x	9	10460N 11,300E	Yellow brown soil . Quartz rich shale
20334									2·0	10	X	15	5	15	x	0·38	x	x	5	11,325	Grey brown soil . shale . phyllite .
20335									1·2	3	X	10	5	25	0·5	0·93	2	1·0	6	11,350	Grey brown sandy soil . Quartzite
20336									0·8	20	25	20	5	15	0·5	0·25	X	x	3	11,375	Grey grit - sandy quartzite
20337									0·5	10	10	15	10	35	0·5	0·41	2	0·5	2	11,400	Grey soil - quartzite
20338									1·0	10	X	10	15	30	x	0·25	4	1·0	3	11,425	Grey brown soil Quartzite + shale
20339									"	8	X	10	5	25	0·5	0·41	2	0·5	2		Repeat
20340									2·2	15	X	5	10	20	0·5	0·41	4	x	3	11,450	Dark grey soil black shale

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = yrab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. Sample numbers Collected by R.O., D.R. Sheet no 5

Area / Prospect Big Ba[redacted] Creek Date [redacted] 1977

Map / Photo reference Analysed by ANALABS DPO no

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and "C" horizon Soil Samples	Depth	Metal content ppm or % Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 10,500N	Geological Observations
20341									1·2	X	X	45	40	20	X	0.995	X	X	14	11475E	Black shale
20342									1·0	10	X	10	5	15	X	0.37	X	X	X	11500E	Light grey sandy soil. Quartzitic shale Quartzite
20343									0·8	7	X	20	15	10	0·5	0.265	X	1·0	2	11,525E	Grey brown soil. Grey shale phyllite
20405 20344									2.0	3	20	10	5	10	X	0.230	X	X	1	11,550E	Black shale
20345									2·5	X	10	105	25	10	0·5	0.75	X	X	10	11,575E	Dark black soil Black shale
20346									2·5	15	X	10	20	85	0·5	0.525	2	X	15	11,600E	Red brown soil. Quartzite
20347									4·8	8	15	10	5	40	X	0.48	2	X	X	11,625E	Red brown sandy soil (heavy mineral conc.)
20348									6.0	9	10	10	10	35	X	0.93	X	1.0	21	11,650E	Quarte sand. light grey (hmc)
20349									2·5	8	X	5	X	30	X	0.385	X	X	X	11,675E	Brown sandy soil. Quartzite
20406									15·0	15	95	20	X	60	X	0·87	X	0·5	9	11,700E	Grey phyllite shale.
20350									6·0	7	X	10	X	20	X	0·49				11,700E	Sandy soil
20351									10·0	6	X	5	5	30	X	0.295	X	X	2	11,725E	
20352									5	9	X	30	20	125	X	0.93	X	X	13	11,750E	Fine sand and clay (hmc)
20363									2·5	5	X	10	5	30	X	1.4	2	X	12	11,775E	Fine sand
20354									2·5	4	X	5	5	20	X	0.395	X	X	2	11,800E	Fine light grey sand
20355									2·5	9	X	10	5	35	X	0.44	X	X	1	11,825E	Coarse quarte sand
20356									2.5	X	X	10	5	30	X	0.33	X	X	1	11,850E	Medium fine sand
20357									2·5	75	X	10	X	30	X	0.51	X	0·5	X	11,875E	Coarse to fine sand
20358									1·0	4	X	5	X	20	X	0.96	X	X	3	11,900E	Sand
20359									1·0	10	X	20	5	30	X	7·0	X	X	X	12025E	Red brown soil Basalt
20360									1·0	15	15	20	X	30	X	7·7	2	X	3	12025E	Repeat
20361									1·0	15	X	35	5	40	X	14·5	X	X	X	12050E	Red brown clay. Basalt
																				10700N	
20362									3·0	7	X	15	X	20	X	1·05	2	X	X	11050E	Quartzite

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. Sample numbers Collected by R.O. D.R. Sheet no 6

Area / Prospect Big Ro[illegible] Creek Date Dec[illegible]ber 1982

Map / Photo reference Analysed by ANALABS DPO no

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples	Depth	Metal content ppm or % Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 10,700N	Geological Observations
20363									0.5	x	x	10	30	10	x	0.215	6	x	2	11,075E	Light grey soil Quartzite
20364									2.0	15	x	5	10	10	x	0.27	x	x	2	11,100E	Light grey soil Phyllitic grey shale
20365									1.6	15	x	10	25	20	x	0.45	x	x	1	11,125E	Light yellow brown soil. Grey phyllitic shale
20366									1.6	8	x	10	25	15	x	0.26	2	x	x	11,150E	Light brown soil. Grey brown phyllitic shale
20367									1.6	15	10	5	25	20	x	0.285	x	x	1	11,175E	Grey brown soil Phyllitic shale
20368									5.0	x	x	80	20	140	x	0.675	x	x	17	11,200E	Grey black shale
20369									1.0	7	x	5	20	25	x	0.19	x	0.5	2	11,225E	Light grey soil. Grey phyllitic shale
20370									1.0	10	15	10	5	20	x	0.36	2	0.5	3	11,250E	Quartzite
20371									1.0	15	10	10	5	20	x	0.27	2	0.5	2	11,250E	Repeat
20372									1.6	6	x	20	x	15	x	0.375	x	0.5	2	11,275E	Grey brown soil Grey phyllitic shale
20373									4.0	10	10	15	5	20	x	0.37	x	1.0	x	11,300E	Quartzite
20374									2.5	x	x	15	5	25	x	0.59	x	1.0	4	11,325E	Grey phyllitic shale
20375										70	15	35	5	20	x	1.65	x	x	20	11,350E	Grey phyllitic shale + quartzite
20376									6.5	20	x	25	x	25	x	0.655	x	x	6	11,375E	Grey phyllitic shale
20377									5.0	30	x	25	15	40	x	0.615	2	1.0	7	11,400E	Grey phyllitic shale
20378									4.5	x	x	20	15	45	x	1.40	x	7.5	9	11,425E	Black shale
20379									3.5	15	x	75	50	30	x	0.46	x	5.5	15	11,450E	Gravel and black phyllitic shale
20380									2.5	10	x	35	5	105	x	2.05	x	1.0	27	11,475E	Grey phyllitic shale
20381									2.5	10	x	20	5	20	x	0.15	x	1.0	4	11,500E	Grey shale
20382									2.5	8	10	20	x	20	x	0.79	x	1.5	4	11,525E	Black shale
20383									2.5	5	x	20	x	25	x	0.8	2	1.0	4	11,525E	Repeat
20384									2.2	15	10	15	x	10	0.5	0.15	x	x	x	11,550E	Black shale
20385									2.5	8	x	15	x	35	x	0.24	x	x	7	11,575E	Black shale

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* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. ..... Sample numbers ..... Collected by R.O. D.R. Sheet no 2

Area / Prospect Big Ba[illegible] Creek Date December 1982

Map / Photo reference ..... Analysed by ANALABS DPO no .....

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples	Depth	Metal content ppm or % Sn ppm	W. ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 10,700N	Geological Observations 120
20386									4.0	50	10	20	x	45	x	2.35	x	2.0	14	11,600E	Sandy soil with quartzite
20387									14.5	60	40	15	x	40	x	1.15	x	1.0	9	11,625E	Sand+clay & grey shale
20388									14.0	10	x	10	x	30	x	0.9	x	0.5	9	11,650E	Sandy clay
20389 20390									8.0	x	20	25	60	30	x	0.495	x	0.5	5	11,675E 11,700E	Black shale
20391									10.0	15	30	30	10	55	x	2.45	x	2.5	20	11,725E	Grey clay
20392									10.0	10	70	20	10	50	x	1.40	4	0.5	7	11,750E	Grey clay and black shale
20393									8.0	8	x	30	x	80	x	6.95	x	0.5	17	11,775E	Brown clay sand pebbles
20394									7.0	7	10	10	x	40	0.5	2.55	x	0.5	16	11,800E	Black shale/clay.
20395									8.0	6	10	15	x	30	x	2.10	x	1.0	24	11,825E	Heavy mineral sample
20396									7.0											11,850E	Heavy mineral sample
20397									8.0											11,875E	Red brown clay
20398									2.5	5	10	45	5	70	x	3.5	x	0.5	8	11,900E	Yellow brown clay
20399									1.6	x	x	45	5	65	x	4.45	x	2.5	10	11,925E	Light brown clay
20400									0.8	10	x	15	10	35	x	0.885	x	0.5	3	11,950E	Green Grey Clay.
20401									0.8	9	x	15	x	50	x	0.685	x	x	x	11,975E	Sand
20402									1.0	6	x	10	x	20	x	0.285	x	x	x	11,975E	Sand H.M.S.
20403																				12,025E	Sand HMS.
20405									2.5	10	10	45	x	90	x	0.500	x	x	7	10550N 10,580E	Grey phyllite shale
20404									2.0	15	10	15	x	25	x	0.285	x	x	1	10,600N 11,550E	Dark grey shale. Phyllite shale

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1177 No. Sample numbers Collected by R.O., D.R. Sheet no. 8

Area / Prospect Big Ba[redacted] Creek Date [redacted]

Map / Photo reference Analysed by ANALABS DPO no

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples: Auger	Matr.	Rock Chip	Depth	Metal content ppm or %: Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 10900N	Geological Observations
20539				✓							1.4	88	x	5	5	30	0.5	0.62	x	x	4	9300E	Grey sand.
20540				✓				✓			1.2	42	x	30	10	55	x	5.5	x	x	7	9325E	Tan sand
20541				✓				✓			1.4	x	x	20	10	35	x	1.0	x	x	7	9350	Green grey bed rock
20542				✓				·			1.5	28	x	10	10	30	x	0.88	x	x	4	9375	Yellow and brown sand
20543				✓							1.4	4	x	10	15	30	1.	0.5	x	2.5	3	9400	Grey brown clay
20544				✓				·			1	25	10	20	15	25	0.5	0.48	2	1.0	3	9425	Dark brown sandy loam
20545				✓							1.2	13	x	10	5	20	x	0.51	x	1.0	4	9450	Brown clay
20546				✓							1	6	x	10	10	15	0.5	0.54	x	3.0	4	9475	Dark brown clay
20547				✓							1.5	93	x	10	5	40	x	1.4	x	4.5	5	9500	Brown sand clay
20548					✓						1.5	10	x	15	10	25	x	0.5	21	1.0	5	9525	Brown sandy clay
20549					✓			✓			1.5	6	10	55	10	50	x	1.15	x	0.5	20	9550	Green weathered clay
20550				✓							1.0	6	x	5	5	20	x	0.35	4	x	4	9575	Light brown sand
20551				✓	·		·				14	6	x	5	x	15	x	0.65	x	x	4	9600	Brown and grey sand
20552				✓			·				1.4	8	x	5	x	20	x	1.15	x	x	4	9625	Orange sand.
20553				✓			✓				1.4	x	x	10	x	40	x	6.15	x	x	8	9650	Iron stained red sand
20554				✓			·				1.4	x	x	10	x	25	x	4.0	x	x	7	9675	Fe stained f.g. sand.
20555					✓		·				1.5	13	x	5	x	25	x	1.4	2	x	6	9700	Tan sand
20556					✓						1.2	x	x	5	x	25	x	1.6	x	x	5	9725	Orange sand.
20557					✓						1.4	x	9	5	x	30	x	1.95	6	0.5	4	9750	Yellow sand
20558					✓						1.4	x	x	5	x	15	x	0.46	2	x	x	9775	Chocolate brown
20559					✓						1.5	x	x	10	x	25	0.5	1.10	x	x	6	9800	Tan sand
20560					✓						1.4	x	x	10	x	30	x	3.85	x	x	4	9825	Tan sand.

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* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name.....E.L. 1/77..... No. ..... Sample numbers..... Collected by...R.O. D.R..... Sheet no. 9.....

Area / Prospect...Big Bore Creek.....

Map / Photo reference..... Analysed by...ANALABS..... DPO no.....

A 02143

Sample No.	Type ss * oc f $	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and "C" horizon Soil Samples: Jicro	MATR	Rock Chip	Depth	Metal content ppm or %: Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 10,900N	Geological Observations 122
20560				•	✓						1.4	X	X	10	X	30	X	3.85	X	X	4	9825E	Tan sand
20561					✓						1.5	X	X	5	X	20	X	1.20	X	X	3	9850	Orange+red sand
20562					✓						1	X	4	5	5	25	1.0	1.65	X	0.5	6	9875	Yellow fine grained clay
20563				✓							6	19	X	25	10	45	X	1.05	2	0.5	47	9900	Cream clay, gravel
20564				✓							11.5	17	18	45	X	20	0.5	.92	2	1.0	70	9925	Grey clay
20565				✓				✓			5	11	9	15	X	25	X	0.94	X	0.5	10	9950	Tan and brown sandy clay
20566				✓				✓			4.5	X	X	15	5	25	X	0.99	X	X	7	9975	Light brown sandy clay
20567				•	✓						1.4	4	8	10	5	25	X	1.5	X	X	9	10,000	Brown mud & siltstone.
																						10400N	
20598				✓				✓			5	7	X	135	110	50	0.5	1.65	X	18.5	510	9740E	Black shale
20599				✓				✓			12	X	X	165	30	85	X	2.2	X	12.5	1100	9745	Black shale
20598				✓				✓			13	250	X	1150	45	685	0.5	3.0	.76	3	10.0%	9750	Shale with silver sulphides
20599				✓				✓			11	43	45	180	35	805	X	2.85	X	12	180	9755	Green grey
20596				✓				✓			8	91	37	110	15	1700	X	2.75	X	X	71	9760	–
20595				✓				✓			5.5	11	X	45	10	120	X	3.5	2	10.5	69	9765	Green grey bedrock
20594				✓				✓			4.5	X	X	25	5	120	X	1.25	X	4.5	63	9770	Green grey samples with sulphides
20593				✓							8.5	9	X	60	25	340	0.5	1.35	X	4	97	9775	Green and grey rock
20592				✓							4.5	5	X	15	105	225	0.5	1.15	X	X	20	9780	Greenish grey shale
20591				✓							6.5	8	X	15	5	120	X	1.75	X	17	81	9785	Greenish grey shales
20590				✓				✓			7.5	28	X	25	10	100	0.5	3.95	2	1.5	69	9790	Green black shales
20589				✓				✓			7	29	X	25	5	115	0.5	3.9	X	10	64	9795	Greenish grey bedrock
20588				✓							5	5	X	10	10	80	0.5	1.6	X	0.5	37	9800	Grey Green

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name EL 1/77 No. ..... Sample numbers ..... Collected by R.O., D.R. Sheet no. 10

Area / Prospect Big Rock Creek Date .....

Map / Photo reference ..... Analysed by ANALABS DPO no. .....

A 02143

Sample No.	Type ss * / oc / f / s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples	Depth	Metal content ppm or % Sn ppm	W. ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 11,000N	Geological Observations 123
20509				Soco	Nole			Rock chip ✓	1·4	17	8	20	x	45	x	8·5	x	x	9	9,300E to 9,350	Iron stained sandy clay
20539					✓				1	x	x	45	15	60	x	9·5	x	x	7	9,325	Orange clay
20536					✓				1·4	19	x	15	10	50	x	5·5	x	x	10	9,350	Orange clay
20535					✓				1·2	6	7	35	10	75	x	9·85	x	0·5	8	9,375	Orange clay
20534					✓				1·5	15	x	30	15	30	x	0·44	2	x	22	9,400	Grey brown silt
20533					✓			✓	1·2	122	x	10	10	115	0·5	1·30	x	x	7	9,425	Green grey silt
20532					✓				1·4	4	9	5	x	25	x	1·30	x	x	4	9,450	Orange weathered sandy clay
20531					✓				1·4	x	x	5	x	20	x	0·885	x	x	4	9,475	Yellow sand.
20530					✓				1·4	4	x	55	15	45	x	1·45	x	x	47	9975	Duplicate of 20526.
20529					✓				1·4	6	x	5	x	20	x	0·8	x	x	7	9500	Orange sandy clay
20528					✓			✓	1·2	6	x	15	10	20	x	0·25	x	x	12	9525	Grey weathered siltstone
20527					✓				1·4	59	4	25	x	50	x	0·575	x	1·0	24	9550	Grey shale
20526					✓				1·2	x	x	55	10	45	x	1·65	4	0·5	34	9575	Black shale
20525					✓				1·2	6	13	20	10	25	0·5	0·25	2	x	4	9600	Brown silt
20524					✓				1·2	x	8	5	5	15	x	0·155	2	x	3	9625	Dark brown sand
20523					✓				1·4	x	7	10	5	20	0·5	0·825	x	x	7	9650	Tan brown sand
20522					✓				1·4	x	x	10	5	25	x	2·5	2	x	7	9675	Iron stained yellow sand
20521					✓				1·4	x	5	10	5	20	x	0·375	x	x	5	9700	Brown sand
20520					✓				1·4	x	4	10	5	30	0·5	0·67	x	x	5	9725	Light brown sand
20519				✓					1·4	5	11	15	15	45	x	5·85	x	0·5	12	9750	Red iron stained sand weathered clay
20518				✓					1·4	x	x	10	10	40	x	2·8	x	x	18	9775	Weathered iron stained. Yellow brown sand
20517					✓				1	x	4	30	5	60	x	1·75	4	0·5	65	9800	Iron stained sand
20516					✓				1·2	4	x	10	x	30	x	1·15	4	x	10	9825	Iron stained sand

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type numr hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1177 No. Sample numbers Collected by R.O., D.R. Sheet no. 11

Area / Prospect Big Ro[illegible] Creek Date

Map / Photo reference Analysed by ANALABS DPO no.

A 02143

Sample No.	Type ss * oc f [s]	ss channel ** fl	wi	al	co	ca	pH	o/c sample type ***	Depth	Metal content ppm or % Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 11,000N	Geological Observations
								Bedrock and "C" horizon Soil Samples													
				Jaxa	Malt		Rock Chip														
20515					✓				1·4	x	4	10	10	25	x	0·56	6	x	5	9850	Dark brown sandy gravel
20514				✓	✓		✓		8	39	x	45	5	160	x	6·6	x	x	12	9875	Brown sandy clay
20513					✓				1·2	4	7	10	5	20	x	2·3	6	x	13	9900	Orange weathered ironstone
20512					✓				1	x	x	10	5	25	x	2·2	x	x	4	9975	Dark brown sand plus ironstone rock chips
20511					✓				1	x	x	30	x	50	x	9·65	x	x	9	9950	Brown weathered bedrock
20510					✓				1·2	x	x	105	x	120	x	12·5	x	x	4	9975	Brown weathered clay
20509					✓				1·2	5	x	45	x	50	x	9·7	x	x	9	10,000	Tan brown clay
																				11,000N	
20473					✓				0·8	x	x	35	10	40	x	7·6	x	1·0	3	9300	Basalt clay
20474					✓				0·8	x	x	40	10	45	x	11·5	4	0·5	4	9325	Basalt clay
20475					✓				0·5	x	x	30	5	40	x	11·0	x	0·5	4	9350	Basalt clay
20476					✓				1·2	6	4	5	x	20	0·5	3·05	x	0·5	4	9375	Fine grained sandy clay
20477					✓		✓		1	24	x	5	x	20	x	2·7	x	x	6	9400	Sandy clay with rock chips (ironstone)
20478					✓				-	7	x	5	x	15	x	0·41	x	x	x	9425	Sand (brown)
20479					✓				1·3	61	x	x	x	15	0·5	0·435	x	x	x	9450	Cream sand.
20480					✓		✓		1·3	x	x	55	10	45	0·5	16·5	x	x	5	9475	Red brown clay
20481					✓					8	5	5	x	15	0·5	3·0	x	x	4	9500	Sandy clay
20482					✓		✓		0·6	11	x	30	10	25	0·5	2·7	x	x	66	9525	Sandy clay. Cream rock chips
20483					✓		✓		1	14	x	x	x	10	x	0·355 ~~0·345~~	x	1·0	x	9550	Cream sandy bedrock
20484					✓		✓		0·3	98	x	5	30	160	0·5	1·85	x	0·5	21	9575	Black shale, cream rock.
20485					✓		✓		0·7	22	x	70	55	160	0·5	1·85	x	x	21	9600	Grey shale
20486					✓		✓		1·2	23	7	15	25	30	0·5	0·43	2	x	x	9625	Cream clay
20487					✓		✓		0·7	48	5	25	25	40	0·5	0·365	x	0·5	4	9650	Dark brown.

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. ..... Sample numbers ..... Collected by R.O., D.R. Sheet no. 12

Area / Prospect Big Ro[illegible] Creek Date .....

Map / Photo reference ..... Analysed by ANALABS DPO no .....

A 02143

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Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples	Depth	Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 11,100N	Geological Observations
20488				Jaca	Mak		Rock chip ✓		0.7	X	X	15	25	55	X	1.1	2	1.0	7	9675	Cream to l. brown
20489							✓		1.3	13	X	10	5	115	X	0.6	X	0.5	13	9700	Sulphides? black shale
20490							✓		1-2	25	X	65	5	145	0.5	2.45	X	X	28	9725	Black sandy orange. ironstone
20491							✓		6	159	6	170	30	1550	4.0	4.65	30	10	370	9750	Grey shale.
20492				✓			✓		7	492	X	250	10	845	1.5	11.5	4	8.5	73	9762.5	Grey shale, pyrite
20493				✓			✓		5	147	5	220	230	480	1.5	6.45	112	1.0	370	9775	0-2 - brown rock 2-4 Grey shale 4-5 brown rock
20494				✓			✓		4.5	34	X	90	30	250	1.0	4.65	X	17.5	80	9787.5	0-3 Brown rock 3-4 Grey shale 4-4.5 Brown rock
20495				✓			✓		4.5	34	X	105	15	110	0.5	3.50	46	2.0	80	9800	0-3 White rock 3-4 Brown shale 4-4.5 Brown shale mo
20496				✓			✓		0.6	7	X	5	10	25	X	0.785	X	X	40	9812.5	Cream rock. Outcrop near hole
20497										4	X	5	X	20	X	0.79	4	X	36		Duplicate 20496
20498				✓			✓		1	39	X	X	5	20	X	0.50	X	X	X	9825	Cream rock
20499				✓					8	37	X	35	25	45	X	1.85	X	3.2	X	9837.5	Silicified cream rock.
20500				✓					-	6	X	20	10	550	X	1.65	4	1.5	77	9850	Grey shale (pyrite) white bands
20503				✓					4	X	X	10	5	105	X	0.3	X	2	11	9875	Black grey shales
20504				✓			✓		16	5	X	35	20	500	X	2.25	X	X	18	9900	Gravel?
20505				✓					65	X	X	20	5	160	X	1.70	X	2	11	9925	Grey brown. Weathered shales
20506				✓					1	4	5	20	10	40	0.5	8.0	X	X	7	9950	Iron stained rock
20507				✓			✓		1.2	X	11	20	10	55	X	9.5	X	X	12	9975	Red iron stone
20508				✓			✓		1.4	6	5	15	X	35	X	6.65	X	X	11	10,000	Tan and brown sandy clay
																				11,200N	
20472				✓			✓		0.8	5	X	30	10	55	X	12.5	0.5	6	X	9300	Basalt clay
20471				✓			✓		1	X	X	55	10	60	0.5	13	2.0	1	5	9325	Basalt clay
20470				✓			✓		0.7	X	4	60	20	60	0.5	12.0	X	0.5	4	9350	Basalts

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. ..... Sample numbers 20469 - ..... Collected by R.O., D.R., Sheet no 13

Area / Prospect Big Rock Creek Date .....

Map / Photo reference ..... Analysed by ANNLABS DPO no .....

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and "C" horizon Soil Samples	Depth	Metal content ppm or % Sn ppm	W. ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 11,200N	Geological Observations 126
20469				Jaco	Mate			Rock chips	0.75	6	x	55	20	70	x	12.5	x	0.5	7	9375E	Basalt clay
20468									1.7	6	x	45	10	50	x	9.35	x	x	3	9400E	Basalt
20467									1	5	x	35	10	45	x	8.45	2	x	3	9425	Basalt
20466									1.2	10	x	10	10	30	x	3.95	2	x	11	9450	Light sandy clay
20465								✓	1.2	9	x	65	25	85	x	12.0	2	x	3	9475	Light brown clay with rock chips
20464								✓	1.2	34	x	10	35	50	0.5	8.0	x	x	4	9500	Orange sand R
20463								✓	1.2	16	4	10	10	25	x	11.0	x	1.0	3	9525	Sandy clay
20462									1.5	4	x	5	5	30	x	1.75	x	0.5	2	9550	Orange sand
20461								✓	1.5	4	x	10	x	35	x	4.2	x	x	5	9575	Orange and yellow sand
20460									1.5	5	13	5	x	20	x	2.95	2	0.5	2	9600	Yellow sand
20459									1.3	93	x	10	10	50	x	1.75	x	1.5	4	9625	Sand
20458								✓	1.8	17	x	115	40	365	x	7.05	x	0.5	59	9650	Yellow with black layers
20457								✓	0.8	24	x	5	x	25	x	2.0	x	5.0	15	9675	Light brown
20456								✓	14	351	x	165	20	645	x	3.55	x	3.0	101	9700	Grey, green cream clay
20455								✓	8.5	138	x	315	35	550	x	2.1	x	2.5	230	9712.5	Dark green with creamy layers
20454								✓	5	24	24	215	20	1700	x	1.5	x	6.0	320	9725	Black shale
20453								✓	8	40	14	160	50	980	x	1.65	x	2.5	210	9737.5	Black and grey shale
20452								✓	12.5	25	x	250	80	895	x	1.5	x	3.0	280	9750	Grey Clay
20451								✓	5	55	x	225	200	205	x	1.45	x	12.0	380	9755	Grey clay
20450								✓	9	590	5	820	15	1050	x	7.85	6	x	33	9762.5	Light green with many rock chips
20449								✓	6	x	x	165	100	70	x	1.5	x	1.0	64	9775	Black shale with pyrite.
20448								✓	12	58	37	260	90	1700	x	8.3	x	1.5	39	9787.5	Black shale
20447								✓	11	17	17	15	50	80	x	5.5	6	x	37	9800	
20501									4.5	300	x	30	20	125	1.0	38.0	750	x	45	9805	IRONSTONE

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. Sample numbers Collected by R.O., D.R. Sheet no. 14

Area / Prospect Big Rock Creek Date

Map / Photo reference Analysed by ANALABS DPO no.

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples	Depth	Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 11,200N	Geological Observations
																					127
20446				Jaw	Mole			Rock chip	3	362	X	50	30	190	X	28.5	40	X	85	9812.5	Brown sample
20445				✓			✓		17	X	X	15	X	75	X	0.55	X	1.5	5	9825	Weathered shale
20444				✓			✓		10.5	4	7	65	35	205	X	1.45	X	1.0	8	9850	Steel grey with green horizon
20443				✓			✓		4	X	X	20	20	235	X	7.75	X	X	7	9875	Black shale
20442				✓			✓		4	X	X	35	30	300	X	1.4	X	1.5	14	9900	Light green with coloured specks
20441				✓			✓		4	X	4	30	55	790	X	3.35	X	X	7	9925	Black shale mixed with green horizon
20440				✓			✓		5	20	X	20	155	575	X	2.15	2	X	21	9950	Black shale beneath sand, pebble layer
20439				✓			✓		3	X	X	20	105	305	0.5	0.85	X	0.5	2	9975	Grey shale
20438				✓					2	X	X	10	100	325	0.5	1.15	X	1.0	6	10,000	Black shale
20576				✓			✓		15	5	X	20	35	360	X	0.62	X	1.0	12	10025	Black shale
20575				✓			✓		4	X	X	15	10	115	X	0.7	X	X	6	10,050	Black shales
20574				✓			✓		4	4	X	20	10	130	X	0.81	X	X	8	10,075	Black shale
20573				✓					9	19	X	25	20	80	X	0.97	X	X	13	10,100	Black shale
20572				✓					9	78	4	10	X	35	X	1.05	X	X	5	10,125	Yellow grey sand
20571				✓					3	X	X	15	X	30	X	12.0	2	X	11	10,150	Ironstone
20570				✓					12	10	X	10	X	30	X	3.55	X	X	18	10,175	Red iron stained cg. clay
20569				✓					9	27	X	10	X	30	X	2.05	X	X	10	10,200	Red iron stained sandy clay
20568				✓					10.5	18	X	10	X	25	X	2.30	X	X	8	10,225	Red iron stone
20577				✓					0.5	X	Y	10	X	20	X	1.25	2.0	X	4	10,250	Iron stone
20578				✓			✓		1.2	X	20	75	5	65	X	19.8	X	X	11	10,275	Orange clay.
20579				✓					1	X	X	40	X	50	X	19.6	X	4	11	10,300	Orange tan clay
20580				✓			✓		1	X	X	35	5	50	0.5	19.6	X	X	6	10,325	Tan clay. Ironstone rock chips
20581				✓			✓		1.2	X	X	55	5	40	X	12.0	X	X	7	10,350	Tan clay + Haematitic rock chips

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. Sample numbers Collected by R.O. D.R. Sheet no 15

Area / Prospect Big Rock Creek Date

Map / Photo reference Analysed by ANALABS DPO no

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples: Subcrop	Mate	Rock Chip	Depth	Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref	Geological Observations
																						11,200N	128
20582					√						1	x	x	60	x	45	x	12.0	x	2	9	10,375	Weathered tan clay
20583					√						1.4	x	14	60	10	70	1.5	14.5	x	x	3	10,400	Tan clay
20584				√			√				2	8	x	20	15	60	x	9.8	1.0	x	10	10,425	Red ironstone
20585				√							9	x	x	15	5	20	x	0.97	x	13.5	9	10,450	Yellow sand and quartz pebbles
20586				√			√				4.5	4	x	10	15	20	x	0.26	x	x	1	10,475	Grey gravels.
20587				√							2.5	x	x	10	10	15	x	0.45	2	x	7	10,500	Light brown, quartzite
																						11,300N	
20435				√							1.2	4	x	115	20	75	x	17.0	x	x	2	9300E	Orange clay/basalt
20436				√							-	x	x	115	15	80	x	18.0	x	x	x	9325	Orange clay/basalt
20437				√							1.2	x	x	135	15	75	x	20.0	x	0.5	x	9350	Orange clay/basalt
20434				√							1.2	5	x	85	15	70	x	16.5	x	x	4	9375	Orange clay basalt
20433				√								x	x	90	15	65	x	16.0	x	x	3		Duplicate
20432				√							1	x	x	90	20	70	x	16.0	x	0.5	3	9400	Orange clay (basalt)
20431				√							1.2	5	x	80	25	70	x	15.5	2	x	3	9425	Orange clay
20430				√							1.2	21	x	90	20	70	x	16.0	x	0.5	3	9450	Sand
20429				√							1.2	x	x	60	10	60	x	11.5	2	x	6	9475	Orange clay
20428				√							1.2	x	x	30	15	25	x	3.35	x	0.5	x	9500	Fine grained sand
20427				√							1.2	x	6	60	25	55	x	11.5	x	0.5	4	9525	Orange clay
20426				√							1.3	10	x	45	20	50	x	9.45	x	x	3	9500	Orange clay
20425				√							1.5	4	x	5	15	25	x	1.3	x	0.5	x	9575	Sandy clay
20424				√							1.3	x	x	5	x	15	x	0.32	2	1.0	x	9600	Sand
20423				√							1.7	x	x	15	x	20	x	0.46	x	1.5	x	9625	Sand

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1177 No. ..... Sample numbers ..... Collected by R.O., D.R. Sheet no. 16

Area / Prospect Big R[illegible] Creek Date ....

Map / Photo reference ..... Analysed by ANALABS DPO no .....

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples: Stream Sed	Mafic	Rock Chip	Depth	Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref	Geological Observations 129
																						11,300N	
20422				✓						1	x	x	15	5	70	x	0.85	x	1.0	x	9650	
20421				✓						1	6	x	25	15	560	x	1.10	x	1.0	35	9675	Steel grey clay
20420				✓						1	10	x	15	15	315	x	1.25	x	0.5	x	9700	Green clay
20419				✓						0.75	x	x	25	10	45	x	0.34	x	1.0	5	9725	Light brown (Quartzite)
20418											6	x	35	5	70	x	5.8	x	1.5	34		Duplicate of 20417
20417				✓						1	x	x	35	x	70	x	5.9	x	1.5	48	9750	Brown shale
20416				✓						1	x	x	45	45	20	x	1.5	x	1.0	43	9775	Black shale
20415				✓						1	8	x	80	55	40	x	1.2	x	4.5	27	9800	Black shale
20414				✓						2	x	x	15	20	320	x	7.75	x	1.0	26	9825	Black shale
20413				✓						9	x	x	15	55	255	x	0.775	x	0.5	7	9850	Black shale
20412				✓				✓		3	x	x	20	60	365	x	0.39	2	1.0	18	9875	Black shale
20411				✓				✓		5	x	x	25	50	165	x	1.40	x	0.5	8	9900	Black shale
20410				✓				✓		12	x	x	30	80	220	0.5	0.695	x	x	18	9925	Black shale
20409				✓				✓		17.5	x	x	55	120	135	1.0	0.645	2	0.5	x	9950	Weathered shale
20408				✓				✓		20.5	x	x	30	250	230	0.5	1.7	x	x	7	9975	Black shale
20407				✓				•		10	x	x	15	45	160	x	0.86	x	x	2	10,000	Black shale

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. Sample numbers Collected by R.O. D.R. Sheet no. 17

Area / Prospect Big Rocky Creek Date

Map / Photo reference 2cm = 100m Analysed by ANALABS DPO no.

