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DEPT. OF MINES				
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THE SHELL COMPANY OF AUSTRALIA LIMITED

METALS DIVISION

8 OCT 1982

E.L. 22/74 - MARIONOAK

Progress Report on Exploration During the Period

April, 1980 to June, 1982

Author: W.D. Smyth

Report No: 08.1261

Date : 22-9-82

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PLANS

<u>PLAN NO.</u>	<u>TITLE</u>
*D/NL 01/002	E.L. 22/74 Marionoak South - Geology & Sample Locations
D/NL 01/064,5	DIGHEM - Resistivity I & II
D/NL 01/062,3	DIGHEM - Conductivity I & II
D/NL 01/066,7	DIGHEM - Magnetics I & II
D/NL 01/005	COMINCO Stream Sediment Sampling - Pb
D/NL 01/007	COMINCO Stream Sediment Sampling - Zn
D/NL 01/003	SCOA Stream Sediment Samples - Locations
D/NL 01/004	SCOA Stream Sediment Samples - Pb
D/NL 01/006	SCOA Stream Sediment Samples - Zn
D/NL 01/008	SCOA Stream Sediment Samples - Ni
D/NL 01/009	SCOA Stream Sediment Samples - Cu
D/NL 01/058	SCOA Stream Sediment Samples - Sn, W, Ba
*D/NL 01/002	SCOA Rock Chip Sampling - Locations
D/NL 01/059	SCOA Rock Chip Sampling - Cu, Ni
D/NL 01/060	SCOA Rock Chip Sampling - Pb, Zn
D/NL 01/051	COMSTAFF Project HEC Road Cutting
D/NL 01/014	Bastyan Dam Grid Soil Sampling - Cu, Ni
D/NL 01/015	Bastyan Dam Grid Soil Sampling - Pb, Zn
D/NL 01/012	Bastyan Dam Grid - Ground Magnetics

* Same Plan

APPENDICES

1. REFERENCES
2. PETROGRAPHIC REPORTS

SUMMARY

The Shell Company of Australia Limited entered into a Joint Venture agreement in 1980 with Aberfoyle Exploration Pty. Ltd. to explore E.L. 22/74, Marionoak.

Aberfoyle had previously covered the licence by a stream sediment survey. Several anomalies were located and two were investigated. The Silver Falls mineralization was investigated. None of the areas tested were thought to have economic potential.

SCOA has repeated the stream sediment sampling programme in the anomalous areas not followed up by Aberfoyle. The anomalous zones were repeated. Follow up work of soil sampling the catchments has been done. Two areas are thought to be worthwhile further investigation.

A Dighem survey was conducted over the area. All anomalies indicated are low priority. No direct followup work has been done on the anomalies.

Outcropping mineralization on the Pieman dam Road has been investigated by IP and gravity surveys.

Future work will consist of drilling the target of exposed mineralization and associated(?) geophysical anomalies.

1.0 INTRODUCTION

The Shell Company of Australia Limited entered into an agreement in April, 1980 with Aberfoyle Exploration Pty. Ltd. to jointly explore E.L. 22/74 Marionoak. The agreement provided that SCOA would earn 50% equity after the expenditure of \$60,000. This expenditure commitment has now been met. Aberfoyle have in the previous half year not contributed to exploration and their equity in the Joint Venture is now approximately 44%. Expenditure to date by SCOA totals \$76,567.

This report covers all investigations in the licence area undertaken by SCOA to 30th June, 1982.

Expenditure commitment required to comply with the new mining act for the next year (to 26-2-83) is \$18,500.

2.0 LOCATION & ACCESS

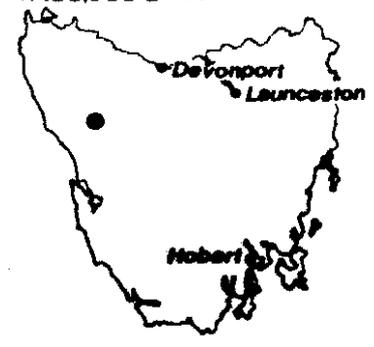
The E.L. is located on the Burnie and Queenstown 1:250,000 sheet and the Mackintosh 1" to 1 mile sheet. E.L. 22/74 comprises 37 sq km in a narrow N-S elongate zone parallel to the Murchison Highway approximately 4 km NNW of Rosebery, extending to the north.

Access to the E.L. in the north is via a gravel track from the Murchison Highway south of Boco Siding and in the south via the sealed Pieman Dam Road. (Refer Fig. 1).

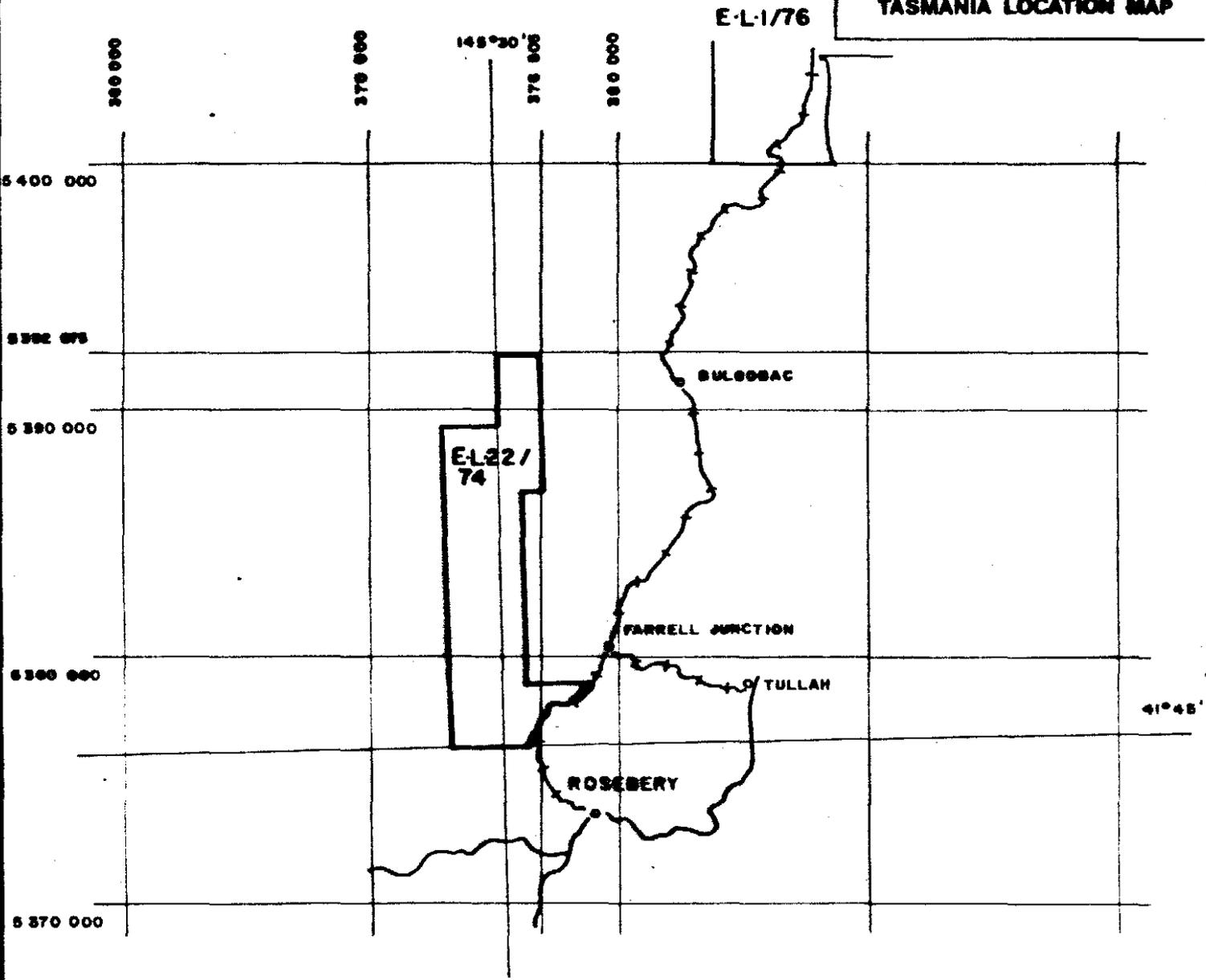
709008

Map Reference:

1:250,000 - BURNIE
1:100,000 - SOPHIA

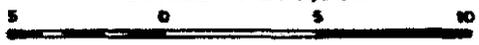


TASMANIA LOCATION MAP



5 cm

SCALE 1:250,000



The Shell Company of Australia Limited
METALS DIVISION

LOCATION MAP
MARIONOAK
E-L-22/74

SCALE 1:250,000	DATE
AUTHOR	DRAWN
OFFICE A.H.O.	REP. No
DRG No	FIG. No 1

3.0 PREVIOUS INVESTIGATIONS

Work done by Aberfoyle included regional assessment by a helicopter-borne EM with magnetics survey and a regional stream sediment survey.

The EM survey was thought to have been flown too high to be useful. No anomalies were found which were thought to be worthwhile for followup.

Stream sediment sampling was done over the licence at 250 m intervals with an average density of 16 sample/sq km. The -80# fraction was used for analyses. Five drainage anomalies were outlined. Two anomalies have been followed up. At the Lynch Prospect a grid was established and soil samples taken. A costean was dug on the best Pb soil anomaly (900 ppm). The elevated base metal results from costeaning (2000 ppm Pb, 850 ppm Zn) were attributed to scavenging by Fe and some Mn oxides although no assays for Fe or Mn were done. The second anomalous area was in a zone of interlocking quartz veins in carbonaceous shales. One vein contained minor coarse sphalerite. The mineralization was not considered significant. No detailed followup was done over the remaining three lower order stream sediment anomalies.

At Silver Falls mineralization consisting of vein disseminations and aggregates of galena and minor sphalerite, chalcopyrite and pyrite is associated with quartz-carbonate-sericite alteration in shear zones in acid volcanics. A probably Devonian granite was located in the area. Aberfoyle carried out gridding, mapping, soil geochemistry and IP surveying. E.Z. drilled four shallow cored holes (less than 50 m) which intersected only weak disseminated sulphides.

A comprehensive list of reports and papers is included as Appendix 1.

4.0 REGIONAL GEOLOGY

The E.L. lies adjacent to the main central volcanic sequence of the Mt. Read Volcanics. A minor portion of these volcanics is included in the southeast corner of the licence. The main portion of the licence is however underlain by the western volcano-sedimentary sequence which has a faulted contact with the central volcanics.

The western volcano-sedimentary sequence consists of Rosebery Group sediments and the conformably overlying Crimson Creek Formation.

The Rosebery Group in the area consist of various shale and volcanoclastic sandstones, quartz sandstones (Stitt Quartzite), thin quartz-feldspar-phyric vitric-crystal tuffs (Natone Volcanics) and a greywacke conglomerate (Salisbury Conglomerate). The Rosebery Group outcrops in the eastern part of the licence area and strike NNW.

The mineralization at Silver Falls is probably included in Natone Volcanic equivalents.

The Crimson Creek Formation outcrops in the west of the licence and consist of monotonously interbedded turbiditic sequences of laminated siltstone-mudstone and volcanoclastic lithic wacke with minor well compacted lithic crystal tuff horizons and tholeitic lava flows. This has been intruded by gabbroic dykes in places.

The Devonian Meredith Granite outcrops 15 km to the northwest with a possibly related small intrusion at the Silver Falls prospect within the licence area. Quaternary fluvio glacial deposits obscure the geology extensively in the south of the area near the Marionoak - Pieman River confluence and in the north of the E.L., south of Lynch Creek. (Refer Plan D/NL 01/002).

5.0 INVESTIGATIONS COMPLETED

5.1 DIGHEM Survey

A DIGHEM II airborne electromagnetic/resistivity/magnetic survey totalling 320 line km was flown by DIGHEM Ltd in December, 1980. (Refer Plans D/NL 01/062, 063, 064, 065, 066, 067).

Several anomalous features were located. The major anomaly (353A - 376A) is associated with a zone of serpentinite outside the western margin of the licence. Anomaly 334B in the top half of the licence is located in an area of glacial overburden. The surficial nature of the anomaly indicates it is possibly due to the glacials. The zone of low resistivity in the area is probably also due to the extensive glacials. Two almost coincident anomalies 344B, 345B are located in the centre of the region, just south of the Higgins Creek Road. These are thought to be surficial. No anomalous stream geochemistry is reported in the area. A broad resistivity low 348A is located in the central western part of the licence, mostly outside the licence area. Part of the low is associated with elevated stream geochemical values. Anomaly 351A a surficial(?) conductor is located on the west side of the licence approximately 1.8 km south of the Higgins Creek Road. No anomalous stream geochemistry is reported. Anomaly 361B a surficial(?) conductor is located in the south of the licence approximately 800 m north of the Pieman Dam Road. Anomalous stream sediment geochemistry is reported from this area. Anomaly 369B, a surficial(?) conductor is located in the centre of the licence 250 m south of the Pieman Dam Road. It is located in an area of glacials and may be due to the glacials. A zone of low resistivities includes this area and extends over most of the area of the glacials. This area has been included

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in the Bastyan Dam Grid. All the anomalies were low order except for the Serpentinite outside the licence. None have been directly followed up but all have been covered by an intense stream sediment survey by Aberfoyle. (Refer Plans D/NL 01/005, 007).

5.2 Stream Sediment Sampling

A stream sediment survey was done by SCOA mostly in the southern half of the licence area to relocate and retest previously located low order anomalies located by Aberfoyle surveys.

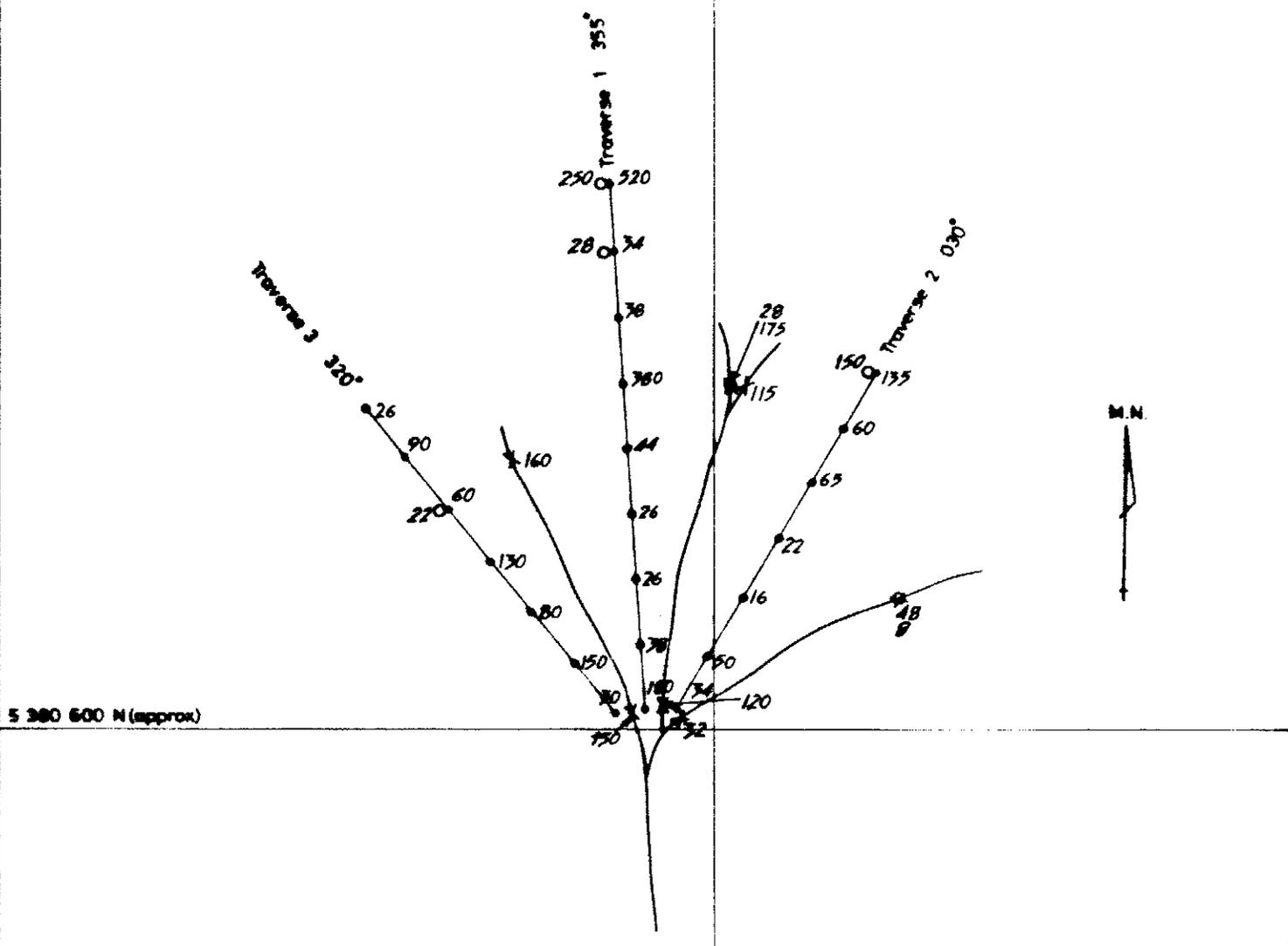
Samples were taken of the -80# fraction and panned concentrates. The -80# fraction was assayed for Cu, Pb, Zn, Ni, Bi, Fe, Mn, Cr, Sn and W. The panned concentrates were analysed for Sn and Ba (some for W). (Refer Plans D/NL 01/003, 004, 006, 008, 009, 058). This survey agreed well with the previous survey by Aberfoyle. Four areas were thought to be anomalous in Pb and Zn. these were Area A (5 383 000 N/374 500 E approx.) 1 km south of Higgins Creek Road, Area C(I) (5 380 700 N/375 000 E approx.) and C(II) (5 380 300 N/375 000 E) both north of the Pieman Dam Road and Area D (5 384 500 N/374 500 E) the Higgins Creek area north of the Higgins Creek road. Four samples anomalous for Sn were located near Area A drainage. These samples are being re-assayed.

Rock chip sampling in the anomalous areas indicate areas of elevated Cu, Pb, Zn and Ni. the highest value of 115 ppm Cu, 430 ppm Pb, 1150 ppm Zn, 120 ppm Ni, is associated with a weathered labile pelite with possible phlogophyte alteration and disseminated pyrrhotite. Other samples with high values submitted for petrographic analysis (Appendix 2) did not have noticeable mineralization. Of the 53 rock samples collected in the area 24% have greater than 100 ppm Pb, 64% have greater than 200 ppm Zn and 49 % have greater than 100 ppm Ni. (Refer Plans D/NL 01/002, 059, 060).