A 02143

130

Sample No.	Type ss * oc f [s]	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and "C" horizon Soil Samples: Silcrete	Mate	Rock Chip	Depth	Metal content ppm or %: Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref	Geological Observations
																						12300N	
20719								√		1	1.4	4	x	35	5	20	x	1.10	x	x	x	9500	Chocolate brown
20718								√			1.4	x	9	55	x	30	x	1.75	x	x	x	9525	Brown sandy clay
20717									√		1.4	4	5	35	x	25	x	1.40	2	x	x	9550	Brown clay
20716									√		1.4	x	x	40	x	35	x	2.80	x	x	x	9575	Yellow sandy
20715									√		1.4	5	x	35	x	20	x	1.10	x	0.5	x	9600	Brown clay
20714									√		1.4	x	x	35	x	20	x	0.7	x	x	x	9625	Light brown sandy clay
20713									√		1.4	x	7	60	x	25	x	0.925	x	x	x	9650	Brown sandy silt
20712									√		1.4	x	x	10	5	20	x	0.42	x	x	x	9675	Brown sandy silt
20711									√		1.4	x	x	10	x	10	x	0.315	2	x	x	9700	Brown silt
20710									√		1.4	x	7	10	x	25	x	0.45	x	x	x	9725	Brown silt
20709									√		1.4	x	11	10	x	40	x	0.405	x	x	x	9750	Dark brown silt
20708					√			√		√	11	x	6	120	5	35	0.5	0.82	x	x	x	9775	White and brown weathered shales
20707					√						4.5	x	5	40	x	30	x	1.7	x	x	x	9800	Brown yellow shales
20706					√						4.5	x	7	20	x	25	x	0.165	x	x	x	9825	Cream & grey shale sulphides
20705					√			√			11.5	x	x	40	55	80	x	1.4	4	x	20	9850	Black shale/sulphides
20704					√						8	x	9	25	5	75	0.5	0.99	2	3.0	50	9875	Black shale/pyrite
20703					√			√			7	10	17	15	15	210	x	1.3	x	2.0	21	9900	Grey & greenish weathered shale
20702					√			√			6.5	7	8	20	10	40	1.0	1.15	x	2.5	9	9925	Black & greenish shale
20701					√						6	x	x	55	30	100	x	1.7	x	1.0	22	9950	Black shales
20700					√						5	7	x	90	35	50	x	1.45	x	2.5	23	9975	Black shales
20699					√						7.5	x	x	60	20	105	x	0.8	x	8.5	35	10,000	Pyritic black shale
20698					√						5	6	15	35	15	245	x	0.91	2	4.5	12	10,025	Pyritic black shale

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. Sample numbers Collected by R.O. D.R. Sheet no 18

Area / Prospect Big Rock Creek Date

Map / Photo reference 1cm = 100m Analysed by ANALABS DPO no

A 02143

131

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples Jacks	Mata	Rock Chip	Depth	Metal content ppm or % Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 12300N	Geological Observations
20698				✓							5	6	15	35	5	245	x	0.91	2	4.5	12	10,025	Pyritic black shale
20697				✓							4.5	x	x	115	10	105	x	1.55	2	9.5	21	10050	Black shale
20696				✓			✓				4.5	x	x	80	65	65	x	1.25	4	2.0	26	10,075	Black shales. Sulphides
20695				✓			✓				4	x	x	20	5	35	x	1.85	x	2.5	14	10,100	Black grey shale. Sulphides
20694				✓			✓				4.5	x	x	50	15	45	x	2.5	4	7.0	11	10,125	Black shale
20693				✓			✓				7	x	x	35	15	70	x	1.3	x	1.0	18	10,150	Black brown shale
20692				✓			✓				7	x	x	45	25	25	x	0.69	x	2.5	46	10,175	Black shale pyrite
20691				✓			✓				6	x	12	10	5	35	x	1.25	2	1.5	10	10,200	Brown sand
20690				✓			✓				4.4	9	17	25	20	135	x	2.35	4	5.0	43	10,225	Black gravels
20689				✓			✓				4.5	x	x	20	10	40	x	1.65	2	1.5	25	10,250	Grey brown weathered shales
20688				✓			✓				5.5	x	x	25	45	40	x	0.76	8	2.5	x	10,275	Grey brown shales
20687				✓			✓				5.5	x	4	10	x	85	x	1.75	x	1.5	x	10,300	Brown yellow shales
20686				✓			✓				7.5	x	x	25	x	80	x	1.55	x	1.5	14	10,325	Black shales
20685				✓			✓				5.5	x	8	10	x	110	x	4.05	2	1.0	7	10,350	Yellow sand
20684				✓							6	x	x	40	10	110	x	2.35	2	1.5	10	10,375	Black shale
20683				✓							5.5	x	6	20	x	30	x	0.8	x	0.5	x	10,400	Yellow weathered clay
20682				✓			✓				6	x	4	35	25	145	x	3.35	x	1.5	14	10,425	White & brown shales
20681				✓			✓				7	8	x	30	90	145	x	1.9	x	1.5	23	10,450	Black shale
20680				✓			✓				5	9	x	30	15	80	0.5	1.55	x	1.5	30	10,475	Black shales. Sulphides
20679				✓			✓				4.5	x	13	50	15	170	x	1.7	x	1.0	24	10,500	Black shale
20678				✓			✓				4	x	x	45	175	70	x	0.79	2	0.5	24	10,525	Weathered black shale.
20677				✓			✓				5	x	6	60	25	85	x	2.05	x	x	18	10,550	Grey black shale Sulphides

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION , GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. Sample numbers Collected by R.O., D.R. Sheet no 19

Area / Prospect Big Ba... Creek Date

Map / Photo reference Analysed by ANALABS DPO no

A 02143

Sample No.	Type ss * oc f s	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples Jacro	Mats	Rock Chip	Depth	Metal content ppm or % Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref	Geological Observations
																						9500N	
20653				√			√				7	6	21	235	55	320	0.5	1.05	x	4.0	75	19,000E	Black shale
20654				√			√				6	x	x	145	15	60	x	1.50	x	20.5	16	19,005	Black shale
20655				√			√				6	8	29	355	35	370	x	1.20	x	4.0	36	10,010	Black shale
20656				√			√				2	x	x	35	5	35	x	0.72	x	5.5	34	10,015	Cream rock
20657				√			√				6	x	5	35	5	35	x	0.755	x	4.5	22		Duplicate
20658				√			√				6	x	x	40	x	120	x	1.05	x	3.5	30	10,020	Light brown
20659				√			√				7	4	15	40	5	405	x	1.25	x	9.5	41	10,025	Grey clay
20660				√			√				1.5	x	x	15	5	35	x	0.97	x	2.0	18	10,030	Cream rock
20661				√			√				7.5	21	41	100	25	615	x	2.4	x	3.5	34	10,035	Dark with silver chips.
20662				√							7	x	x	80	30	20	x	1.6	x	1.5	35	10,040	Grey rock chips
20663				√			√				2	x	5	70	10	40	x	2.65	x	16.5	33	10,045	Dark rock chips
20664				√			√				2.5	x	x	15	25	35	x	2.7	x	1.5	45	10,050	Brown weathered clay
20665				√			√				7.5	x	x	55	10	20	x	1.95	x	6.0	22	10,055	Pyritic black shale
20666				√			√				5	x	x	65	10	25	x	2.10	x	2.5	38	10,060	Weathered shale
20667				√			√				2.5	x	x	100	15	20	x	2.5	x	35	78	10,065	Pyritic black shales
20668				√			√				6	x	x	90	15	85	x	1.15	x	3.0	40	10,070	Sulphitic black shales
20669				√			√				6	x	x	75	10	180	x	1.85	x	1.0	36	10075	Black shales
20670				√			√				5	x	x	145	5	40	x	1.6	2	10.0	86	10080	Black shales + sulphides
20671				√			√				2	4	x	15	5	50	x	0.89	2	3.0	25	10,085	Grey quartzite + quartz with py.
20672				√			√				2	x	x	15	x	85	x	0.915	x	18.5	78	19,090	Brown gravels
20673				√			√				4.5	x	x	5	x	75	x	0.6	x	4.5	30	19,095	Grey quartzite
20674				√			√				4	x	x	25	x	105	x	0.595	x	4.5	38	10,100	Grey quartzite

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* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1/77 No. ..... Sample numbers ..... Collected by R.O., D.R., Sheet no 20

Area / Prospect Big Ra[illegible] Creek Date ....

Map / Photo reference ..... Analysed by ANALABS DPO no .....

A 02143

Sample No.	Type ss * oc f [s]	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples: Float / Mats / Rock Chip	Depth	Metal content ppm or %: Sn ppm	W ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref 9600N	Geological Observations 133
20651				✓			✓		11	x	8	50	15	155	x	1.55	x	x	41	9595	Cream sample. Sulphides
20652				✓			✓		5	x	22	90	20	270	0.5	1.4	x	2.5	43	9600	Grey clay
20630					✓		✓		0.7	x	x	50	20	25	x	3.15	x	1.0	20	[illegible]	Green clay
20631				✓					1	x	x	50	35	25	x	6.05	x	1.0	62	9505	Green clay
20632									6	5	12	60	40	40	x	3.5	2	0.5	42	9510	Grey clay
20633				✓					7.5	x	x	50	20	30	x	2.3	x	0.5	29	9515	Black shale
20634										x	x	50	15	25	x	2.15	x	30	25		Duplicate.
20635				✓					6.5	x	x	190	65	25	x	2.05	x	2.5	60	9520	Grey green sample
20636				✓					1.5	x	x	50	15	25	x	2.5	x	1.0	72	9525	Black shale
20637				✓					7	4	28	90	15	420	1.0	1.75	x	1.0	72	9530	Rock grey
20638				✓			✓		8	x	x	90	15	105	x	1.15	2	2.5	69	9535	Grey clay. Sulphides
20639				✓			✓		5	x	x	205	80	35	x	1.65	x	2.0	75	9540	Grey clay
20640				✓			✓		10	x	x	145	x	30	x	1.80	x	3.0	78	9545	Grey clay
20641				✓			✓		8.5	x	x	525	x	15	x	0.29	x	3.0	34	9550	Black shale.
20642				✓			✓		2	x	x	95	10	15	x	0.25	x	2.0	10	9555	Cream rock
20643										x	x	95	10	25	0.5	0.23	x	x	7		Duplicate
20644				✓			✓		8	x	x	395	25	35	0.5	1.65	x	3.5	110	9560	Black shale. Sulphides
20645				✓			✓		11	x	x	100	x	60	x	1.75	x	2.0	78	9565	Black sulphides
20646				✓			✓		12	x	9	70	50	160	0.5	1.60	x	2.0	59	9570	Grey clay. Sulphides
20647				✓			✓		8	x	27	90	2300	2750	0.5	1.05	x	4.5	100	9575	Black shale. Sulphides
20648									11	x	12	105	35	295	0.5	1.45	x	3.5	41	9580	Grey sample Sulphides
20649				✓					11	5	x	85	85	30	0.5	1.55	x	1.0	49	9585	Grey clay · Sulphides

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name E.L. 1177 No. Sample numbers Collected by R.O., D.R. Sheet no 21

Area / Prospect Big [redacted] Creek Date [redacted]

Map / Photo reference A 02143 Analysed by ANALABS DPO no

Sample No.	Type ss * oc f [s]	ss channel ** fl	wi	al	co	ca	pH	o/c sample type *** Bedrock and 'C' horizon Soil Samples: Stream	Minus	Rock Chip	Depth	Metal content ppm or % Sn ppm	W. ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Fe %	Bi ppm	Mo ppm	As ppm	Grid ref	Geological Observations
																						10,000N	
20609				✓			✓				10											9550E	Tan clay with gravel
20610				✓			✓				10	x	x	10	5	65	x	0.89	x	0.5	4	9555	Orange clay to grey shale
20611				✓							10.5	6	x	10	10	65	x	0.895	x	2.5	2	9560	Brown through to grey shale
20612				✓			✓				12	x	x	15	10	145	x	1.5	x	1.5	10	9565	Grey shale
20613				✓			✓				9	x	x	15	5	80	0.5	0.93	x	1.0	44	9570	Brown grey sample
20614				✓			✓				12.5	15	21	145	40	1.13%	x	1.55	14	1.0	71	9575	Grey shale
20615				✓			✓				10	x	x	25	x	305	0.5	0.95	x	4.0	28	9580	Weathered grey shale
20616				✓			✓				8	x	x	10	5	75	x	0.81	x	4.5	24	9585	Black shale
20617				✓			✓				8	x	x	10	x	70	x	0.58	x	5.0	9	9590	Shale
20618				✓			✓				11	4	x	10	x	85	0.5	0.49	x	3.5	22	9595	Grey shale
20619				✓			✓				16	x	x	25	x	55	0.5	0.93	x	6.5	22	9600	Grey shale
20620				✓			✓				11	x	x	15	x	75	x	0.785	x	1.5	26	9605	Grey pyritic shale
20621				✓			✓				8	x	x	25	x	195	x	0.94	x	4.0	40	9610	Grey shale
20622				✓			✓				8	x	x	40	x	505	x	1.25	x	3.5	21	9615	Grey weathered shale
20623				✓			✓				7.5	x	x	15	x	325	0.5	0.73	x	3.0	9	9620	Pyritic shale
20624				✓			✓				10.5	x	6	35	x	675	x	1.15	x	3.0	14	9625	Weathered grey shale
20625				✓			✓				8	x	x	10	x	50	x	0.49	x	3.0	4	9630	Pyritic grey shale
20626				✓								x	x	20	5	125	x	0.59	x	3.0	x	9635	Grey shale
20627				✓			✓				7.5	x	x	5	5	60	x	0.53	x	1.5	17	9640	Black shale
20628				✓			✓				7.5	x	x	15	x	55	x	0.605	x	1.0	9	9645	Black shale
20629				✓							10.5	x	x	10	5	165	0.5	0.51	x	2.5	4	9650	Green rock

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

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CR 77/133

APPENDIX 6

COSTEAN SAMPLE RESULTS

NB: NOT PROVIDED WITH
THIS REPORT

APPENDIX 7

Diamond Drill Holes 2, 3, 4, 5.

Geological and Geochemical Logs.

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DDH.2 GRANVILLE EAST PROSPECT - E.L. 1/77

Proposed: P. Heithersay

Approved: R.R. Large, T.W. Dickson

Planned Depth: 250 m.

Collar Co-ordinates: 9700N, 9960E

Collar Declination: 50°

Collar Azimuth: 231°

Final Depth: 220 m.

Bore Hole survey.

GEOPEKO TASMANIA DRILL LOG.

Prospect GRANVILLE EAST Hole no. DDH2 138

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS Sa	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION sphalerite	MINERALISATION .	MINERALISATION	Fracturing	Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab:) Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
0	3				Casing HQ tricone bit precollar								0	1												
													1	2												
													2	3												
3	10.20				Finely laminated spotted black shale and carbonaceous								3	4												
					siltstone. Small porphyroblasts of cordierite? throughout								4	5												
					Very carbonaceous in part. Pyrite laminae parallel		√2%						5	6												
					to bedding and cleavage. Grading evident								6	7												
					in the coarser grained layers. Facing appears								7	8												
			75°		to be upward. Minor quartz veining								8	9												
			75										9	10												
													10	11												
													11	12												
													12	13												
													13	14												
													14	15												
													15	16												
													16	17												
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													24	25												
													25	26												
													26	27												
													27	28												
													28	29												
			75°		Gradational Contact							105 7001	29	30	1	X	X	110	110	355	0.5	160	2	8.0	30
10.20	46.4				Banded white and grey calcsilicate / carbonate sequence		✓	✓				7002	30	31	1	X	X	85	105	765	0.5	190	X	2.0	13
					Banded white fine grained carbonate, grey silicified							7003	31	32	1	X	X	20	20	225	X	100	X	3.5	9
					shaly bands white/yellow pyroxenic bands. Blebs and wisps							7004	32	33	1	X	X	20	25	400	X	9200	X	5.0	10
					of pyrrhotite. Bands and veins of green yellow							7005	33	34	1	5	X	15	20	225	X	6150	X	7.0	7
			60°		serpentine. Clusters of muscovite. Dendritic masses							7006	34	35	0.45	11	X	15	15	710	X	7050	X	5.5	14
					of sphalerite included in pyroxenic layers. Numerous							7007	35	36	1	X	X	10	10	290	X	6150	2	5.0	17
					small scale isoclinal folds.							7008	36	37	1	X	X	15	15	520	X	8550	X	2.5	12
					Between 34.5-38.7m finely laminated carbonaceous material dominates							7009	37	38	1	X	X	15	25	130	X	5000	2	1.0	11
					38.75m change to finely banded carbonate.							7010	38	39	1	X	X	25	10	310	X	9800	X	2.0	19

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. DDH2 139

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS Sa	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION sph	MINERALISATION gn.	MINERALISATION asp.	Fracturing
					Fossiliferous carbonaceous Lenticular bands of cream yellow carbonate. Each lamellae rimmed by v.fg brown mineral. Beds of carbonate up to 10cm. Staining indicates limestone						
					noted commonly with crosscutting veinlets of brown mineral. Conspicuous green bands, containing						
			75°		an apple green mineral, possibly hornblende		✓				
					(TS 12269 - 39.23m) Crosscutting veins containing						
66	77.26				tremolite, silica serpentine. Blebs of pyrite, sphalerite, pyrrhotite		✓	✓	✓	✓	
					Between Lamps		✓	✓	✓	✓	
					Black siltstone/shale. Lighter colored bands Calcareous bands. Very carbonaceous Some carbonate bands						
					siderite (TS 12270 - 42.7m)						
					49.3 ← Down hole (12cm)						
					52.5 ← Down hole.						
					Pyrite along bedding lamellae and in fine veinlets						
					58.5-62m Coarser grained units Grey, light grey and dark grey banding						
			70°		62.45- Quartz vein, pyrite, sphalerite 5cm						
					67.2m (20cm) ← Down hole						
					68.6 Quartz, pyrite, sphalerite vein - Irregular ≤ 2cm thick						
					75-77m Band of dis. py py, sphalerite		✓	✓	✓		
					Pyrite, pyrrhotite in layers admixed together						
			70°		pyrite/pyrrhotite						
77.26	92				Brecciated grey silicified chalk/siltstone.						

Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab:) Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
7011	39	40	1	x	x	75	25	575	x	1.65	2	x	10
7012	40	41	1	x	x	65	25	535	0.5	1.65	x	2.5	9
7013	41	42	1	x	x	60	15	540	x	1.50	4	1.5	10
7014	42	43	1	x	x	60	25	270	x	1.45	x	2.0	7
7015	43	44	1	x	x	50	20	410	x	1.50	x	9.0	11
7016	44	45	1	x	x	130	90	905	0.5	1.40	x	2.5	19
7017	45	46	1	5	x	125	65	700	0.5	1.35	x	8.5	24
7018	46	47	1	x	x	85	55	2050	x	1.70	x	3.0	18
7019	47	48	1	x	x	130	50	505	0.5	1.50	x	1.0	17
057020	48	49	1	x	x	125	40	440	0.5	1.65	x	2.5	20
7021	49	50	1	x	x	125	55	785	1.0	1.75	x	4.5	14
7022	50	51	1	x	x	110	45	1050	0.5	1.50	2	13	22
7023	51	52	1	x	x	105	45	405	x	1.40	x	11.5	20
7024	52	53	1	x	x	105	40	825	x	1.40	x	10.0	16
7025	53	54	1	x	x	105	35	430	x	1.35	x	7.0	11
7026	54	55	1	x	x	95	30	440	x	1.45	6	11.0	17
7027	55	56	1	x	x	115	40	190	x	1.45	x	6.0	14
7028	56	57	1	x	x	100	35	655	x	1.65	x	6.0	12
7029	57	58	1	x	x	90	25	720	x	1.80	x	11.0	12
057030	58	59	1	x	x	85	20	475	x	1.50	x	4.5	11
7031	59	60	1	x	x	60	10	375	x	1.70	4	2.0	58
7032	60	61	1	x	x	55	15	145	x	1.85	x	1.0	33
7033	61	62	1	x	x	80	10	155	x	1.50	x	2.5	25
7034	62	63	1	x	x	85	40	600	x	1.20	x	5.0	62
7035	63	64	1	x	x	60	35	100	x	1.60	4	2.0	48
7036	64	65	1	x	x	60	15	320	x	1.65	x	1.0	63
7037	65	66	1	x	x	40	10	65	x	2.35	2	1.5	30
7038	66	67	1	x	x	50	5	50	x	2.05	x	1.5	50
7039	67	68	1	x	x	60	5	50	x	2.10	x	2.0	52
057040	68	69	1	x	x	50	x	35	x	2.00	x	0.5	62
7041	69	70	1	x	x	50	10	55	x	2.10	x	6.5	45
7042	70	71	1	x	x	75	15	985	x	2.10	x	3.0	130
7043	71	72	1	x	x	80	25	300	x	1.55	4	4.5	37
7044	72	73	1	x	x	60	30	350	x	1.90	2	3.5	23
7045	73	74	1	x	x	50	20	520	0.5	2.15	x	2.5	15
7046	74	75	1	x	x	50	20	190	x	2.15	x	2.0	10
7047	75	76	1	x	x	80	20	545	x	1.65	x	4.0	34
7048	76	77	1	x	x	70	10	160	x	1.85	x	1.5	28
7049	77	78	1	x	x	50	5	45	x	2.45	x	1.5	120

GEOPEKO TASMANIA DRILL LOG

Prospect GENVILLE EAST Hole no. DDH2 140

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION sphalerite	MINERALISATION po.	MINERALISATION arsenopy.	Fracturing
					Pyrite cementing brecciated fragments						
					Tremolite veining common						
					91.8 Excellent example of pyrite infilling fractures						
92	97.2										
					SILICIFIED BLACK SHALE. Thin fractures containing		✓		✓		
			70°		pyrrhotite. Thin bedding lamellae replaced						
					by pyrrhotite. At 92.6m, bands of tremolite, silica						
					and green hornblende. TS. 12271 99m TS 12272						
97.2	98.2										
98.2	105				Pyrrhotite BEARING CALCSILICATE SEQUENCE. Mottled		✓		✓		
					Pyroxene, serpentine, pyrrhotite rock. Clots of unreplaced						
					carbonate. Silicified breccia in parts						
					99.5m TS. 12272						
					104.1m TS 12273						
105	109.8										
					CALCSILICATE BEARING SILICIFIED CARBONACEOUS MUDSTONE						
					Clots of tremolite within lamellae. Unusual textures						
109.8	112.3						↓		↓		
			80°		ALTERED CALCSILICATE ZONE. Banded zone containing		✓		✓15%		
					bands of serpentine, silica, pyroxene, minor hornblende, talc						
112.3	119.2				Pyrrhotite bands clearly replacement. Retrograde						
					blebs of pyrite within pyrrhotite lamellae						
					CALCSILICATE BEARING SILICIFIED CARBONACEOUS MUDSTONE						
					Unusual clots of tremolite						

Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab:) Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
										1			
1057050	78	83	2.3	x	x	45	5	35	x	3.00	x	2.5	20
7051	83	84	1	x	x	20	5	30	0.5	2.45	x	1.0	8
7052	84	85	1	x	x	30	x	30	0.5	3.05	x	x	6
7053	85	86	1	x	x	30	5	35	0.5	2.50	x	0.5	19
7054	86	87	1	x	x	40	10	35	x	2.70	x	1.0	22
7055	87	88	1	x	x	40	5	30	x	2.30	x	1.5	13
7056	88	89	1	x	x	30	x	40	0.5	2.40	x	2.0	7
7057	89	90	0.9	x	x	45	x	25	x	2.15	x	2.0	21
7058	90	91	0.9	x	x	35	5	25	x	2.25	x	0.5	8
7059	91	92	0.9	x	x	40	5	20	x	1.55	x	1.5	21
7060	92	93	1	x	x	20	5	35	x	1.90	x	0.5	11
7061	93	94	1	x	x	45	25	40	x	1.65	x	2.0	7
7062	94	95	1	x	x	40	10	30	x	1.55	x	3.0	7
7063	95	96	1	x	x	60	10	30	x	1.35	x	3.5	12
7064	96	97	1	x	x	60	10	30	0.5	1.50	x	7.0	11
7065	97	98	1	x	x	75	15	40	x	1.65	x	6.0	13
7066	98	99	0.3	x	x	30	10	30	x	2.20	x	x	9
7067	99	100	1	15	x	25	10	50	x	2.30	x	x	4
7068	100	101	1	x	x	55	x	30	x	1.50	x	x	5
7069	101	102	1	x	x	40	x	35	x	2.40	x	1.0	120
1057070	102	103	1	x	x	25	x	10	x	1.80	x	1.5	28
7071	103	104	1	x	x	30	x	15	0.5	2.20	x	4.0	11
7072	104	105	1	x	x	15	x	10	0.5	1.60	x	2.0	4
7073	105	106	1	x	x	10	10	35	x	1.40	x	2.0	71
7074	106	107	1	x	x	5	x	10	x	2950	x	0.5	45
7075	107	108	1	x	x	5	x	10	0.5	3050	x	5.0	67
7076	108	109	1	x	x	10	x	10	0.5	5450	x	x	38
7077	109	110	1	x	x	10	5	25	x	9150	x	x	68
7078	110	111	1	x	x	145	5	50	x	1.30	x	x	100
7079	111	112	1	7	x	85	10	50	0.5	1.90	x	x	28
7080	112	113	1	x	x	25	5	20	0.5	1.75	x	2.0	26
7081	113	114	1	x	x	35	5	20	0.5	2.00	x	3.5	19
7082	114	115	1	x	x	40	10	120	x	2.05	x	4.0	23
7083	115	116	1	x	x	15	x	30	x	8.00	x	1.5	13
7084	116	117	1	x	x	10	x	45	x	3950	x	x	6

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. DDH2 141

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS Sα	ANGLE TO CORE AXIS Sβ	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION Sphalerite	MINERALISATION po	MINERALISATION asp.	Fracturing
118.9	120.48		Tm		CALCSILICATE PYRRHOTITE ROCK. Mottled, banded serpentine pyroxene rock. Discrete bands of pyrrhotite, Muscovite phlogopite associated. Bands and patches of white unaltered carbonate. . 123.9. 5cm band of pyrrhotite, sphalerite tremolite, pyroxene.		✓		✓		
120.48	124										
124	141.55				FINELY LAMINATED BLACK SHALES. Thin laminae of pyrrhotite Thin beadlets of pyrrhotite Pyrrhotite overall approximately 3-5% Isoclinal folds on a small scale. (≈ 5cm wavelength)		✓		✓		
141.55	145.8				FINELY BANDED CARBONATE. Fine bands of dolomite? with thin laminae of serpentine and pyroxene Pyrrhotite and sphalerite conspicuous as veinlets Staining suggests carbonate is limestone		✓	✓	✓		
145.8	157		75°		FINELY LAMINATED BLACK SHALE. Pyrrhotite, pyrite along fine laminae and veinlets		✓		✓		

Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab: Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
7085	117	118	1	x	x	10	x	100	x	7.00	x	x	-
7086	118	119	1	x	x	25	5	70	x	1.10	x	1.5	86
7087	119	120	1	x	x	185	5	90	x	1.65	x	0.5	62
7088	120	121	1	x	x	360	10	125	0.5	1.60	24	1.0	14
7089	121	122	1	9	x	75	5	30	x	2.15	2	3.5	73
105 7090	122	123	1	x	x	40	x	165	x	1.65	x	2.5	38
7091	123	124	1	37	7	120	5	1800	x	1.85	18	1.0	54
7092	124	125	1	x	x	140	10	425	0.5	1.90	x	2.0	29
7093	125	126	1	9	x	150	25	1600	1.0	1.65	12	2.0	190
7094	126	127	1	x	x	120	10	1050	x	2.05	x	5.5	68
7095	127	128	1	4	x	90	10	2250	0.5	2.00	x	6.0	21
7096	128	129	1	x	x	125	5	355	x	2.20	x	7.5	18
7097	129	130	1	x	x	70	10	305	x	2.15	x	9.5	14
7098	130	131	1	x	x	80	25	95	0.5	2.10	x	9.5	14
7099	131	132	1	x	x	85	20	100	x	1.90	x	2.0	9
105 7100	132	133	1	x	x	80	20	135	0.5	1.85	x	1.5	12
7101	133	134	1	6	5	125	55	445	x	1.65	x	2.0	22
7102	134	135	1	x	8	125	35	120	x	1.85	x	2.0	16
7103	135	136	1	x	5	190	25	175	x	1.70	x	3.0	11
7104	136	137	1	x	x	140	5	110	x	1.35	2	7.5	9
7105	137	138	1	x	x	85	10	95	x	1.85	2	3.5	10
7106	138	139	1	x	4	90	5	80	1.0	1.80	x	1.5	16
7107	139	140	1	x	7	105	5	75	x	1.50	2	4.0	17
7108	140	141	1	x	x	170	10	85	x	1.55	2	1.5	16
7109	141	142	1	x	x	95	10	60	x	2.10	x	1.5	22
105 7110	142	143	1	197	x	40	5	45	x	1.85	2	x	64
7111	143	144	1	34	x	40	x	200	x	1.60	x	x	36
7112	144	145	1	78	4	85	x	275	x	2.55	x	x	22
7113	145	146	1	6	x	120	50	410	x	1.75	x	2.5	10
7114	146	147	1	x	7	135	10	570	0.5	1.70	x	2.0	10
7115	147	148	1	10	7	130	15	830	x	1.85	x	3.5	17
7116	148	149	1	18	6	130	30	770	x	2.10	x	2.0	10
7117	149	150	1	6	6	105	20	170	x	2.10	x	7.0	10
7118	150	151	1	x	x	140	20	175	x	1.60	x	4.0	16
7119	151	152	1	x	5	135	x	75	x	1.70	2	3.0	7
105 7120	152	153	1	x	x	85	x	65	x	2.10	x	4.0	6
7121	153	154	1	x	x	90	x	40	x	1.50	x	8.5	15
7122	154	155	1	x	9	95	x	45	x	1.80	x	11.0	10

GEOPEKO TASMANIA DRILL LOG

Prospect GRENVILLE EAST Hole no. DDH 2

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DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION sphalerite	MINERALISATION po	MINERALISATION chalcopy.	Fracturing
157	165.1										
					SILICIFIED GREY SILTSTONE? Effectively a grey silicified rock. Only relict texture of bedding present. Conspicuous white veinlets of tremolite and diopside. Pyrite and pyrrhotite blebs and veinlets throughout. Veinlets exhibit a good alteration band around veinlets		✓		✓		
			55°	X							
165.1	172.2				SILICIFIED GREY SILTSTONE. Conspicuous unit. Coarser grained than other rocks in the sequence. Some calcsilicate veining. Convolute texture. ← Dolerite						
172.2	175.2				BANDED CALCSILICATE ZONE. Banded layers of serpentine, pyroxene and tremolite and silica. Conspicuous augen structures containing pyroxene in the centre with tremolite on the edges						
175.2	220				FINELY LAMINATED THINNED BLACK SHALE. Chiastolite and cordierite porphyroblasts throughout. Disseminated and veinlets of pyrrhotite						
			190-10		Bedding swings around to subparallel to core axis						

Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab:) Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
7124	156	157	1	x	x	65	x	55	1.0	1.70	x	3.0	25
7125	157	158	1	x	x	30	5	25	x	1.35	x	3.0	200
7126	158	159	1	x	5	10	5	20	x	5400	x	1.5	96
7127	159	160	1	x	x	5	5	15	0.5	4600	x	1.5	21
7128	160	161	1	x	7	30	x	20	x	1.60	x	1.5	59
7129	161	162	1	x	x	55	5	20	x	1.80	x	8.0	16
105 7130	162	163	1	x	x	20	10	20	x	9350	x	3.0	58
7190	163	164	1	x	x	25	x	20	0.5	1.50	x	1.5	63
732	164	165	1	x	5	70	5	20	x	1.80	2	2.0	22
7133	165	166	1	x	5	30	30	70	x	2.65	2	0.5	18
7134	166	167	1	x	x	15	5	35	x	2.25	x	x	6
7135	167	168	1	x	x	45	5	35	x	3.00	2	1.0	18
7136	168	169	1	x	4	15	10	35	x	2.90	x	1.5	10
7137	169	170	1	x	5	15	5	35	x	2.20	x	x	19
7138	170	171	1	x	x	65	10	20	x	2.25	x	3.5	21
7139	171	172	1	x	x	15	5	40	x	1.65	x	2.0	9
105 7140	172	173	1	x	x	15	5	35	x	1.85	x	x	34
7141	173	174	1	x	x	65	10	40	x	1.25	x	x	55
7142	174	175	1	x	4	40	x	30	0.5	1.25	x	0.5	45
7143	175	176	1	x	x	90	5	110	x	1.90	x	1.0	32
7144	176	177	1	x	x	145	15	185	x	1.75	x	0.5	25
7145	177	178	1	x	x	115	35	820	x	1.85	x	2.5	18
7146	178	179	1	x	7	90	65	250	0.5	1.95	x	14.0	20
7147	179	180	1	x	x	85	45	165	0.5	1.80	x	15.0	23
7148	180	181	1	x	x	70	50	125	0.5	1.55	x	12.0	35
7149	181	182	1	x	6	60	45	55	0.5	1.55	x	6.5	12
105 7150	182	183	1	x	x	60	45	65	x	1.65	x	8.5	16
7151	183	184	1	x	x	70	50	90	x	1.60	x	7.0	35
7152	184	185	1	x	x	60	40	90	x	1.65	x	6.0	12
7153	185	186	1	x	x	75	35	140	x	1.45	x	3.5	33
7154	186	187	1	x	x	50	30	40	0.5	1.70	x	4.0	12
7155	187	188	1	x	x	50	45	125	0.5	1.65	x	4.0	12
7156	188	189	1	x	x	55	40	85	x	1.75	x	4.0	17
7157	189	190	1	x	x	60	40	75	0.5	1.65	2	6.5	11
7158	190	191	1	4	x	65	50	60	0.5	1.75	x	8.0	11
7159	191	192	1	x	x	70	60	60	0.5	1.60	x	8.5	13
105 7160	192	193	1	x	x	70	55	75	x	1.90	2	5.0	12
7161	193	194	1	x	x	85	70	120	x	1.70	2	7.5	12
7162	194	195	1	x	x	90	70	300	0.5	1.55	x	4.5	12

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. DDH 143

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS Sa	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION sphalerite	MINERALISATION po	MINERALISATION asp	Fracturing
					CHIASTOLITIC BLACK HORNFELSED SHALE. Lighter, originally silty bands define bedding						
					197-5 15cm block of pyrite/pyrrhotite + sphalerite with minor calcsilicate minerals						
					Very pyrrhotite rich ~ 10-15% Syngenetic? pyrrhotite.						
					E.O.H. 220m						

Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab: Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
7163	195	196	1	x	9	100	60	385	0·5	6·45	x	2·0	22
7164	196	197	1	x	8	100	70	2600	0·5	6·55	x	4·5	16
7165	197	198	1	x	x	95	80	575	x	6·55	x	8·0	42
7166	198	199	1	x	x	95	620	950	0·5	6·60	x	8·5	25
7167	199	200	1	x	x	90	90	695	x	6·50	x	8·0	21
7168	200	201	1	x	x	85	105	745	0·5	6·55	x	6·5	18
7169	201	202	1	x	x	95	100	310	x	6·60	x	5·5	25
1057100	202	203	1	x	5	85	80	275	x	6·55	x	8·0	11
7171	203	204	1	x	x	90	100	525	x	6·55	x	6·5	12
7172	204	205	1	x	x	85	75	405	x	6·60	x	3·5	10
7173	205	206	1	x	x	95	65	450	0·5	6·50	x	6·0	19
7174	206	207	1	x	5	85	100	305	x	6·50	x	1·5	12
7175	207	208	1	x	x	90	80	405	2·0	6·50	x	4·5	22
7176	208	209	1	x	x	95	105	355	0·5	2·00	x	6·0	23
7177	209	210	1	x	x	90	105	210	0·5	6·60	x	5·5	22
7178	210	211	1	x	x	90	65	330	x	6·65	x	8·0	19
7179	211	214	3	x	x	135	65	205	x	6·90	x	8·0	19
7180	214	215	1	x	x	150	55	250	0·5	2·00	x	0·5	20
7181	215	216	1	x	x	185	35	560	x	6·75	2	2·0	17
7182	216	217	1	x	x	195	25	445	x	6·50	x	2·5	17
7183	217	218	1	x	6	240	50	565	x	6·20	2	3·0	33
7184	218	219	1	x	10	195	30	515	x	6·70	x	3·0	23
7185	219	220	1	x	x	165	10	320	x	6·90	2	2·5	49

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DDH 3 GRANVILLE EAST PROSPECT - E.L. 1/77

Proposed: P. Heithersay

Approved: R.R. Large, T.W. Dickson

Planned Depth: 250 m.

Collar Co-ordinates: 10,200N, 9875E

Collar Declination: 50°

Collar Azimuth: 231°

Final Depth: 219.50 m.

Bore Hole Survey:

Metres	Inclination	Azimuth
50	53°	051°
100	50°	051°
150	49°	052°
200	48°	053°
219.5	41°	054°

GLOPEKO TASMANIA DRILL LOG

Prospect GRENVILLE EAST Hole no. DDH83 T45

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION pyrrhotite	MINERALISATION sphalerite	MINERALISATION	Fracturing
0	30				0 - 0·3 Recoller						
					LAMINATED BANDED SILTSTONE Bands of grey carbonaceous material and white bands. Bands very distorted in places Quartz veining with pyrite blebs						
					Conspicuous white sandy layers with fine grained pyrite as blobbies						
19·35	22·7				CREAM ALTERED SILTSTONE Brown staining (alteration)						
					Brecciated 20-22·7						
22·7	44·15				SILICIFIED BLACK SILTSTONE Finely laminated and banded						
					Pyrite veining and disseminated pyrite along bedding laminae		3%				
					Fine hornfels with aphanitic texture Cleavage obliterated						
					Graded bedding indicates facing down hole						

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. DDH3

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION	MINERALISATION	MINERALISATION	Fracturing
45.15	65.55				WHITE SILICIFIED QUARTZITE - Gradational contact						
					45.5 - Change NQ to BQ core						
			70								
65.55	68				CARBONATE/CALCSILICATE SEQUENCE						
					67-68m. Serpentine, pyrrhotite magnetite siderite rock						
					Conspicuously high magnetic susceptibility						
68	116.				BANDED CALCSILICATE HORNFELS Thin lamellae of serpentine						
					diopside, carbonate and grey silica. Bedding very						
					distorted suggesting synsedimentary slumping						
					Thin lamellae containing white mica, causing core						
					to break up into coin shaped pieces. Numerous						
					small fractures containing brown talc.						

Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab: AMDAD) Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
1057212	39	40	1	x	x	15	15	30	x	1.80	2	x	13
1057213	40	41	1	x	x	25	x	35	0.5	2.70	x	x	20
1057214	41	42	1	x	x	20	x	25	x	1.60	x	x	15
1057215	42	43	1	x	x	20	x	20	x	1.05	x	x	33
1057216	43	44	1	x	x	40	5	20	x	1.75	x	x	52
1057217	44	45	1	x	x	25	x	35	x	1.45	x	x	16
1057218	45	46	1	x	x	20	x	20	x	1.35	2	2.0	52
1057219	46	47	1	x	x	15	x	25	x	1.40	x	4.5	330
1057220	47	48	1	x	x	20	5	20	x	1.80	x	2.0	70
1057221	48	49	1	x	x	10	x	20	x	1.15	2	2.5	500
1057222	49	50	1	x	x	5	x	15	x	9500	x	2.0	49
1057223	50	51	1	x	x	15	5	20	x	1.35	x	0.5	450
1057224	51	52	1	x	x	15	x	30	x	1.10	2	x	46
1057225	52	53	1	x	x	15	5	15	x	1.35	x	2.5	43
1057226	53	54	1	x	x	15	x	15	x	1.30	2	1.5	30
1057227	54	55	1	x	x	10	x	15	x	1.15	x	3.5	64
1057228	55	56	1	x	x	10	15	25	x	1.00	2	2.5	100
1057229	56	57	1	x	x	25	10	30	0.5	1.85	x	4.0	72
1057230	57	58	1	x	x	35	5	25	x	1.95	2	1.0	22
1057231	58	59	1	x	x	35	10	15	x	2.15	x	1.0	32
1057232	59	60	1	x	4	30	5	15	x	2.15	x	2.5	20
1057233	60	61	1	x	x	35	5	15	0.5	2.20	2	3.0	19
1057234	61	62	1	x	x	40	5	15	x	2.00	x	2.0	68
1057235	62	63	1	x	x	20	x	20	x	2.05	2	4.5	100
1057236	63	64	1	x	x	10	20	35	x	1.20	x	1.5	110
1057237	64	65	1	x	x	45	20	60	1.0	2.55	x	10.5	84
1057238	65	66	1	5	x	20	15	50	0.5	2.40	2	1.5	30
1057239	66	67	1	9	x	115	20	220	1.0	4.35	x	6.0	75
1057240	67	68	1	30	x	125	15	165	0.5	3.75	2	4.0	11
1057241	68	69	1	31	x	80	x	80	x	2.15	x	x	160
1057242	69	70	1	7	x	15	5	230	x	9250	2	x	210
1057243	70	71	1	10	x	10	5	60	x	7850	2	2.5	100
1057244	71	72	1	7	x	25	5	320	x	1.15	x	3.0	31
1057245	72	73	1	x	x	10	x	165	0.5	6250	2	3.0	66
1057246	73	74	1	5	x	10	x	125	x	5350	2	5.5	100
1057247	74	75	1	x	x	10	x	80	x	7350	x	0.5	36
1057248	75	76	1	4	x	25	x	75	x	1.25	2	x	16
1057249	76	77	1	11	x	5	x	60	x	6900	2	0.5	14
1057250	77	78	1	7	x	5	x	75	x	[illegible]	x	2.5	[illegible]

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. DDH 3

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS Sa	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION pyrrhotite	MINERALISATION sphalerite	Fracturing	Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab) Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
					Numerous fractures containing white pyroxene and green-yellow serpentine.						1057251	78	79	0.9	10	x	15	5	40	0.5	FOS	x	3.5	17
											1057252	79	80	"	x	x	10	5	50	x	5350	2	1.5	54
											1057253	80	81	"	11	x	20	5	45	0.5	1.20	2	0.5	14
											1057254	81	82	"	8	x	20	x	45	x	1.05	2	6.0	44
											1057255	82	83	"	7	x	10	5	75	x	8500	x	0.5	77
											1057256	83	84	"	7	x	5	5	70	x	5550	2	x	74
											1057257	84	85	"	13	x	20	15	120	x	1.30	2	x	150
					Disseminated sphalerite.						1057258	85	86	"	20	28	100	15	2350	x	2.20	2	x	12
											1057259	86	87	"	8	x	15	x	85	x	1.05	2	x	15
											1057260	87	88	"	9	x	5	15	130	0.5	7750	x	1.5	31
											1057261	88	89	"	x	x	x	x	85	x	6450	x	1.0	33
											1057262	89	90	"	8	x	5	5	60	x	5050	x	1.5	32
											1057263	90	91	"	7	x	10	5	85	x	5150	x	0.5	14
											1057264	91	92	"	12	x	x	5	70	x	5550	2	5.5	31
											1057265	92	93	"	11	x	x	10	85	0.5	5200	x	1.5	44
											1057266	93	94	"	4	x	x	5	60	x	3800	x	0.5	54
											1057267	94	95	"	6	x	x	5	75	x	5600	2	1.5	17
											1057268	95	96	"	8	x	5	5	75	0.5	6750	x	2.5	41
											1057269	96	97	"	10	x	x	x	65	x	4800	x	3.5	44
											1057270	97	98	"	4	x	5	x	45	x	4050	x	1.5	87
											1057271	98	99	"	8	x	15	5	270	x	6900	x	x	86
											1057272	99	100	"	8	x	5	5	55	x	6450	x	x	20
											1057273	100	101	"	8	x	5	10	80	x	6100	x	1.0	180
											1057274	101	102	"	5	x	5	10	85	x	4250	x	1.0	30
											1057275	102	103	"	x	x	x	x	85	x	3450	x	x	30
											1057276	103	104	"	9	x	10	x	60	x	6150	x	x	32
											1057277	104	105	"	8	x	x	5	100	x	6750	x	1.5	41
											1057278	105	106	"	7	x	5	5	175	0.5	6700	x	1.0	44
											1057279	106	107	"	7	x	35	x	245	x	1.30	x	x	45
											1057280	107	108	"	14	x	50	x	105	x	1.65	x	4.0	44
											1057281	108	109	"	7	x	50	10	60	x	1.40	x	0.5	20
											1057282	109	110	"	30	x	35	20	160	x	1.40	x	0.5	100
											1057283	110	111	"	12	x	60	85	720	x	1.70	x	x	45
											1057284	111	112	"	31	x	75	x	700	x	1.75	2	x	44
					1.2m Bands containing disseminated sphalerite/pyrrhotite						1057285	112	113	"	30	32	145	10	2700	x	2.05	2	x	44
											1057286	113	114	"	43	6	70	20	850	x	1.85	x	x	44
											1057287	114	115	"	15	x	135	20	670	x	1.10	2	2.0	40
											1057288	115	116	"	6	81	125	20	5150	x	2.00	2	1.0	20
116	179				PYRRHOTITE RICH HORNFELSED BLACK SHALE						1057289	116	117	"	10	5	120	15	4000	x	1.85	4	3.0	89

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. DDH 3 148

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION	MINERALISATION	MINERALISATION	Fracturing	Sample No.	From (m)	To (m)	Rec (m)
												1057290	117	118	1
												1057291	118	119	1
												1057292	119	120	1
												1057293	120	121	1
												1057294	121	122	1
												1057295	122	123	1
												1057296	123	124	1
												1057297	124	125	1
												1057298	125	126	1
												1057299	126	127	1
												1057300	127	128	1
												1057301	128	129	1
												1057302	129	130	1
												1057303	130	131	1
												1057304	131	132	1
												1057305	132	133	1
												1057306	133	134	1
					130.2 White carbonate bed							1057307	134	135	1
												1057308	135	136	1
												1057309	136	137	1
												1057310	137	138	1
												1057311	138	139	1
												1057312	139	140	1
					141.5: Carbonate (Siderite) bed with pyrite and minor sphalerite 30cm thick							1057313	140	141	1
												1057314	141	142	1
												1057315	142	143	1
												1057316	143	144	1
												1057317	144	145	1
												1057318	145	146	1
												1057319	146	147	1
												1057320	147	149	2
												1057321	149	152	3
												1057322	182	185	3
												1057323	155	158	3

ASSAYS (Lab:	Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
			70	5	585	x	2.95	2	3.0	150
			5	25	70	x	2.00	x	2.0	110
			10	20	160	x	2.10	x	2.5	110
			15	25	95	x	2.15	x	3.0	120
			5	10	65	x	2.80	x	1.5	85
			140	40	505	1.0	2.85	<	4.5	48
			145	180	530	1.0	3.55	x	x	230
			160	140	475	0.5	2.20	>	6.0	26
			145	75	430	0.5	2.65	x	3.5	20
			85	45	185	x	2.35	x	2.5	18
			85	105	40	1.0	2.35	x	6.0	6
			110	70	25	x	2.25	x	15.0	15
			95	65	150	x	2.35	x	5.0	14
			95	70	40	0.5	2.55	x	3.5	19
			115	65	170	0.5	2.75	x	8.5	8
			100	45	245	1.5	2.15	2	7.5	14
			60	2500	335	2.5	1.45	x	x	6
			75	45	145	x	2.00	2	2.0	21
			80	75	200	x	2.55	x	2.0	16
			130	80	615	x	2.45	2	10.5	83
			40	70	125	x	2.25	>	12.0	23
			120	85	70	x	3.05	2	15.5	7
			120	65	190	0.5	2.40	x	17.0	42
			125	70	75	x	2.85	x	19.0	40
			295	275	550	3.0	3.25	4	13.0	61
			95	170	490	0.5	2.40	x	15.5	49
			600	45	850	x	2.70	x	13.0	10
			105	70	320	0.5	2.55	x	16.0	7
			140	65	220	0.5	3.85	2	15.5	57
			100	85	900	0.5	2.67	x	11.0	25

GLOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. DDH3

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION	MINERALISATION	MINERALISATION	Fracturing	Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab:
												1057324	158	161	3	
												1057325	161	164	3	
												1057326	164	167	3	
												1057327	167	170	3	
			70°									1057328	170	173	3	
												1057329	173	176	3	
												1057330	176	179	3	
179	219				GRADED FINE GRAINED QUARTZITES Biotite hornfels "in argillaceous" layers. Grading evident between white coarse grained layers and brown grey fine grained layers.							1057331	179	182	3	
												1057332	182	185	3	
												1057333	185	188	3	
												1057334	188	191	3	
												1057335	191	194	3	
												1057336	194	197	3	

Grab Sample 3m

GTC 43

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole No. DDH 3 150

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS Sa	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION	MINERALISATION	MINERALISATION	Fracturing	Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab:
												1057337	197	200	3	
												1057338	200	203	3	
												1057339	203	206	3	
												1057340	206	209	3	
												1057341	209	212	3	
												1057342	212	215	3	
												1057343	215	218	3	
												1057344	218	219·5	1·5	
					E.O.H. 219·5											

SAMPLES Jn Sump

DDH 4 GRANVILLE EAST PROSPECT - E.L. 1/77

Proposed: P. Heithersay

Approved: R.R. Large, T.W. Dickson

Planned Depth: 200 m.

Collar Co-ordinates: 9700N, 9810E

Collar Inclination: 50°

Collar Azimuth: 231°M

Final Depth: 233 m.

Bore Hole Survey:

Metres	Inclination	Azimuth
133	50°	231°M
183	46°	226°M
233	43°	223°M

GLOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. DDH4152

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION pyrrhotite	MINERALISATION magnetite	MINERALISATION sphalerite	Fracturing	Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab:
					0-9m Casing								0	1		
													1	2		
													2	3		
													3	4		
													4	5		
													5	6		
													6	7		
													7	8		
													8	9		
9	13 30.2		0°		FINELY BANDED BLACK SHALE Banded black to light grey bands. Pyrite veinlets and disseminated grains White tremolite bands near the top of the interval		2%	<1%					9	10		
													10	11		
												105 7633	11	12		
													12	13		
			35°		WHITE BANDED SHALY SILTSTONE Dominant white bands with thin shaly, black laminae. Minor veining containing pyrite								13	14		
												7634	14	15		
													15	16		
													16	17		
													17	18		
												7635	18	19		
			35°										19	20		
20.2	35.0				BLACK GREY SHALE Thin siliceous bands Minor bands of very fine grained pyrite Siliceous bands containing pyrite Note A yellow gold is dull brown form of pyrite noted in pyritic bands White clots of chiastolite common Note: numerous small scale folds, generally isoclinal								20	21		
												7636	21	22		
													22	23		
													23	24		
												7637	24	25		
													25	26		
													26	27		
												7638	27	28		
			0°										28	29		
													29	30		
			10°									7639	30	31		
													31	32		
													32	33		
												7640	33	34		
			10°		Gradational Contact								34	35		
35.0	55.8				BANDED SANDY SILTSTONE White grey sandy bands with grey blacic silty bands		5%						35	36		
												7641	36	37		
													37	38		
													38	39		

3m Grind Samples

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole NO. DDH 4

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION pyrrhotite	MINERALISATION magnetite	MINERALISATION sphalerite	Fracturing
					BANDED SANDY SILTSTONE - as above						
					Probable grading noted. Angle to core varying from 0° to 85°						
					Abundant small scale folding on 10-30cm scale						
					47.5 m TS 11454						
					Numerous small quartz lenses are noted commonly conformable with bedding containing pyrite, pyrrhotite and various calcsilicate minerals. Small scale folding common (10-20 cm wavelength						
55.8	64.2				Brecciated zone						
			55°		SILICIFIED BANDED ROCK. Numerous discontinuous		5%				
			25°		white quartz layers which contain pyrite, pyrrhotite, white mica pyroxenes. 57.7m TS 11485 Sample of white quartz with calcsilicate assemblage.						
					62.8 "Vein" Quartz, pyrite, serpentine, blue grey mica. Conformable to bedding						
					63.3 Quartz, pyrite 5cm thick						
64.2	70.0				64.4 Quartz, pyrite pyrrhotite, blue grey mica 7cm thick conformable						
					ALTERED SANDY SILTSTONE Where unaltered, the rock is fairly homogeneous and white grey. Alteration gives a brown red colouration TS 11480						
70.0	99.2				BANDED SANDY SILTSTONE Silicified. Graded bedding		3%	5%			
					Vein 72m Conformable Quartz, pyrite, pyrrhotite serpentine						
					75m Conformable, Quartz, pyrite, pyrrhotite						
					76.7m Conformable, Quartz, pyrite, pyrrhotite						

Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab: Sn	W	Cu	Pb	Zn	Ag	Fe %	Bi	Mo	As
	39	40											
	40	41											
	41	42											
	42	43											
	43	44											
105 7345	44	45	1	x	x	60	40	220	x	2.8	y	2.5	45
7346	45	46	1	x	x	65	45	210	0.5	2.8	y	3.5	22
7347	46	47	1	28	x	55	15	120	0.5	4.15	x	2.8	88
7348	47	48	1	15	x	60	25	105	x	6.65	x	1.5	96
7349	48	49	1	15	x	60	5	95	0.5	4.30	x	0.5	48
7350	49	50	1	7	x	60	5	85	0.5	3.50	x	1.5	47
7351	50	51	1	x	x	60	5	85	0.5	3.55	x	1.0	83
7352	51	52	1	5	x	60	5	80	x	3.35	x	2.5	31
7353	52	53	1	3	x	60	x	145	x	4.00	<	3.0	65
7354	53	54	1	7	x	60	x	50	1.0	5.45	x	1.0	25
7355	54	55	0.9	7	x	50	5	40	x	3.66	<	1.5	85
	55	56	0.7										
7356	56	57	1	8	x	90	x	80	x	4.65	x	2.0	52
7357	57	58	1	4	x	95	5	40	x	4.55	x	0.5	24
7358	58	59	1	x	x	60	x	35	y	3.10	x	2.5	27
7359	59	60	1	3	x	40	x	45	x	2.99	x	1.0	19
7360	60	61	1	x	x	30	x	40	x	3.60	x	1.0	72
7361	61	62	1	x	x	55	5	40	0.5	2.85	x	0.5	14
7362	62	63	1	x	x	40	x	50	x	3.75	x	0.5	21
7363	63	64	1	4	x	55	x	35	x	2.85	x	1.5	23
7364	64	65	1	6	x	45	5	60	x	3.10	x	2.0	48
7365	65	66	1	x	x	35	5	40	x	2.25	x	2.5	11
7366	66	67	1	3	x	25	x	40	x	3.17	x	0.5	21
7367	67	68	1	3	x	30	5	45	x	3.05	x	0.5	15
7368	68	69	1	x	x	20	x	40	0.5	2.75	x	0.5	13
7369	69	70	1	9	x	35	5	50	1.0	2.95	x	1.0	37
7370	70	71	1	7	x	20	x	35	0.5	3.25	x	0.5	130
7371	71	72	1	x	x	40	x	30	x	2.95	x	0.5	75
7372	72	73	1	4	x	65	45	75	x	3.05	x	1.0	85
7373	73	74	1	5	x	55	5	35	x	3.60	x	0.5	72
7374	74	75	1	x	x	60	15	65	0.5	3.95	x	1.0	89
7375	75	76	1	x	x	40	5	35	1.0	3.40	x	0.5	34
7376	76	77	1	4	x	55	5	40	x	3.20	x	0.5	46
7377	77	78	1	x	x	40	x	35	x	2.75	x	0.5	66

GEOPEKO TASMANIA DRILL LOG

Prospect 154 GRANVILLE EAST Hole no. DDH4

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION pyrrhotite	MINERALISATION mag	Fracturing	Sample No.	from (m)	To (m)	Rec (m)	ASSAYS (Lab: Amdel) Sn	W	Cu	Pb	Zn	As	Fe %	Bi	Mo	As
					77.7 Vein Crosscutting. Quartz, pyrite, pyrrhotite serpentine, chalcopyrite		3%	3%			1057378	78	79	1	X	X	40	10	40	0.5	1.25	X	0.5	23
											7379	79	80	1	4	X	60	10	45	0.5	2.45	<	2.0	51
					Small scale folding common. Wavelength of 10-20 cm						7380	80	81	1	10	X	45	X	50	X	2.60	<	1.5	39
											7381	81	82	1	7	X	50	60	100	X	3.45	<	4.0	52
											7382	82	83	1	6	X	40	5	40	0.5	3.15	X	1.0	44
											7383	83	84	1	X	X	40	X	45	X	3.20	<	0.5	22
											7384	84	85	1	<	X	35	5	35	<	2.05	<	1.5	41
											7385	85	86	1	X	X	60	15	65	X	2.70	X	3.0	120
											7386	86	87	1	<	X	55	10	45	X	2.00	X	3.5	100
											7387	87	88	1	15	X	40	175	205	X	2.10	X	2.5	80
					88.8 Irregular quartz vein. Pyrite, pyrrhotite sphalerite (6mm band of 40% sphalerite) serpentine.						7388	88	89	1	25	X	70	1350	2600	1.0	3.30	X	4.0	120
											7389	89	90	1	20	X	40	90	260	X	2.60	<	5.5	110
											7390	90	91	1	8	X	40	15	60	X	1.95	2	9.5	82
											7391	91	92	1	9	X	65	30	340	X	2.60	X	6.5	82
											7392	92	93	1	X	X	65	10	100	<	2.50	X	4.0	71
											7393	93	94	1	6	X	50	15	75	<	2.80	2	7.0	71
											7394	94	95	1	<	X	40	20	85	X	2.20	X	6.5	78
											7395	95	96	1	7	X	35	35	115	<	2.30	2	4.0	22
											7396	96	97	1	10	X	40	65	175	<	2.20	<	4.0	19
											7397	97	98	1	15	X	60	35	135	<	2.05	4	2.0	74
											7398	98	99	1	3	X	60	30	140	<	2.75	2	1.0	29
			80°								7399	99	100	1	7	X	90	80	990	X	1.90	2	4.0	20
99.2	112.5				GREY CARBONACEOUS SILICIFIED SILTSTONE			5%			7400	100	101	1	7	X	65	55	400	X	1.80	X	3.5	20
					Chrysotile clots common in more carbonaceous bands						7401	101	102	1	4	X	85	90	355	X	1.90	X	2.5	19
											7402	102	103	1	10	X	75	60	190	X	2.00	X	2.5	24
											7403	103	104	1	10	X	55	30	190	X	2.50	X	2.5	78
											7404	104	105	1	30	X	75	340	215	X	2.25	2	2.0	49
											7405	105	106	1	25	X	65	3000	710	2.0	3.30	2	0.5	38
											7406	106	107	1	7	X	45	40	245	X	3.20	2	2.0	25
											7407	107	108	1	3	X	55	20	160	X	3.20	X	3.0	24
											7408	108	109	1	7	X	75	15	1300	X	2.40	2	1.5	21
											7409	109	110	1	6	X	80	25	1500	X	2.15	X	2.0	20
											7410	110	111	1	6	X	85	30	1750	X	2.30	<	2.0	30
											7411	111	112	1	X	X	65	50	285	X	2.30	2	4.0	75
											7412	112	113	1	6	X	65	40	180	X	2.3	X	5.0	22
112.5	124.3							5%			7413	113	114	1	7	X	60	30	170	<	2.4	2	6.5	35
					SANDY SILTSTONE. Graded bedding. Reddish alteration in places. Disseminated pyrrhotite throughout						7414	114	115	1	5	X	30	65	265	X	2.25	2	6.0	34
											7415	115	116	1	7	X	20	70	195	<	2.00	4	5.0	36
											7416	116	117	1	20	X	30	105	190	X	1.85	2	8.0	68

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GLOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. DDH4

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION pyrrhotite	MINERALISATION magnetite	MINERALISATION sphalerite	Fracturing	Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab: Analabs) Sn	W	Cu	Pb	Zn	As	Fe	Bi	Mo	Ag
												105 7417	117	118	1	7	X	50	120	885	X	2·65	X	11·0	52
												7418	118	119	1	X	X	65	25	235	X	2·10	X	5·0	29
												7419	119	120	1	8	X	45	25	260	X	2·30	X	9·0	91
												7420	120	121	1	7	X	45	20	90	X	1·90	X	4·5	65
												7421	121	122	1	6	X	50	15	70	X	2·30	X	6·5	95
												7422	122	123	1	X	X	75	10	100	X	2·70	X	6·5	34
												7423	123	124	1	X	X	55	5	70	0·5	2·75	X	3·5	35
124·3	137·50				GREY SILVERY SILTSTONE Silicified. Minor reddish alteration		3%	5%				7424	124	125	1	4	X	60	5	95	0·5	2·65	X	3·5	35
					Disseminated pyrrhotite throughout. Generally fairly homogeneous							7425	125	126	1	X	X	60	10	115	X	2·95	X	5·0	39
					with some banding. Grain size bordering on sand size							7426	126	127	1	X	X	65	5	80	X	2·40	X	8·5	37
												7427	127	128	1	10	X	55	15	80	0·5	2·25	X	6·0	98
												7428	128	129	1	X	X	50	10	70	X	2·40	X	3·0	64
												7429	129	130	1	15	10	55	5	70	0·5	2·45	X	2·0	37
												7430	130	131	1	7	X	50	5	60	X	2·30	X	2·0	36
												7431	131	132	1	9	X	45	5	65	0·5	2·10	X	4·0	42
												7432	132	133	1	5	X	40	5	85	0·5	2·40	X	1·5	37
												7433	133	134	1	5	X	50	5	80	X	2·65	X	3·5	26
												7434	134	135	1	X	X	45	10	70	X	2·00	X	5·5	23
												7435	135	136	1	8	X	40	10	120	0·5	2·20	X	5·0	38
												7436	136	137	1	X	X	35	10	95	X	1·60	X	5·5	48
137·5	146·0		35°		FINELY LAMINATED BANDED BLACK SHALE			10-15%				7437	137	138	1	10	X	70	20	115	0·5	2·30	X	1·0	22
					Generally silicified. May be more correctly called a							7438	138	139	1	X	X	80	10	165	0·5	2·40	X	2·5	23
					carbonaceous silicified mudstone. Bedding laminae containing very							7439	139	140	1	4	X	65	50	760	0·5	2·10	X	3·0	43
					fine grained pyrrhotite. Laminae containing pyrrhotite is							7440	140	141	1	10	X	85	50	315	0·5	1·95	X	1·5	900
					tightly folded in parts and would appear syngenetic							7441	141	142	1	3	X	95	5	70	X	2·15	X	3·0	1500
												7442	142	143	1	10	X	70	10	170	X	2·10	X	2·5	400
												7443	143	144	1	25	X	50	75	390	X	1·40	X	2·0	180
							3%	5%				7444	144	145	1	35	X	50	75	390	X	1·80	8	2·0	180
~~146~~	149				ALTERED ZONE Silicified siltstone with cross cutting cream							7445	145	146	1	9	X	60	25	335	X	2·15	40	1·5	120
					yellow alteration. Fabric develops at right angles to bedding							7446	146	147	1	4	X	65	15	510	X	1·40	X	3·5	85
					Pyrrhotite is part of the alteration assemblage							7447	147	148	1	X	X	60	5	55	X	1·85	X	3·0	95
~~149~~	155·3				SANDY SILTSTONE Graded bedding noted							7448	148	149	1	3	X	40	10	45	X	1·60	X	1·5	40
					150·5 Vein Quartz, tremolite, serpentine ? Sulphide							7449	149	150	1	X	X	55	10	40	X	1·65	X	5·5	28
					crosscutting							7450	150	151	1	5	X	40	5	45	0·5	1·75	40	X	19
					151·2 Quartz, tremolite, pyroxene, pyrite, pyrrhotite 10cm							7451	151	152	1	X	Y	60	15	60	X	1·70	1·5	2	11
					155·7 Quartz tremolite, pyroxene pyrrhotite 12cm							7452	152	153	1	6	Y	55	X	40	X	2·40	2·0	X	10
												7453	153	154	1	X	Y	50	20	130	1·0	2·10	3·5	X	7
												7454	154	155	1	X	X	40	15	120	X	2·40	1·5	X	14
155·3	159·6											7455	155	156	1	X	X	55	20	135	X	1·90	0·5	X	20

GEOPEKO TASMANIA DRILL LOG

Prospect GRENVILLE EAST Hole No. DDH4

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION Pyrrhotite	MINERALISATION mag	MINERALISATION sphalerite	Fracturing
158.6	180.0				FINELY LAMINATED SHALE: Black and carbonaceous. Grading exudent in parts with sandy component. Pyrrhotite rich. Pyrrhotite forms as syngenetic ? laminae and crosscutting veins and veinlets. At 160.05 a 12cm band of massive sphalerite tremolite, pyrrhotite and arsenopyrite. TS 11487. Bedding laminae very distorted in part. Small scale isoclinal folds clearly develop a cleavage schistosity fabric, while other folds are entirely random indicating slumping (synsedimentary). Some pyrrhotite (ex 193.6) follows apparent slumping suggesting it is syngenetic		10-20%		Massive band	
					SILICIFIED SANDY SILTSTONE. Disseminated pyrrhotite throughout. Pyrrhotite content ≤ 30%			30%			
199.00	233.00				Very gradational change. BANDED CARBONACEOUS SILTSTONE Numerous small scale folds. Generally lighter coloured with a sandier component. Pyrrhotite disseminated and in veins and fractures			6%			

Sample No.	from (m)	To (m)	Rec (m)	ASSAYS (Lab: Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Ni	As
1057456	156	157	1	x	x	50	x	115	x	2.25	x	1.0	33
7457	157	158	1	x	x	60	5	130	x	2.95	2	6.5	11
7458	158	159	1	x	x	50	x	115	x	2.90	x	6.5	22
7459	159	160	1	3	x	55	15	180	x	4.45	x	9.5	21
7460	160	161	1	x	15	145	65	1.61%	0.5	9800	x	4.5	40
7461	161	162	1	x	x	90	60	590	x	2.20	2	9.5	39
7462	162	163	1	x	x	70	35	180	x	2.65	x	1.5	22
7463	163	164	1	5	x	60	35	260	0.5	2.70	2	9.0	21
7464	164	165	1	x	x	60	10	200	x	2.15	x	5.6	24
7465	165	166	1	4	x	80	20	160	0.5	3.20	x	6.0	39
7466	166	167	1	x	x	70	30	140	x	2.60	x	4.0	49
7467	167	168	1	3	x	105	15	145	x	2.55	4	5.5	57
7468	168	169	1	3	x	60	20	155	0.5	3.95	x	3.0	145
7469	169	170	1	x	x	70	5	125	x	3.50	x	4.5	122
7470	170	171	1	x	x	50	10	60	x	3.60	x	9.5	33
7471	171	172	1	x	x	60	10	90	x	3.25	x	6.0	35
7472	172	173	1	8	x	60	10	135	x	4.05	x	13.5	47
7473	173	174	1	4	x	50	15	55	x	2.35	x	10.5	75
7474	174	175	1	4	x	105	15	60	x	2.40	30	7.0	67
7475	175	176	1	4	x	125	x	60	x	4.35	2	6.0	44
7476	176	177	1	3	x	55	y	60	>	3.10	x	8.0	104
7477	177	178	1	6	x	85	10	95	x	4.60	x	8.0	97
7478	178	179	1	7	x	65	20	120	x	3.95	x	5.5	69
7479	179	180	1	5	x	70	10	135	x	4.30	x	6.5	100
7480	180	181	1	x	x	65	5	120	0.5	3.75	x	7.0	30
7481	181	182	1	6	10	60	5	100	y	3.85	x	7.0	22
7482	182	183	1	x	x	50	15	190	x	3.05	4	7.5	14
7483	183	184	1	x	x	45	15	105	y	3.10	x	13.0	63
7484	184	185	1	5	x	50	15	85	>	2.65	x	12.5	84
7485	185	186	1	x	x	45	20	70	x	2.60	4	6.0	25
7486	186	187	1	x	x	55	5	75	x	3.15	x	9.0	39
7487	187	188	1	x	x	50	15	65	x	3.00	y	5.5	39
7488	188	189	1	4	x	60	15	50	x	2.50	2	6.0	290
7489	189	190	1	y	x	50	5	45	x	2.05	x	6.5	109
7490	190	191	1	5	x	110	15	65	x	2.50	x	4.5	79
7491	191	192	1	y	x	60	5	60	0.5	2.35	8	5.0	82
7492	192	193	1	7	x	70	15	85	0.5	2.90	6	2.5	30
7493	193	194	1	x	x	80	10	65	0.5	2.85	x	4.5	46
7494	194	195	1	8	x	60	25	80	10	2.45	2	2.5	107

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole No. DDH 4

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION ppy	MINERALISATION sph	Fracturing	Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab: ANALABS) SN	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
					As above banded carbonaceous siltstone			6%			105 7495	195	196	1	9	X	65	15	95	X	2.25	6	40	70
					Light grey to dark grey bands						7496	196	197	1	6	X	70	30	125	X	2.15	2	4.5	106
					So Variable - small scale folds						7497	197	198	1	3	X	65	10	60	X	1.70	X	4.5	79
					S_1 approximately 60-80° to LCA.						7498	198	199	1	10	X	95	15	60	X	2.35	4	4.0	95
											7499	199	200	1	X	X	75	5	65	X	2.40	10	8.5	85
											7500	200	201	1	3	X	45	5	55	X	2.20	6	7.0	69
											7501	201	202	1	X	X	50	15	60	X	2.15	4	5.0	28
											7502	202	203	1	X	X	55	15	105	X	2.45	X	4.5	50
											7503	203	204	1	X	X	75	5	65	05	2.05	X	6.0	48
											7504	204	205	1	X	X	60	15	60	X	6.15	2	5.5	45
											7505	205	206	1	3	X	60	15	60	X	5.15	2	11.0	25
											7506	206	207	1	3	X	55	15	60	X	5.45	4	10.0	24
											7507	207	208	1	X	X	50	20	65	X	5.45	X	10.0	30
											7508	208	209	1	X	X	55	15	105	X	2.80	2	12.0	25
											7509	209	210	1	X	X	55	15	110	X	2.00	X	6.5	54
											7510	210	211	1	X	X	55	5	105	X	2.30	X	10.5	56
											7511	211	212	1	X	X	60	15	50	X	1.85	X	8.0	49
											7512	212	213	1	X	X	70	15	255	X	2.00	X	4.5	43
											7513	213	214	1	X	X	60	15	80	X	2.20	X	2.0	580
											7514	214	215	1	X	X	45	5	50	X	1.80	X	3.5	160
											7515	215	216	1	X	X	50	X	50	X	2.10	X	4.5	36
											7516	216	217	1	X	X	50	10	60	X	2.05	2	4.0	67
											7517	217	218	1	X	X	60	15	50	X	2.10	X	6.5	510
											7518	218	219	1	X	X	60	10	55	X	2.15	X	4.0	350
											7519	219	220	1	X	X	70	10	1200	X	1.95	2	6.0	350
											7520	220	221	1	X	X	55	10	50	X	2.20	4	7.0	11000
											7521	221	222	1	X	X	65	5	60	X	1.90	4	6.5	320
											7522	222	223	1	X	X	75	10	85	X	1.90	X	5.5	320
											7523	223	224	1	X	X	85	5	30	X	1.95	X	9.0	390
											7524	224	225	1	X	X	65	15	65	X	2.10	X	5.0	55
											7525	225	226	1	X	X	55	X	30	X	2.05	X	4.5	46
											7526	226	227	1	X	X	45	5	35	X	1.95	X	5.0	24
											7527	227	228	1	X	X	40	5	45	X	2.05	X	6.5	36
											7528	228	229	1	X	X	50	X	55	X	2.10	X	9.0	48
											7529	229	230	1	X	X	40	15	55	X	2.05	X	3.5	33
											7530	230	231	1	X	X	50	5	50	X	2.35	X	4.0	28
											7531	231	232	1	X	X	45	X	45	X	2.20	X	3.5	35
					EOH 233m						7532	232	233	1	X	X	65	5	55	X	2.80	X	1170	55

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DDH 5 GRANVILLE EAST PROSPECT - E.L. 1/77

Proposed: P. Heithersay

Approved: R.R. Large, T.W. Dickson

Planned Depth: 150 m.

Collar Co-ordinates: 9990N, 9880E

Collar Declination: 60°

Collar Azimuth: 231°

Final Depth: 194 m.