5.2.1 Stream Sediment Anomaly Area C(1)

Soil sampling around the drainage of the anomaly located a zone slightly anomalous in Pb, Zn and Ni approximately 150 m wide.

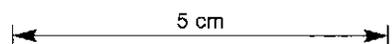
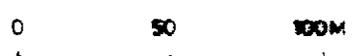
The two highest values in the soil sampling are associated with high Mn (1000 - 4500 ppm Mn). No outcrop was available in the area for examination. this slightly elevated geochemistry may be due to lithological change. (Figs. 2, 3, 4, 5).



NOTE: Analyses in ppm.
Comilabs AAS1

KEY

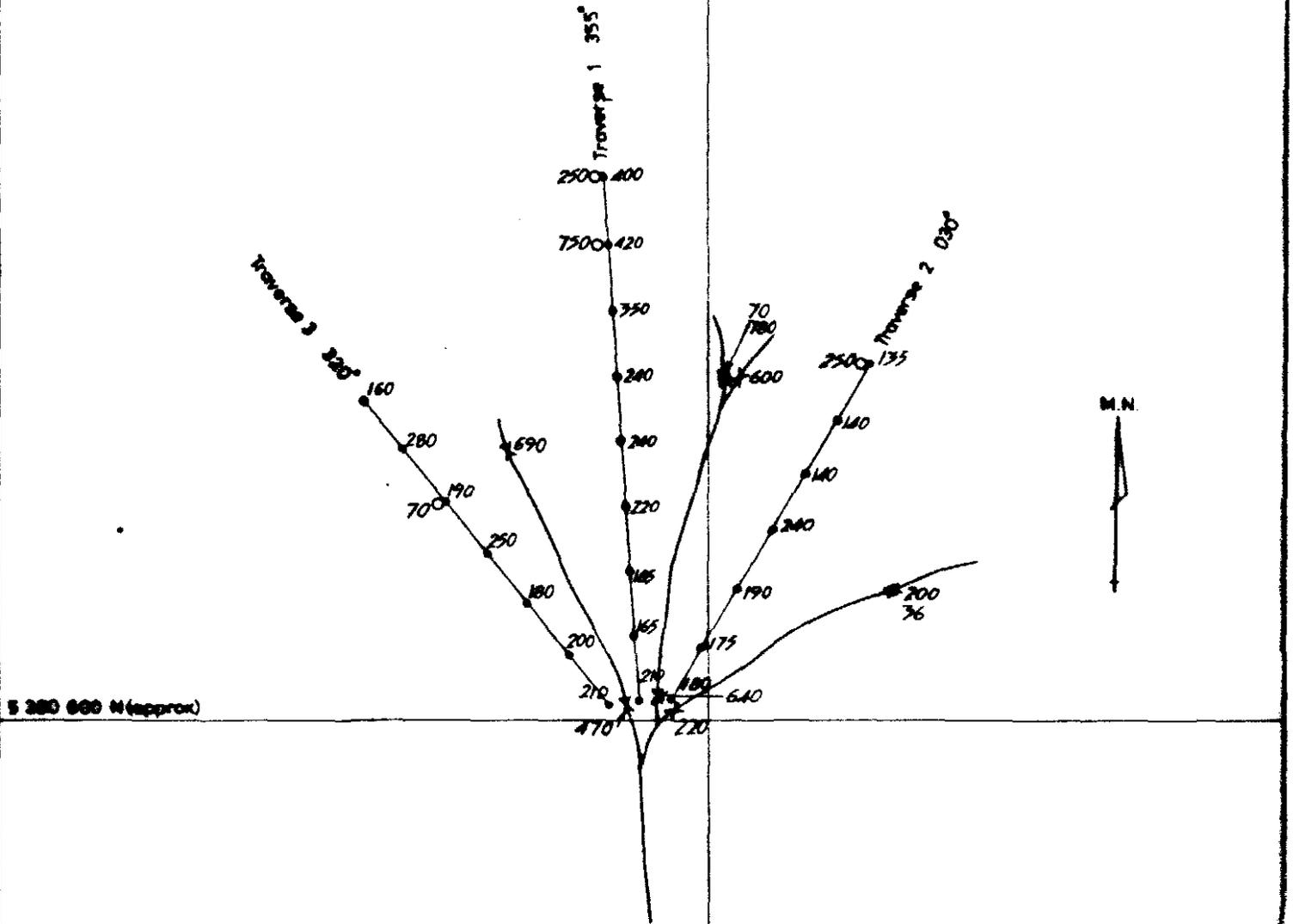
- Stream
- Soil sample
- X Stream sediment sample
- Rock chip sample



The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONOAK GEOCHEMISTRY RESULTS Pb AREA C (1) Scale 1:2500	
FIG. No. 2	REPORT No.
ENCL. No.	DRG. No. D/NLOW017
DATE 24-3-82	AUTHOR W.D.S.
DRAWN M.L.H.	OFFICE

375 200 E (approx)

709016



NOTE: Analyses in ppm
Comlabs AAS 1

KEY

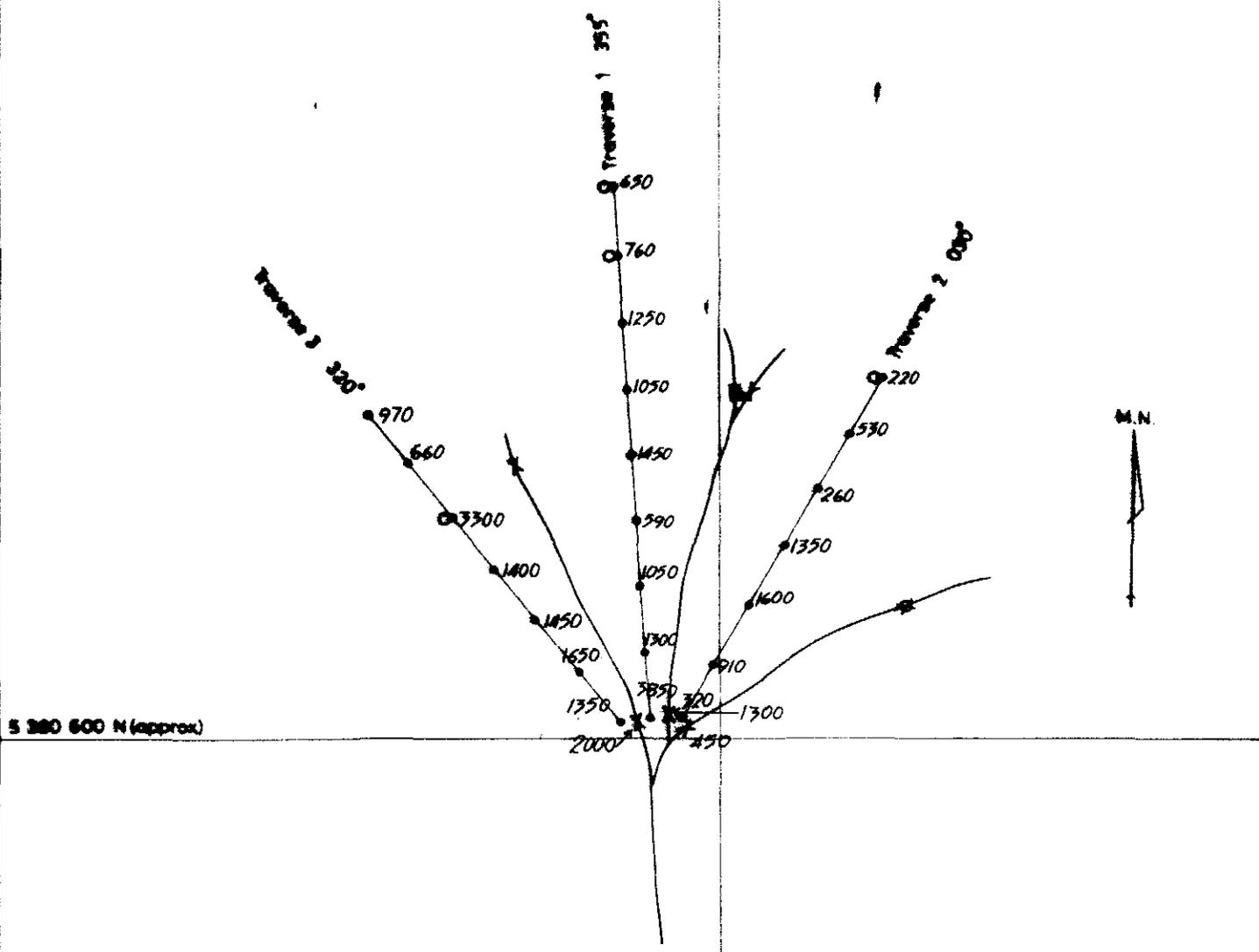
- Stream
- Soil sample
- X Stream sediment sample
- o Rock chip sample

0 50 100m

The Steel Company of Australia Limited METALS DIVISION	
E.L. 22174 MARIONDAK GEOCHEMISTRY RESULTS Zn AREA C (1)	
Scale: 1:2 500	
FIG. No. 3	REPORT No.
ENCL. No.	DRG. No. D/21174/10
DATE 11-3-62	AUTHOR W.B.S.
DRAWN H.L.H.	OFFICE

5 cm

E 175 200 E (approx)



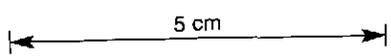
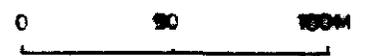
S 380 600 N (approx)

375 200 E (approx)

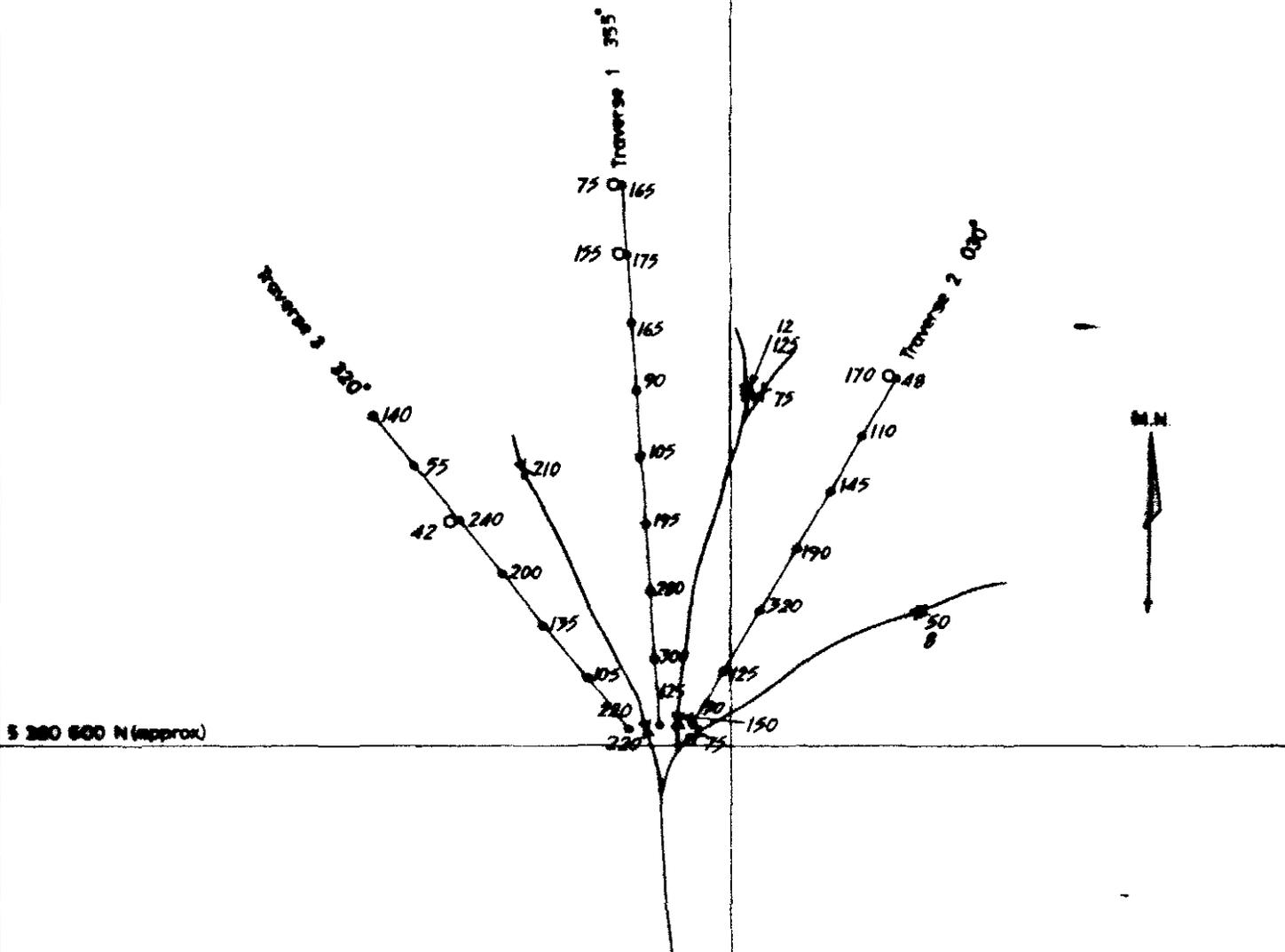
NOTE: Analyses in ppm.
Comlabs AAS2/2A

KEY

- Stream
- Soil sample
- X Stream silt/clay sample
- Rock chip sample



The Shell Company of Australia Limited METALS DIVISION	
E.L. 2274 MARIONDAK GEOCHEMISTRY RESULTS Mn AREA C (1)	
Scale: 1:2500	
FIG. No 4	REPORT No
ENCL No	DRG. No
DATE 11-5-82	AUTHOR
DRW. BY J. J. J.	DRG. BY



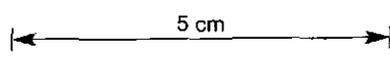
NOTE: Analyses in ppm,
Comlabs AAS 1

KEY

- Stream
- Soil sample
- X Stream sediment sample
- Rock chip sample



The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONOAK GEOCHEMISTRY RESULTS Ni AREA C (1)	
Scale 1:2 000	
FIG. No. 5	REPORT No.
ENCL. No.	ENCL. No. E/L 22/74
DATE 11-9-62	AUTHOR H.L.H.
DRAWN H.L.H.	CHECK



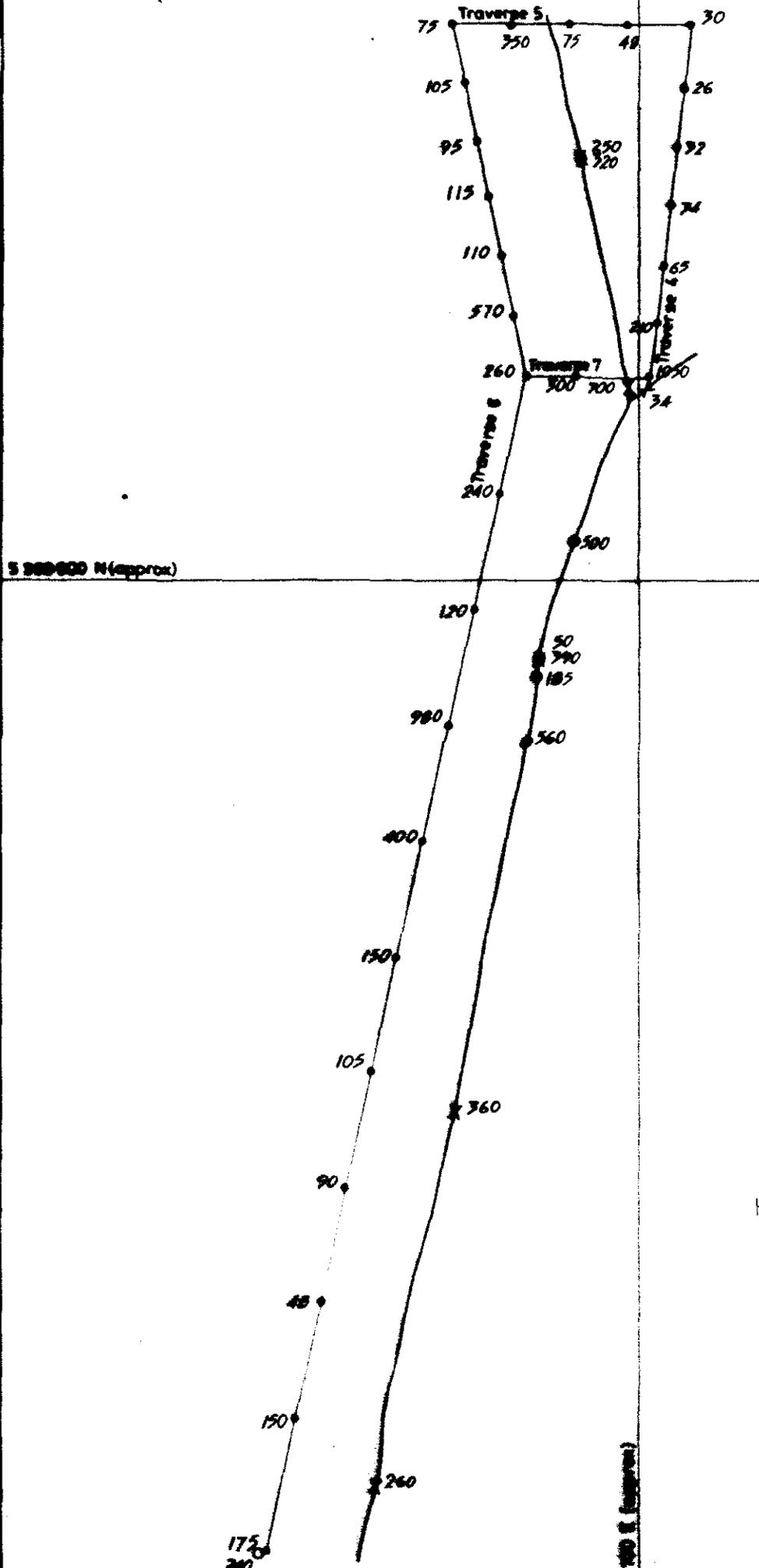
375 200 E (approx)

5.2.2. Stream Sediment Anomaly C(II)

Soil sample values are irregular (\bar{x} 100 ppm Pb, 220 ppm Zn standard deviation 120 ppm Pb, 75 ppm Zn) with higher values in the north and west of the traverses. Manganese values are generally elevated (1000 ppm). High Ni values are associated with low Pb values. No definite trends can be identified.

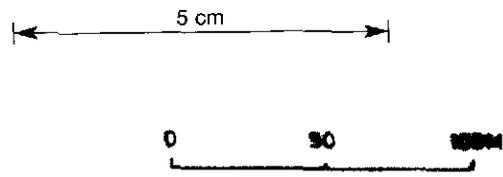
Two quartz vein float samples had low base metal values.

Two rock chip samples with high base metal values (28 ppm Pb, 750 ppm Zn and 250 ppm Pb, 250 ppm Zn) were examined petrographically. Both are very weathered tuffs with abundant limonitic matrix. No mineralization responsible for the high base metal values were reported. High base metal values may be associated with Fe - Mn development. (Refer Figs. 6, 7, 8, 9).

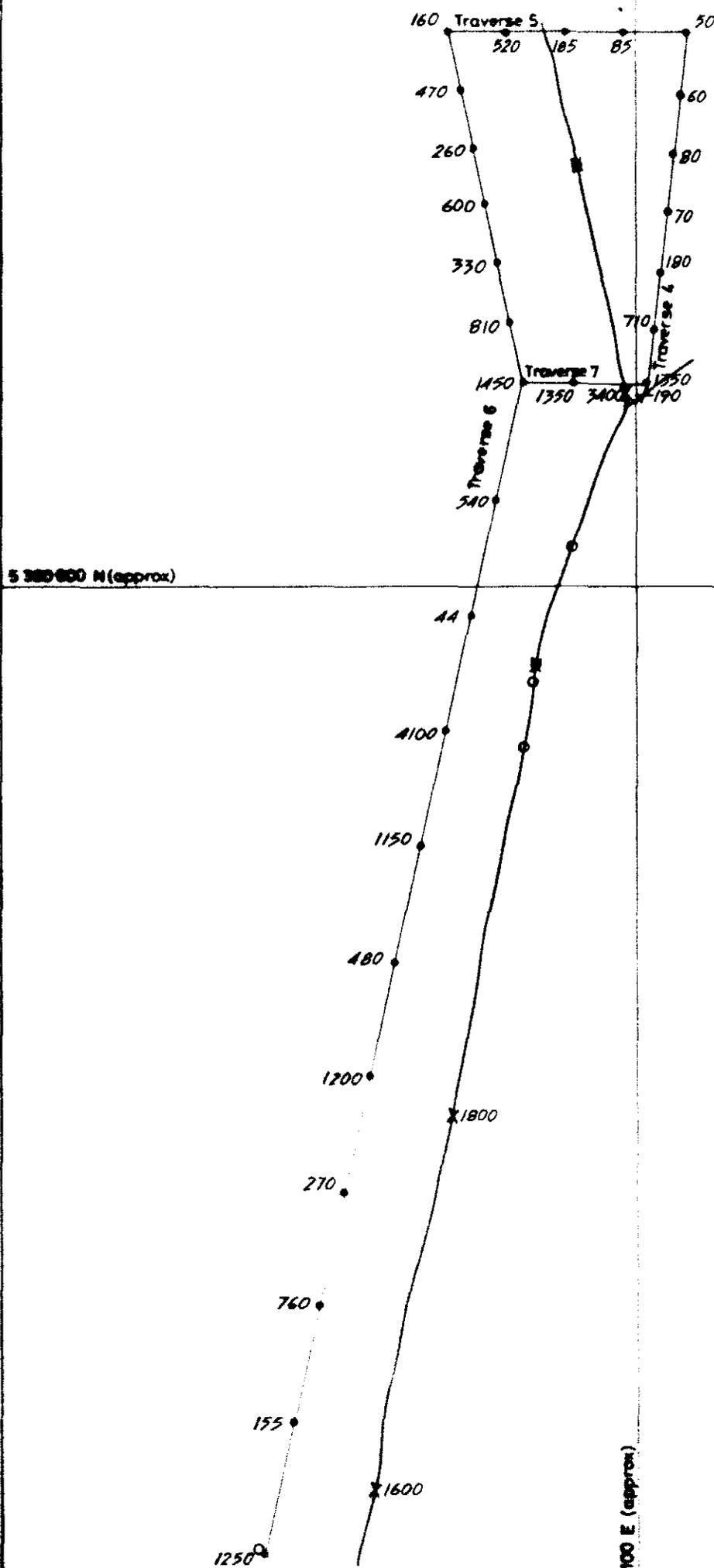


NOTE: Analyses in ppm.
Comlabs AAS 1

- KEY**
- Stream
 - Soil sample
 - Rock chip sample
 - X Stream sediment sample



The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONDAK Stream sediment follow up GEOCHEMISTRY RESULTS Zn - AREA C (II) Scale: 1:2 500	
FIG. No. 7	REPORT No.
ENCL. No.	DRG. No.
DATE 91-9-82	AUTHOR



(approx)
T.M.

NOTE: Analyses in ppm.
Comlabs AAS 2/2A

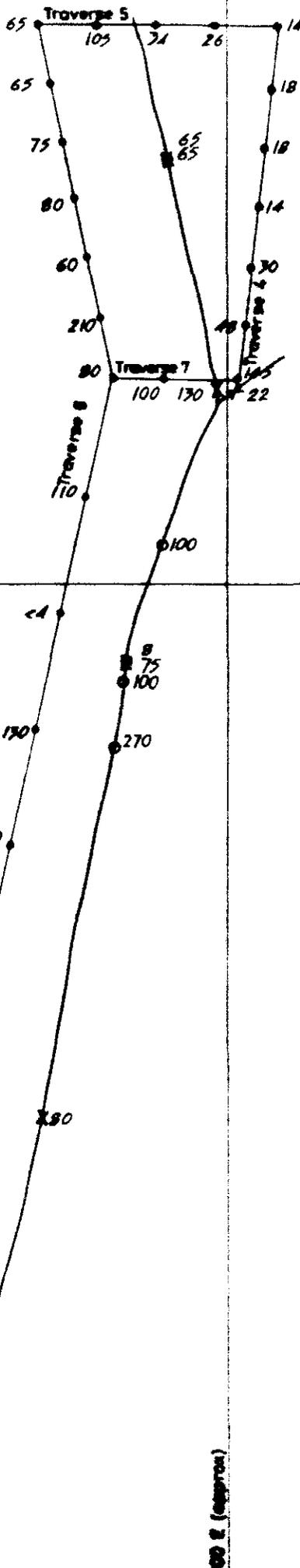
KEY

- Stream
- Soil sample
- Rock chip sample
- X Stream sediment sample

5 cm

0 50 100M

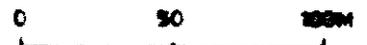
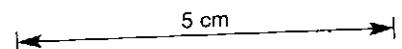
The Shell Company of Australia Limited METALS DIVISION	
E.L. 22174 MARIONDAK	
Stream sediment follow up GEOCHEMISTRY RESULTS Mn - AREA C (II)	
Scale: 1:2 500	
FIG. No. 8	REPORT No.
ENCL. No.	DRG. No.
DATE 11-3-62	AUTHOR



NOTE: Analyses in ppm
Comlabs AAS 1

KEY

- Stream
- Soil sample
- Rock chip sample
- X Stream sediment sample

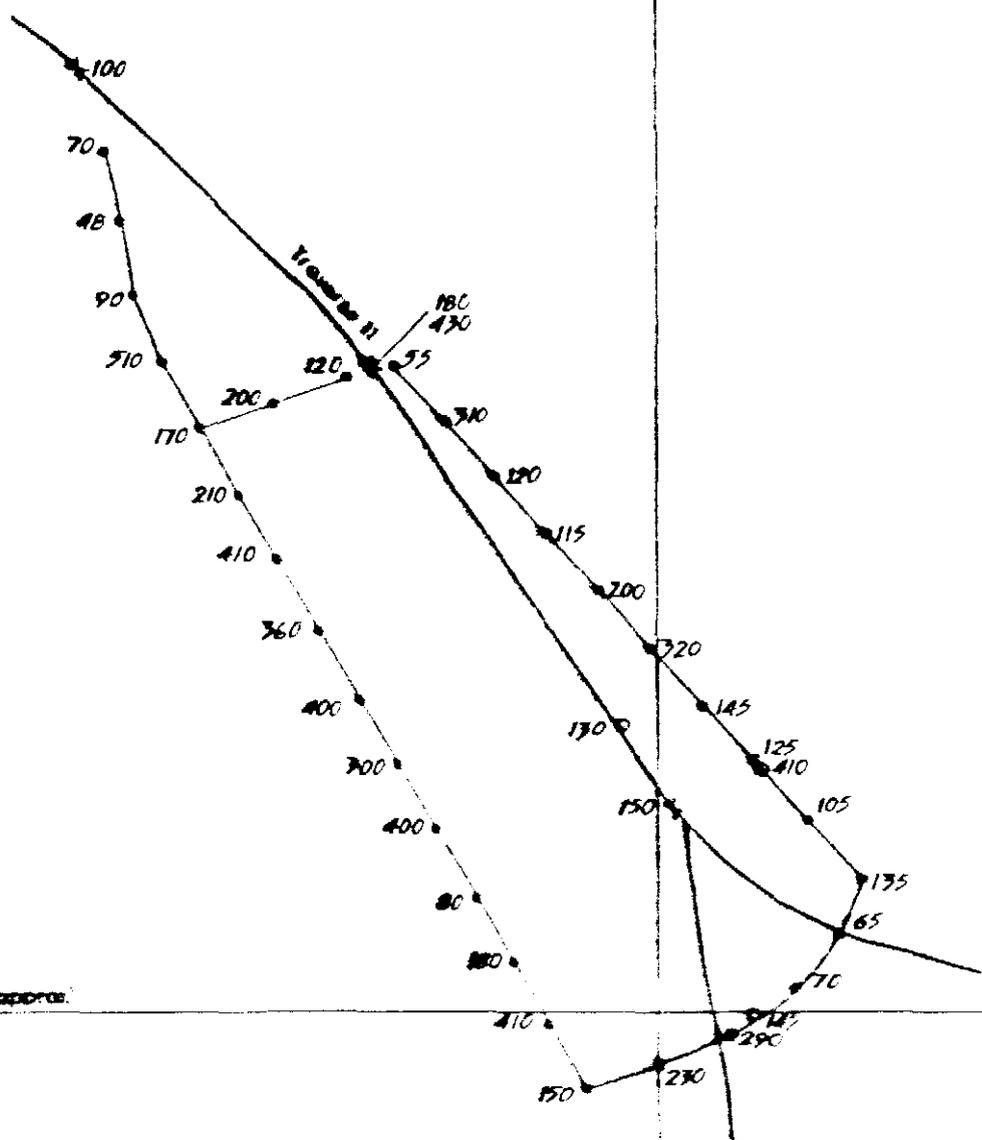


The Shell Company of Australia Limited METALS DIVISION	
E. L. 22/74 MARIONOAK	
Stream sediment follow up GEOCHEMISTRY RESULTS Ni - AREA C (II)	
Scale: 1:2 500	
FIG. No. 9	REPORT No.
ENCL. No.	DRG. No. 2/2/74/2000
DATE 11-5-82	AUTHOR G. J. ...
DRAWN ...	OFFICE ...

5.2.3 Stream Sediment Anomaly Area A

Soil sample values are elevated for Pb and Zn over the whole area covered (100 m x 300 m). Manganese values are generally low. Values for Ni are low.

One rock chip sample had values of 430 ppm Pb, 1150 ppm Zn. this was described as a weathered labile pelite with possible phlogophyte and disseminated pyrrhotite. This possible mineralization may be due to granite derived hydrothermal systems. (Refer Figs. 10, 11, 12, 13).



SEC SEC N (approx)

NOTE: Analyses in ppm.
Comlabs AAS 1

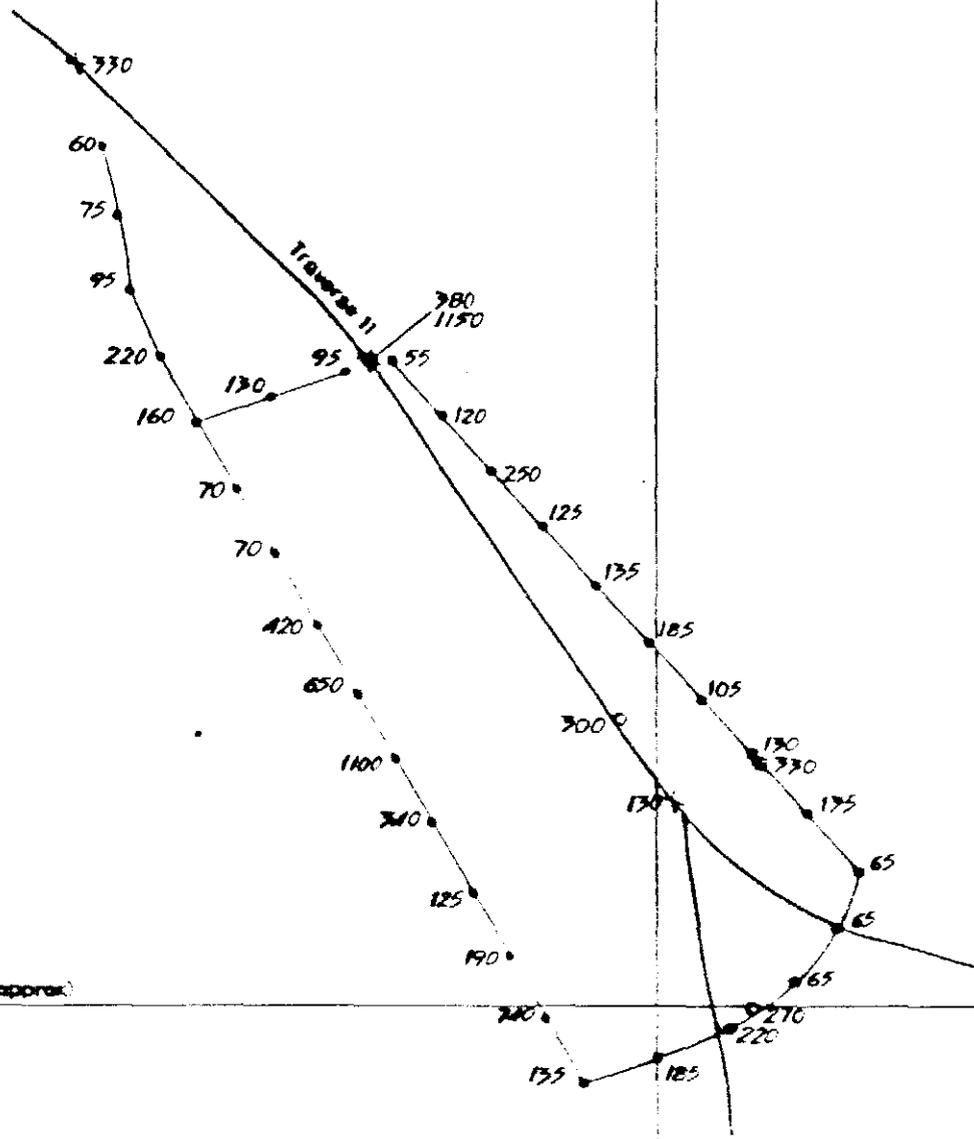
KEY

- Stream
- Soil sample
- Rock chip sample
- X Stream boundary sample

0 50 100%

The Steel Company of Australia Limited METALS DIVISION	
E.L. 22/74. MARIONDAI Stream sediment follow up Geochemistry results - Pt AREA A	
Scale 1:2500	
FIG. NO. 70	REPORT NO.
DWG. NO.	DWG. NO. B/ALD903
DATE: 8-2-82	AUTHOR: M.L.S.
DRAWN: P.L.M.	OFFICE: MELBOURNE

8/25/82 (8/25/82)



NOTE: Analyses in ppb.
Comlabs AAS 1

KEY

- Stream
- Soil sample
- Rock chip sample
- X Stream sediment sample

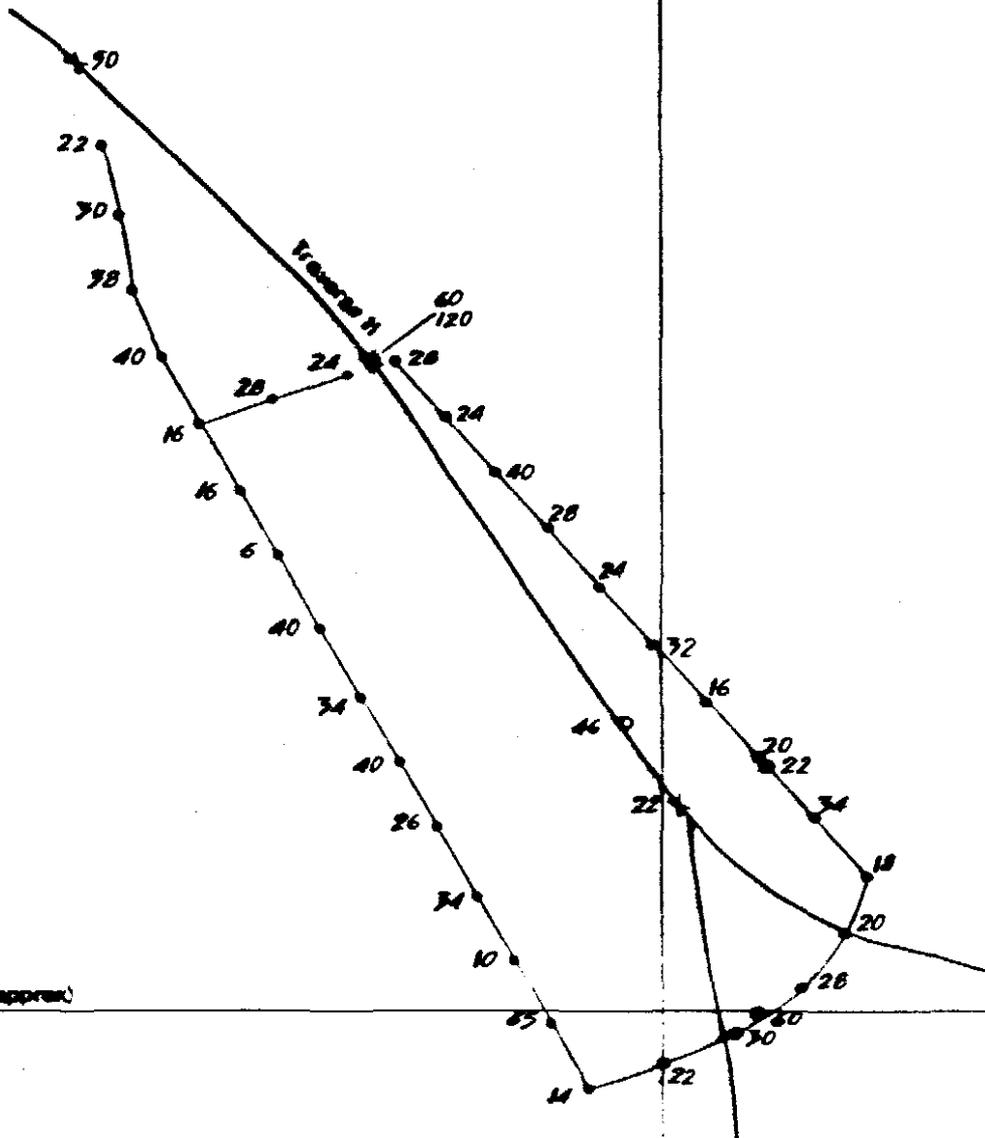
0 50 100%

The Steel Company of Australia Limited
METALS DIVISION
E.C. 2277, MARIONDALE
Stream sediment follow up
Geochemistry results - Zr
AREA 4
Scale 1:2500

FILE NO. T1	REPORT NO.
PROJECT NO.	DRAWN BY D. H. DAVISON
DATE 12-1-81	AUTHOR W. D. S.