Bore Hole Survey:

Metres	Inclination	Azimuth
94	59°	229°M
144	56°	226°M
194	55°	226°M

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. 5

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION	MINERALISATION	MINERALISATION	Fracturing	Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab:)
					0-9m Precollared								0	1		
													1	2		
													2	3		
													3	4		
													4	5		
													5	6		
													6	7		
													7	8		
													8	9		
9.00	94.70				FINELY LAMINATED QUARTZITE. Fine grained quartzite, commonly with white differentiated quartz defining deformed bedding. Generally micaceous with mica evident on cleavage planes								9	10		
													10	11		
													11	12		
													12	13		
													13	14		
													14	15		
													15	16		
													16	17		
													17	18		
													18	19		
													19	20		
													20	21		
													21	22		
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													24	25		
													25	26		
													26	27		
													27	28		
													28	29		
													29	30		
													30	31		
													31	32		
													32	33		
													33	34		
													34	35		
													35	36		
													36	37		
													37	38		
													38	39		

GAINO SAMPLES TAKEN

3m

GSTAS 139

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. 5

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION	MINERALISATION	MINERALISATION	Fracturing	Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab:)
					White grey meta-tuffaceous fine grained quartzite								39	40		
					Thin quartz sweetout veins. Pyrite veinlets								40	41		
													41	42		
													42	43		
													43	44		
													44	45		
													45	46		
													46	47		
													47	48		
													48	49		
													49	50		
													50	51		
													51	52		
													52	53		
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													63	64		
													64	65		
													65	66		
													66	67		
													67	68		
													68	69		
													69	70		
													70	71		
													71	72		
													72	73		
													73	74		
													74	75		
													75	76		
													76	77		
													77	78		

3m Grind Samples Taken

54319.0

GEOPEKO TASMANIA DRILL LOG

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Prospect GRANVILLE EAST Hole No. DDH5

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION pyrrhotite	MINERALISATION magnetite	MINERALISATION sphalerite	Fracturing
					ALTERED QUARTZITE Silicified with dendritic pyrite. Brown red alteration (Biotite hornfels)						
96.7	106		90°		ALTERED BLACK SHALE Very disturbed and in part brecciated						
			5° broken		shale with white calcsilicate? layers. Pyrite common, particularly		2%	5%			
					in sandier layers. Pyrrhotite leases within the fine						
					bedding laminae, appears syngenetic as it follows bedding exactly						
					Small scale folding common. Pyrrhotite veining common						
106	112.6										
			70°		SYNSEDIMENTARY BRECCIA Distorted carbonaceous rock		3%	5%			
			Variable		with white tremolite clasts. Pyrrhotite and pyrite disseminated						
					throughout. Develops into a 'flow' texture similar to tuffaceous rocks						
112.6	117				TREMOLITE BEARING SILTSTONE Grey coloured siltstone with						
					bands of tremolite pyrrhotite and sphalerite. Silicified in part						
					Conspicuous oxygen structures containing yellow carbonate						
					often with pyrrhotite. Origin may be a structural fabric						

Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab:) Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
1057637	78	79											
	79	80											
	80	81											
7631	81	82											
	82	83											
	83	84											
7639	84	85											
	85	86											
	86	87											
7640	87	88											
	88	89											
	89	90											
7641	90	91											
	91	92											
1057633	92	93	1	X	X	5	5	20	X	1.10	X	4.5	6
7634	93	94	1	X	X	5	X	25	X	1.60	X	3.5	42
7635	94	95	1	17	X	10	X	25	X	1.10	X	1.5	34
7636	95	96	1	11	X	10	5	40	X	1.75	X	3.0	20
7637	96	97	1	X	X	30	15	35	0.5	1.5	X	3.5	22
7638	97	98	1	X	X	15	5	25	X	1.60	X	8.5	14
7639	98	99	1	X	X	15	5	30	X	1.55	X	4.0	15
7640	99	100	1	X	18	30	15	35	X	1.85	X	6.0	49
7641	100	101	1	5	5	50	10	50	X	1.70	X	8.5	43
7642	101	102	1	X	X	60	10	40	0.5	2.20	X	21.5	42
7643	102	103	1	X	X	65	20	55	X	1.65	X	19.5	70
7644	103	104	1	X	X	60	5	35	X	1.85	X	40.0	8
7645	104	105	1	6	X	95	5	65	X	1.40	X	11.0	16
7646	105	106	1	X	X	75	80	200	0.5	2.40	X	180	22
7647	106	107	0.9	21	X	5	10	45	0.5	2.00	X	4.0	100
7648	107	108	1	15	X	5	X	30	0.5	1.00	X	4.0	70
7649	108	109	1	18	X	5	X	25	X	1.25	X	4.0	90
7650	109	110	0.9	9	X	10	5	30	X	1.05	X	4.0	61
7651	110	111	1	6	X	5	X	30	X	1.05	X	4.0	48
7652	111	112	1	7	X	20	X	20	X	1.90	X	3.0	52
7551	112	113	1	15	X	20	215	320	0.5	1.15	X	3.0	87
7552	113	114	1	10	X	15	60	105	0.5	1.10	X	1.5	28
7553	114	115	1	4	X	20	45	130	X	1.45	X	1.0	36
7554	115	116	1	10	X	30	35	165	0.5	1.70	X	1.5	14
7555	116	117	1	15	X	40	60	125	0.5	2.45	X	2.5	25

3m GRAND SAMPLES

GLOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. DDH5

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION pyrrhotite	MINERALISATION magnetite	MINERALISATION sphalerite	Fracturing
					PYRRHOTITE SILICA SERPENTINE ROCK. Pyrrhotite varies between 20% to 80% Banded and massive forms. Pyrite replacing pyrrhotite Several phases of mineralisation evident. Early oxidised Grey SILTSTONE CARBONATE Patches of pyrrhotite		v	20-80%	v	v	
119	121										
121	128				FINELY LAMINATED BLACK SHALE Thin bands of yellow carbonate giving overall yellow tinge.		v	5-10%	v	v	
128	132		75°		BLACK SHALE WITH WHITE YELLOW "CALCSILICATE" BANDS. Calcsilicates consist of pyroxene (diopside), tremolite serpentine Calcsilicate bands have been partially replaced by pyrrhotite At 128·3m. a 10cm zone of massive pyrrhotite occurs.	1	v	30-90%	v		
132	137				BLACK SHALE With white tremolitic bands usually with pyrrhotite in the core. White mica common in veinlets						
137	182				BANDED CALCSILICATE SEQUENCES Discrete alternations of white tremolite and pyroxene with green serpentine (and hornblende?) with thin sheets of grey cherty silica. Irregular bedding suggestive of synsedimentary slumping. Micaceous and talc laminations common. Fairly uniform calcsilicate hornfels? Pyrrhotite occurs as thin veinlets		v	3%		v	

Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab:	Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
105 7556	117	118	1		50	x	100	40	55	0·5	2·70	x	x	330
7557	118	119	1		35	x	160	5	1550	1·0	1·73	x	x	400
7558	119	120	1		25	x	70	5	105	0·5	2·15	x	0·5	78
7559	120	121	1		10	x	105	25	240	0·5	2·50	x	3·0	56
7560	121	122	1		15	x	105	20	80	1·0	2·45	x	2·5	82
7561	122	123	1		10	x	75	5	105	0·5	2·50	x	1·0	44
7562	123	124	1		55	x	105	20	145	1·0	2·20	1200	2·0	170
7563	124	125	1		35	x	150	25	925	0·5	2·15	x	1·5	58
7564	125	126	1		25	x	135	270	800	1·0	2·30	x	2·5	58
7565	126	127	1		55	x	290	35	45	0·5	2·25	4	x	90
7566	127	128	1		25	x	90	10	115	1·0	2·35	x	4·5	90
7567	128	129	1		15	x	230	15	185	1·0	2·10	x	2·0	90
7568	129	130	1		9	x	105	20	405	1·0	2·15	x	1·5	180
7569	130	131	1		15	x	160	5	60	1·0	1·65	x	x	100
7570	131	132	1		20	x	55	10	40	0·5	2·35	x	x	98
7571	132	133	1		7	10	20	x	25	x	1·40	2	x	100
7572	133	134	1		15	x	20	x	20	0·5	1·70	2	1·0	30
7573	134	135	1		15	x	35	x	20	x	2·00	2	1·0	37
7574	135	136	1		15	x	10	x	15	x	0·45	70	1·0	43
7575	136	137	1		8	x	20	x	15	x	0·745	50	0·5	17
7576	137	138	1		10	x	25	15	25	x	1·33	134	1·5	9
7577	138	139	1		20	x	25	10	35	x	1·35	44	0·5	7
7578	139	140	1		10	x	30	5	55	x	1·55	8	1·0	7
7579	140	141	1		6	x	30	5	150	x	1·35	2	1·0	4
7580	141	142	1		10	x	10	x	20	x	0·47	x	1·0	9
7581	142	143	1		8	x	10	5	25	x	0·48	x	6·5	15
7582	143	144	1		6	x	10	x	30	1·0	0·39	x	2·0	15
7583	144	145	1		5	x	5	5	45	x	0·33	x	3·5	31
7584	145	146	1		15	x	15	5	20	x	0·46	x	8·0	9
7585	146	147	1		8	x	20	5	50	0·5	0·795	x	1·5	14
7586	147	148	1		9	x	15	10	30	x	0·62	x	6·0	15
7587	148	149	1		15	x	35	5	65	0·5	1·35	x	1·5	13
7588	149	150	1		10	x	10	5	60	0·5	0·45	x	2·5	24
7589	150	151	1		10	x	15	10	750	0·5	0·64	x	9·5	22
7590	151	152	1		15	x	15	x	390	x	0·71	4	7·0	32
7591	152	153	1		10	x	15	5	90	0·5	0·75	x	1·0	45
7592	153	154	1		6	x	5	x	35	x	0·105	x	4·0	19
7593	154	155	1		4	x	10	x	35	x	0·375	x	4·5	46
	155		1		15	x	5	x						

GEOPEKO TASMANIA DRILL LOG

Prospect GRANVILLE EAST Hole no. DDH5

DEPTH (m) from	DEPTH (m) to	GRAPHIC LOG	ANGLE TO CORE AXIS So	ANGLE TO CORE AXIS Si	GEOLOGICAL DESCRIPTION	Alteration	MINERALISATION py	MINERALISATION	MINERALISATION	MINERALISATION	Fracturing
			90°								
					164.1 - 165m Massive sphalerite in thin bands						
					within a white pyroxene rock						
					Band of massive sphalerite						
182	194				BLACK SHALE - with white tremolitic layers. Very distorted bedding Irregular fold						
					E.O.H. 194m						

Sample No	From (m)	To (m)	Rec (m)	ASSAYS (Lab: Analabs) Sn	W	Cu	Pb	Zn	Ag	Fe	Bi	Mo	As
7595	156	157	1	15	x	20	x	100	0.5	0.82	x	x	19
7596	157	158	1	15	x	20	5	260	x	0.89	x	x	17
7597	158	159	1	15	x	25	x	345	x	1.05	x	0.5	7
7598	159	160	1	15	x	25	10	50	x	1.25	x	2.0	9
7599	160	161	1	6	x	105	x	140	x	1.75	x	2.5	9
105 7600	161	162	1	10	x	20	5	60	x	0.815	x	2.0	6
7601	162	163	1	6	x	25	5	45	x	1.05	x	1.5	5
7602	163	164	1	10	x	20	5	30	0.5	1.10	x	3.0	7
7603	164	165	1	20	x	95	5	1.40%	x	1.60	x	x	9
7604	165	166	1	25	x	30	25	4075	x	1.55	2	3.0	28
7605	166	167	1	10	x	20	x	190	x	0.74	x	1.0	25
7606	167	168	1	15	x	20	x	120	x	1.15	4	1.0	6
7607	168	169	1	8	x	20	5	140	0.5	0.865	x	0.5	17
7608	169	170	1	10	x	15	x	130	x	0.880	2	x	8
7609	170	171	1	10	x	20	x	65	x	0.915	x	0.5	7
7610	171	172	1	x	x	10	5	65	x	0.89	x	0.5	4
7611	172	173	1	6	x	10	10	65	x	0.895	x	2.5	2
7612	173	174	1	x	x	15	10	145	x	1.50	x	1.5	10
7613	174	175	1	x	x	15	5	80	0.5	0.93	x	1.0	44
7614	175	176	1	15	21	145	40	1.13%	x	1.55	14	1.0	71
7615	176	177	1	x	x	25	x	305	0.5	0.95	x	4.0	28
7616	177	178	1	x	x	10	5	75	x	0.81	x	4.3	24
7617	178	179	1	x	x	10	x	70	x	0.58	x	5.0	9
7618	179	180	1	x	x	10	x	85	0.5	0.49	x	3.5	22
7619	180	181	1	x	x	25	x	55	0.5	0.93	x	6.5	22
7620	181	182	1	x	x	15	x	75	x	0.78	x	1.5	36
7621	182	183	1	x	x	25	x	195	x	0.94	x	4.0	40
7622	183	184	1	x	x	40	x	505	x	1.25	x	3.5	21
7623	184	185	1	x	x	15	x	325	0.5	073	x	3.0	9
7624	185	186	1	x	x	35	x	675	x	1.15	x	3.0	14
7625	186	187	1	x	x	10	5	50	x	0.49	x	3.0	4
7626	187	188	1	x	x	20	5	125	x	0.59	x	3.0	x
7627	188	189	1	x	x	5	5	60	x	0.33	x	1.5	17
7628	189	190	1	x	x	15	x	55	x	0.60	x	1.0	9
7629	190	191	1	x	x	10	5	185	0.5	0.51	x	2.5	4
7630	191	192	1	x	x	10	5	85	1.0	0.5	x	2.0	6
7631	192	193	1	x	x	25	10	50	x	0.895	x	0.5	17
7632	193	194	1	x	x	10	x	35	x	0.425	x	1.0	22

CR 1988/38

9 300mE 9 400mE 9 500mE 9 600mE 9 700mE 9 800mE 9 900mE 10 000mE 10 100mE 10 200mE 10 300mE 10 400mE 10 500mE 10 600mE

10 700mN
10 600mN
10 500mN
10 400mN
10 300mN
10 200mN
10 100mN
10000mN
9 900mN
9 800mN
9 700mN
9 600mN
9 500mN
9 400mN
9 300mN
9 200mN

340 450mE A.M.G.

BIG ROCKY CREEK

Boundary of Fe rich sediments and remnant basalt

Boundary of thick Tertiary Gravels.

Fe rich Tertiary Sediments

KR 7964 limonite fl.

KR 7963

DONNELLY'S CREEK

KR 7961-62 calcareous shale & qtzite quartz veining

quartzite

finely laminated quartzite

Basalt derived ironstone. KR 9228

fg shaly qtz

5 370 000mN A.M.G.

qtzite float

Thin silica layers indicative of weathered calcsilicate rocks.

KR 5960 DDH 3 crosslamination indicates west facing

KR 5959 interbedded shales & quartzites

Massive pyrite with chalcopyrite inclusions.

KR 7970/71/72/73 = 5973/74 float samples taken prior to costean.

KR 5971

Skarn: Magnetite, pyrite, pyrrhotite sphalerite, arsenopyrite with siderite, pyroxenes, muscovite and serpentine.

fg quartzite

hornfelsed black shale.

Banded hornfels.

grey pelitic shale.

ORIGIN PEG

DDH 1 DDH 5

KR 5956

Excellent exposure of fold styles.

Finely laminated quartzite thin quartz segregations defining S_1 and S_2

S_1 50

qtz veining KR 7956

cren qtz

qtz

qtz fl.

DDH 4 DDH 2

calcsilicate 'skarn' rock

black shales

KR 7953

BOUNDARY CK.

Ironstone Magnetite float.

Thick Tertiary Gravel

Trench exposing sulphides KR 6728/29

calcsilicates rock noted in rock chips

qtz/qtzite float

5100mN

5000mN

KR 7959

KR 7960 black shale

green flam KR 7957-58

calcsilicate rock

ABERFOYLE Grid lines

E.L. 1/77 Boundary

b.s. b.s.fl. b.s.f.

plunge frac. cleav.

573164

5 cm

KR.No	Sn	W	Cu	Pb	Zn	Fe	Ag	Bi	Mo	As
5956	3	X	X	25	5	0·2%	0·2	X	0·5	
5958	15	X	X	10	5	2050*	0·2	2	X	
5959	8	X	15	10	5	5650*	0·1	X	10	
5960	8	X	X	15	15	1·9	0·2	X	X	
7956	6	X	15	5	15	5600*	X	X	2·0	5
7957	30	X	10	40	75	5600*	X	X	X	130
7958			10	10	65	3·65	X	X	X	90
7959	180	X	5	X	85	2·25	X	X	0·5	85
7960	95	20	135	50	65	2·85	0·2	X	9·5	61
7961	20	X	40	20	55	2·80	X	X	2·5	5
7962	30	X	60	5	55	3·50	X	X	3·0	7
7963	15	X	40	5	45	1·25	X	X	1·0	10
7964	X	X	5	X	30	29·0%	X	X	1·5	36

* = ppm

KR.No	Sn	W	Cu	Pb	Zn	Fe	Ag	Bi	Mo	As
7970	35	X	35	20	10	2·55	X	X	X	7
7971	2·1%	30	5	10	10	1·75	X	X	1·5	29
7972	3000	X	5	X	5	2930*	X	X	1·0	3
7973	30	10	20	20	10	1·4%	X	X	7·5	250
5971	1250	X	10	35	15	5·85%	0·3	X	1·5	150
5973	1·9%	100	5	20	10	2100*	0·3	X	X	3
5974	3·2%	110	15	15	5	4000*	0·3	X	X	1
5975	6·35%	75	365	60	125	49·5	0·3	1·27	X	4300
6728	30	X	1650	55	55	1·35	0·7	1·35	1·5	1·4%
6729	45	X	1300	20	40	1·75	0·7	1·75	1·5	2·10%

Diamond Drill Hole	Coordinates	Azimuth	Declination	Final Depth
DDH 1	9990 N, 9808 E	231° N	50°	156·4 m
DDH 2	9700 N, 9960 E	231° N	50°	220 m
DDH 3	10200 N, 9875 E	231° N	55°	219·5m
DDH 4	9700 N, 9810 E	231° N	50°	233 m
DDH 5	9900 N, 9880 E	231° N	60°	194 m

LEGEND:

- Geological boundary
- Zone of tourmaline replacement
- 132° Strike & dip of strata
- Anticline; position approx.
- Syncline; position approx.
- 20° Minor syncline with plunge
- Facing
- Faults: inferred
- Thrust fault
- Prominent photo-linear
- 80° Cleavage: strike & dip
- 30° Lineation: trend & plunge
- Jointing
- Outcrop
- Float
- Tracks
- Creeks

STRATIGRAPHY:

TERTIARY
- Unconsolidated pebbles & boulders of quartzite, black shale
- Very Fe rich grit

PRECAMBRIAN
- Black shales containing pyrite & pyrrhotite
- Calcsilicate rock consisting of varying amounts of tremolite, diopside, serpentine, muscovite
- Mineralized skarn. Varying amounts of cassiterite pyrrhotite, magnetite, arsenopyrite with siderite and calcsilicate assemblages.
- Crenulated micaceous quartzites. Interbedded shales

GN 321°M MN

83-1978

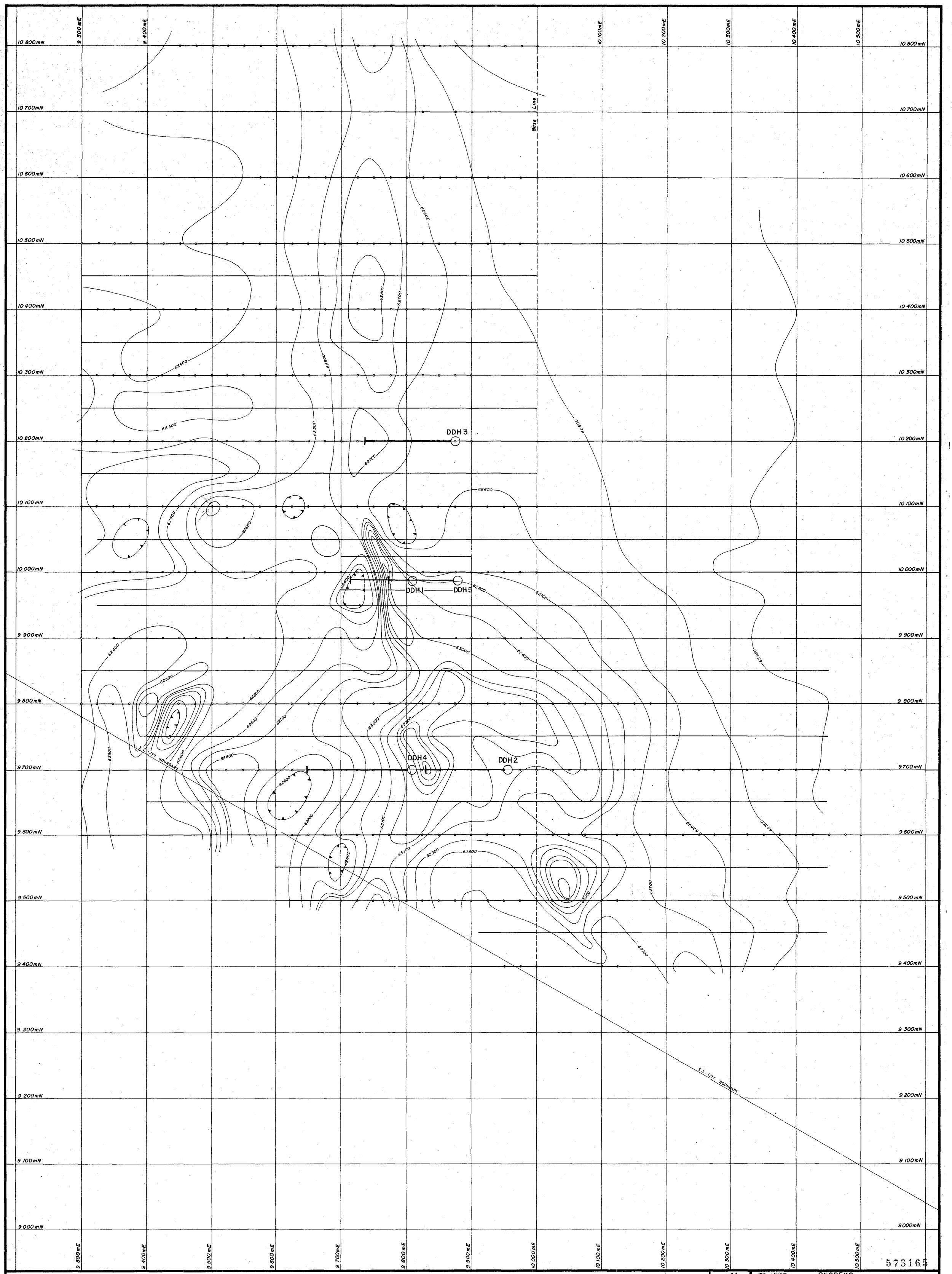
GEOPEKO
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

SCALE 1 : 2 500 | No. TS 1/77-GE-3 | PLAN No. 1

E.L. 1/77 ROCKY CAPE, TASMANIA
GRANVILLE EAST
Geology

DATE 1/6/82
GEOL P. Heithersay
DRAWN R. Tog
CHECKED

4026



LEGEND:

o ·····Auger hole

5 cm

DATE: Revised August 1982
CONT. INT. 100nT
INSTRUMENT: Geometrics G-816
BASE PEG: 10000mE, 9400mN
OBS: N.Lang., R.Out., J.Sum.

GN 32½°M

MN

DATE 16/11/82
GEOL J.S
DRAWN R.Tog
CHECKED P.H.

83-1978

GEOPEKO
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

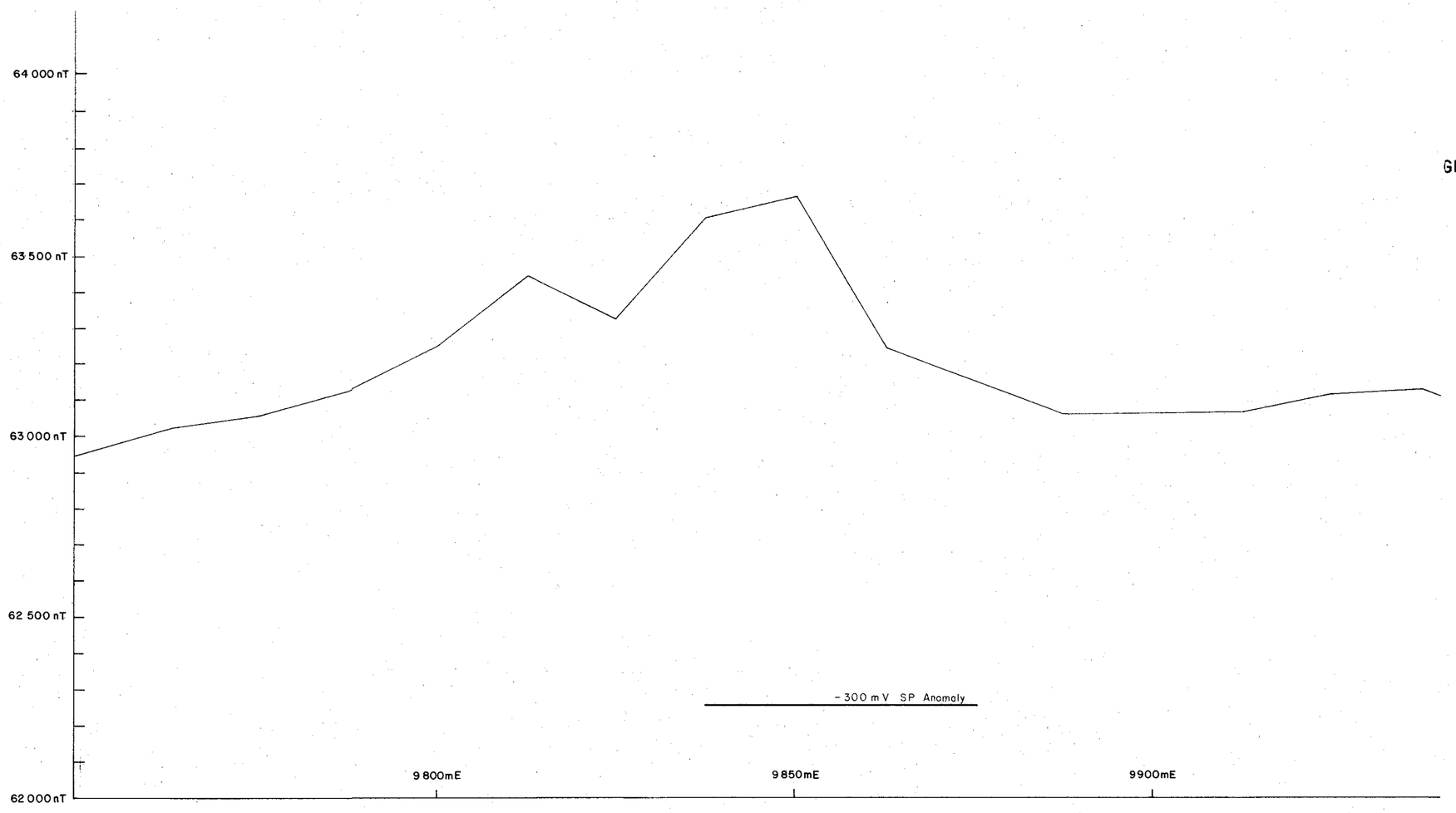
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E.L. 1/77 ROCKY CAPE, TASMANIA
GRANVILLE EAST
CONTOURS OF TOTAL MAGNETIC INTENSITY
INFILL GRIDDING AND DDH LOCATIONS

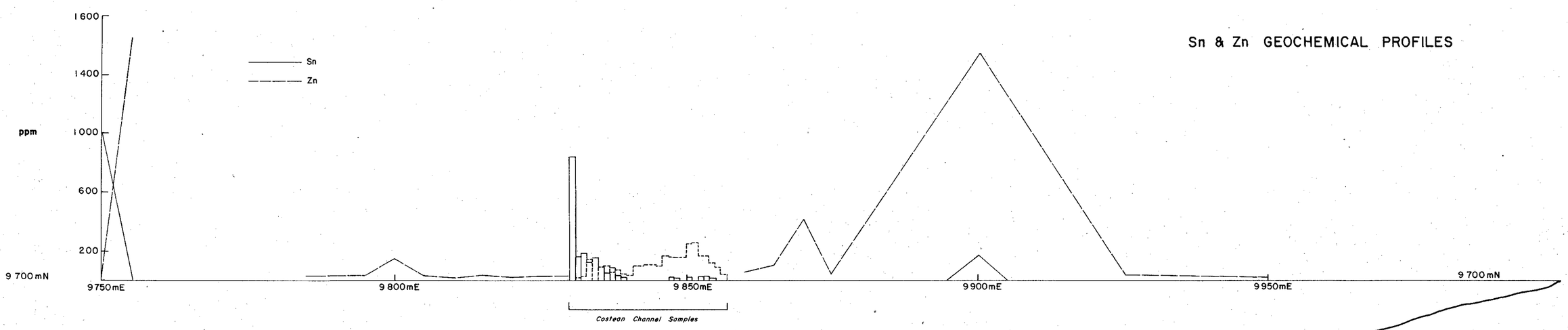
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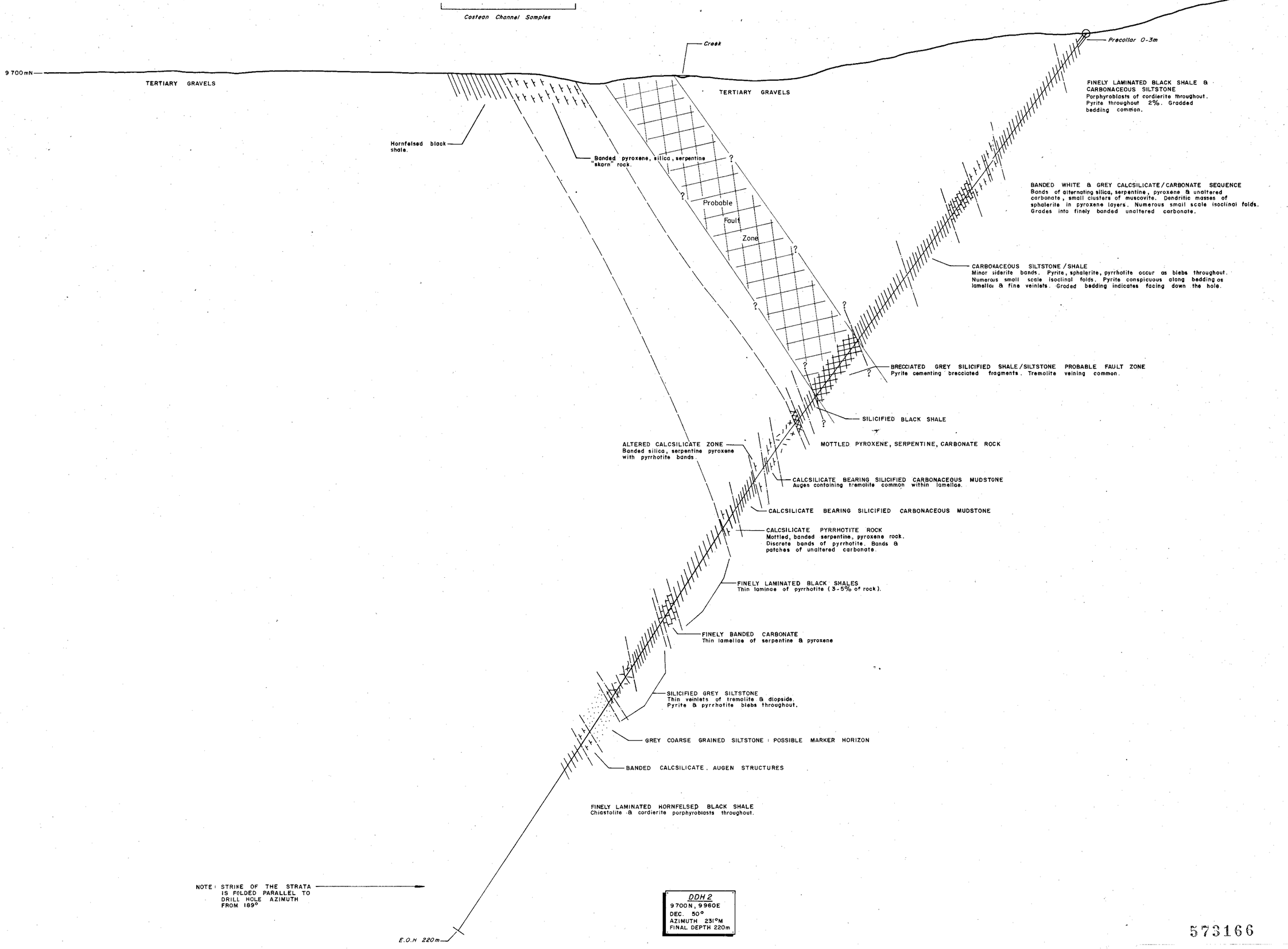
4027

GROUND MAGNETICS PROFILE



Sn & Zn GEOCHEMICAL PROFILES





573166

5 cm

83-1978

GEOPEKO
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

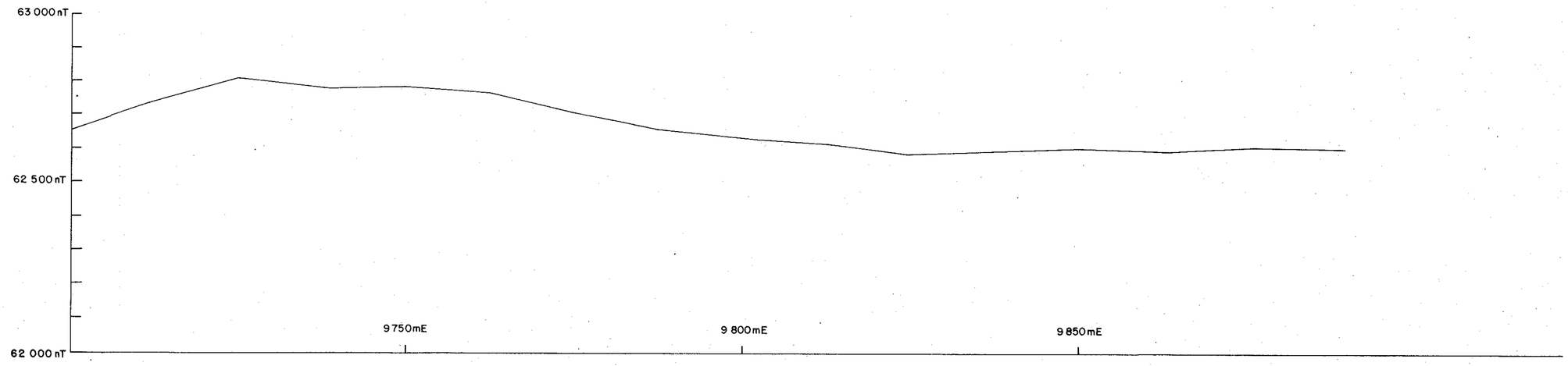
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DDH 2
E.L. 1/77 GRANVILLE EAST
Geological Section
9700 N

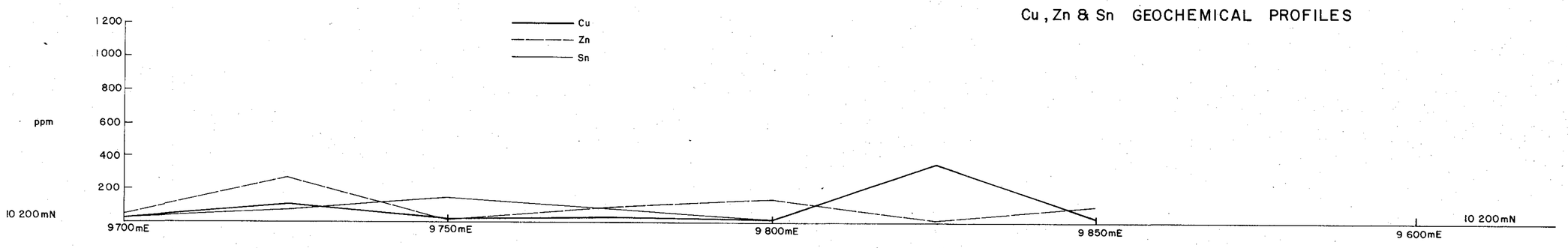
DATE 20/11/82
GEOLOGIST P.H.
DRAWN R.Tog
CHECKED P.H.