5 cm

1:2500 (approx)



NOTE: Analyses in ppm.
Comlabs AAS1

KEY

- Stream
- Soil sample
- Rock chip sample
- X Stream sediment sample

0 50 100m

The Shell Company of Australia Limited
METALS DIVISION

E.L. 22/74 MARBONDAH
Stream sediment follow up
Geochemistry results - N
AREA A

Scale 1:2500

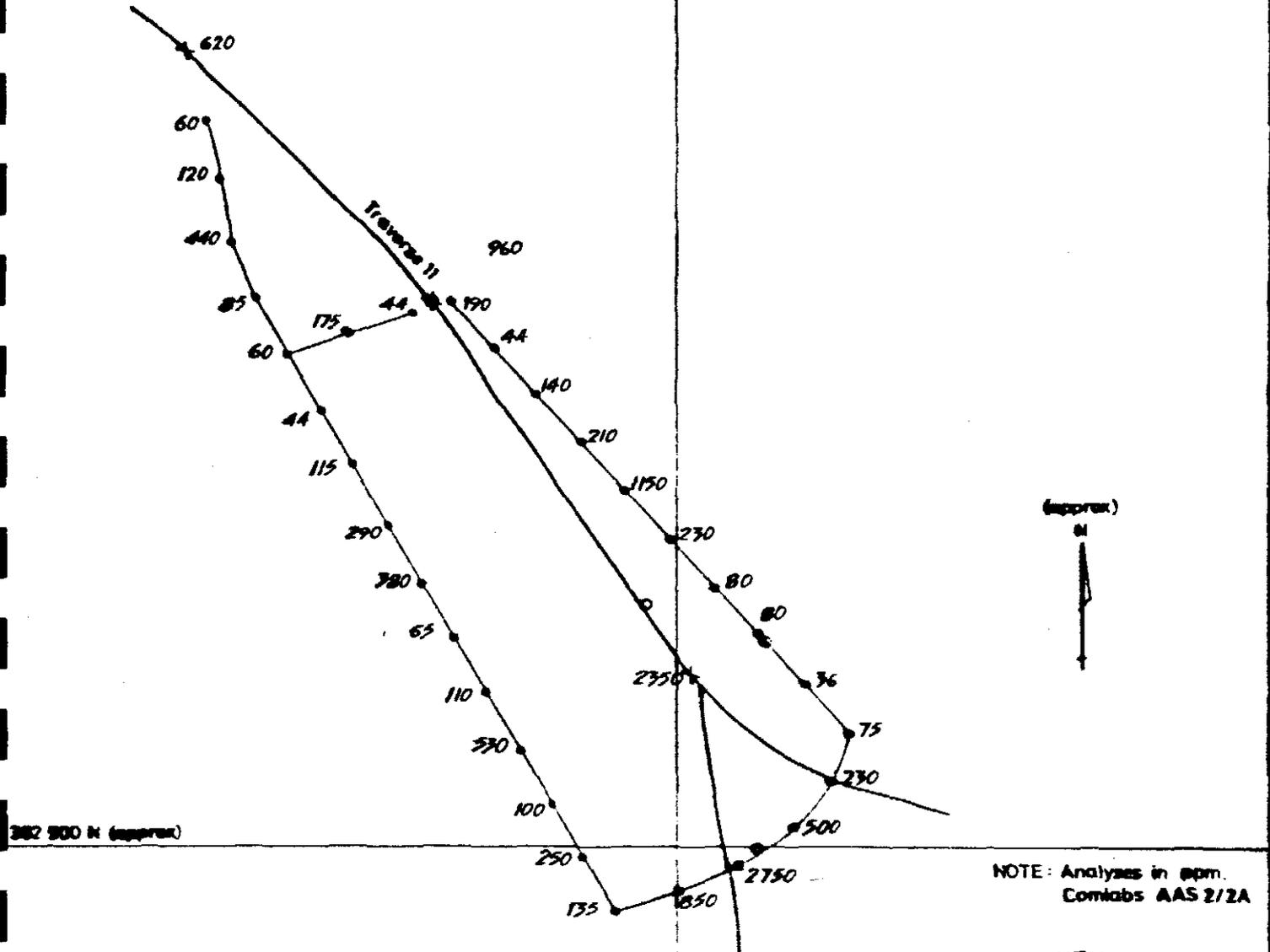
FIG. No. 12 REPORT No.

ENC. No. ENC. No. D/PH/00039

DATE: 12-3-81 AUTHOR W.B.S.

5 cm

1:5000 (approx)



NOTE: Analyses in ppm.
Comlabs AAS 2/2A

KEY

- Stream
- Soil sample
- Rock chip sample
- X Stream sediment sample

D SC 1804

The Steel Company of Australia Limited
METALS DIVISION

E.L. 22/74 MARIONDAK
Stream sediment follow up
Geochemistry results-Mn
AREA A

Date 1-27-82

FIG. NO. 13	REPORT NO.
ENC. NO.	ENC. NO. 2/1/82/041
DATE 12-3-82	AUTHOR G.B.S.

74 710 P. (approx)

5 cm

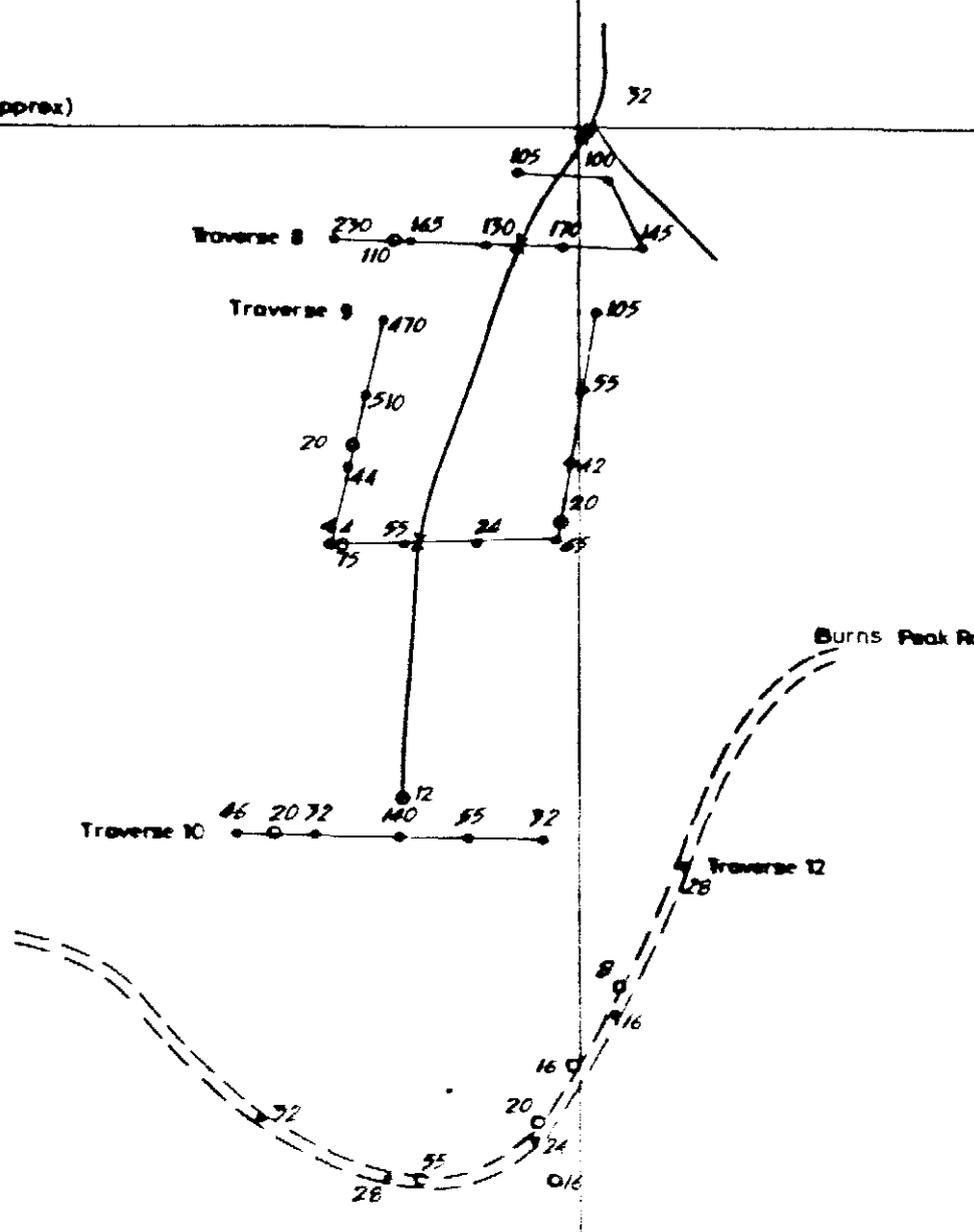
5.2.4 Stream Sediment anomaly Higgins Creek

A low order Pb soil anomaly appears to join the two drainages sampled. Both Zn and Ni are low in the soil samples and Mn is high in both drainages (1000 ppm Mn).

Two samples from a seepage in the western drainage have very high Zn and Mn values (2400 ppm Zn, 1.85% Mn; 940 ppm Zn, 1.05% Mn). The original stream sediment sample adjacent to the seepage had values of 1750 ppm Zn, 1.20% Mn.

One rock chip sample from the area with high base metal values (Pb 280 ppm, Zn 220 ppm) was described as a weathered greywacke, with a ferruginised indeterminate matrix, with no evidence of alteration/mineralization. (Refer Figs. 14, 15, 16, 17, 18, 19, 20, 21).

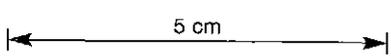
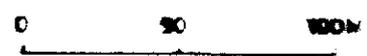
S 284 300 N (approx)



NOTE: Analyses in ppm.
Comlabs AAS 1

KEY

- Road
- Stream
- Soil sample
- Rock chip sample
- Stream sediment sample

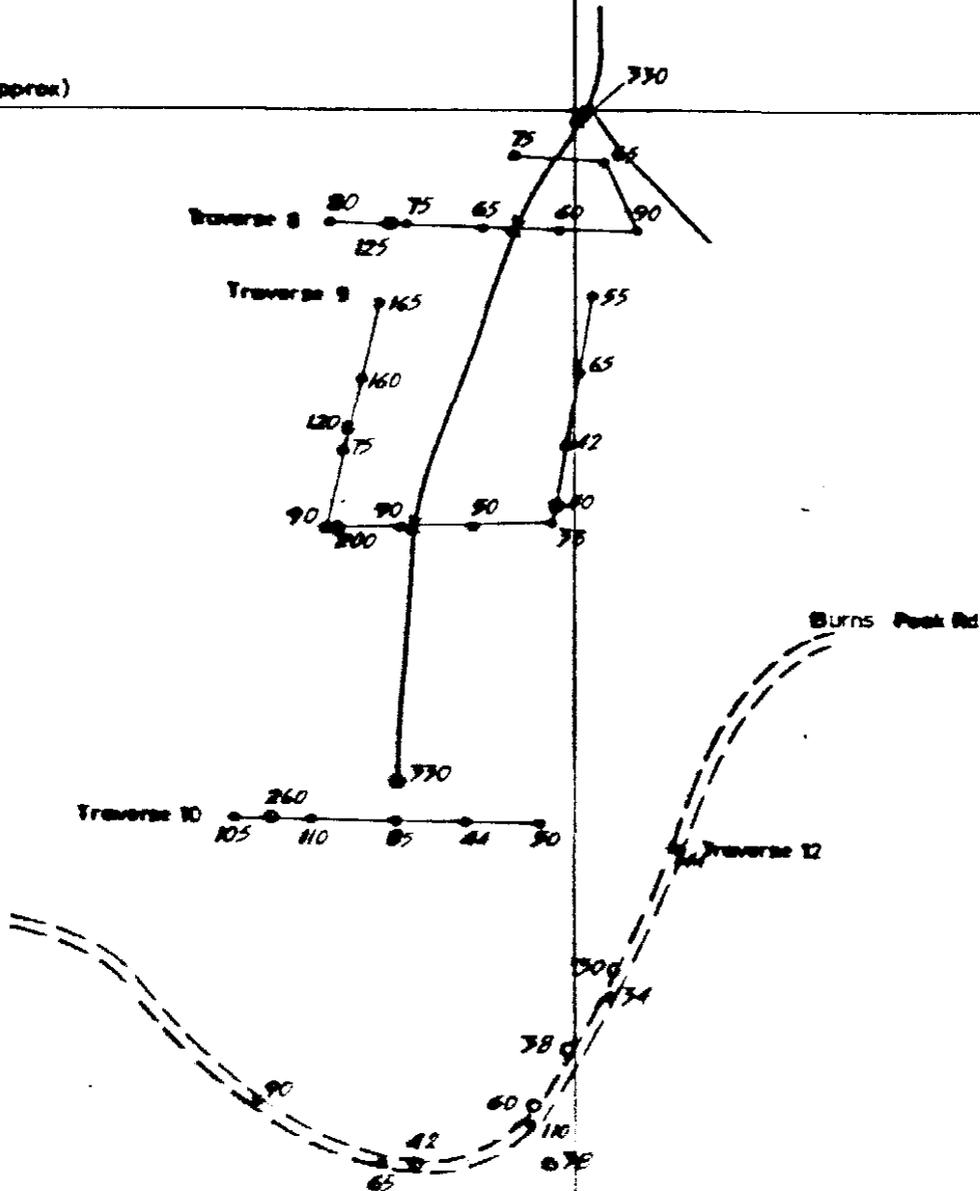


374 500 E (approx)

The Shell Company of Australia Limited METALS DIVISION	
E.L. 2274 MARIONDAI HIGGINS CREEK EAST Stream sediment follow up Geochemistry results - Pt	
Scale 1:2500	
FIG No. 14	REPORT No.
ENC. No.	ENC. No. 5/10/82
DATE: 12-3-82	AUTHOR: M.L.F.
DRAWN: M.L.F.	OFFICE: [unclear]

S 384 300 M (approx)

(approx)



NOTE: Analyses in ppm.
Comlabs AAS 1

KEY

- Road
- Stream
- Soil sample
- Rock chip sample
- Stream sediment sample

0 50 100+

5 cm

The Shell Company of Australia Limited
METALS DIVISION

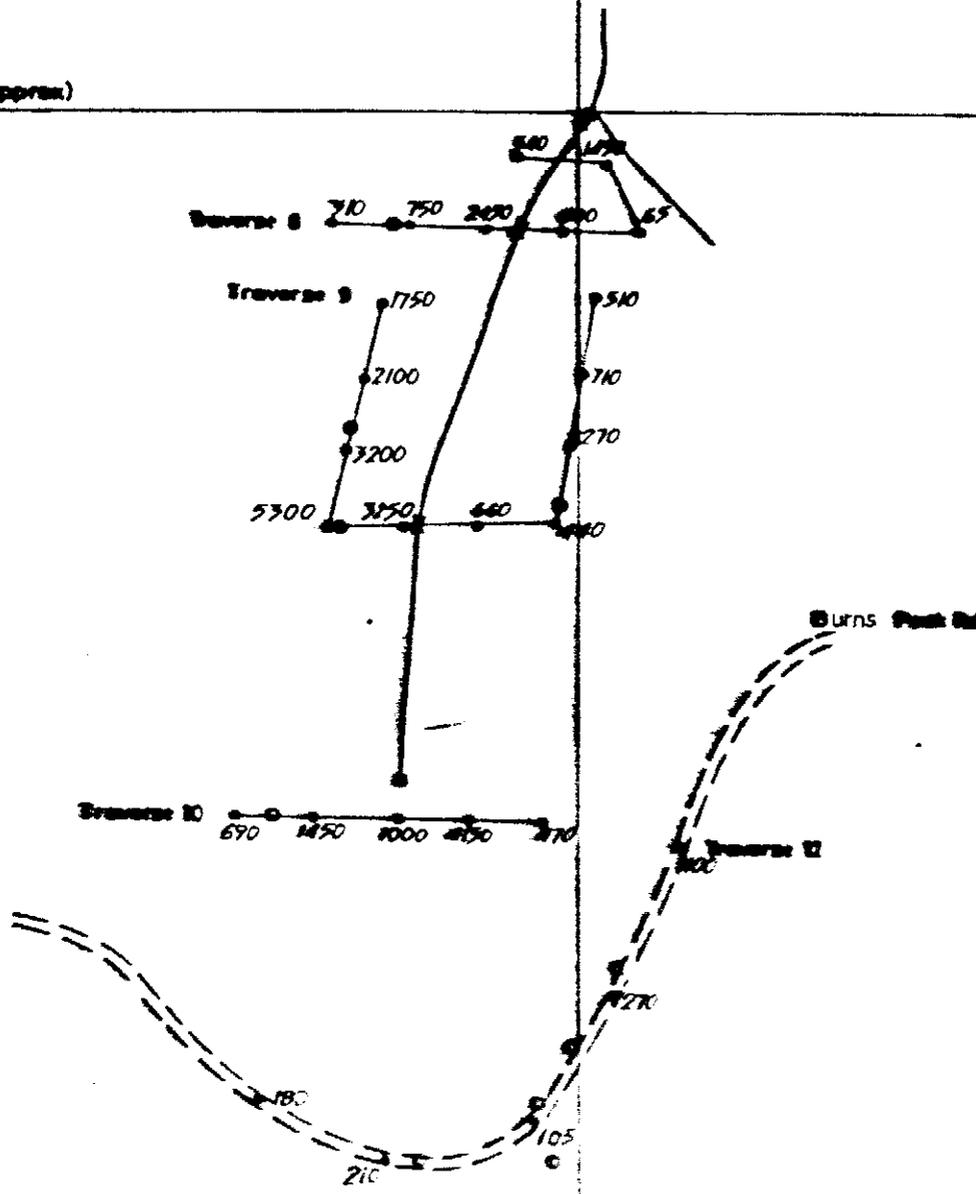
E.L.2274 MARIONDAK
HIGGINS CREEK EAST
Stream sediment follow up
Geochemistry results - Zn