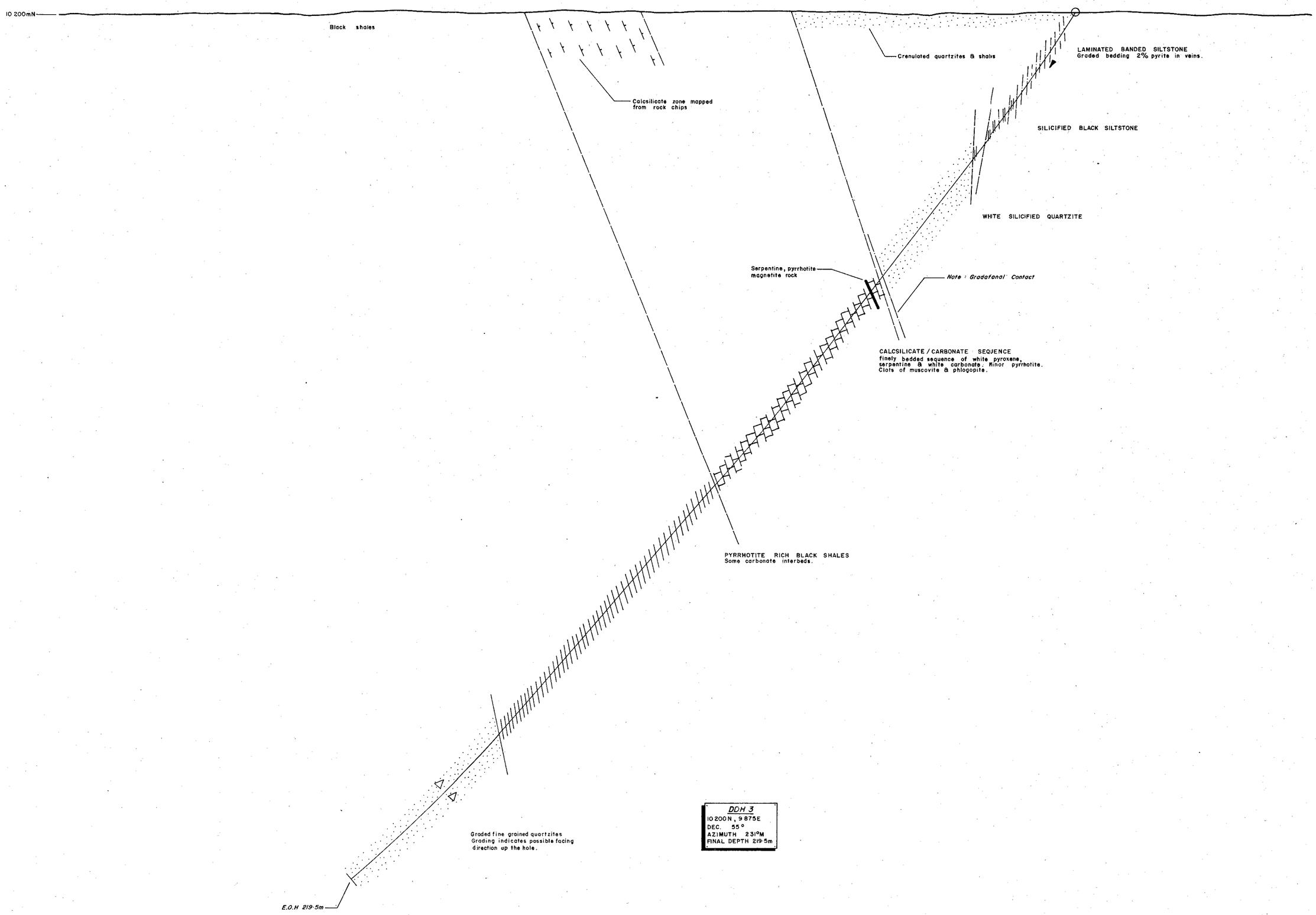
4028

GROUND MAGNETICS PROFILE



Cu, Zn & Sn GEOCHEMICAL PROFILES





573167

5 cm

83-1978

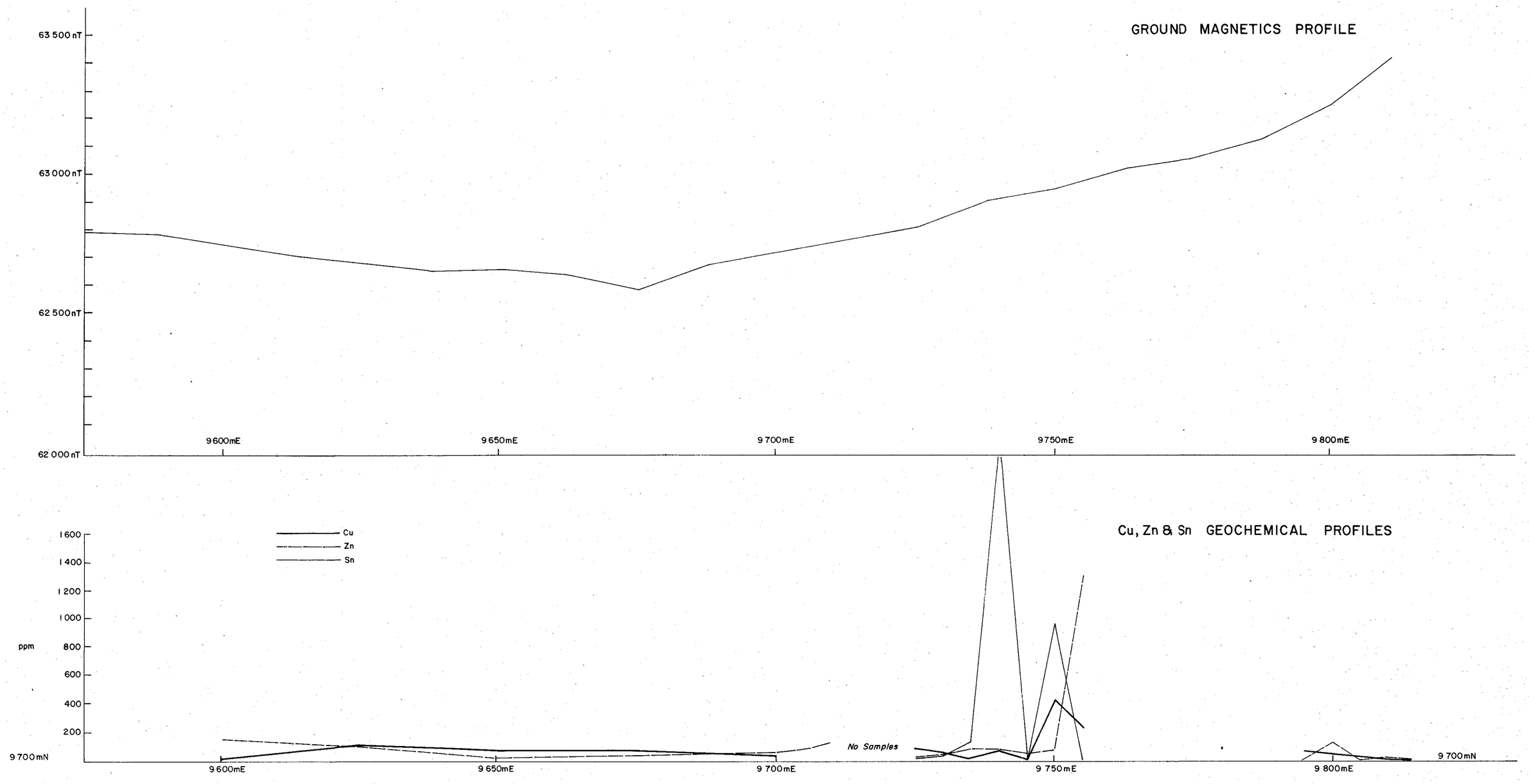
GEOPEKO
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

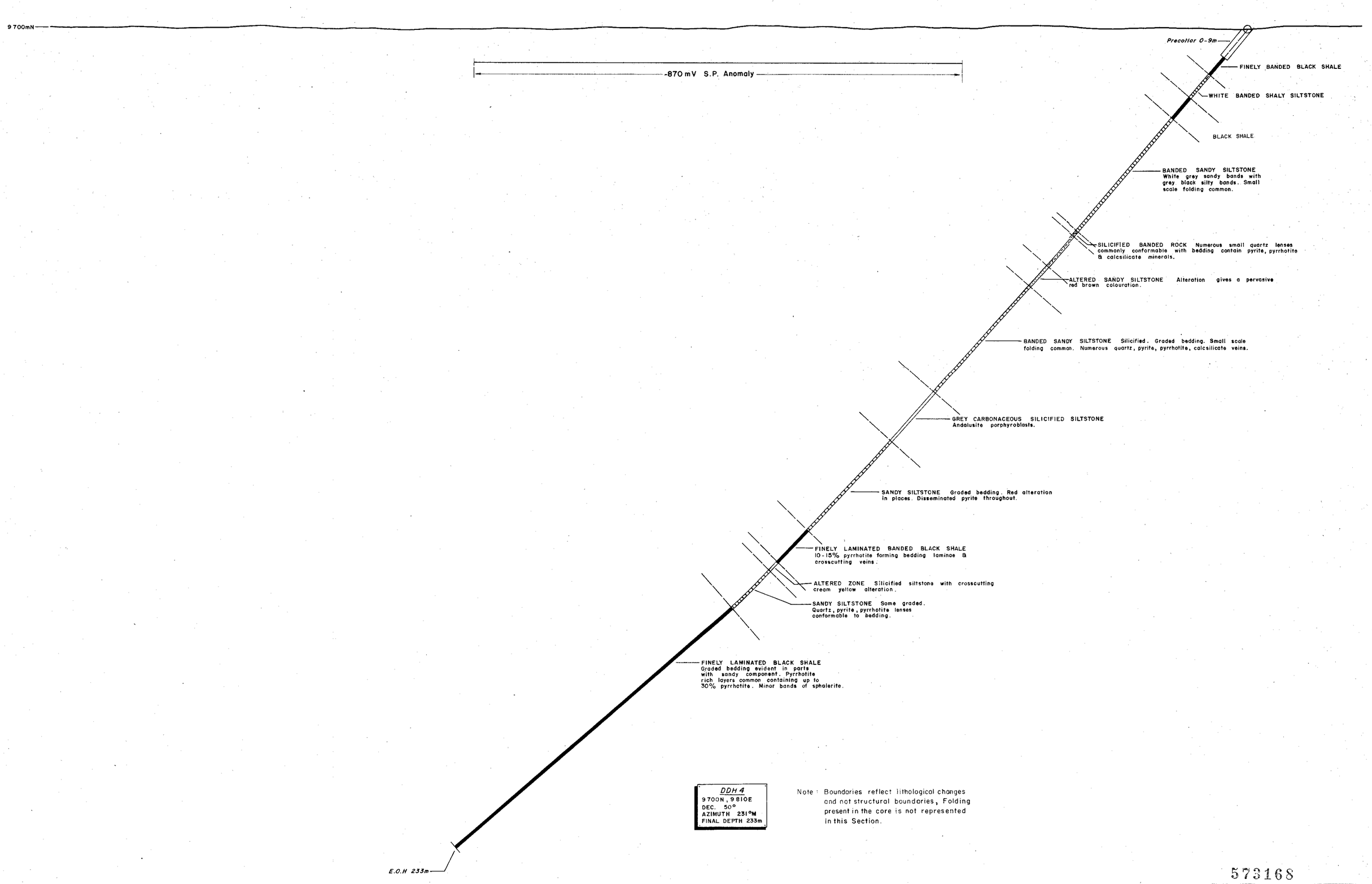
SCALE 1:500	No. TS 1/77-GE-29	PLAN No 4

DDH 3
E.L. 1/77 GRANVILLE EAST
Geological Section
10 200 N

DATE: 20/11/82
GEOLOGIST: P.H
DRAWN: R.Tog
CHECKED: P.H.

4029





DDH 4
9700N, 9810E
DEC. 50°
AZIMUTH 231°M
FINAL DEPTH 233m

Note: Boundaries reflect lithological changes and not structural boundaries, Folding present in the core is not represented in this Section.

573168

5 cm

GEOPEKO
83-1978 A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

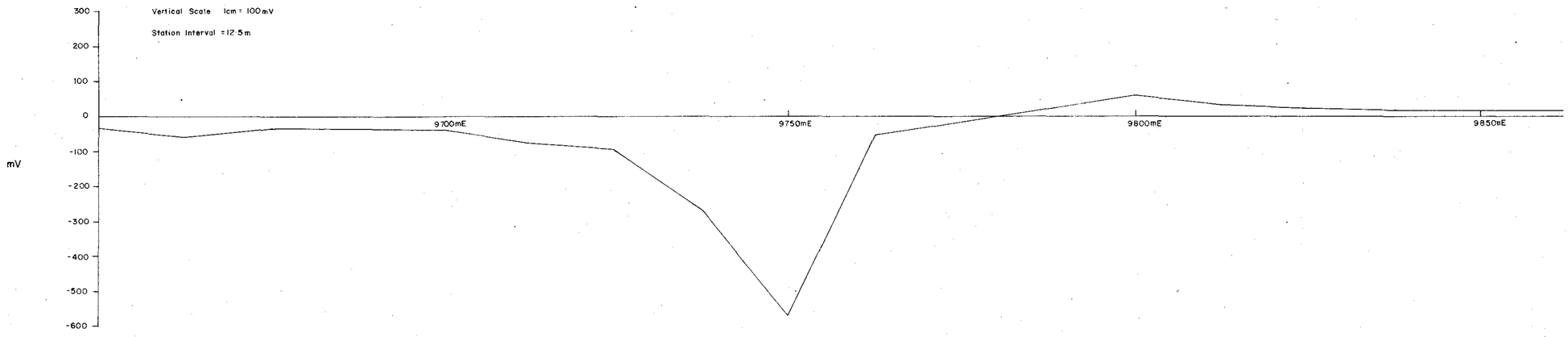
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1:500		

DDH 4
E.L. 1/77 GRANVILLE EAST
Geological Section
9700 N

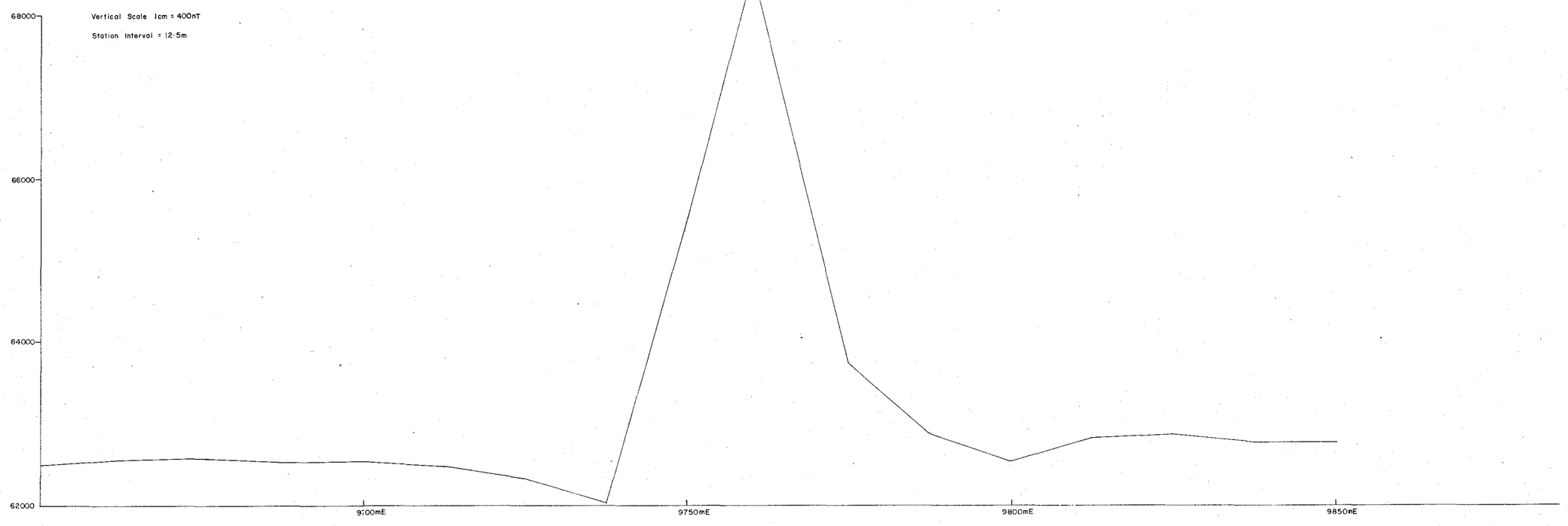
DATE 21/11/82
GEOLOGIST P.H
DRAWN R.Tog
CHECKED P.H.

4030

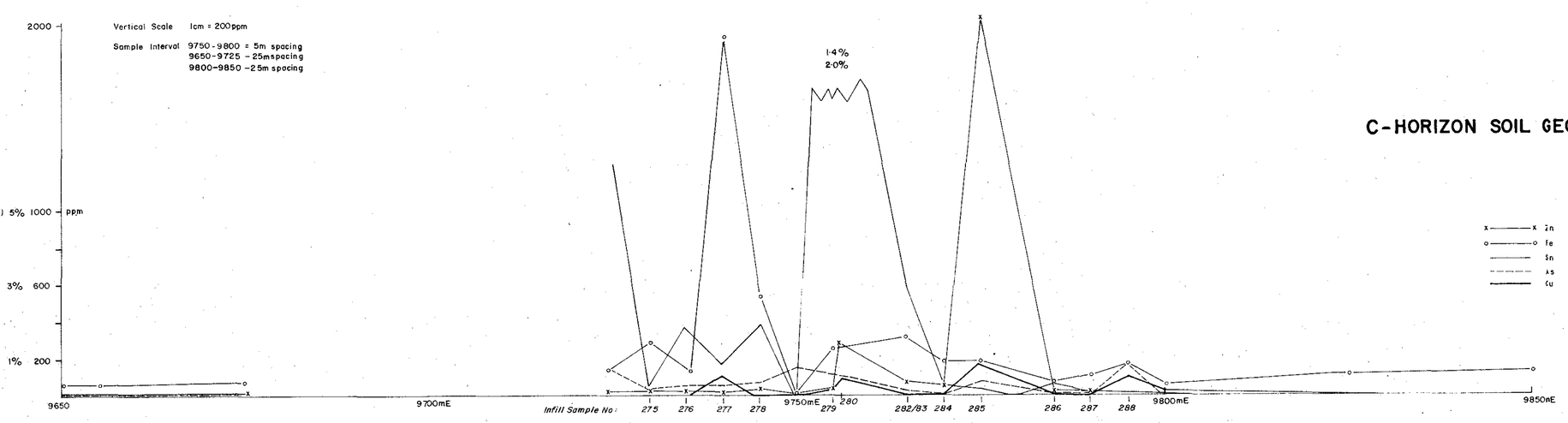
S.P. PROFILE

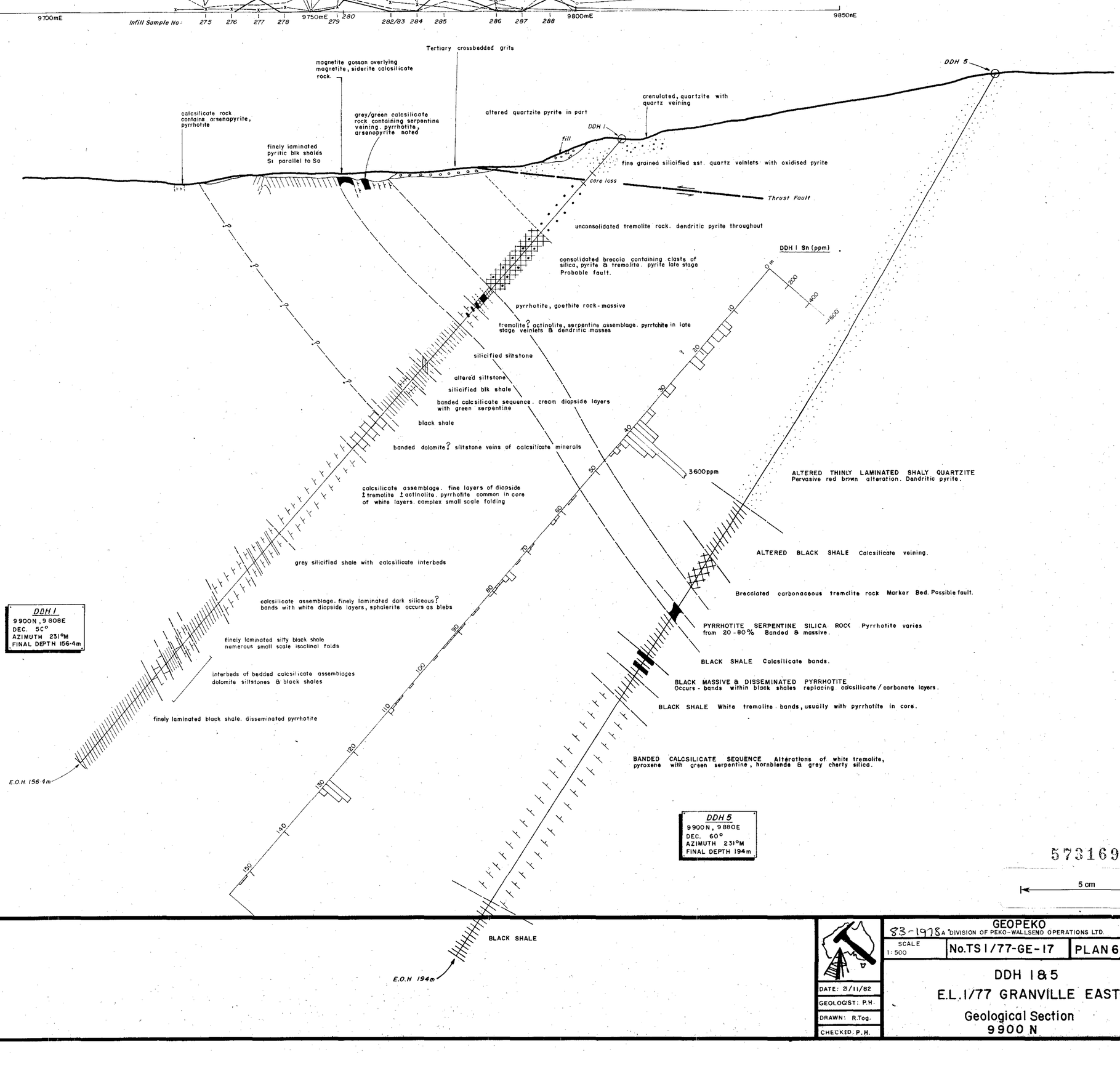


GROUND MAGNETICS PROFILE



C-HORIZON SOIL GEOCHEMISTRY





573169

5 cm

GEOPEKO A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.		83-1978
SCALE 1:500	No. TS 1/77-GE-17	PLAN 6

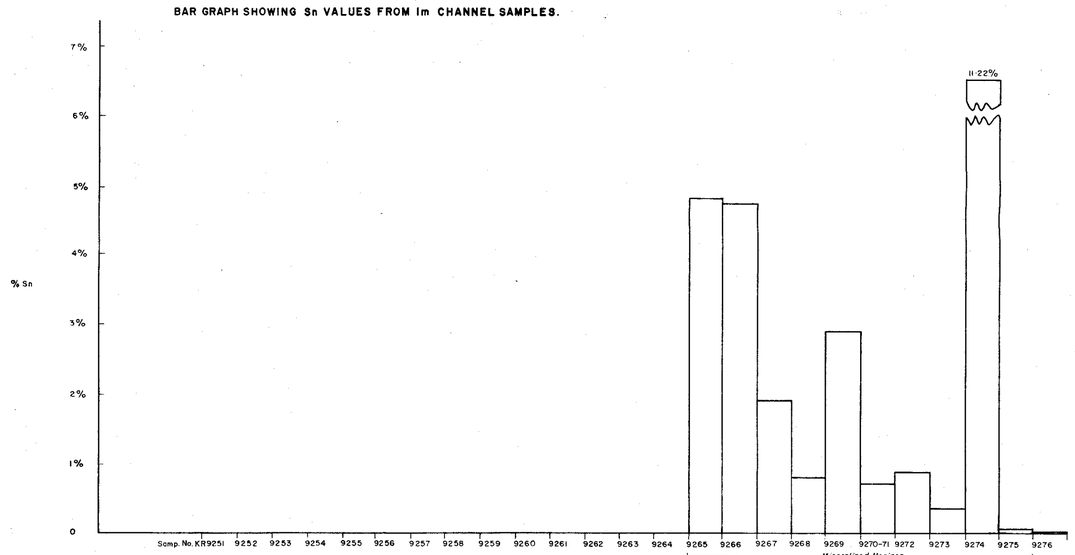
DDH 1 & 5
E.L. 1/77 GRANVILLE EAST
Geological Section
9900 N

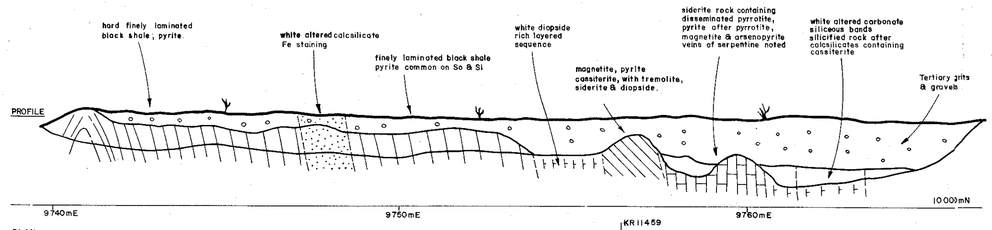
4031

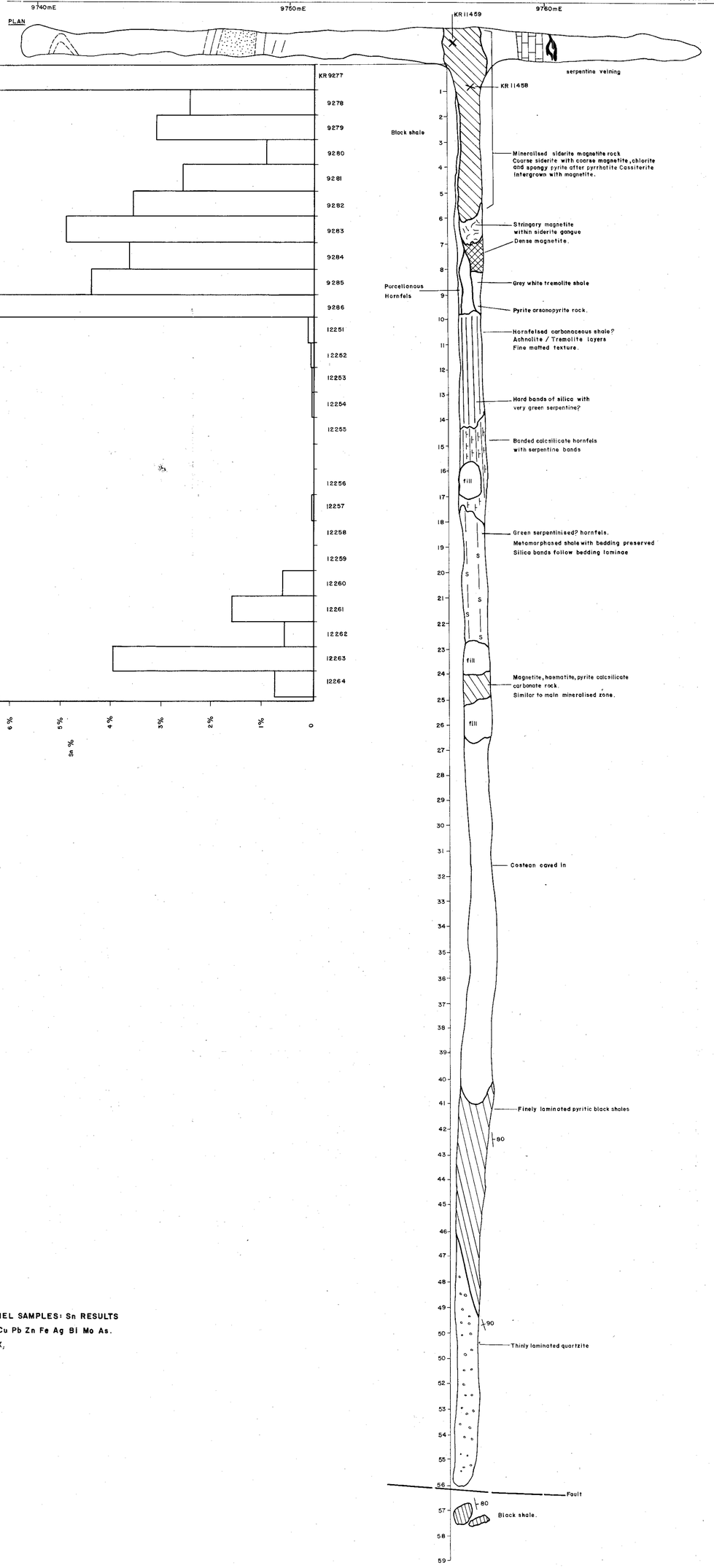
DATE: 2/11/82
GEOLOGIST: P.H.
DRAWN: R.Tog.
CHECKED: P.H.

FILE NO:

BAR GRAPH SHOWING Sn VALUES FROM 1m CHANNEL SAMPLES.







GEOCHEMICAL SAMPLING

PROFILES REPRESENT 1m CHANNEL SAMPLES: Sn RESULTS

ELEMENTS ASSAYED FOR Sn W Cu Pb Zn Fe Ag Bi Mo As.

RESULTS RECORDED IN APPENDIX,

573170

5 cm

83-1978.

GEOPEKO

A DIVISION OF PEKO-WALLSEND OPERATIONS LTD – DEVONPORT

metres | Scale : 1 : 100 | Plan No : 7

DATE : Mar 83

GEOL : P.H.

DRAWN M.vdS.

CHECKED : P.H

E.L.1/77 ROCKY CAPE TASMANIA

GRANVILLE EAST

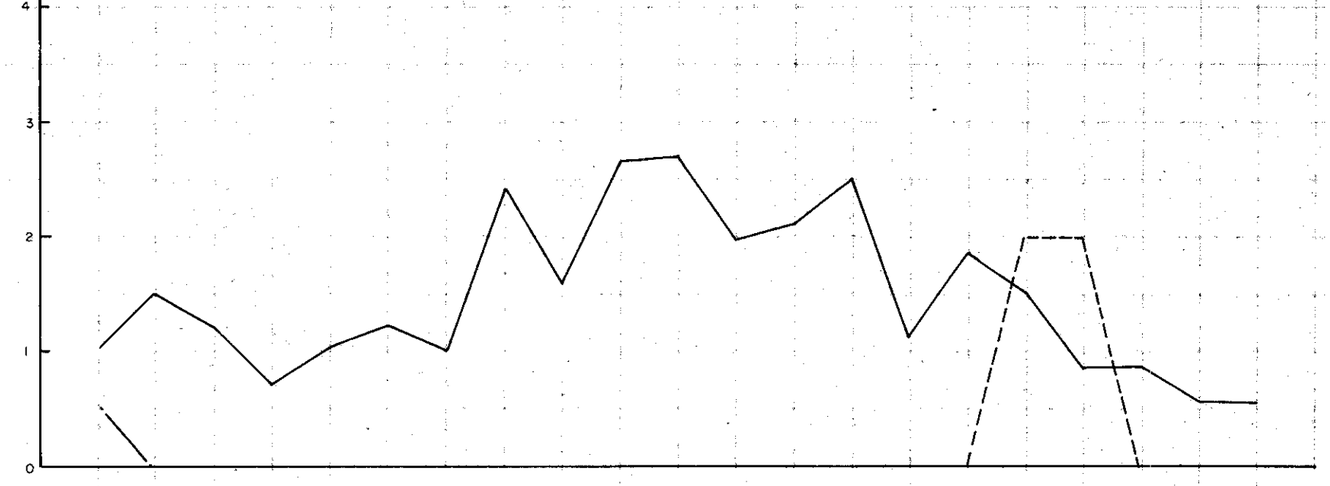
COSTEAN LINE 9990N 9740E–9766E

GEOLOGICAL AND GEOCHEMICAL SUMMARY

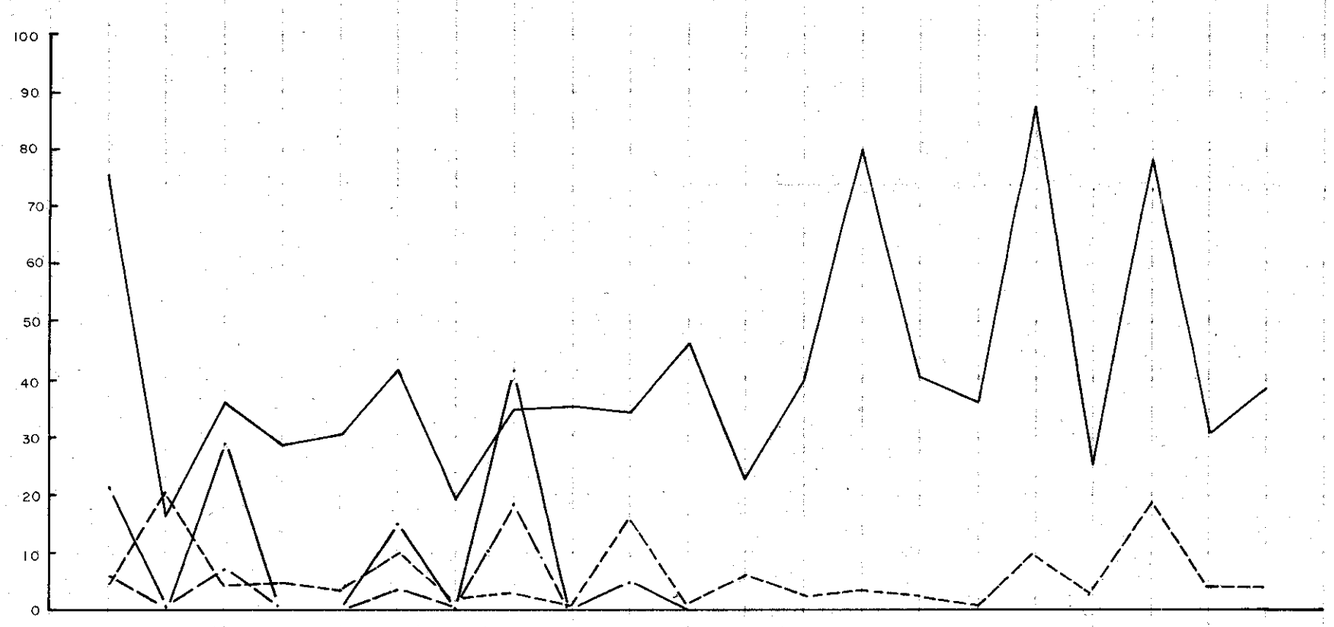
4032

10 000 m E
10 020 m E
10 040m E
10 060m E
10 080m E
10 100mE

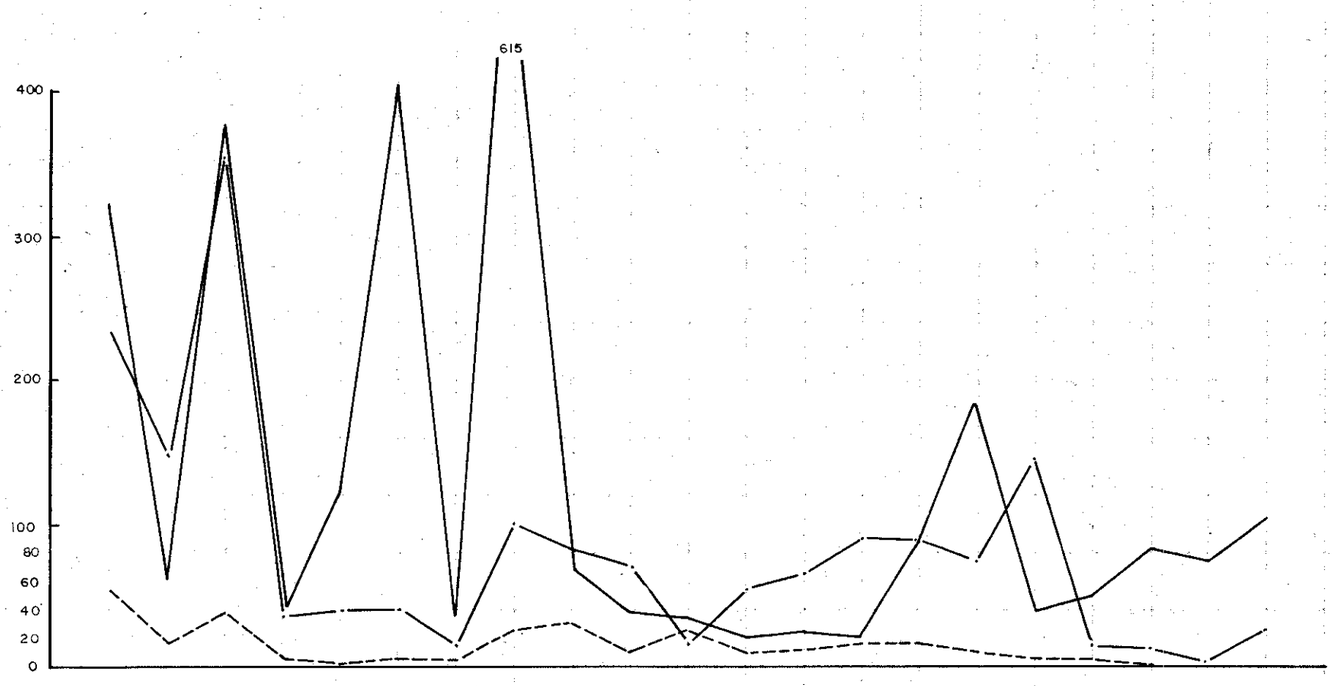
Fe (%) ——————
Ag (ppm) ——————
Bi (ppm) - - - - - -



As (ppm) ——————
W (ppm) ——————
Mo (ppm) - - - - - -
Sn (ppm -·-·-·-·-



Zn (ppm) ——————
Cu (ppm) ——————
Pb (ppm) - - - - - -



10000 m E
10020 m E
10 040 m E
10 060 m E
10 080mE
10 100 m E

5 cm

GN
321°M

83-1978.

GEOPEKO

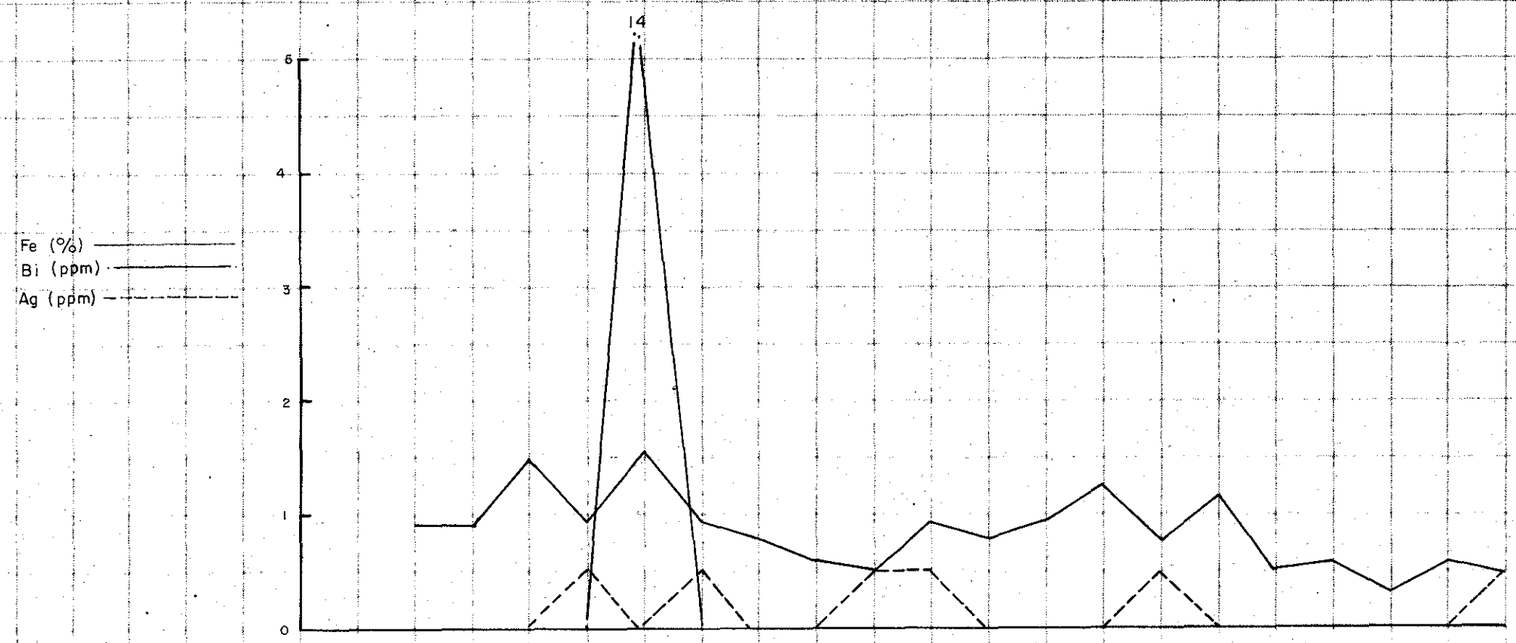
573171

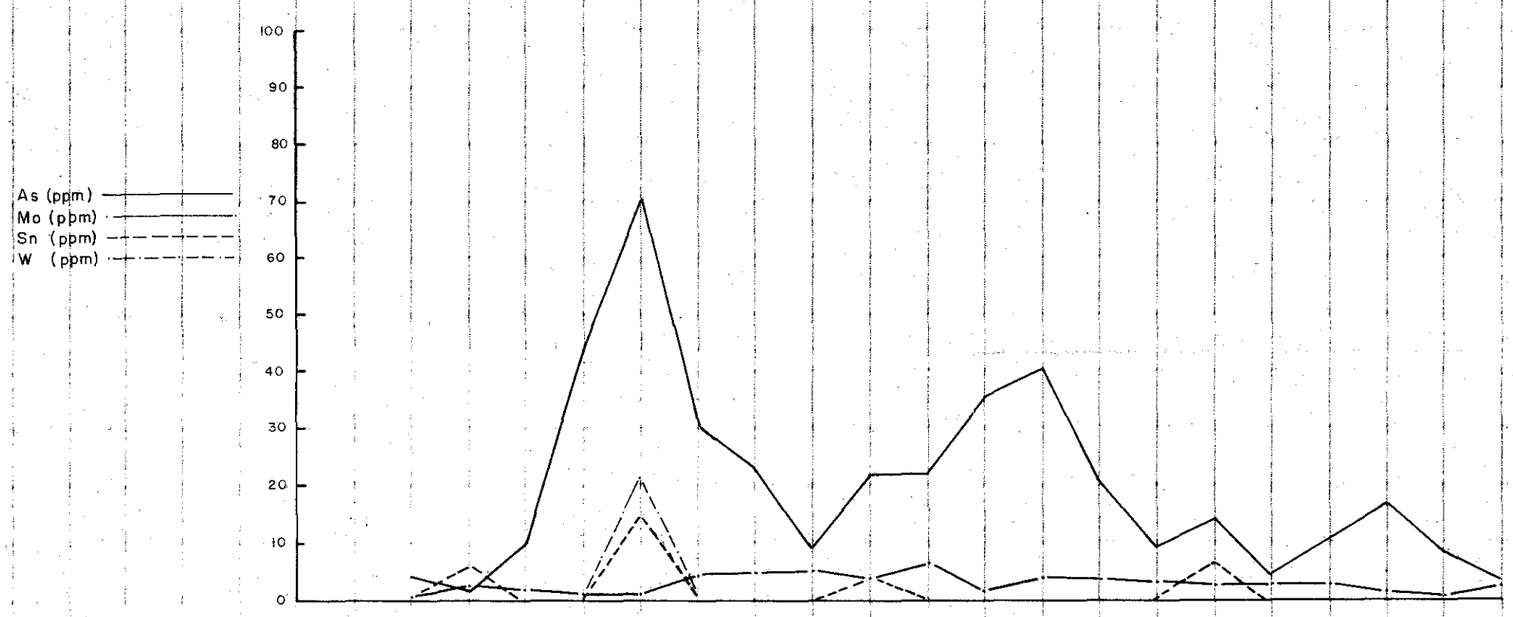
E.L.1/77 ROCKY CAPE, TASMANIA
GRANVILLE EAST
GEOCHEMICAL PROFILES
LINE 9500 N

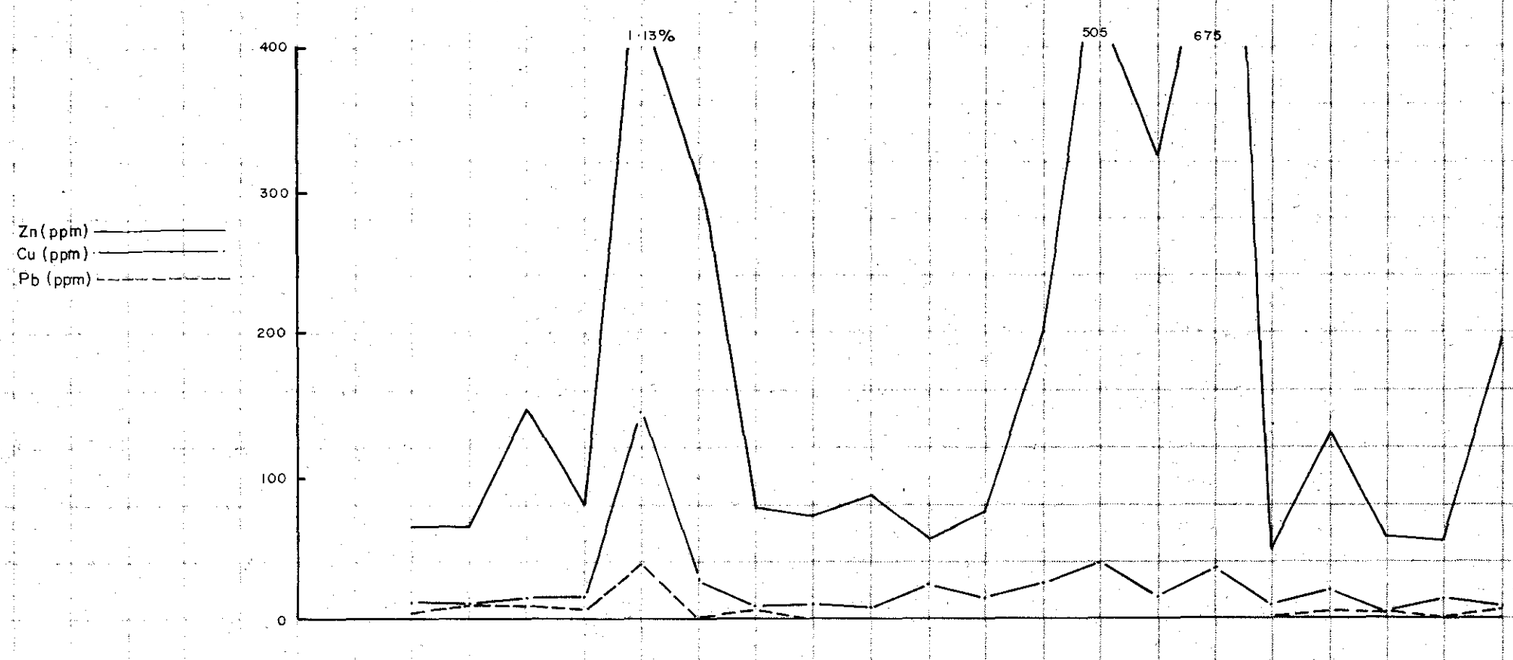
DATE: Feb 1983	GEOL: P.H	DRAWN: M.vdS.	CHKD: P.H.	PLAN No: 8

4033

9560 mE 9580 mE 9600 mE 9620 mE 9640 mE







9560 mE 9580 mE 9600 mE 9620 mE 9640 mE

5 cm

5731 72

GN 321°M

83-1978

GEOPEKO

E.L.1/77 ROCKY CAPE, TASMANIA
GRANVILLE EAST
GEOCHEMICAL PROFILES
LINE 10000 N

DATE: Feb 1983	GEOL: P.H	DRAWN: M.vdS.	CHKD: P.H	PLAN No: 9

4034

LINE 10 200 N

DDH3

Base Line

G

Massive arsenopyrite, pyrite

DDH3

Banded Calcsilicate Zones

Inferred calcsilicate zones

F

Sphalerite bands

Massive pyrite with chalcopyrite

A

DDH1

DDH5

Tin bearing Magnetite, pyrite pyrrhotite skarn

E.L. 1/77 BOUNDARY

D

C

B

DDH4

Calcsilicate hfls

DDH2

Ironstone magnetite float.

E

Trench exposing Pyrite, arsenopyrite, chalcopyrite mineralisation.

LINE 9990N

DDH1

DDH5

magnetite pyrrhotite

F

F

E.L. 1/77 BOUNDARY

LINE 9700 N

DDH4

DDH2

Bedding variable largely parallel to core axix indicating westerly dip.

LEGEND FOR CROSS SECTIONS

Black shales, carbonaceous mudstones

Quartzites, sandy siltstones

Calcsilicate bands carbonate

LEGEND:

Magnetic trend

o ·····Auger hole

Sirotem Conductor. 50m loop.

Calcsilicate/Carbonate zones. Potential skarn horizons

Fault

Note: Geophysical interpretation taken from Sumpton 1982.

GEOPEKO

83-1978. A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

SCALE 1: 2 500 | No. TS 1/77-GE- | PLAN No. 10

E.L. 1/77 ROCKY CAPE, TASMANIA

GRANVILLE EAST

GEOLOGICAL AND GEOPHYSICAL INTERPRETATION MAP

DATE MAR 83

GEOL P. Heith.

DRAWN M. vdS.

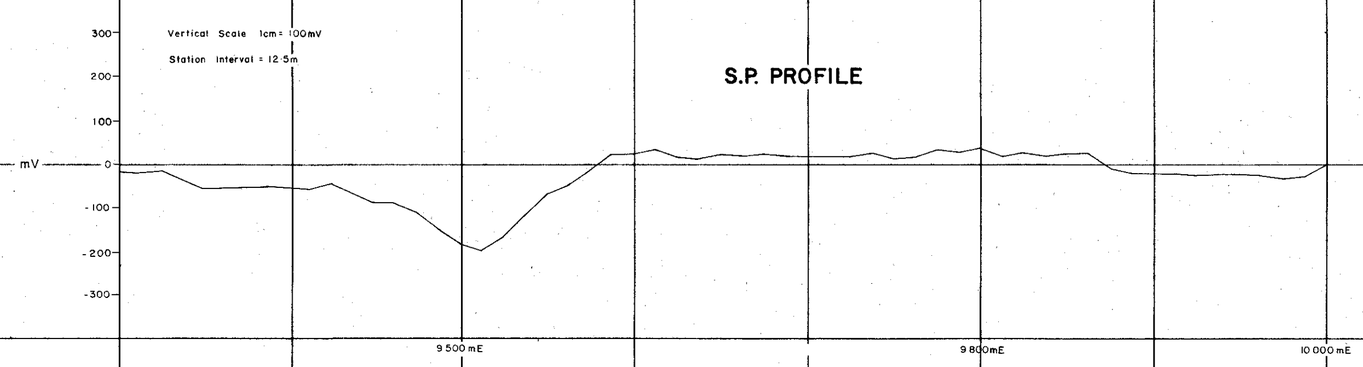
CHECKED P. H.

5 cm

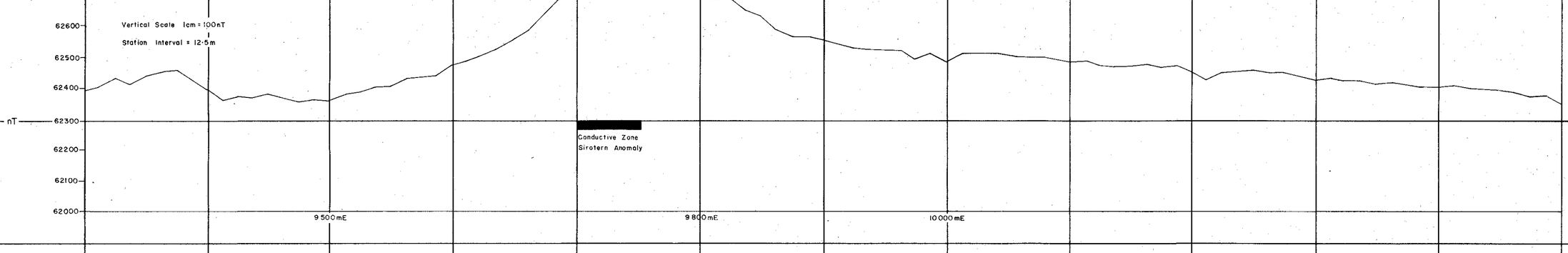
573173

4035

S.P. PROFILE



GROUND MAGNETIC PROFILE



C-HORIZON SOIL SAMPLE PROFILES

573174

5 cm

CO-ORDINATES	9400mN, 9875mE
AZIMUTH	231°M
DECLINATION	50°
FINAL DEPTH	300m

GEOPEKO
83-1978 A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

SCALE		
1 : 2 500	No. TS 1/77-GE- 21	PLAN No. 11

DATE 13/6/82
GEOL P.H.
DRAWN R.Tog
CHECKED

E.L. 1/77 GRANVILLE EAST, TAS.
LINE 10 400mN, PROPOSED DDH9
Geology, Geochemistry & Geophysics

4036

9,200 E
9,400E
9,600E
9,800E
10,000E
10,200E
10,400E
10,600E
10,800E
11,000E
11,200E
11,400E
11,600E
11,800E
12,000E

11000 PROSPECT

12,300 N
12,200 N
12,100 N
12000 N
11,900 N
11,800 N
11,700 N
11,600 N
11,500 N
11,400N
11,300N
11,200N
11,100 N
11,000 N
10,900N
10,800 N
10,700 N
10,600 N
10,500 N
10,400N
10,300N
10,200 N
10,100 N
10,000 N
9,900 N
9,800 N
9,700 N
9,600 N
9,500N
9,400N

BIG ROCKY CREEK PROSPECT

GRANVILLE EAST PROSPECT

573175

5 cm

GN
321°M

83-1978

GEOPEKO

SCALE 1:10,000

E.L.1/77 ROCKY CAPE, TASMANIA

GRANVILLE EAST, 11000, BIG ROCKY Ck PROSPECTS

GRID PLAN

DATE: MAR 83	GEOL: P.H.	DRAWN: M.vdS.	CHKD: P.H.	PLAN No: 12

4037

FILE NO:

9 200 mE | 9 400 mE | 9 600 mE | 9 800 mE | 10 000 mE | 10 200 mE | 10 400 mE | 10 600 mE | 10 800 mE | 11 000 mE | 11 200 mE | 11 400 mE | 11 600 mE | 11 800 mE | 12 000 mE

12 700 mN
12 500 mN
12 300 mN
12 100 mN
11 900 mN
11 700 mN
11 500 mN
11 300 mN
11 100 mN
10 900 mN
10 700 mN
10 500 mN
10 300 mN
10 100 mN
9900 mN
9 700 mN
9500mN
9 300 mN

5 370 100mN A.M.G.

Basalt
Remnant Basalt Boundary
Weathered basalt
Weathered basalt
Weathered basalt.
KINGSWOOD CREEK
75
black shale S_1 349/75W
black shale
Siliceous vein material with pyrite - float.
Fe rich cherty rock
40
Magnetic/ Ironstone Zone
silicified black shale
banded pyroxene, serpentine rock
90
Serpentised skarn rock
?
?
?
Basalt
bs.fl
white platy quartzite
80
white platy quartzite
carbonaceous siltstone quartzite float
white saccaroidal quartzite
platy quartzite
To Pieman Dam
Basalt
Basalt
Remnant Basalt Boundary
Basalt
Basalt
Fe stained quartzite and basalt fault.
TRACK
Thinly laminated micaceous quartzite
30
88
quartzite fl.
Basalt
Basalt
Vein quartz
Quartzite float
TRACK
BIG ROCKY CREEK
Finely laminated quartz
Quartzite float
Quartzite float
Fine grained sholy quartzite
BOUNDARY OF Fe RICH SEDIMENTS & REMNANT BASALT
Fe rich T.S.
b.s.fl.
timonite fl. 6R7964
qtz fl.
White quartzite
Finely laminated quartzites Thin black micaceous bands showing deformation.
Quartzite float
Quartzite float
Quartz, quartzite float
Basalt
crenulation indicates west facing
DDH 3
Thin silica layers indicative of wthd. calcsilicate rocks
Interbedded shales & quartzites
Finely laminated quartzites.
Quartzite, quartz float
Quartzite float.
BASALT BOUNDARY
Cemented by gosthite. Fe rich sand.
Layered Fe rich sediment
calcareous shale & qtzite quartz veining
grey pelitic shale
DDH1
DDH5
ORIGIN PEG
TRACK
Skarn-Magnetite, pyrite, pyrrhotite sphalerite, arsenopyrite with siderite, pyroxenes, muscovite and serpentine.
finely laminated qtzite
Basalt derived ironstone
hornfelsed black shale
345/85
banded hornfels
Fine grained quartzites
Quartzite float
Basalt
Basalt float
Basalt
Basalt
Fe stained quartzites.
Basalt float in creek
quartzite float
Finely laminated quartzite thin quartz segregations defining S_1 & S_2
qtz veining
qtz veining
Fe stained quartzite. Py in veins. Black shale bands within quartzite.
Quartzite float
calcsilicate skarn rock
DDH4
DDH2
blk. shales
Sloty quartzites Quartz sweat out veins Black shaly bands.
qtzite float
Ironstone Magnetite float
Thick Tert Gravels
BOUNDARY CREEK
calcsilicates rock noted in rock chips
Trench exposing sulphides
qtz/qtzite float
qtz fl.
qtz
To Granville Harbour
TRAMWAY CREEK
blk. shale
green flags
calcsilicate rock

9 370 100mN A.M.G.

5 cm

LEGEND:

- Geological boundary
- Zone of tourmaline replacement
- 32 Strike & dip of strata
- Anticline, position approx.
- Syncline, position approx.
- 20° Minor syncline with plunge
- Facing
- Faults: inferred
- Thrust fault
- Prominent photo-linear
- 80° Cleavage: strike & dip
- 30 Lineation: trend & plunge
- Jointing
- Outcrop
- Float
- Tracks, Roads.
- Creeks

STRATIGRAPHY:

TERTIARY
- Basalt
- Highly weathered basalt represented by Fe rich grits and clays, with ironstone clasts

PRECAMBRIAN
- Black shales, carbonaceous mud stones containing pyrite and pyrrhotite. Minor quartzites and siltstones.
- Calcsilicate rock. Banded pyroxene, tremdite, serpentine silica rock
- Mineralised skarn. Varying amounts of pyrrhotite, magnetite assenopyrite, pyrite, chalcopyrite with siderite and various calcsilicate assemblages. Stanniferous in part.
- Crenulated micaceous quartzites. Interbedded grey and black shales and phyllites.

GN 321° M — MN

DATE : April '83
GEOL : P.H.
DRAWN : M.vdS.
CHECKED : P.H.

83-1978.

GEOPEKO

A DIVISION OF PEKO-WALLSEND OPERATIONS LTD - DEVONPORT

metres | Scale 1:5000 | Plan No : PLAN 13

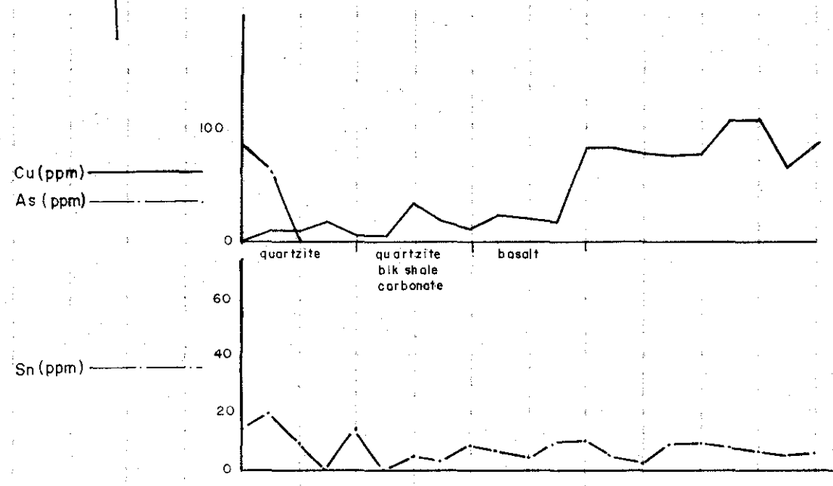
E.L. 1/77 ROCKY CAPE, TASMANIA
GRANVILLE EAST PROSPECT
'11000' PROSPECT
BIG ROCKY CREEK PROSPECT
GEOLOGICAL MAP.

4038

10 500 m E | 10 700 m E | 10 900 m E | 11 100 m E | 11 300 m E | 11 500 m E | 11 700 m E | 11 900 m E | 12 000 m E

10 100 m N — 62 500 nT

GROUND MAGNETICS

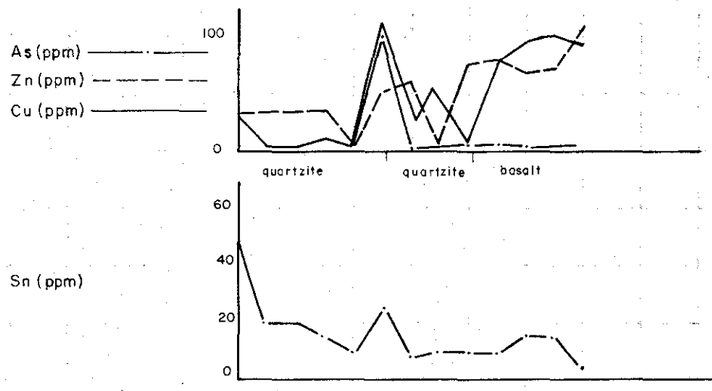


"C" HORIZON GEOCHEMISTRY

10 100 m N

9900 m N — 62 500 nT

GROUND MAGNETICS

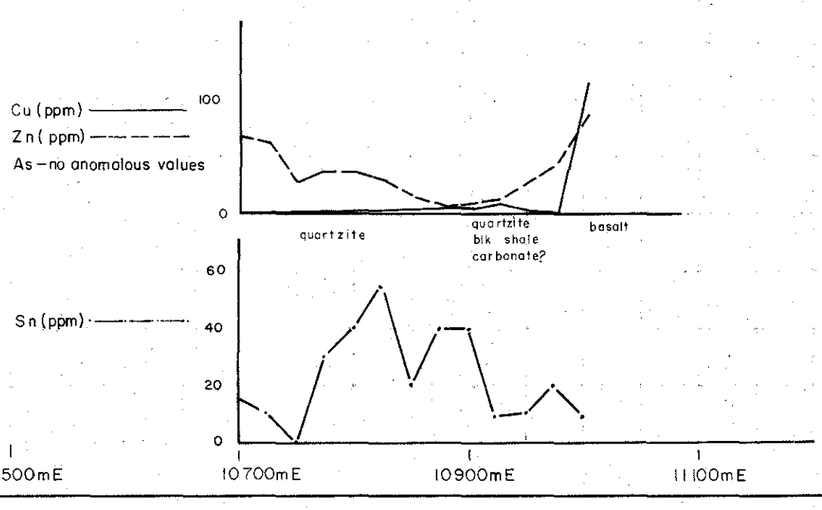


"C" HORIZON GEOCHEMISTRY

9900 m N

9700 m N — 62 500 nT

GROUND MAGNETICS



"C" HORIZON GEOCHEMISTRY

9 700 m N

10500mE | 10700mE | 10900mE | 11100mE | 11300mE | 11500mE | 11700mE | 11900mE

5 cm

GN 321°M

GEOPEKO 573177

83-1978.

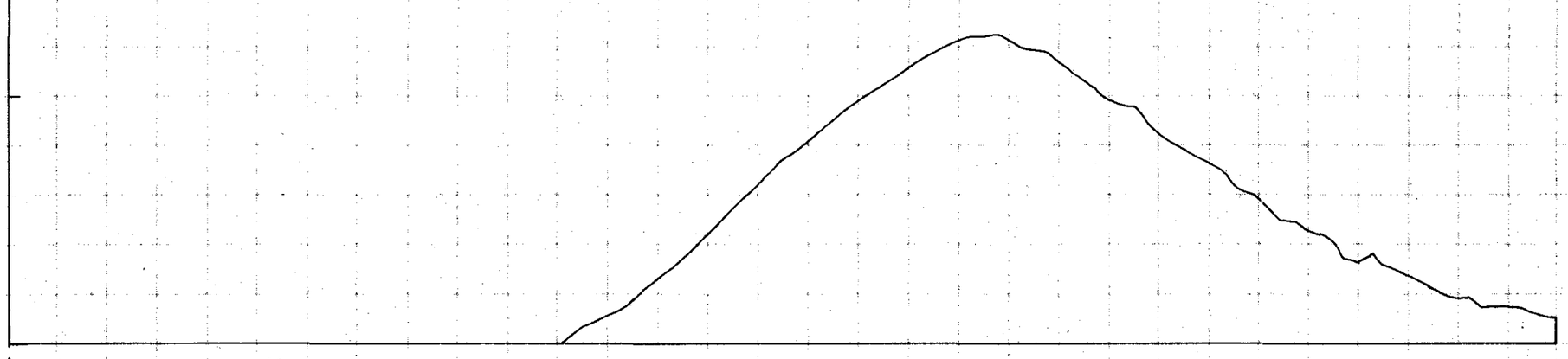
E.L.1/77 ROCKY CAPE, TASMANIA
BIG ROCKY CREEK
RECONNAISANCE "C" HORIZON GEOCHEMISTRY
AND GROUND MAGNETICS

DATE: Feb 1983	GEOL: P.H	DRAWN: M.v.d.S	CHKD: P.H.	PLAN No: 14

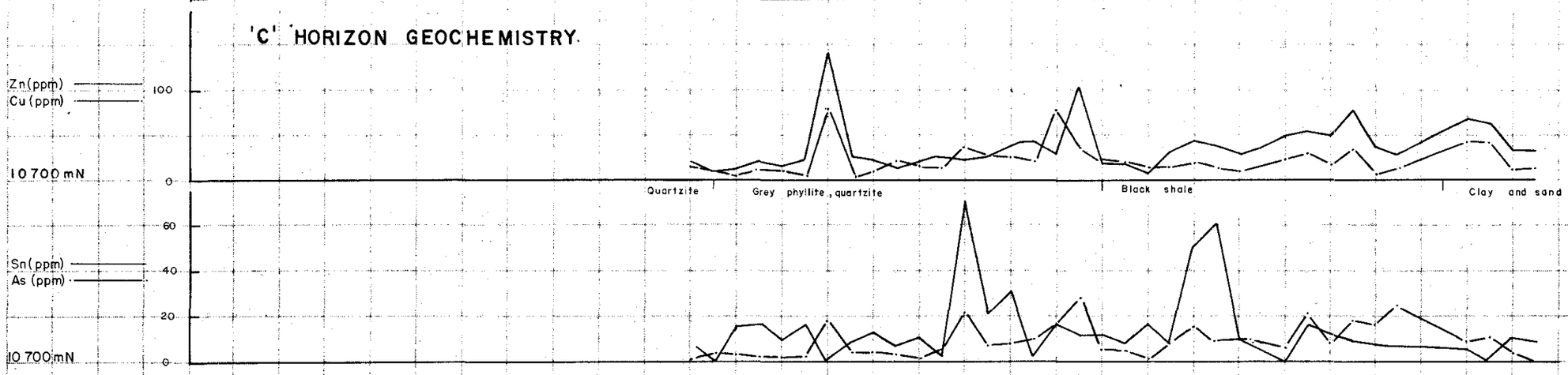
4039

10 500 mE | 10 700 mE | 10 900 mE | 11 100 mE | 11 300 mE | 11 500 mE | 11 700 mE | 11 900 mE | 12 100 mE

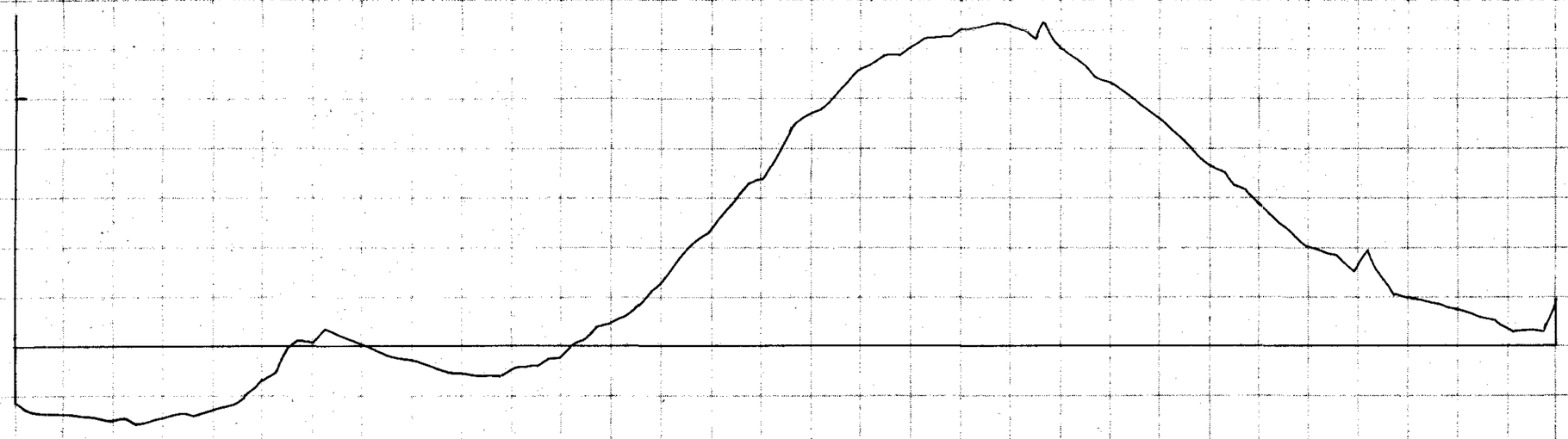
GROUND MAGNETICS



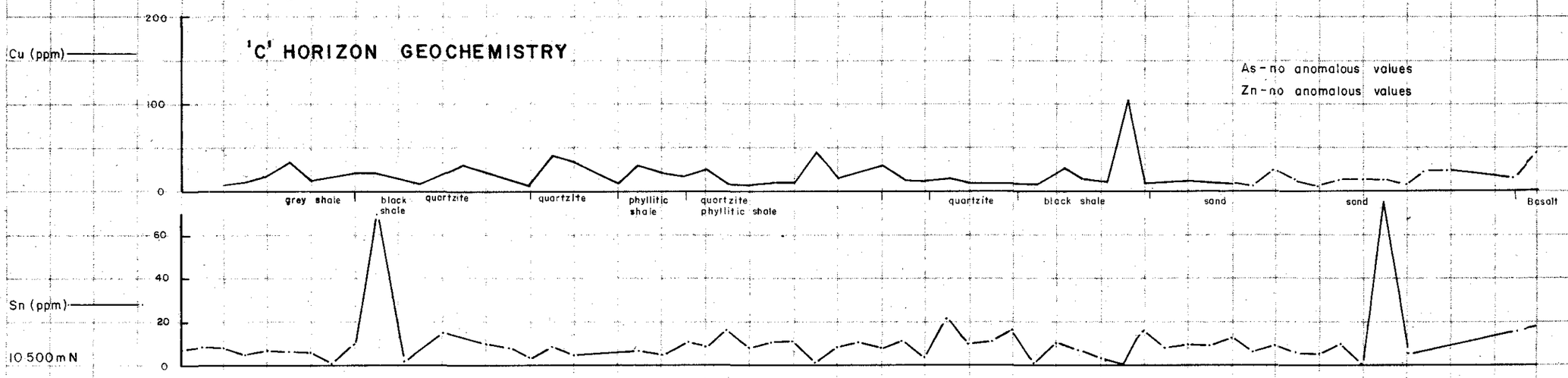
'C' HORIZON GEOCHEMISTRY



GROUND MAGNETICS



'C' HORIZON GEOCHEMISTRY



10 500 mE | 10 700 mE | 10900 mE | 11 100 mE | 11 300 mE | 11 500 mE | 11 700 mE | 11 900 mE | 12 100 mE

HORIZONTAL SCALE = 1:5000

5 cm

GN
321°M

83-1978.