Sheet 9: 2 BIC

FIG. No. 75	REPORT No.
SEC. No.	ENG. No. 2011/000
DATE 12-3-82	AUTHOR
DRAWN E.L.H.	CHECK

5 204 200 M (approx)

(approx)



NOTE: Analyses in open
Containers AAS 2/2A

KEY

- Stream bedrock
- Stream
- Soil sample
- Rock chip sample
- Stream sediment sample

5 cm

24 500 M (approx)

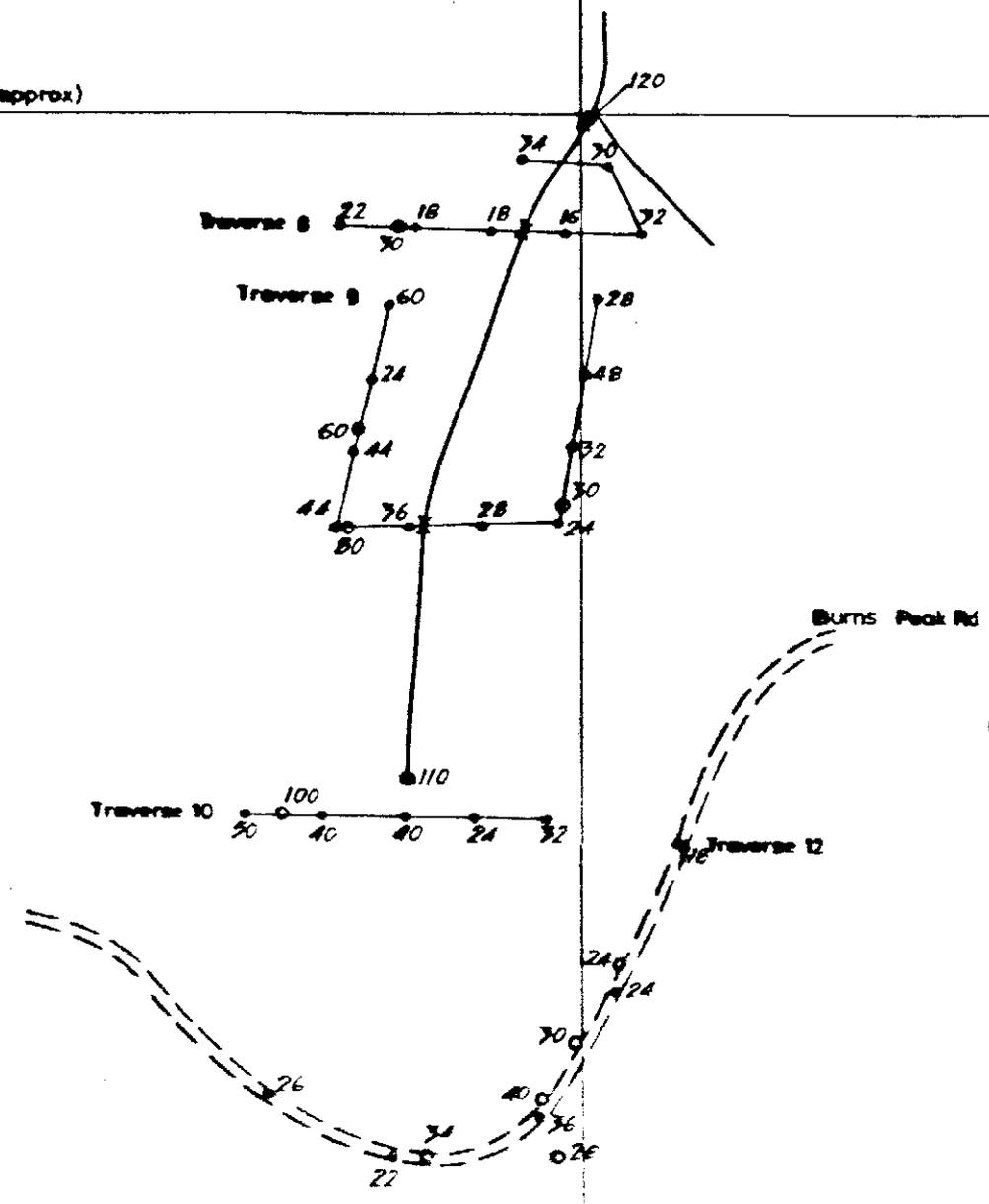
The Shell Company of America Limited
METALS DIVISION

E. L. 2274 NARDONAK
MOGINS CREEK EAST
Stream bedrock follow up
Geochemistry results - 34m

Date: 4-2-70

FILE NO. 70	REPORT NO.
DATE 4-3-72	BY

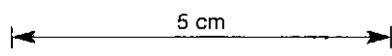
574 300 N (approx)



NOTE: Analyses in ppm.
Comlabs AAS 1

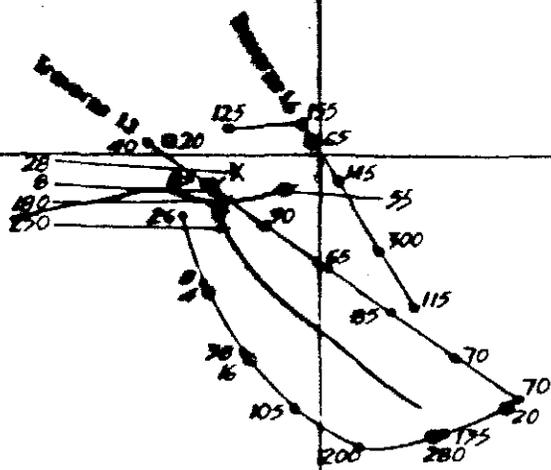
KEY

- Road
- Stream
- Soil sample
- Rock chip sample
- Stream sediment sample



574 300 E (approx)

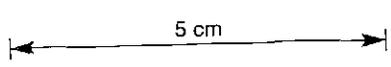
The Steel Corporation of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONDALE HIGGINS CREEK, EAST Stream sediment follow up Geochemistry results - N1	
Scale: 1:2500	
FIG. No. 17	REPORT No.
DRAWN BY	ENG. No. D74/10037
DATE: 12-3-82	AUTHOR: M.E.S.
DRAWN BY: L.H.	OFFICE: [illegible]



KEY

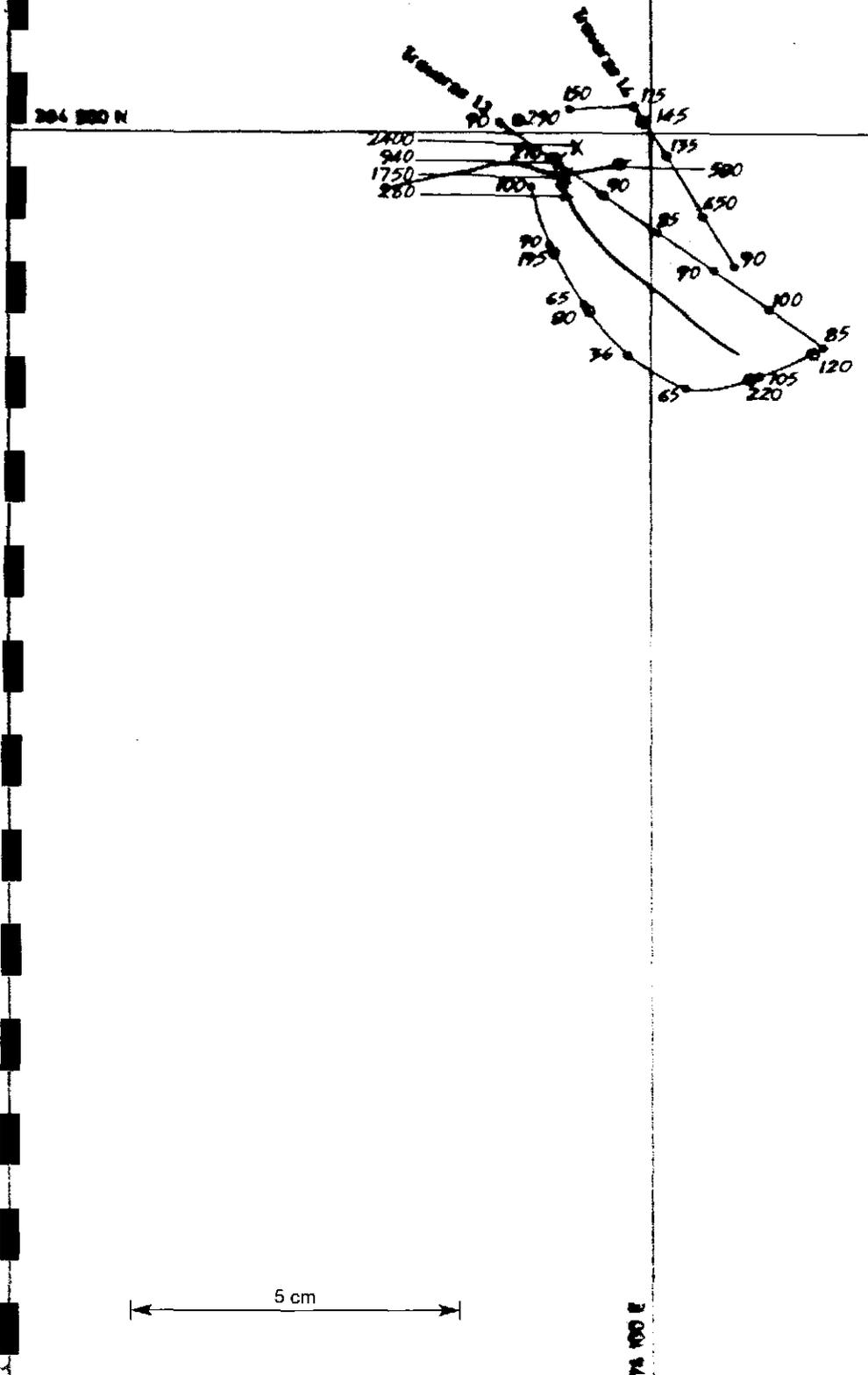
- Stream
- Soil sample
- X Stream sediment sample
- ◉ Soil chip sample

NOTE: Analyses in ppm.
Cowtubs AAS1



The Shell Company of Australia Limited METALS DIVISION	
E.L.2274 MARIONDAY ENGING CREEK WEST Stream sediment follow up Geochemistry results - Pb	
Date: 1:2:80	
FIG. No. 10	REPORT No.
ENCL. No.	ENCL. No. 2/10/80
DATE: 21-3-82	APPROVED: [Signature]

27/8/80



KEY

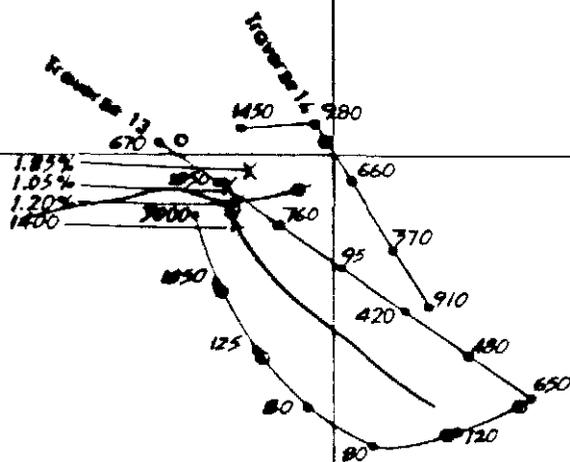
- Stream
- Soil sample
- X Stream sediment sample
- Rock chip sample

NOTE: Analyses in ppm.
Comlabs AAS 1



The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONDAK HIGGINS CREEK WEST Stream sediment follow up Geochemistry results - Zn	
Scale 1:2 500	
FIG. No. 15	REPORT No.
ENCL. No.	ENCL. No. 5782/045
DATE: 01-9-82	AUTHOR: B.S.
DRAWN: M.L.P.	OFFICE: MELBOURNE

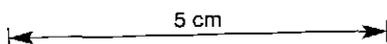
5 284 280 M



KEY

- Stream
- Soil sample
- X Stream sediment sample
- Rock chip sample

NOTE: Analyses in ppm
Comlabs AAS 2/24



74 100 E

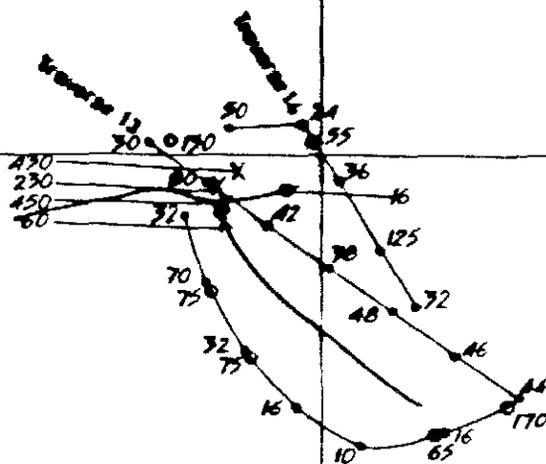
The Shell Company of Australia Limited
METALS DIVISION

E.L. 22/74 MARIONOAK
MOONS CREEK WEST
Stream Sediment Follow up
Geochemistry results - Mn

Date: 1: 2 1980

FIG. No. 20	REPORT No.
ENCL. No.	ENCL. No. 20/20
DATE: 11-1-74	REPORT

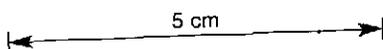
284 200 N



KEY

- Stream
- Soil sample
- X Stream sediment sample
- Rock chip sample

NOTE: Analyses in ppm
Comlabs AAS I



The Steel Company of Australia Limited METALS DIVISION	
E.L. 22/7% MARIONDALE HIGGINS CREEK WEST Stream sediment follow up Geochemistry results - N	
Scale 1:2500	
FIG. No. 21	REPORT No.
DRAWN BY	DRG. TO: DYNELAND
DATE: 11-3-82	AUTHOR: W.D.S.
DRAWN: E.L.H.	OFFIC: [unclear]

284 200 N

5.2.5 Recommendations

The stream sediment anomalies C(II) and at Higgins Creek appear to be in part at least related to scavenging by manganese/iron-oxides. No definite evidence of mineralization was located at any of the anomalies with the possible exception of anomaly A where possible phlogophyte was recognised in a rock chip sample. Large geochemically anomalous zones were located in areas A and C(I). Area C(I) differs from area A in having high Ni values.

Further lines of geochemistry are recommended for both area A and C(I). These should cut across strike and give a better idea of the geochemical stratigraphy of the areas. Geophysical methods should be used as followup if any of the zones are still thought anomalous.

5.3 Bastyan Dam Grid

The grid was established to investigate a known occurrence of base metal sulphides in a cutting in the Pieman Dam Road, and was extended to cover Dighem anomaly 369B.

A grid covering 1 km of strike length and 1 km across dip was established.

5.3.1 Geology

The area is covered by glacial material consisting mainly of quartzite boulders of Owen Conglomerate/ Moina Sandstone. The cutting with mineralization has a sequence of black silty mudstone, dolomite, lithic wacke, fine conglomerate and tuff. Petrographic examination (Appendix 2) of the sulphides shows that galena, sphalerite, pyrite, minor traces of chalcopyrite and ultrafine arsenopyrite are hosted by brecciated phyllites. Pyrite some of which carried traces of very pale sphalerite, appears to be of syngenetic origin. Other galena and sphalerite occurs in later, diagenetic/ epigenetic veins. The character of the sulphides indicates formation under low temperature conditions. (Refer Plan D/NL 01/051).

The only other outcrop on the grid is located on line 600 S in the Marionoak River. This is a fine to medium grained sandstone with interbedded siltstone.

Both these outcrops are included in the Rosebery Group.

5.3.2 Geochemistry

Soil sampling has been done over the grid. It was hoped that although the area has a wide spread glacial cover, Zn may be sufficiently mobile to indicate within the glacials the presence of underlying sulphides. Values for Zn, Pb, Cu are uniformly low, in areas which sampled only sandy glacials. Higher values were encountered in some parts of the grid. These values are from clays which may be bands within the glacials or may be from the soil profile. No anomalous values are reported. (Refer Plans D/NL 01/014, 015).