GEOPEKO 573178

E.L.1/77 ROCKY CAPE, TASMANIA
BIG ROCKY CREEK

GROUND MAGNETICS AND GEOCHEMICAL PROFILES

DATE: Feb 1983	GEOL: P.H	DRAWN: M.v.d.S.	CHKD: P.H.	PLAN No: 15 A

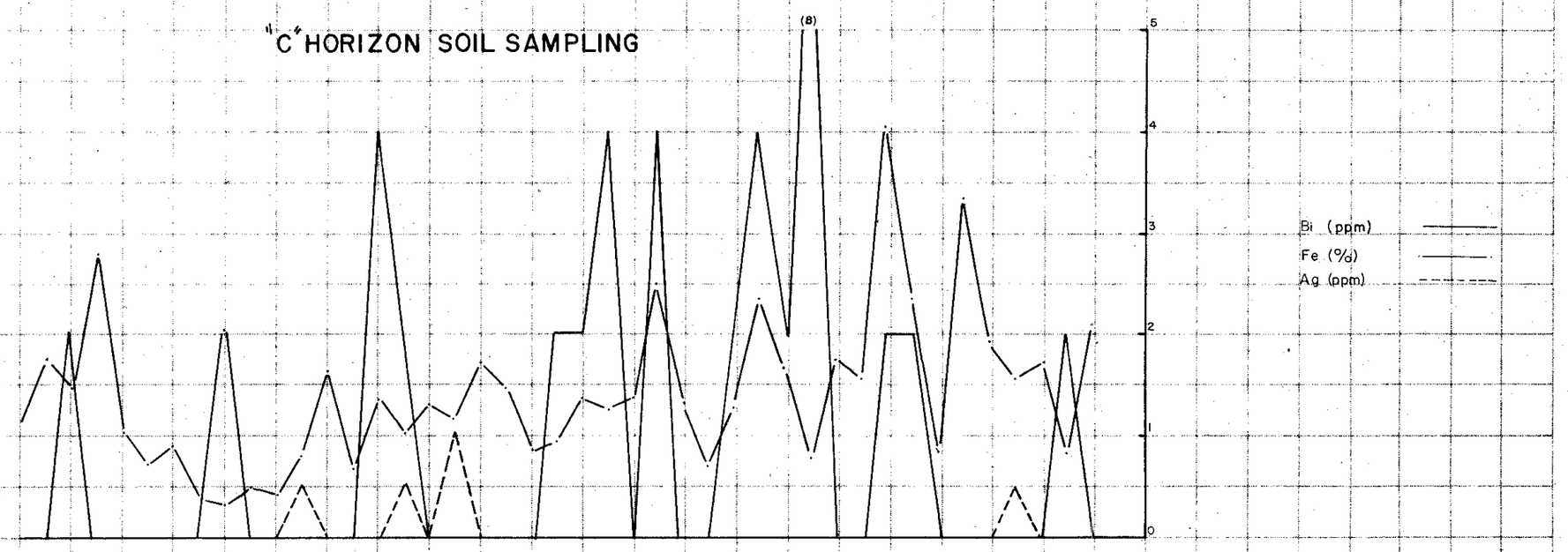
4040

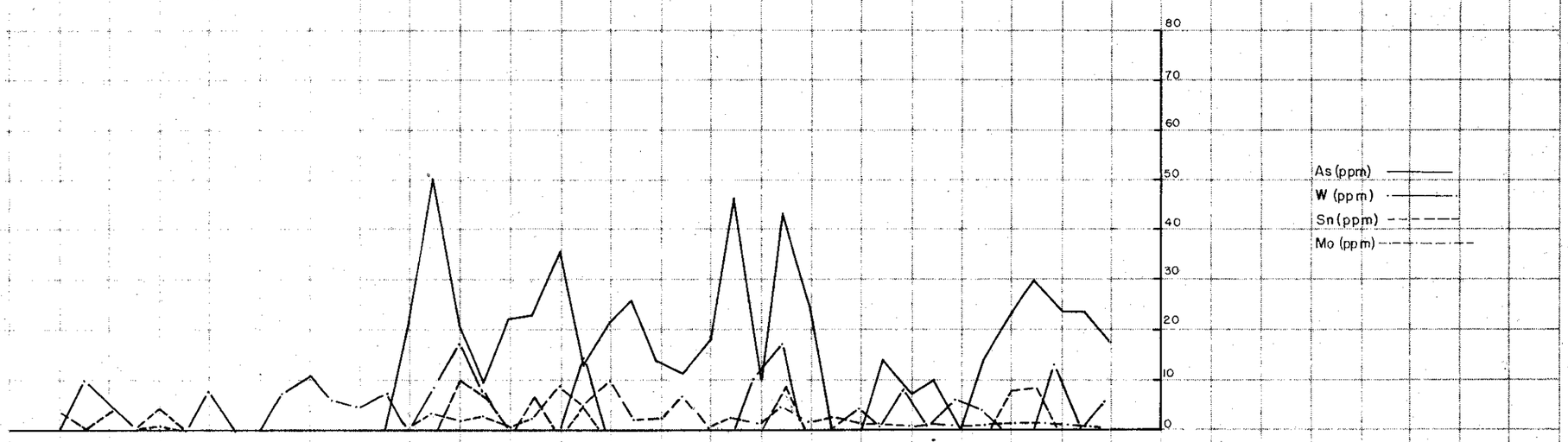
9 500mE | 9600mE | 9 700mE | 9 800mE | 9 900mE | 10 000mE | 10 100mE | 10 200mE | 10 300mE | 10 400mE | 10 500mE | 10 600mE

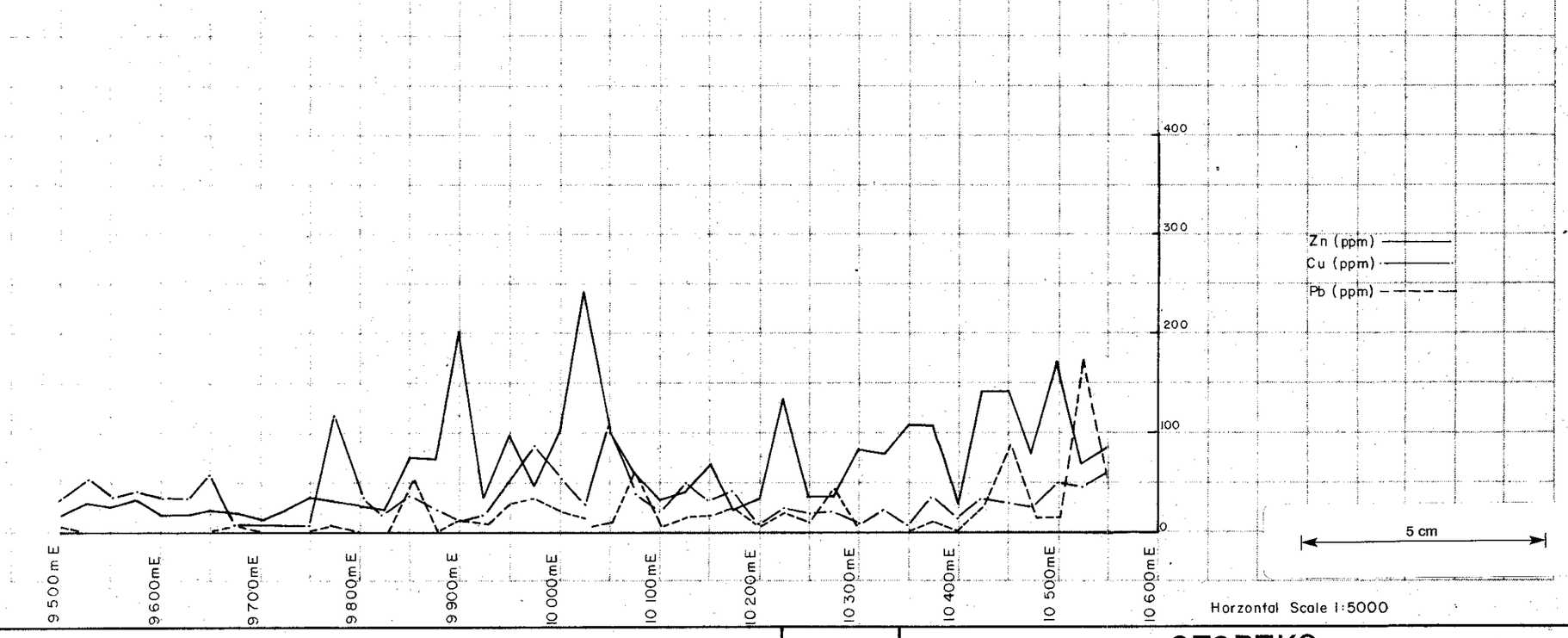
GROUND MAGNETICS

63000nT
62900nT
62 800nT
62 700nT
62 600nT
LINE 12300 N 62 500nT

'C' HORIZON SOIL SAMPLING







Horzontal Scale 1:5000

GN
321°M

83-1978. GEOPEKO 573179

E.L.1/77 ROCKY CAPE, TASMANIA
BIG ROCKY CREEK
GROUND MAGNETICS AND GEOCHEMICAL PROFILES
LINE 12 300 N

DATE: Feb 1983	GEOL: P.H	DRAWN: M.vdS.	CHKD: P.H.	PLAN No: 15 B

4041

FILE NO:

9 500mE 9600mE 9700mE 9800mE 9 900mE 10 000mE 10 100mE 10 200mE 10 300mE 10 400mE 10 500mE 10 600mE 10 700mE 10 800mE 10 900mE 11000mE 11 100mE 11 200mE 11 300mE 11 400mE 11 500mE 11600mE 11 700mE 11800mE 11 900mE 12000mE

12 300mN — 62500nT — 12 300mN

12 100mN — 62500nT — 12 100mN

11 900mN — 62 500nT — 11 900mN

11 700mN — 62 500nT — 11 700mN

11 500 mN — 62 500nT — 11500mN

11 300mN — 62 500nT — 11 300m N

11 100mN — 62 500nT — 11 100m N

10 900mN — 62 500nT — 10 900nT

5 cm

573180

83-1978.

GEOPEKO

A DIVISION OF PEKO-WALLSEND OPERATIONS LTD - DEVONPORT

metres | Scale : 1:5000 | Plan No : 16 A

E.L.1/77 ROCKY CAPE, TAS

PROFILES OF TOTAL MAGNETIC INTENSITY

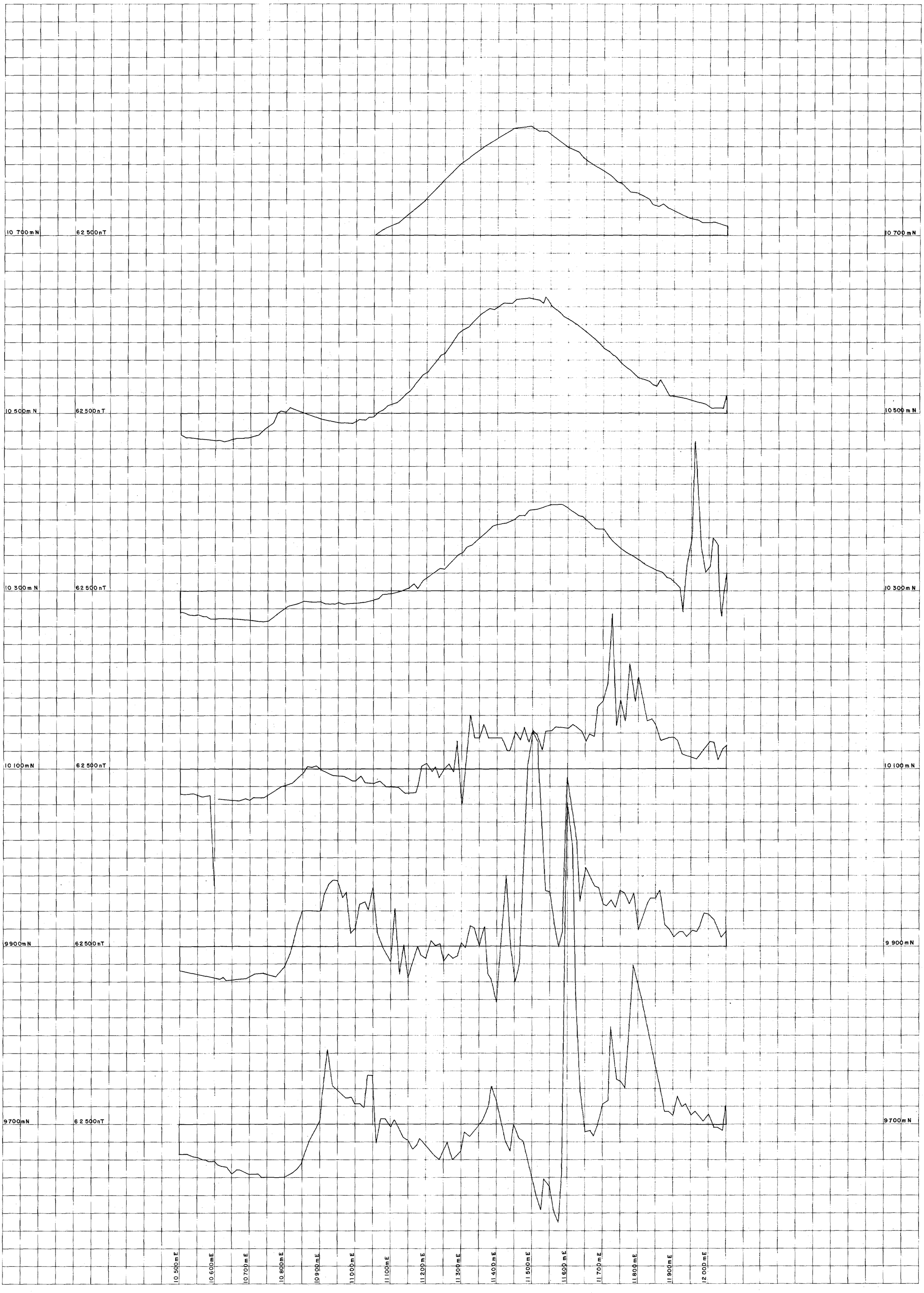
GRANVILLE EAST (NORTHERN EXTENSIONS)

BIG ROCKY CREEK (SHEET 2)

4042

GEOPHYSICAL LEGEND	
Inst: G 816	
DATE : Oct 82	DATE : Mar 83
Horz: 1:5000	GEO : J.S.
Scale Vert : 1cm = 100nT	DRAWN : M.vdS.
Obs. R.O.	CHECKED : PH.

FILE NO:



573181

5 cm

GEOPHYSICAL LEGEND		83-1978- **GEOPEKO** A DIVISION OF PEKO-WALLSEND OPERATIONS LTD – DEVONPORT
		metres — Scale 1:5000 — Plan No: 16 B
Inst: G 816		E.L. 1/77 ROCKY CAPE, TAS
Date: Oct 82	DATE: Mar 83	PROFILES OF TOTAL MAGNETIC INTENSITY
Horz: 1:5000 Scale Vert: 1cm = 100nT	GEO: J.S. DRAWN: M.vdS.	BIG ROCKY CREEK (SHEET 1)
Obs R.O.	CHECKED: P.H	

4043

10600mE 10700mE 10800mE 10900mE 11000mE 11100mE 11200mE 11300mE 11400mE 11500mE 11600mE 11700mE 11800mE 11900mE 12000mE

12200mN 12100mN 12000mN 11900mN 11800mN 11700mN 11600mN 11500mN 11400mN 11300mN 11200mN 11100mN 11000mN 10900mN 10800mN 10700mN 10600mN 10500mN 10400mN 10300mN 10200mN 10100mN 10000mN 9900mN 9800mN 9700mN

62700 62600 62900 62800 63000 63100 62700 62500 62400 62600 62300

Scale 1:5000
Contour Int 100nT
Date Oct 1982
Obs. R. Outram
Inst. Geometrics 816

5 cm

GN TN MN

GN 321°M

83-1978. GEOPEKO 573182

E.L.1/77 ROCKY CAPE, TASMANIA
BIG ROCKY CREEK
CONTOURS OF TOTAL MAGNETIC INTENSITY

DATE: MAR 83	GEOL: J.S.	DRAWN: M.vdS.	CHKD: P.H.	PLAN No: 17

4044

9 300mE 9 400mE 9 500mE 9 600mE 9 700mE 9 800mE 9 900mE 10 000mE

11,300 mN
11,200 mN
11,100 m N
11,000 m N
10,900 m N

75 black shale
Vein material with pyrite
black shale
Kingswood Ck.
Layered and brecciated ironstone (KR11,483, 9224, 9225)
Fe rich cherty hornfels
40
massive magnetite revealed in auger chips (KR11481)
Silicified hornfelsed black shale
Banded pyroxene serpentine porcellanous hornfels (KR9222, 9223)
Pyrite from auger rock chips (KR11482)
Calcsilicate Zone.
Hornfels alteration boundary
Remnant Basalt.

9 300mE 9 400mE 9 500mE 9 600mE 9 700mE 9 800mE 9 900mE 10 000mE

Sample locality (auger hole)

25 0 50 100 150 200 metres

SCALE 1 : 2 500

573183

5 cm

Note. Geological information derived from geological mapping, and from logging auger chips. Area covered with very weathered basalt, now represented by ironstone clasts, and red clay Tertiary? sand is also noted.

GN 321°M

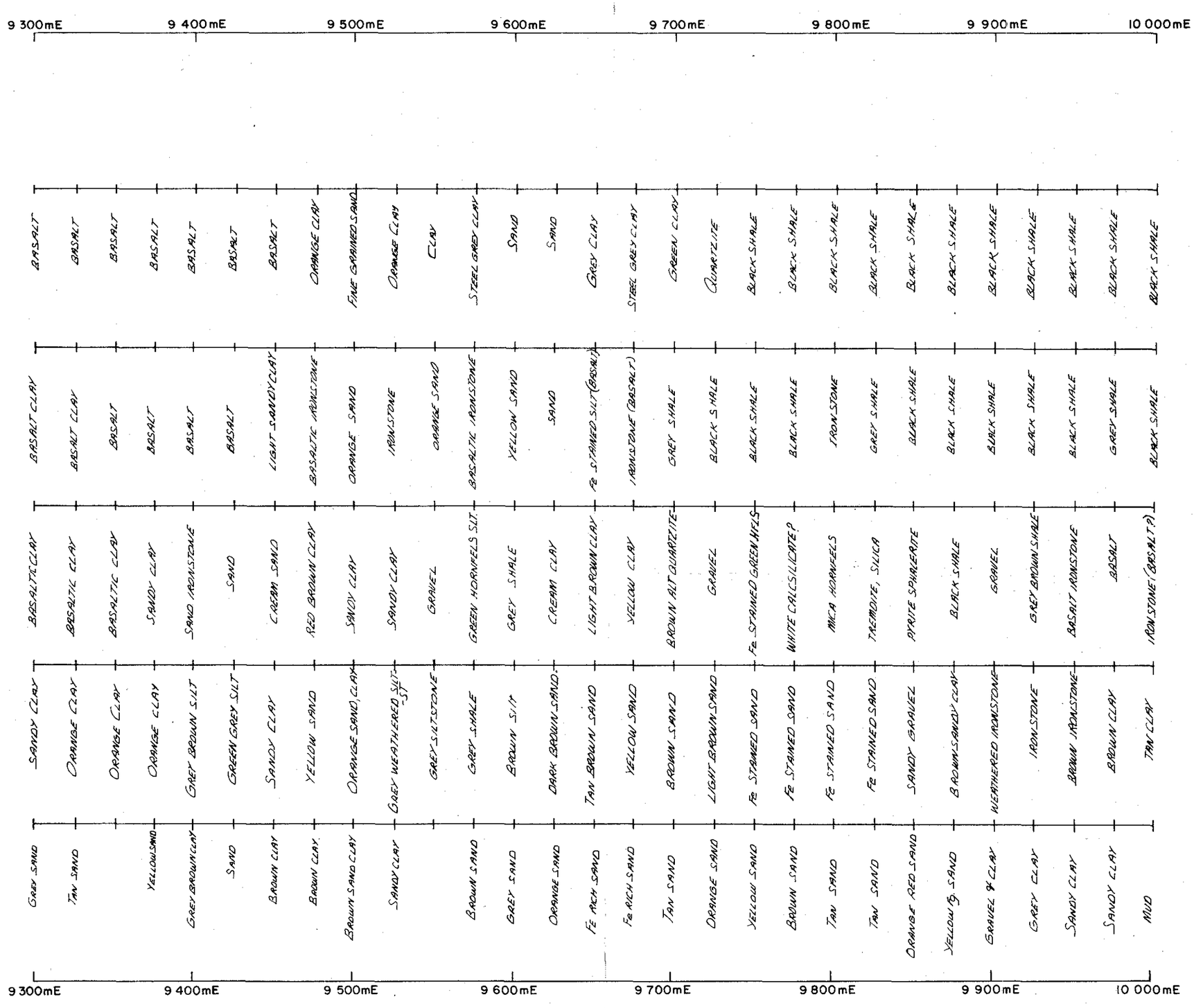
83-1978.

GEOPEKO

E.L.1/77 ROCKY CAPE, TASMANIA
11,000 PROSPECT
GEOLOGY

DATE: Feb 1983	GEOL: P.H	DRAWN: M.vdS.	CHKD: P.H.	PLAN No: 18

4045



CONTOUR INTERVAL

25 0 50 100 150 200 metres

SCALE 1 : 2 500

Sample locality (auger hole)

573184

5 cm

GN 321° M

83-1978

GEOPEKO

E.L.1/77 ROCKY CAPE, TASMANIA

11000 PROSPECT

ROCK CHIP GEOLOGY

DATE: Feb 1983	GEOL: P.H	DRAWN: M.v.S	CHKD: P.H.	PLAN No: 19

4046

FILE NO :

11500mN 62400nT

11300mN 62400nT

11200mN 62400nT

11100mN 62400nT

11000mN 62400nT

10900mN 62400nT

9200mE 9300mE 9400mE 9500mE 9600mE 9700mE 9800mE 9900mE 10000mE 10100mE 10200mE 10300mE 10400mE 10500mE 10600mE 10700mE 10800mE

5cm

GEOPHYSICAL LEGEND	
DATE 14th Apr. 83	
HORZ. SCALE. 1cm:25m	DATE : APRIL 1983
VERT. SCALE. 1cm:200nT	GEO : R.P.
INST. Geometrics B-816	DRAWN : M.vdS.
Obs R.J.Perring, D.Collins	CHECKED :

GEOPEKO 573185

A DIVISION OF PEKO-WALLSEND OPERATIONS LTD - DEVONPORT

83-1918

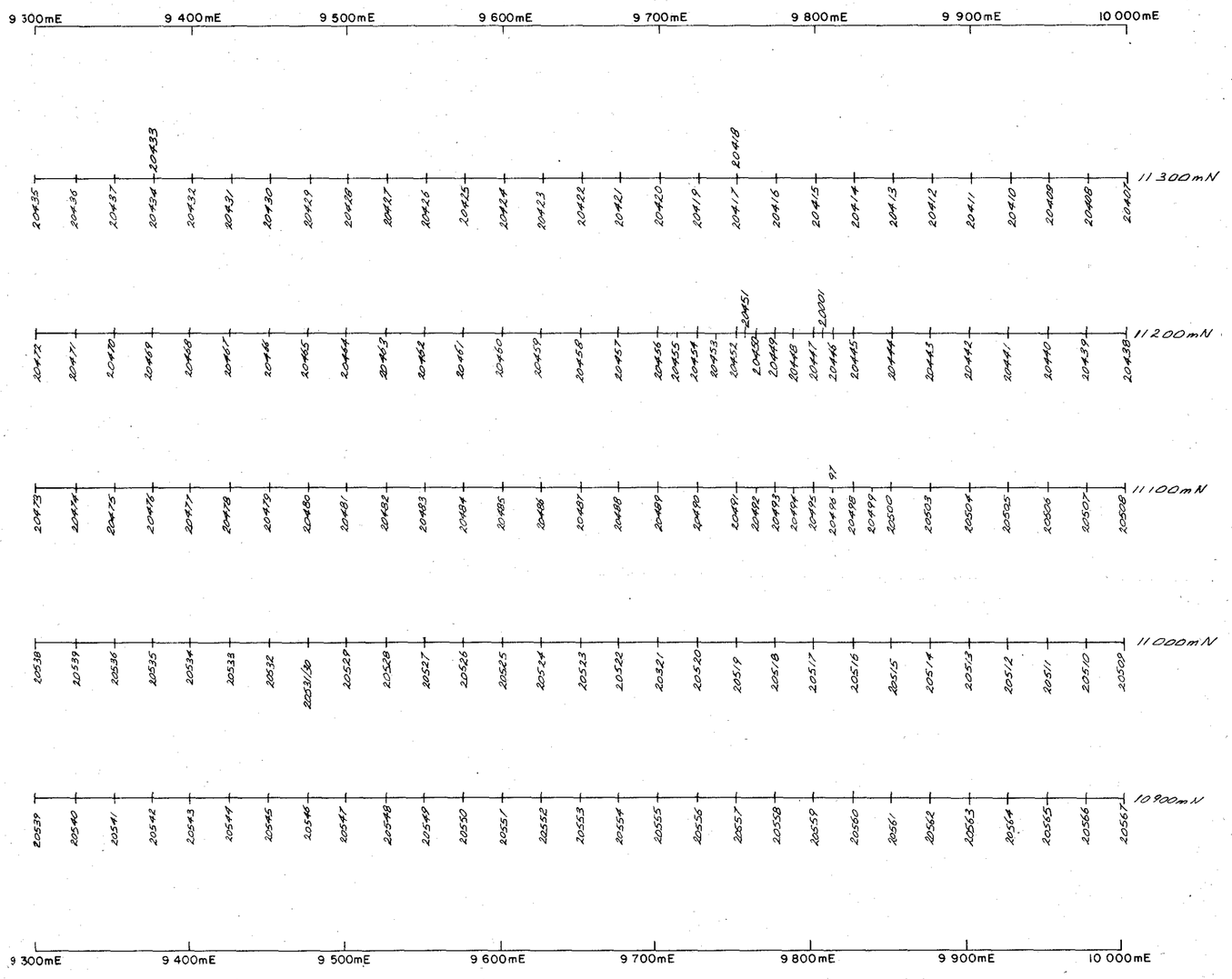
metres SCALE : PLAN NO : 20

E.L.1/77 ROCKYCAPE TAS.

11000 PROSPECT

TOTAL MAGNETIC INTENSITY LINE PROFILES

4047



CONTOUR INTERVAL

25 0 50 100 150 200 metres

SCALE 1:2 500

Sample locality (auger hole)

5 cm

GN 32°M

83-1979 GEOPEKO 573186

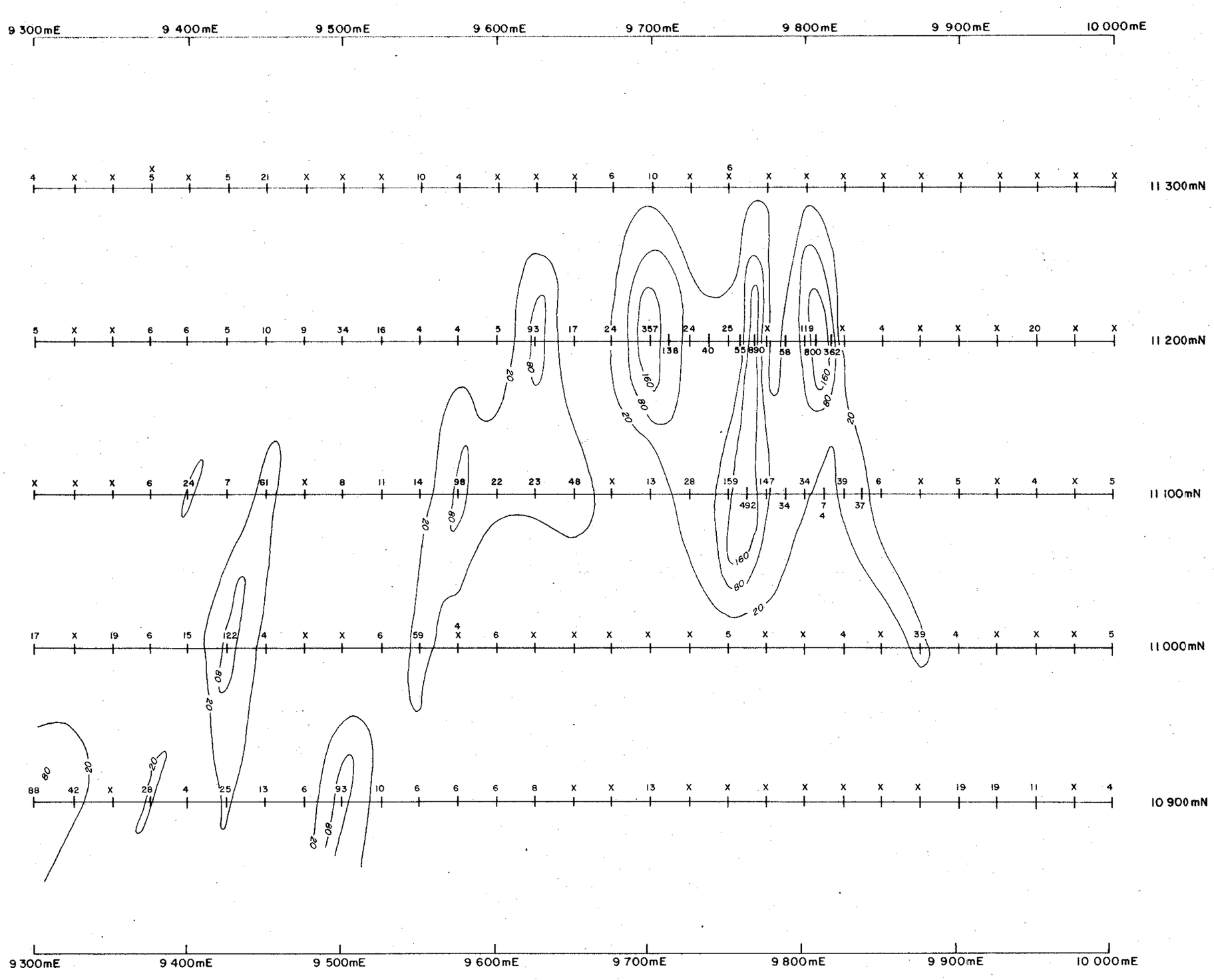
E.L.1/77 ROCKY CAPE, TASMANIA

11000 PROSPECT

SAMPLE LOCATIONS

DATE: Feb 1983 | GEOL: P.H | DRAWN: | CHKD: P.H | PLAN No: 21

4048



CONTOUR INTERVAL

Pencil No.		
19-6	20 - 80 ppm	Sn
19-10	80 - 160 ppm	Sn
19-14	>160 ppm	Sn

Sample locality (auger hole)

25 0 50 100 150 200 metres

SCALE 1 : 2 500

5 cm

GN 321° M

83-1978-

GEOPEKO 573187

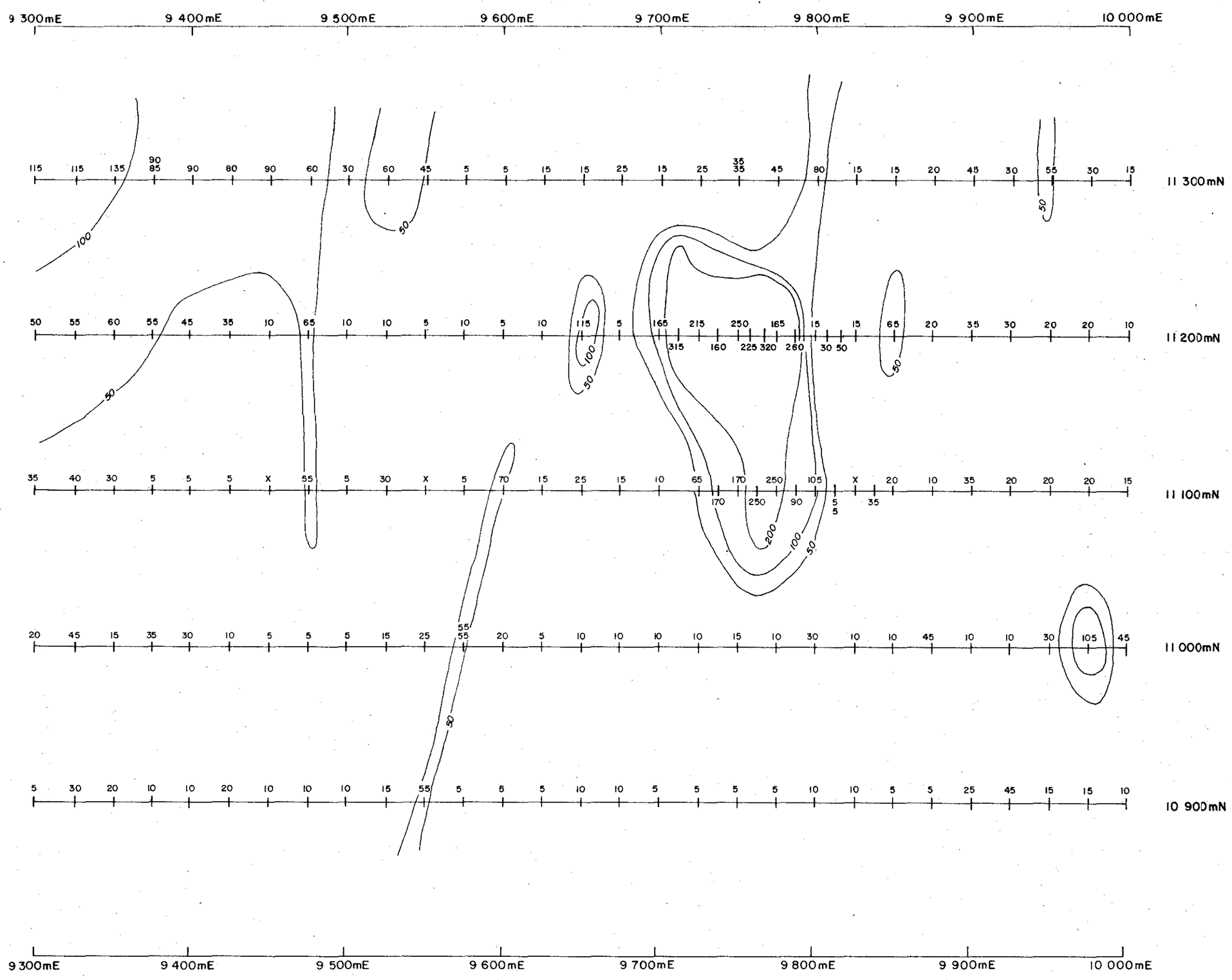
E.L.1/77 ROCKY CAPE, TASMANIA

11 000 PROSPECT

Sn GEOCHEMISTRY

DATE: Feb 1983	GEOL: P.H	DRAWN: R.Tog	CHKD: P.H.	PLAN No: 22

4049



CONTOUR INTERVAL

Pencil No.		
19-6	50 - 100 ppm	Cu
19-10	100 - 200 ppm	
19-14	200 - 400 ppm	

Sample locality (auger hole)