5.3.3 Geophysics

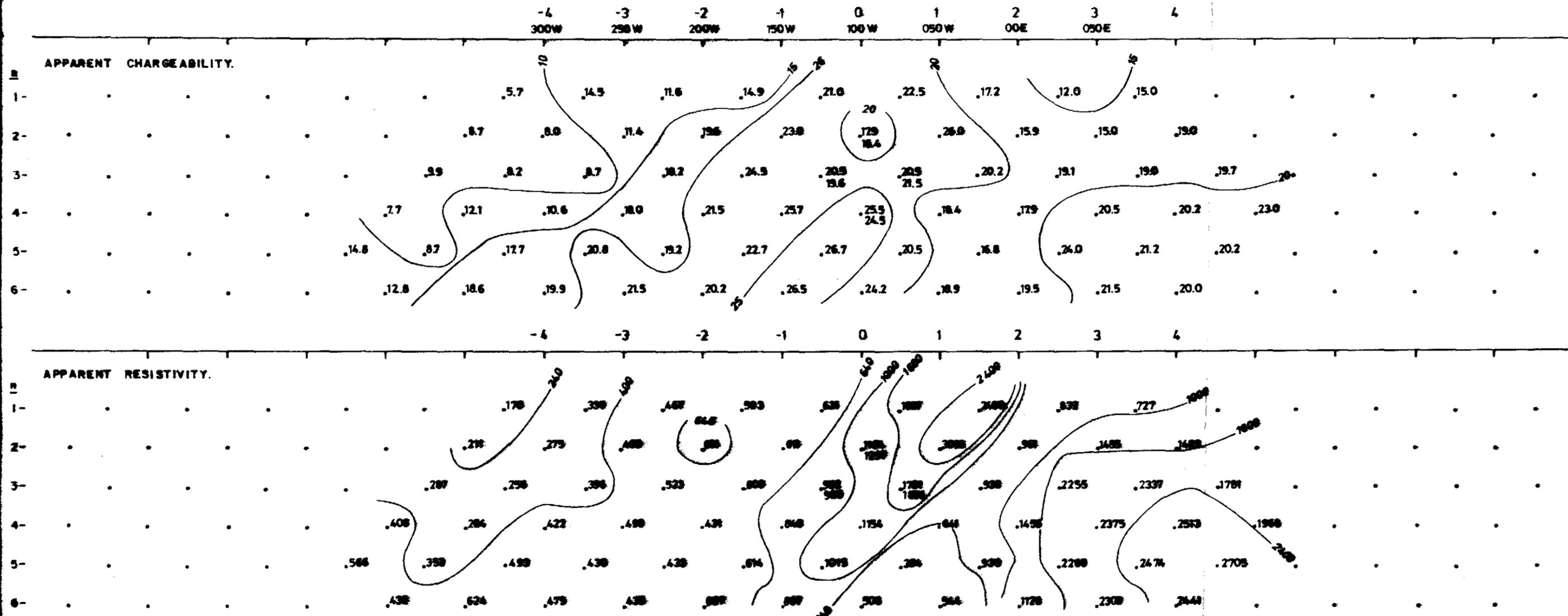
A ground magnetic survey was done over the grid. This outlined a broad semicircular 100 nT high in the western half of the grid. Several localised 500 nT anomalies are superimposed on the broad high. (Refer Plan D/NL 01/012).

Three lines of IP ($n = 4$, 100 m spacings) have been surveyed, 00 N adjacent to the road cutting and 200 m N and 200 m S. A chargeability anomaly was located at 100 W 00 N suggesting a fairly broad shallow body, possibly dipping east. Other poorer anomalies occur at 200 N 00 W and 200 S 200 W, suggesting the strike is slightly east of grid north. (Fig. 22).

One line of gravity was done along the road which located a 0.8 mgal anomaly near 200 m W. Subsequently gravity has been surveyed over lines 200 m N, 00 m N, 200 m S.

AIRBORNE GEOPHYSICS
(EM, MAG, etc)

GEOLOGY
& TOPOGRAPHY



Contractor : SCHWABER
 Date : 17-8-82
 Timing : 2sec
 Transmitter : IPTAA 2.5Kw
 Receiver : IPR8
 Integration time :
 Array : DIPOLE-DIPOLE
 Dipole length : 50M

5 cm

The Ohio Company of America
 REPORT NO. 22
 DATE 7-9-82
 PROJECT NO. G/NL01/070
 BY G. OAKES
 DEPARTMENT

IP / RESISTIVITY SURVEY
 E.L. 22/7% MARIONDAK
 LINE 00 N
 Scale 1:2500

5.3.4 Recommendations

A diamond drill hole is recommended to test the known mineralization at depth, the IP target and the possible gravity target. IP with 50 m dipole - dipole spacings should be completed before the hole is drilled to identify the target better. Further lines of gravity would also be useful in determining the location of the anomaly on the grid lines. This might also indicate if the presence of glacials is having a significant effect on the results so far obtained.

6.0 CONCLUSIONS & RECOMMENDATIONS

This area is outside the main area of central volcanics of Corbett (1981) which contains the economic base metal mineralization on the west coast. A few minor patches of mineralization are reported in the Rosebery Group which outcrop on the licence e.g. Salmon's Claim, (outside licence area), Silver Falls prospect and Lynch Creek prospect (not located by Aberfoyle). No mineralization is known in the Crimson Creek Formation.

The Meredith Granite which is associated with mineralization at Mt. Bischoff and Cleveland outcrops 15 km to the north west with one possible related intrusion within the licence area.

A Dighem survey failed to locate any high priority anomalies. Stream sediment surveying has located two anomalous zones which may warrant further checking. A zone of outcropping mineralization has associated geophysical anomalies. This will be tested by a diamond drill hole.

W.D. SMYTH

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- TAYLOR, J.R., 1979. Report for year ending August, 1979. Aberfoyle Exploration Pty. Ltd.

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Metals Division
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DEVONPORT / TAS. 7310

7th May, 1982

REPORT CMS 82/4/9

YOUR REFERENCE:	Sample Despatch No. 4123/NL01/WDS/128
DATE RECEIVED:	8th April, 1982
SAMPLE NOS.:	7 Samples
SUBMITTED BY:	W.D. Smyth
WORK REQUESTED:	Petrology

february April '82

H.W. Fander
H.W. Fander, M. Sc.

REPORT CMS 82/4/9

Seven weathered rock samples were received for brief petrological description, and results are compiled in the attached table. Descriptions incorporate data from stereobinocular and petrological microscopic examination of representative thin-sections and offcuts and include interpretative comments.

Summary

Interpretation of this suite is partly tentative due to the marked effects of weathering and resultant masking of primary details and particularly subtle secondary effects, for example argillic alteration, which may have some bearing on mineralisation potential.

The bulk of the suite consists of degraded labile turbidites with affinities to the "tuffaceous greywackes" of Crimson Creek Formation. Associated is a stressed quartz-pebble orthoquartzite which, dependant on field evidence, appears more typical of the Dundas Group. These sediments, within the limits imposed by weathering, lack specific evidence of alteration or mineralisation. The single exception is sample 21141 which includes oxidised fine-grained pyrrhotite disseminations and vague evidence of mica-carbonate (?phlogopite-siderite) alteration. This may relate to the contact-metasomatic phlogopitisation developed at, for example, Renison, and in which pyrrhotite is more or less ubiquitous along with accessory traces of base metal sulphides. In general, however, there is no tangible mineralogical explanation for the low level base metal geochemistry in these rocks.

Samples 21311 and 21319 are weathered, medium- to coarse-grained basic igneous rocks of intrusive character. The first specimen is strongly altered (as distinct from weathering effects) and this probably explains the weakly anomalous Cu geochemistry.

D. Cowan, B. Sc.

mpie S. 623)	Classification - Composition	Fabric	Accessories	Central Mineralogical Services Comments
	Stressed Quartzite. Framework (70 %) of sub-angular to rounded quartz grains, minor quartzite, vein-type quartz composites, sericitic pelite clasts. Matrix of quartz/fine-grained muscovite, weakly hematite-stained	Strongly stressed, partly recrystallized, medium-grained sandstone in microfractured contact with pebbly sand.	Martitised clastic magnetite, minor traces detrital schorl.	Strongly stressed, variably microfractured argillaceous orthoquartzite/"quartz pebble" sandstone. No tangible alteration/mineralisation features.
	Weathered Labile Sandstone; limonite-stained kaolin aggregates with patchy relict leucoxenic stainings, disseminated oxidised/leucoxenised relict clastic opaques.	Contorted to brecciated/kaolin-healed relict silty fine sandy turbidite-like bedding.	Thinly disseminated relict detrital quartz grains, degraded mica flakes.	Deformation apparently reflects weathering/dilatation. Relict grain shapes splintery to angular, recognisable kaolinised feldspar grains, ?lava clasts."Tuffaceous
	Weathered Labile Pelite. Variably Fe-stained, degraded fine-grained mica (?phlogopite-biotite), variably replaced by kaolin. Minor relics detrital silt-sized quartz, degraded feldspar, conspicuous fine leucoxenic semi-opaques.	Relict shale-parted laminated fine silty pelitic bedding.	Disseminations of oxidised carbonate (?siderite) and fine-grained sulphide (pyrrhotite, at least in	Pelitic variant of 21139 ^g greywacke". type facies. Mica is indeterminate, although general features consistent with "phlogopitic" alteration, disseminated pyrrhotite mineralisation
	Weathered Greywacke. Kaolinitic/Fe-stained relict framework of semi-aphanitic lava clasts subordinate to minor quartz, degraded feldspar grains, sericitic pelite clasts. Relatively ferruginised indeterminate matrix.	Relict, weakly bedded, poorly sorted (silty fine to medium sandy), turbidite-like bedding.	Leucoxenic TiO ₂ part). (degraded clastic opaques in part). Sparse degraded clastic mica flakes.	Strongly volcanomict greywacke. Detail obscured by weathering/partial ferruginisation, but no real evidence of alteration/mineralisation.
R 9	Weathered Greywacke. Partly degraded/ferruginised framework of lithic (mainly lava, minor pelite) clasts, subordinate quartz, degraded ferruginised feldspar grains, minor mica flakes. Ferruginised indeterminate matrix.	Relict, weakly bedded, silty fine sandy clastic.	Conspicuous leucoxenic TiO ₂ stainings, leucoxenised/oxidised clastic opaques.	Essentially similar to 21149, but finer-grained, moderately sorted, with higher proportion detrital quartz, mica. No tangible alteration features.
311	Weathered Gabbro. Extensively degraded ("isotropised") augite laths with interstices of montmorillonitised feldspar. Disseminated leucoxenised opaques (Ti-magnetite).	Essentially gabbroic (with coarse feldspar enclosing felted pyroxene laths).	Apatite, traces of partly degraded uralitic tremolite, patchy relics of phlogopite.	Relict features consistent with ?deuteric phlogopitisation feldspar, weak uralitic tremolitisation of pyroxene. No evidence of sulphides.
319 S. 29)	Weathered Microgabbro. Sericitic pseudomorphs of phenocrystal feldspar laths in groundmass of kaolinised feldspar, degraded/ferruginised pyroxene laths, conspicuous fine, partly martitised magnetite.	Essentially finely porphyritic, doleritic.	Rare degraded olivine phenocrysts.	Thoroughly weathered basic minor intrusive, alternately core of flow. Possibly initially saussuritised/uralitised, but no positive evidence.

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22nd April, 1982

REPORT CMS 82/3/23

YOUR REFERENCE: Sample Despatch
No. 4120/NL01/WDS/125

DATE RECEIVED: 16th March, 1982

SAMPLE NOS.: 4 Samples

SUBMITTED BY: W.D. Smyth

WORK REQUESTED: Petrology

Refer to April 1982

H.W. Fander
H.W. Fander, M. Sc.

REPORT CMS 82/3/23Samples 21119, 21124, 21127, 21128

Four rock samples were received for petrological examination; thin-sections were prepared and examined, and are briefly described in the accompanying table.

Summary

All four rocks are tuffs, ranging from vitric to lithic varieties, and originating from basic to intermediate sources; two are severely weathered and ferruginised, but at least their major features are recognisable.

Two of the tuffs may be welded or sintered, which would suggest subaerial deposition, but this is speculative. The rocks are correlatable with the tuffaceous units of the Crimson Creek formation; they are primary, not reworked tuffs, and the two vitric tuffs are more basic than is usual in the Crimson Creek.

H.W. Fander, M. Sc.

1e	Rock Type - Composition	Fabric	Minor Minerals	Central Mineralogical Services Comments
9 6)	<u>Altered Basic Vitric Tuff</u> ; dominantly angular fragments of chloritised basaltic glass, interspersed augite cleavage-fragments and altered lithic (basaltic) grains.	Good preferred orientation. Deformed, stretched grains suggest welding.	Isolated apatite, quartz grains. Limonite streaks and films. Leucoxene.	Correlatable with Crimson Creek tuffs, though more basic than the usual andesitic tuffs.
4	<u>Vitric-Lithic-Crystal Tuff</u> . Mainly fresh oligoclase fragments, with altered lithic grains and chloritised glass; interstitial pale chlorite, leucoxene.	Moderately-sorted/sized, weakly bedded; medium- to fine sand-size.	Detrital oxide opaques. A few quartz and chert grains, mica flakes.	Broadly andesitic composition and fairly representative of this facies of the Crimson Creek formation. ?Subaqueous.
27	<u>Weathered, Ferruginised Vitric Tuff</u> . Small splinters and shards of altered, iron-stained glass; abundant earthy goethite-limonite.	Faintly bedded, fine-grained. Interlocking textures suggest ?welding.	Scattered quartz grains. Unrecognisably altered lithic (?volcanic) grains.	Despite extensive alteration, essential features recognisable. Fabric differs from 21119, but broadly similar.
28 S. 99)	<u>Weathered, Ferruginised Lithic Tuff</u> . Completely argillised irregular volcanic fragments, probably trachytic to andesitic; extensive earthy limonitic matrix.	Fragmental textures. Igneous features preserved in grains. Medium-grained.	None detected.	Some lithic grains have good relict textures, others are featureless. Can probably be assigned to Crimson Creek.

709050

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22nd April, 1981

REPORT CMS 81/3/47

YOUR REFERENCE: Sample Despatch
No. NLO1/RGW/003

DATE RECEIVED: 25th March, 1981

SAMPLE NOS.: 5208, 5209
5216 - 5218

SUBMITTED BY: R.G. Wright

WORK REQUESTED: Petrology

Lab. No.	File
NLO1	848
NPO1	848

Copy to:
Dr. R. George
The Shell Co. of Aust. Ltd.
Metals Division
G.P.O. Box 872K
MELBOURNE / VIC. 3001

H.W. Fander.

H.W. Fander, M. Sc.

REPORT CMS 81/3/47Rock Samples 5208, 5209; 5216-5218

Five samples were received for thin- and polished section preparation and examination; they are briefly described in the accompanying table.

Summary

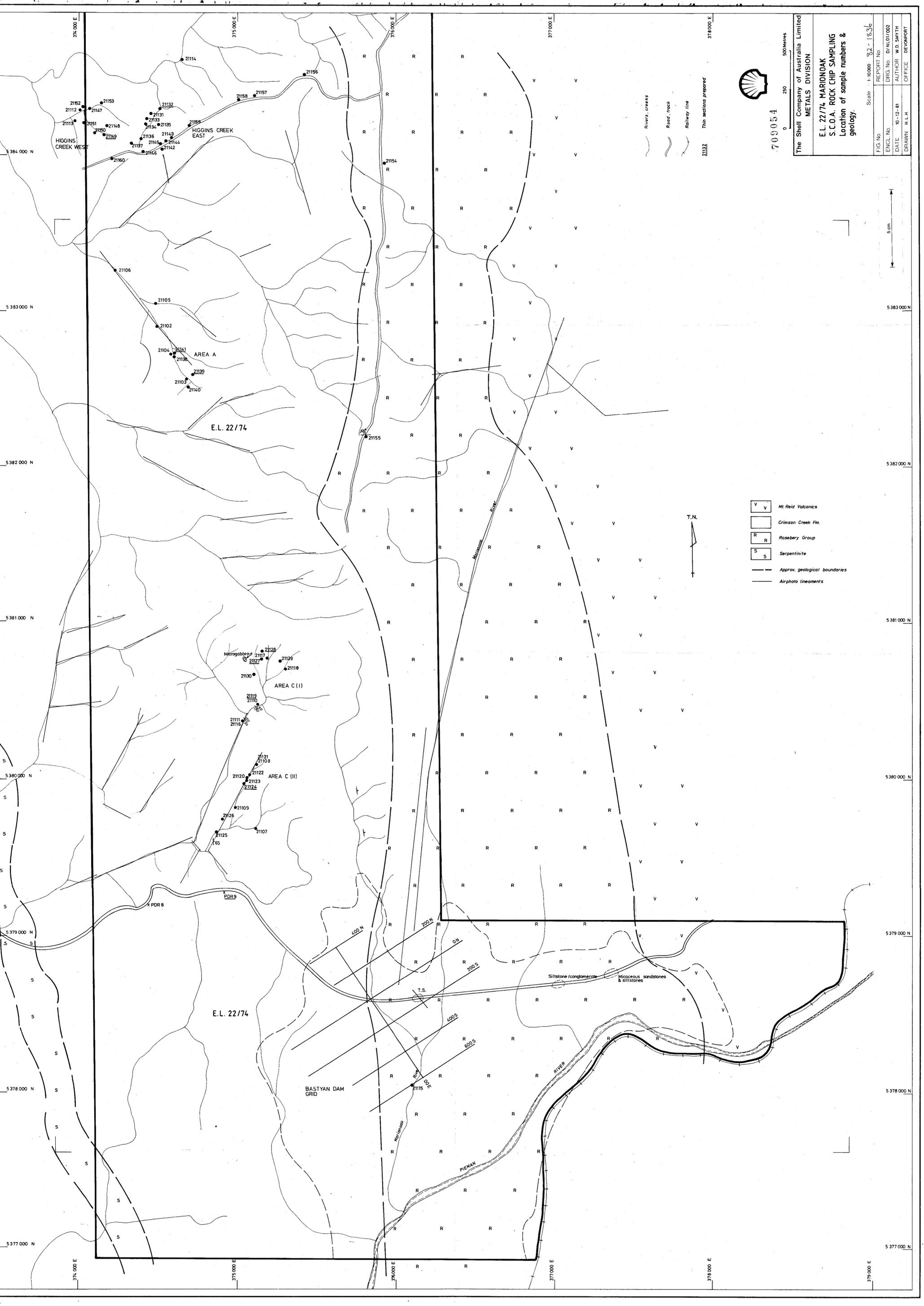
✓ DOLOMITIC SCHISTS - SOUTH OF GRANITE TOR.
5208 and 5209 are very low-grade schists representing weakly regionally metamorphosed impure dolostones with clastic quartz and clays/micas, formed under reducing conditions (carbonaceous matter is present); the pyrite was probably syngenetic, though there is no direct evidence of this at present. The pyrite is rimmed and incipiently replaced by supergene chalcocite(-digenite).

→ 5216 and 5217 are brecciated phyllites with minor galena, sphalerite, pyrite, minor traces of chalcopyrite and ultrafine ?arsenopyrite. The rocks are only incipiently metamorphosed, and were predominantly pelitic sediments formed under reducing conditions, containing carbonaceous matter and framboidal (syngenetic) pyrite. The structures suggest minor, but pervasive brecciation during and after consolidation, with a complex history of veining. It seems that sphalerite and galena were introduced early and were affected by later diagenetic veining and movement. There is no real evidence that these sulphides were ultimately syngenetic, but it seems logical to accept a syngenetic or early diagenetic origin. The characteristics of the sulphides indicate formation under low temperature conditions.

In sample 5218 there is textural evidence that the pyrite (carrying traces of very pale sphalerite) was of syngenetic formation, though now recrystallized.

H.W. Fander, M. Sc.

NAKIAWDAK
 HFC ROAD
 CUTTING
 W. OF
 BANYAN
 DAM.



709054

The Shell Company of Australia Limited
METALS DIVISION

E.L. 22/74 MARIONDAK
S.C.O.A. ROCK CHIP SAMPLING
Location of sample numbers & geology.

Scale 1:10,000 S2-1836

FIG. No.	REPORT No.
ENCL. No.	DRG. No. 01/NL07/002
DATE 10-12-81	AUTHOR W.D. SMYTH
DRAWN H.L.H.	OFFICE DEVONPORT

- V V Mt Reid Volcanics
- Crimston Creek Fm.
- R R Rosebery Group
- S S Serpentine
- Approx. geological boundaries
- Airphoto lineaments



5 cm

5384 000 N
5383 000 N
5382 000 N
5381 000 N
5380 000 N
5379 000 N
5378 000 N
5377 000 N

374 000 E
375 000 E
376 000 E
377 000 E
378 000 E

73

74

75

76

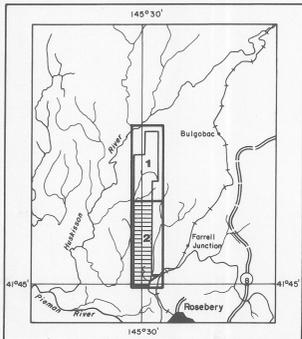
77

78

79



LOCATION MAP



Scale 1:250,000

The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONOAK	
52 - 1936	
SCALE	DATE
AUTHOR	DRAWN
OFFICE DEVONPORT	REP No.
DRG No. D/NL01/064	FIG No.



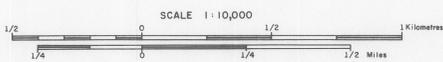
DIGHEM^{II} SURVEY

MARIONOAK AREA, TASMANIA RESISTIVITY

709055

FOR

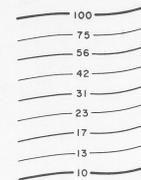
THE SHELL COMPANY OF AUSTRALIA LIMITED



SHEET 2

LEGEND

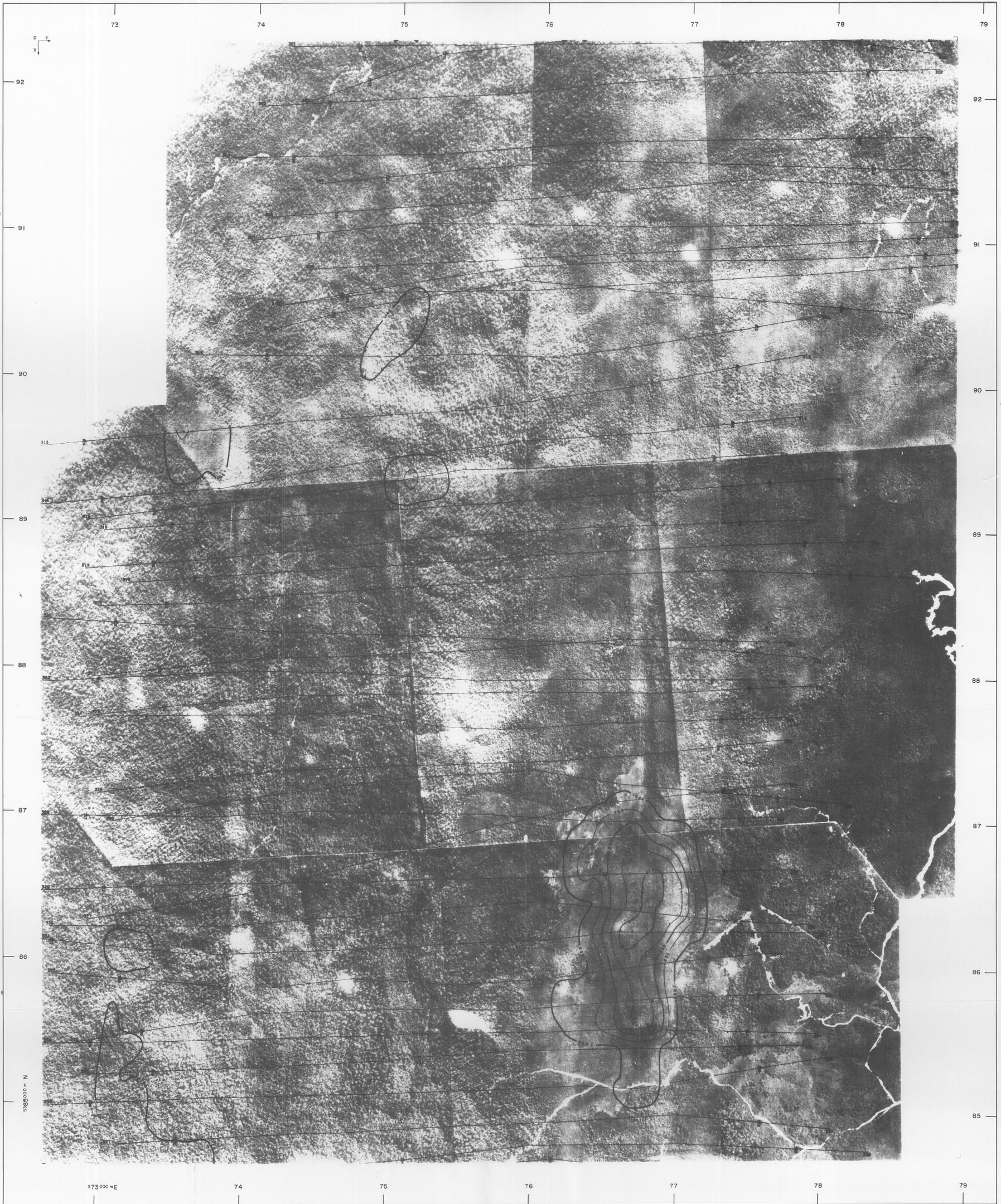
Contours in ohm-m
at eight intervals per decade



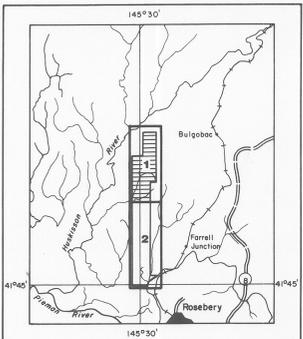
Note

The numbers face in the direction of increasing value.

Drawing No. NL01/1003



LOCATION MAP



The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONOAK	
82-1536	
SCALE	DATE
AUTHOR	DRAWN
OFFICE	DEPARTMENT
DRG. No.	FIG. No.

DIGHEM^{II} SURVEY 709056

MARIONOAK AREA, TASMANIA
RESISTIVITY
FOR

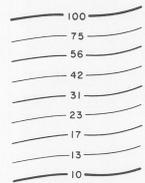
THE SHELL COMPANY OF AUSTRALIA LIMITED



SHEET 1

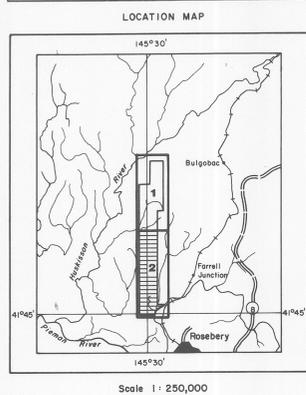
LEGEND

Contours in ohm-m
at eight intervals per decade



Note
The numbers face in the
direction of increasing value.

Drawing No.: NL01/1003



709057

The Shell Company of Australia Limited
METALS DIVISION

E.L. 2276 MARIONOAK

82-1836

SCALE	DATE
AUTHOR	DRAWN
OFFICE	DEVP/PORT
DRG. No.	DJ/NL01/062
FIG. No.	

REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF TASMANIA

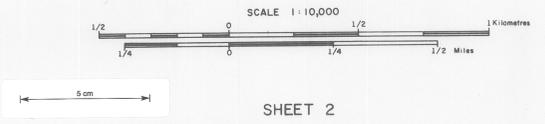
DIGHEM^{II} SURVEY

MARIONOAK AREA, TASMANIA

ELECTROMAGNETICS

FOR

THE SHELL COMPANY OF AUSTRALIA LIMITED



SHEET 2

Flight line

Fiducials and numbers

ANOMALY GRADE	EM GRADE	WAD. RESIST.
6	●	≥ 100
5	●	50 - 99
4	●	20 - 49
3	●	10 - 19
2	●	5 - 9
1	○	< 4
	x	Possible conductor

CONDUCTOR SIZES

EM GRADE	CONDUCTOR SIZE
6	100 mm
5	50 mm
4	25 mm
3	10 mm
2	5 mm
1	2.5 mm

Notes: 1. The EM grade is a measure of conductivity-resistivity product. The product is related to the reciprocal of thickness product. This product is related to the reciprocal of resistance in ohms. The map is a measure of conductivity and is a general indicator. More sensitive grade 1 anomalies but highly conducting clay can give Grade 2 anomalies. The multi-coil anomaly shape often gives false conductors to be recognized and these are indicated by the letter 'F' on the map. The apparent depth of conductors could be less than the actual depth. The higher grade indicates increasing resistivity conductances. Examples: The one book of the Magpie River camp and Grade 4 anomalies, with 100mm and 50mm grade 2. Graphite and sulphides can give all grades but in this survey area, the only way to know that the different grades indicate different types of conductors.

The actual EM grade is shown beside the EM grade symbol. The letter 'F' in the anomaly grade indicates the horizontal view of dip indicates anomaly amplitude on the flight line, and the vertical column gives the estimated depth. This depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a vertical dip or conductive overburden effects.

CONDUCTOR SIZES

5 Possible surface resistances

57 Possible surface resistances

L Possible line poles, retaining, gas or liquid

1.7 Possible line

3 Quarter-mile anomaly

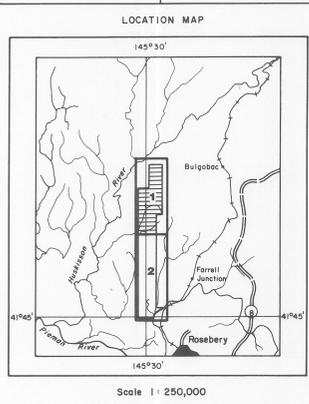
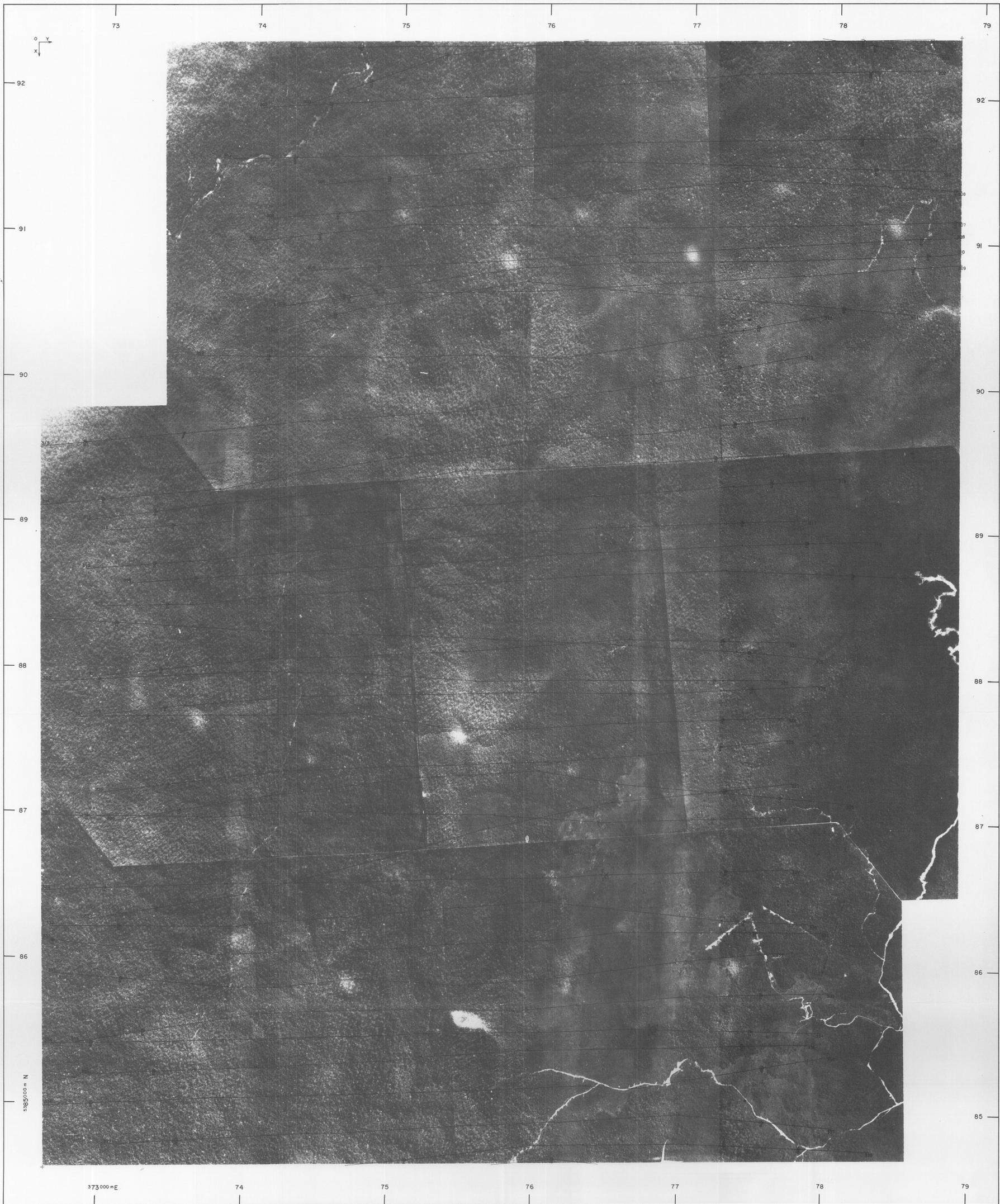
○ Anomaly thickness > 10 m

> 10

2000 Ohm/metre conductor of 100 g/m²

DIGHEM maps are designed to provide a correct impression of conductor quality to assist in the conductor grade systems. The symbols can stand alone with specific information or be used in conjunction with other data which should not be derived from the conductor interpretation data. The map provides an interpretation of all conductors in terms of length, strike direction, conductance and depth. The accuracy is comparable to an interpretation from a ground EM survey having the same site spacing.

Drawing No. NL01/1001



The Shell Company of Australia Limited
METALS DIVISION

E.L. 22/74 MARIONOAK

62-1836

SCALE	DATE
AUTHOR	DRAWN
OFFICE	DEVPOR
DRG No.	D/NL01/063
	FIG.No.

DIGHEM^{II} SURVEY

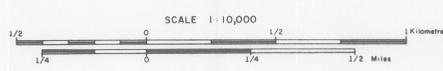
MARIONOAK AREA, TASMANIA

ELECTROMAGNETICS

FOR

THE SHELL COMPANY OF AUSTRALIA LIMITED

709055



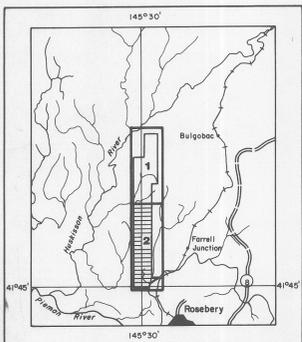
SHEET 1

SYMBOL	DESCRIPTION	UNIT	VALUE
●	Conductor	AMPERES	20-100
○	Conductor	AMPERES	50-100
○	Conductor	AMPERES	20-40
○	Conductor	AMPERES	10-15
○	Conductor	AMPERES	5-10
○	Conductor	AMPERES	NL 4
○	Conductor	AMPERES	NL 6

SYMBOL	DESCRIPTION	UNIT	VALUE
—	Conductor	AMPERES	100
—	Conductor	AMPERES	200
—	Conductor	AMPERES	400
—	Conductor	AMPERES	800
—	Conductor	AMPERES	1600
—	Conductor	AMPERES	3200
—	Conductor	AMPERES	6400
—	Conductor	AMPERES	12800
—	Conductor	AMPERES	25600
—	Conductor	AMPERES	51200
—	Conductor	AMPERES	102400
—	Conductor	AMPERES	204800
—	Conductor	AMPERES	409600
—	Conductor	AMPERES	819200
—	Conductor	AMPERES	1638400
—	Conductor	AMPERES	3276800
—	Conductor	AMPERES	6553600
—	Conductor	AMPERES	13107200
—	Conductor	AMPERES	26214400
—	Conductor	AMPERES	52428800
—	Conductor	AMPERES	104857600
—	Conductor	AMPERES	209715200
—	Conductor	AMPERES	419430400
—	Conductor	AMPERES	838860800
—	Conductor	AMPERES	1677721600
—	Conductor	AMPERES	3355443200
—	Conductor	AMPERES	6710886400
—	Conductor	AMPERES	13421772800
—	Conductor	AMPERES	26843545600
—	Conductor	AMPERES	53687091200
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—	Conductor	AMPERES	1759218604441600
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—	Conductor	AMPERES	14073748835532800
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—	Conductor	AMPERES	598631070647



LOCATION MAP



Scale 1:250,000



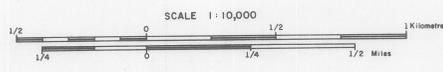
709059	
The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONOAK	
8-2-1936	
SCALE	DATE
AUTHOR	DRAWN
OFFICE	REP. No.
DRG. No.	FIG. No.
DEVONPORT	
D/NL01056	