25 0 50 100 150 200 metres

SCALE 1 : 2 500

5 cm

573188

83-1978

GEOPEKO

E.L.1/77 ROCKY CAPE, TASMANIA

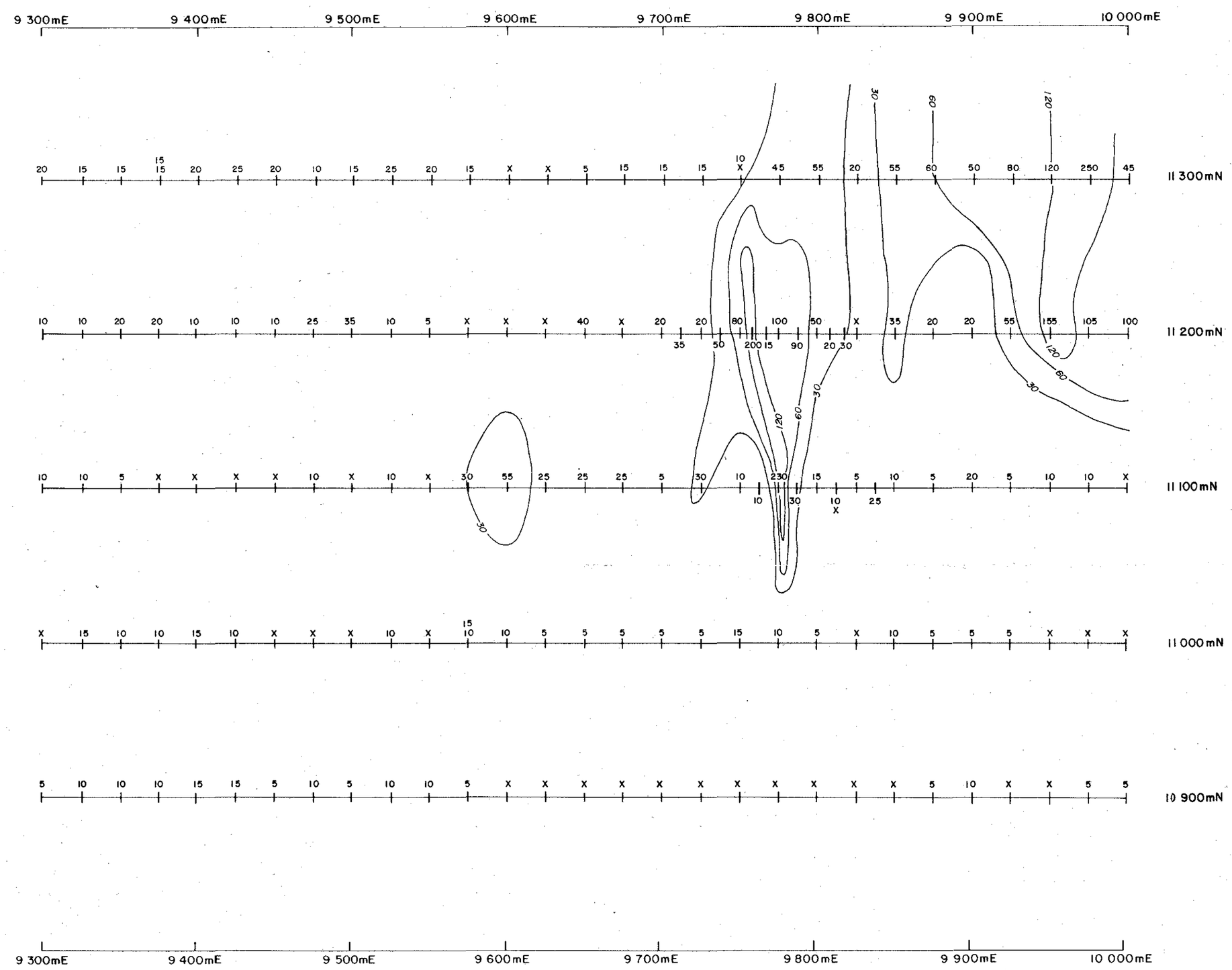
11000 PROSPECT

Cu GEOCHEMISTRY

4050

GN 321° M

DATE: Feb 1983	GEOL: P.H	DRAWN: R.Tog	CHKD: P.H.	PLAN No: 23



CONTOUR INTERVAL

Pencil No.		
19-6	30 - 60 ppm	Pb
19-10	60 - 120 ppm	Pb
19-14	> 120 ppm	Pb

Sample locality (auger hole)

25 0 50 100 150 200 metres

SCALE 1 : 2 500

573189

5 cm

83-1978.

GEOPEKO

E.L.1/77 ROCKY CAPE, TASMANIA

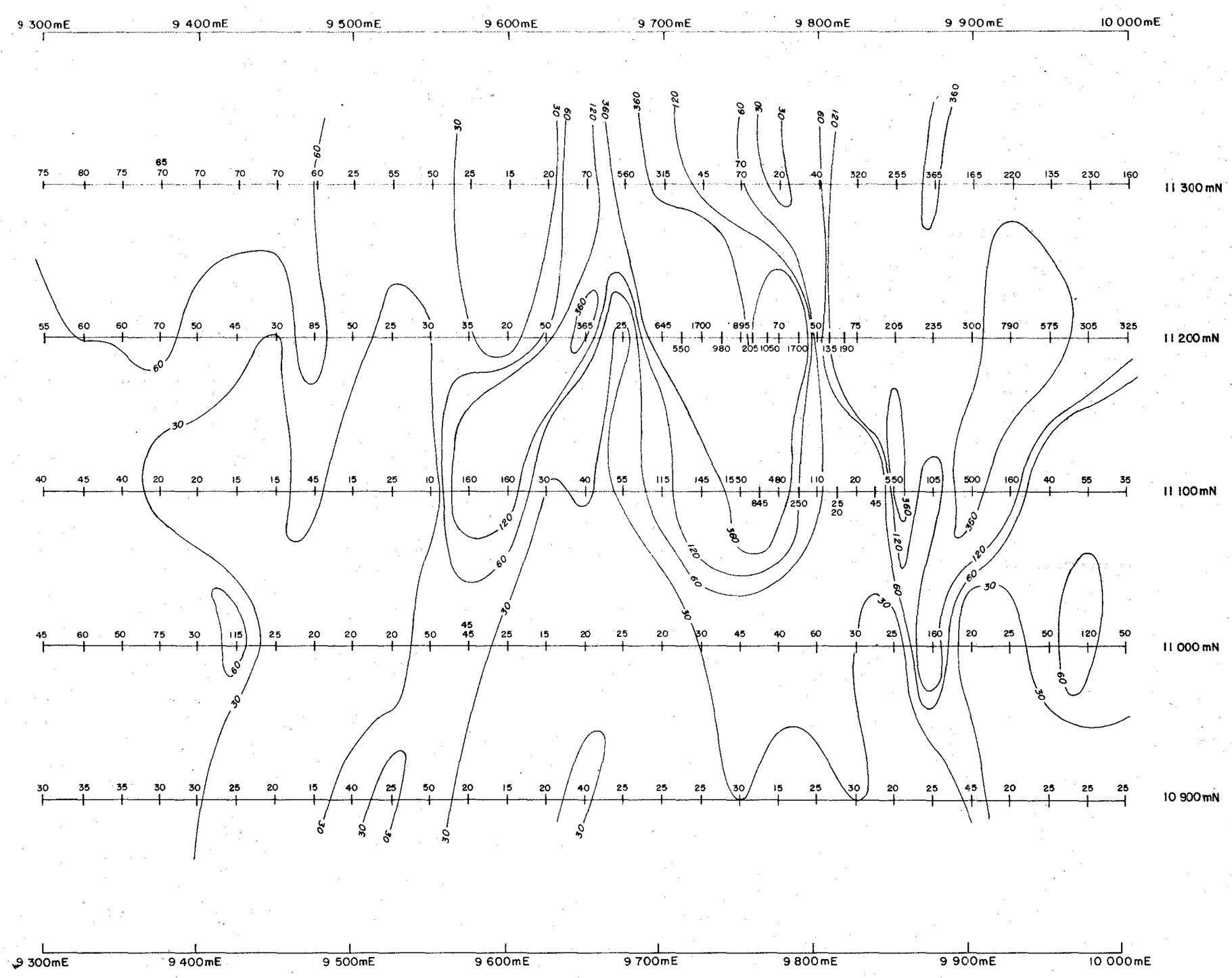
11000 PROSPECT

Pb GEOCHEMISTRY

GN 321° M

DATE: Feb 1983	GEOL: P.H	DRAWN: R.Tog	CHKD: P.H.	PLAN No: 24

4051



CONTOUR INTERVAL

Pencil No.		
19-47	30-60 ppm	Zn
19-6	60-120 ppm	
19-10	120-360 ppm	
15-14	> 360 ppm	

Sample locality (auger hole)

25 0 50 100 150 200 metres

SCALE 1:2 500

573190

5 cm

GN 321° M

83-1978

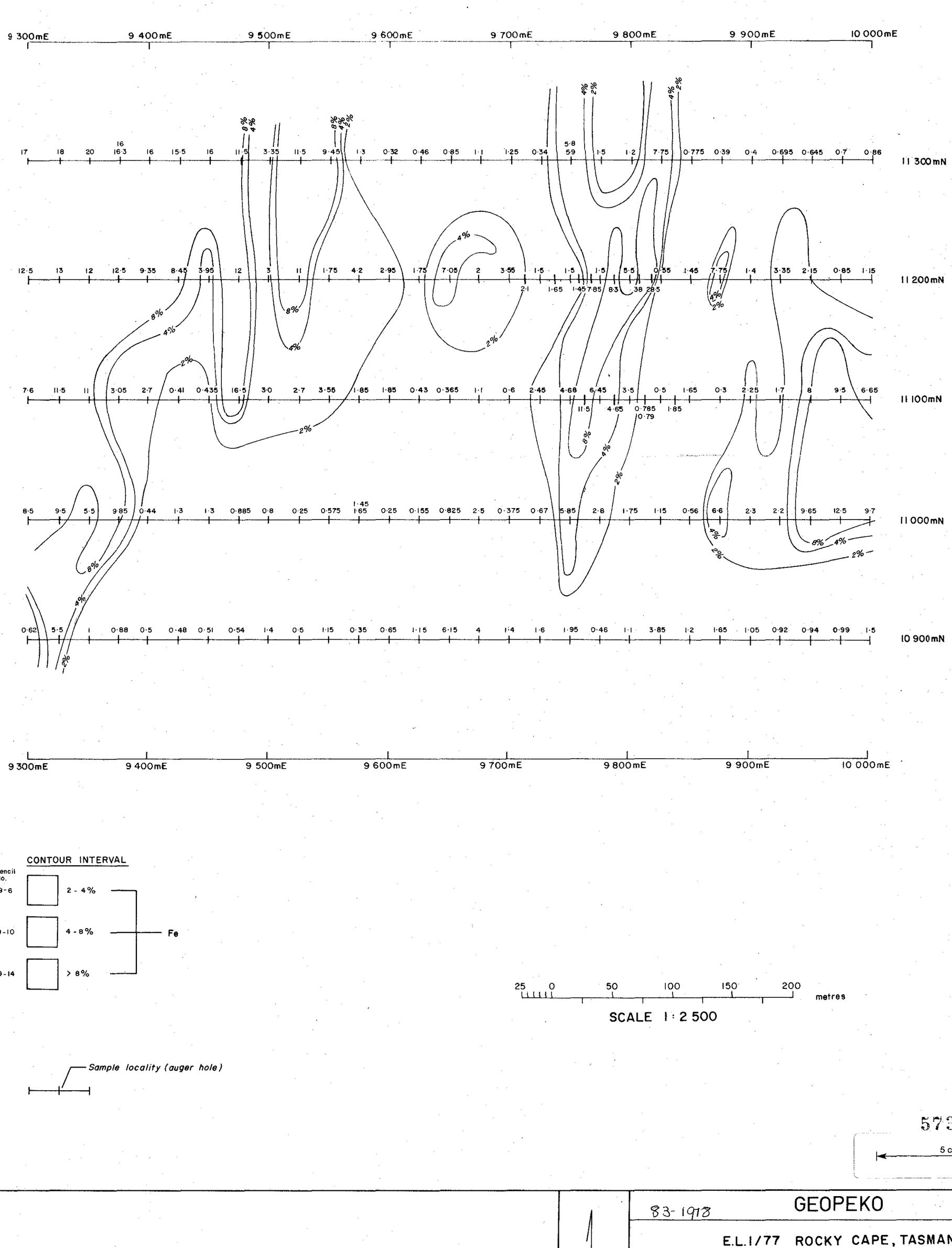
GEOPEKO

E.L.1/77 ROCKY CAPE, TASMANIA
11000 PROSPECT

Zn GEOCHEMISTRY

DATE: Feb 1983	GEOL: P.H	DRAWN: R.Tog	CHKD: P.H.	PLAN No: 25

4052



CONTOUR INTERVAL

Pencil No.		
19-6	2 - 4%	Fe
19-10	4 - 8%	
19-14	> 8%	

Sample locality (auger hole)

25 0 50 100 150 200 metres

SCALE 1 : 2 500

573191

5 cm

GN 321° M

83-1918

GEOPEKO

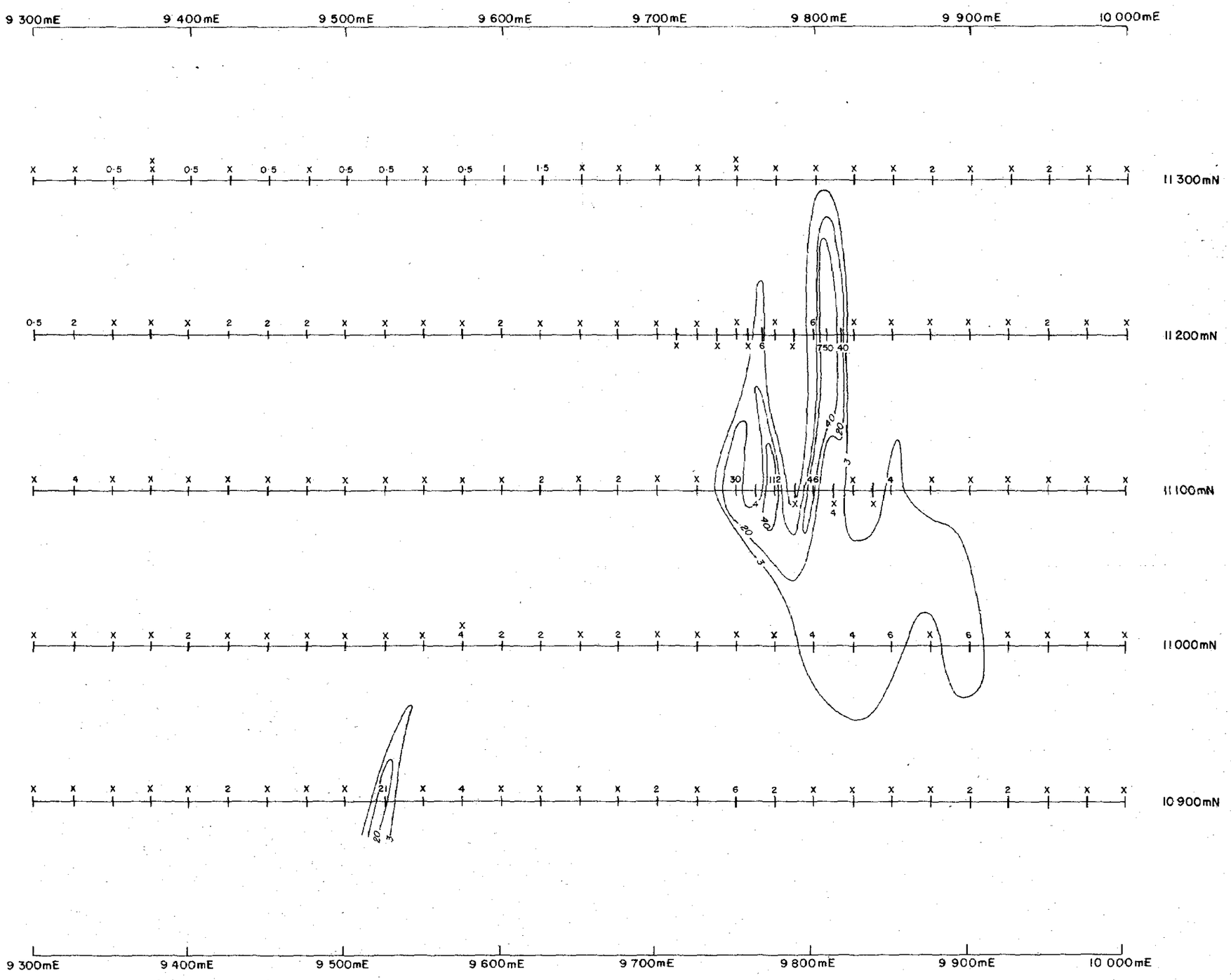
E.L.1/77 ROCKY CAPE, TASMANIA

11000 PROSPECT

Fe GEOCHEMISTRY

DATE: Feb 1983	GEOL: P.H	DRAWN: R.Tog	CHKD: P.H.	PLAN No: 26

4053



CONTOUR INTERVAL

Pencil No.		
19-6	3 - 20 ppm	Bi
19-10	20-40ppm	
19-14	>40 ppm	

Sample locality (auger hole)

25 0 50 100 150 200 metres

SCALE 1 : 2 500

573192

5 cm

GN 321° M

83-1978.

GEOPEKO

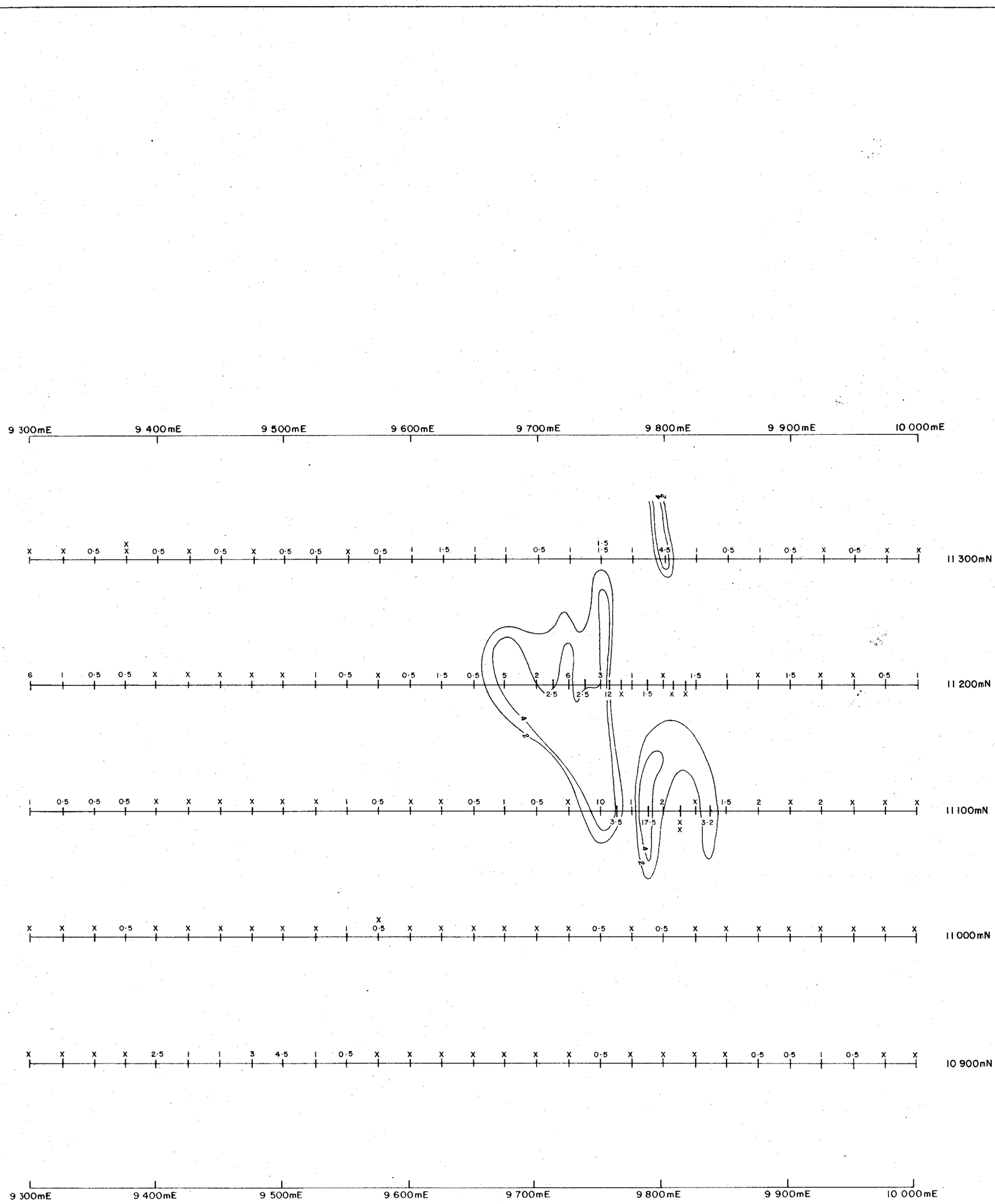
E.L.1/77 ROCKY CAPE, TASMANIA

11 000 PROSPECT

Bi GEOCHEMISTRY

DATE: Feb 1983	GEOL: P.H	DRAWN: R.Tog	CHKD: P.H.	PLAN No: 27

4054



CONTOUR INTERVAL

Pencil No.		
19-6	2 - 4 ppm	Mo
19-10	>4 ppm	Mo

Sample locality (auger hole)

25 0 50 100 150 200 metres

SCALE 1 : 2 500

573193

5 cm

GN 321° M

88-1978.

GEOPEKO

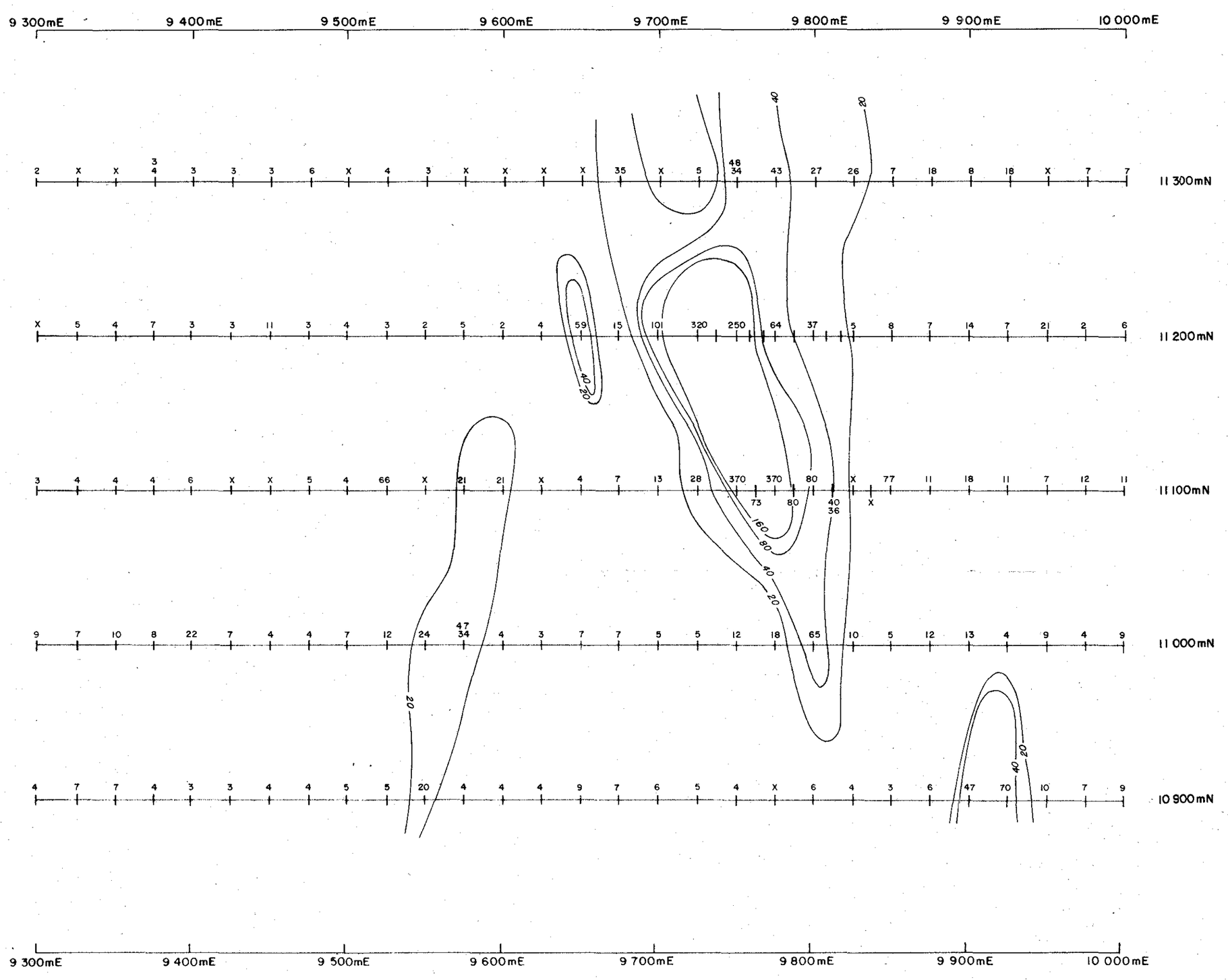
E.L.1/77 ROCKY CAPE, TASMANIA

11 000 PROSPECT

Mo GEOCHEMISTRY

DATE: Feb 1983	GEOL: P.H	DRAWN: R.Tog	CHKD: P.H.	PLAN No: 28

4055



CONTOUR INTERVAL

Pencil No.		
19-46		20-40 ppm
19-6		40-80ppm
19-10		80-160ppm
19-14		> 160ppm

As

Sample locality (auger hole)

25 0 50 100 150 200 metres

SCALE 1:2 500

573194

5 cm

GN 321° M

83-1978.

GEOPEKO

E.L.1/77 ROCKY CAPE, TASMANIA

11000 PROSPECT

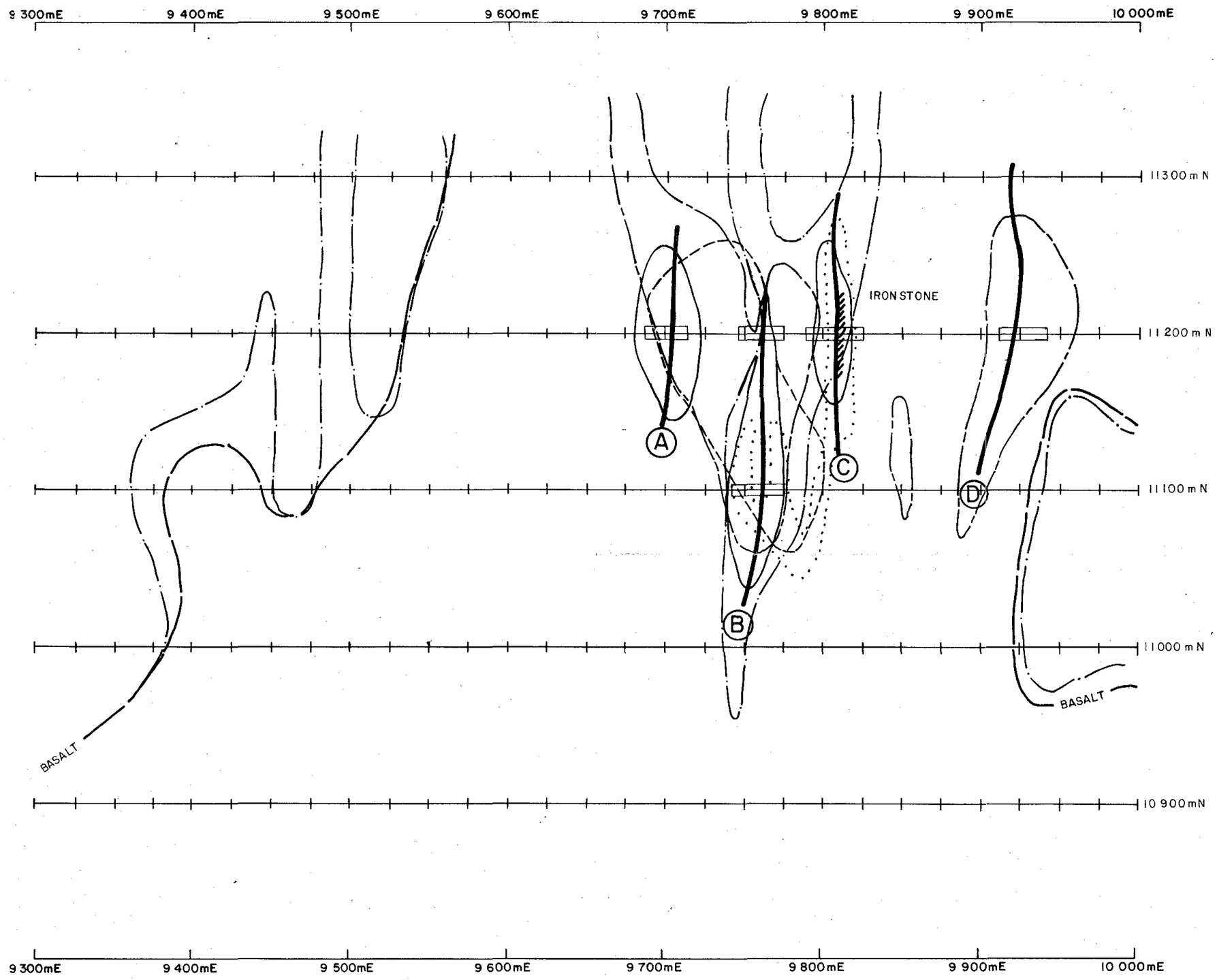
As GEOCHEMISTRY

DATE: Feb 1983	GEOL: P.H	DRAWN: R.Tog	CHKD: P.H.	PLAN No: 29

4056

Contour interval

Sn	———	80 ppm
As	— — — —	80 ppm
Fe	·——·——	8%
Zn	——————	80 ppm
Bi	. . . . .	80 ppm



Sample locality (auger hole)

Proposed Costeans

25 0 50 100 150 200 metres

SCALE 1:2 500

573195

5 cm

GN
321° M

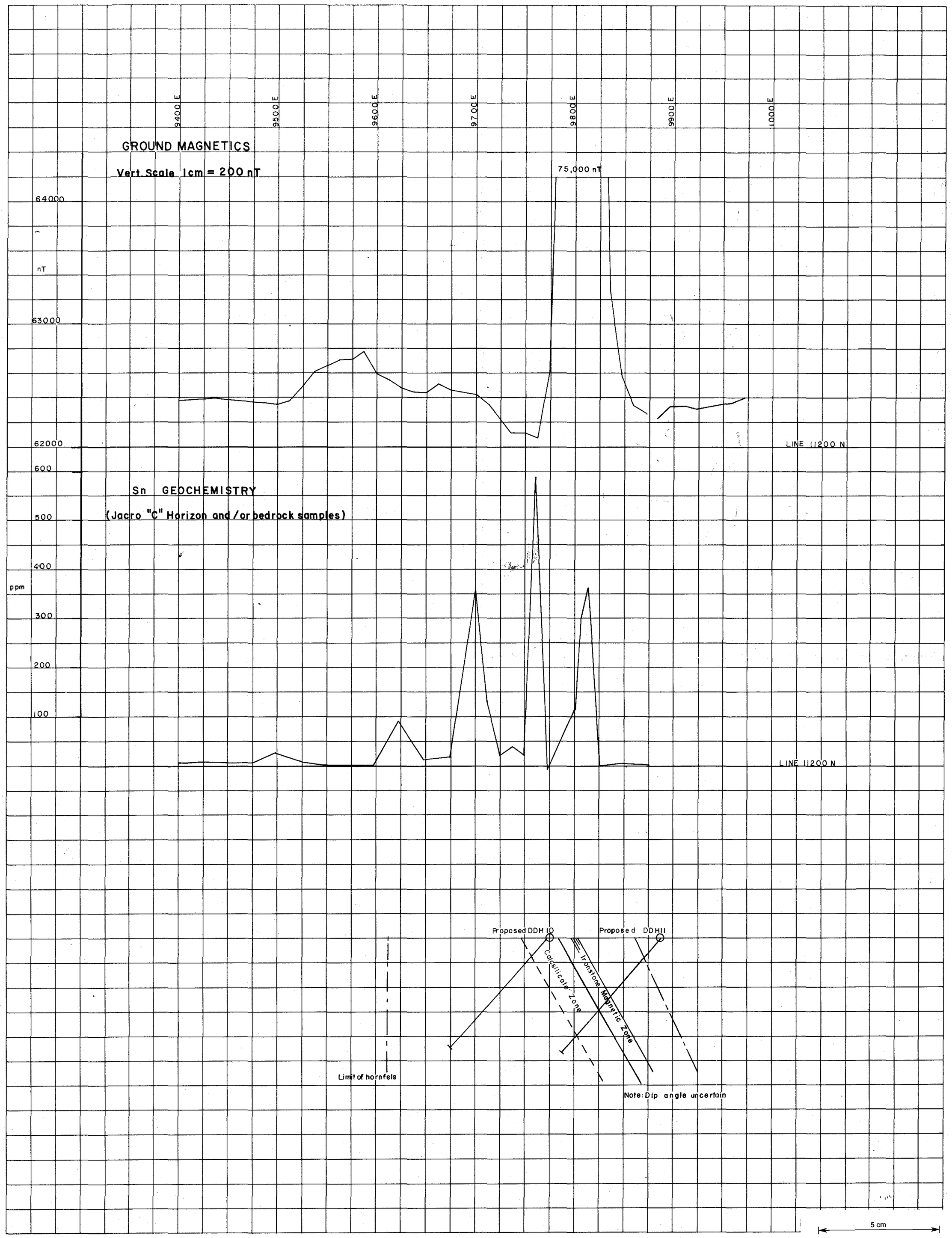
83-1978-

GEOPEKO

E.L.1/77 ROCKY CAPE, TASMANIA
11000 PROSPECT
ANOMALY EVALUATION MAP

DATE: Feb 1983	GEOL: P.H	DRAWN: M.vdS	CHKD: P.H.	PLAN No: 30

4057



DDH 10 9887 E 11200N
Dec 50
Azimuth 231
Depth 150 m

DDH 11 9775E 11200N
Dec 50
Azimuth 231
Depth 150 m

GN
321°M

83-1978. GEOPEKO 573196

E.L.1/77 ROCKY CAPE, TASMANIA

11,000 PROSPECT DIAMOND DRILL HOLE PROPOSALS

DATE: Feb 1983	GEOL: P.H	DRAWN: PRS	CHKD: P.H	PLAN No: 31

4058