DIGHEM^{II} SURVEY

MARIONOAK AREA, TASMANIA
MAGNETICS

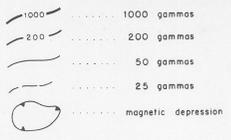
FOR

THE SHELL COMPANY OF AUSTRALIA LIMITED



SHEET 2

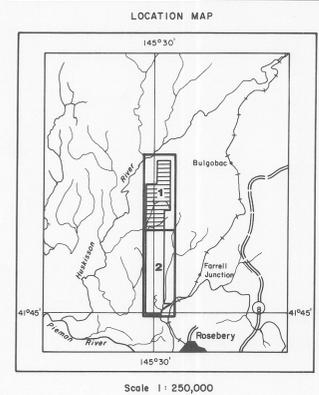
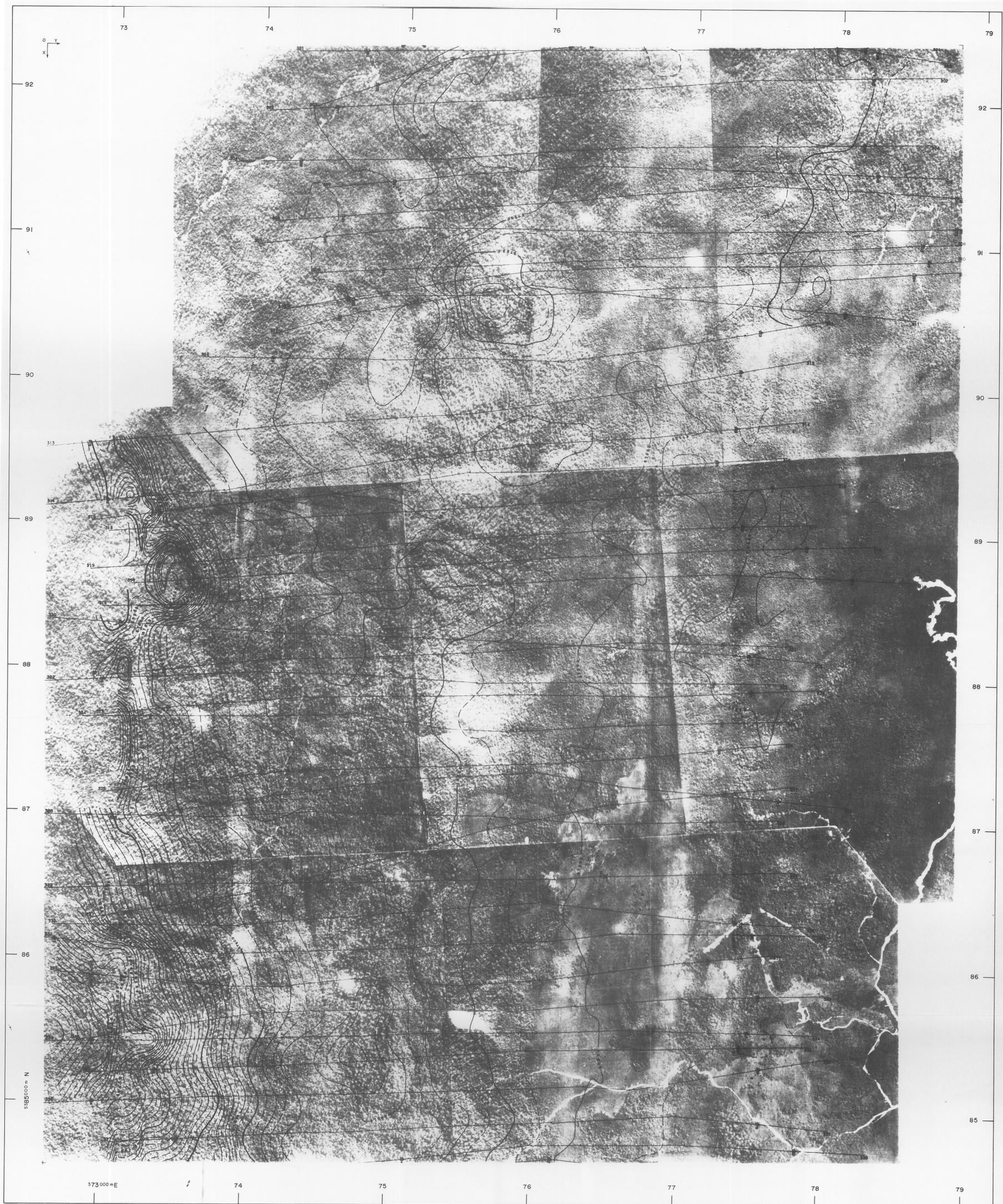
ISOMAGNETIC LINES
(total field)



Flight line

Fiducials and numbers

Magnetic Inclination within the survey area: 72°
Drawing No.: NL01/1005



709060

The Shell Company of Australia Limited
METALS DIVISION

E.L. 22174 MARIONOAK

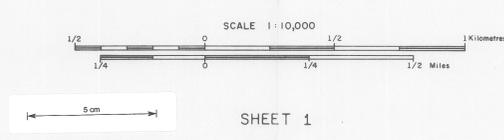
82-1836

SCALE	DATE
AUTHOR	DRAWN
OFFICE	REP. No.
DWG. No. D/NL01/007	FIG. NO.

REGISTERED PROFESSIONAL SURVEYOR
D. C. FRASER
SOCIETY OF SURVEYORS
PROVINCE OF TASMANIA

DIGHEM^{II} SURVEY

MARIONOAK AREA, TASMANIA
MAGNETICS
FOR
THE SHELL COMPANY OF AUSTRALIA LIMITED



ISOMAGNETIC LINES
(total field)

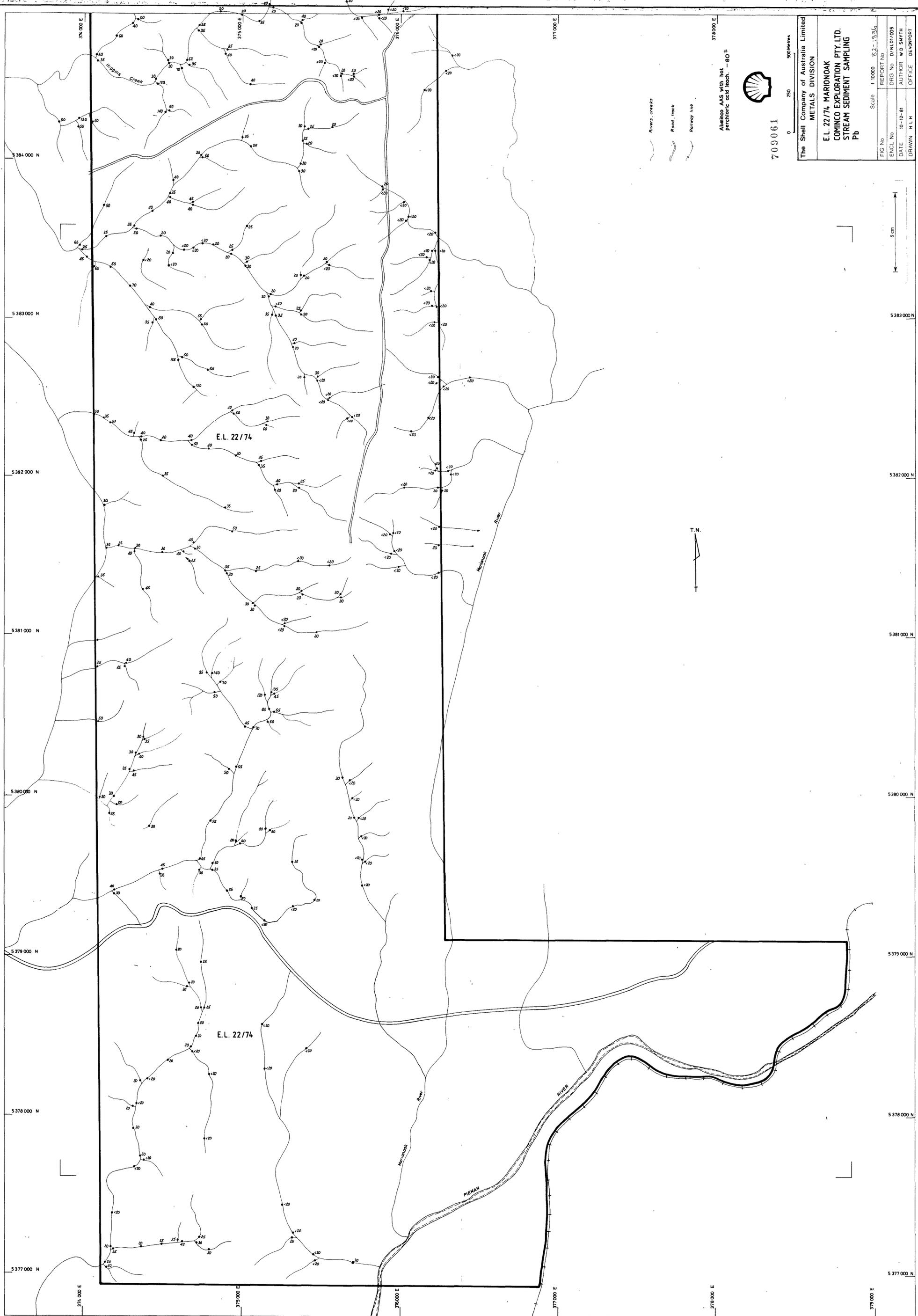
- 1000 1000 gammas
- 200 200 gammas
- 50 50 gammas
- 25 25 gammas
- magnetic depression

Flight line

Fiducials and numbers

Magnetic Inclination within the survey area: 72°

Drawing No.: NL01/004



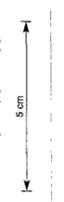
709061

Analysis AAS with hot
perchloric acid leach. - 80#

The Shell Company of Australia Limited
METALS DIVISION

E.L. 22/74, MARIONOAK
COMINCO EXPLORATION PTY. LTD.
STREAM SEDIMENT SAMPLING
Pb

Scale	1:10000	82-13535
FIG No.	REPORT No.	
ENCL No.	DRG No. D/N101/005	
DATE	10-12-81	AUTHOR: W.D. SMYTH
DRAWN	H.L.H.	OFFICE: DE'VONPORT



5383 000 N

5382 000 N

5381 000 N

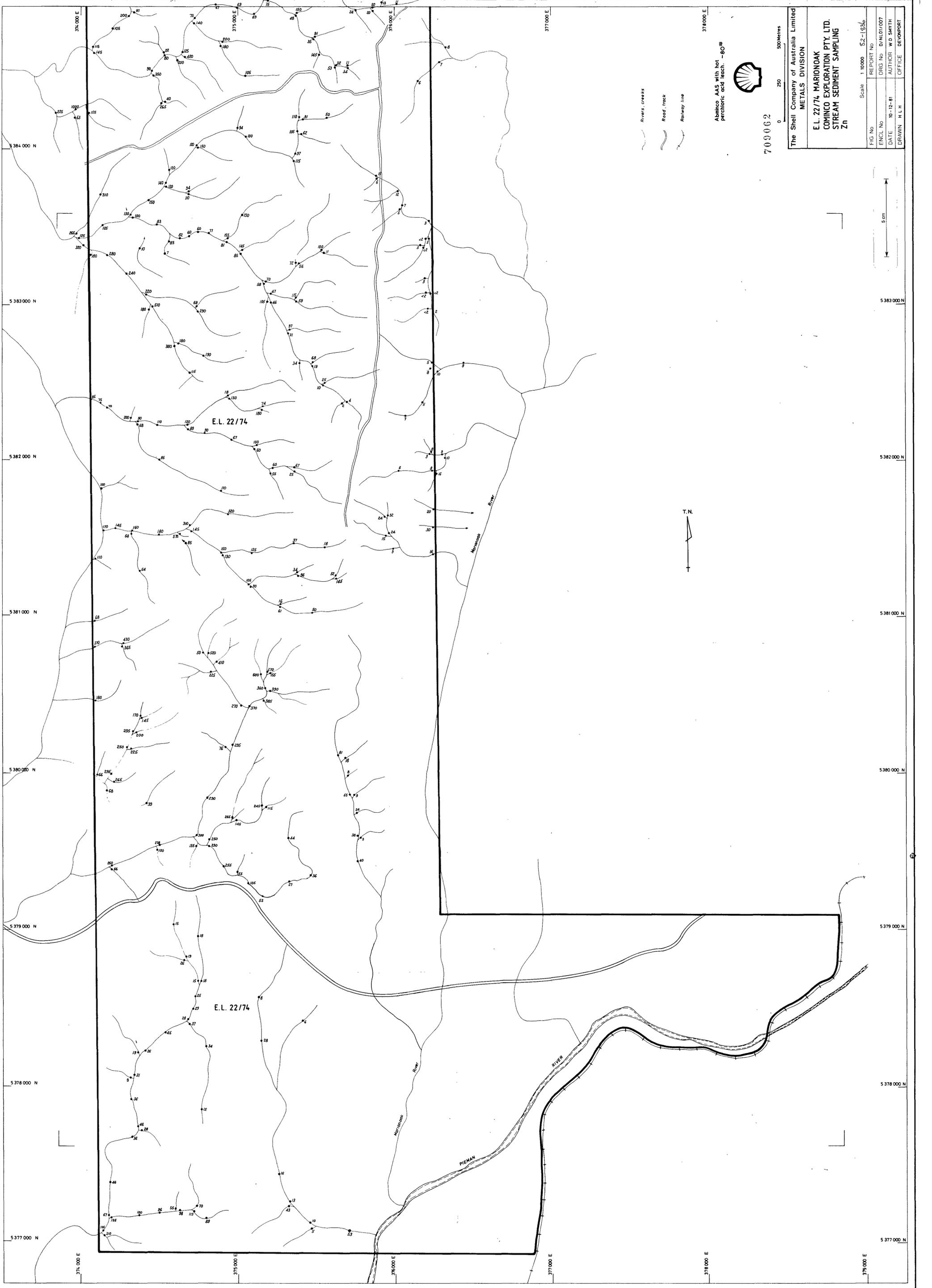
5380 000 N

5379 000 N

5378 000 N

5377 000 N





709062

Abimico AAS with hot perchloric acid leach. -80#



The Shell Company of Australia Limited
METALS DIVISION

E.L. 22/74 MARIONOAK
COMINCO EXPLORATION PTY. LTD.
STREAM SEDIMENT SAMPLING
Zn

FIG No	REPORT No	Scale	1:10000	52-1636
ENCL No	DRG No	D/N	D/NL07/007	
DATE	AUTHOR	W.D.	SMYTH	
DRAWN	H.L.H.	OFFICE	DEWONPORT	

5 cm



E.L. 22/74

E.L. 22/74

5 383 000 N

5 382 000 N

5 381 000 N

5 380 000 N

5 379 000 N

5 378 000 N

5 377 000 N

374 000 E

375 000 E

376 000 E

377 000 E

378 000 E

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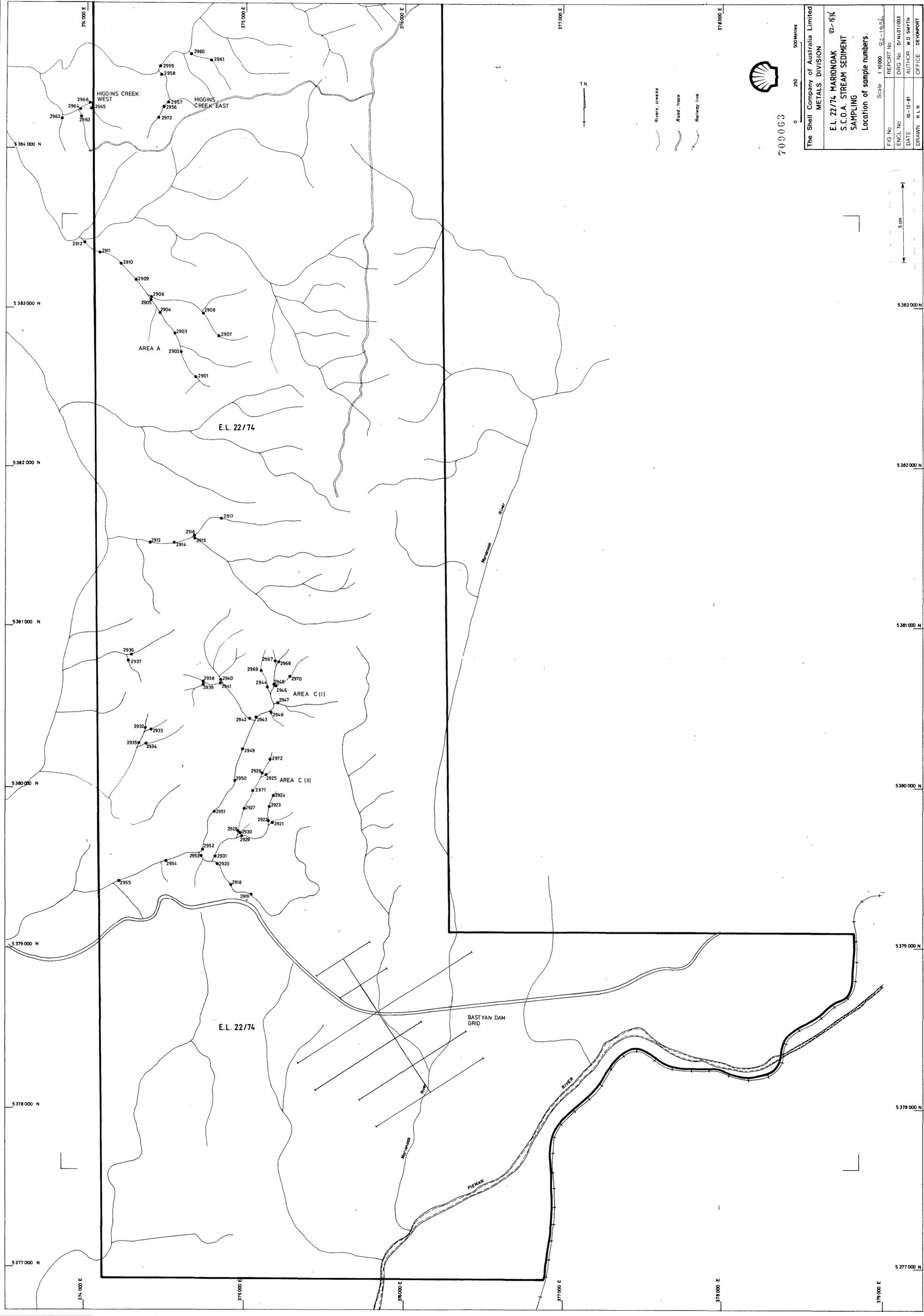
375 000 E

376 000 E

377 000 E

378 000 E

379 000 E

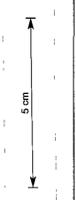


709063

The Shell Company of Australia Limited
METALS DIVISION

E.L. 22/74 MARIONDAK 92-1634
S.C.O.A. STREAM SEDIMENT
SAMPLING
Location of sample numbers.

FIG. No.	Scale	1:10000	62-1634
REPORT No.			
ENCL. No.	DRG No.	D/INLD/003	
DATE	10-12-81	AUTHOR	W.D. SMYTH
DRAWN	H.L.H.	OFFICE	DEWPORT



5 383 000 N

5 382 000 N

5 381 000 N

5 380 000 N

5 379 000 N

5 378 000 N

5 377 000 N

374 000 E

375 000 E

376 000 E

377 000 E

378 000 E

374 000 E

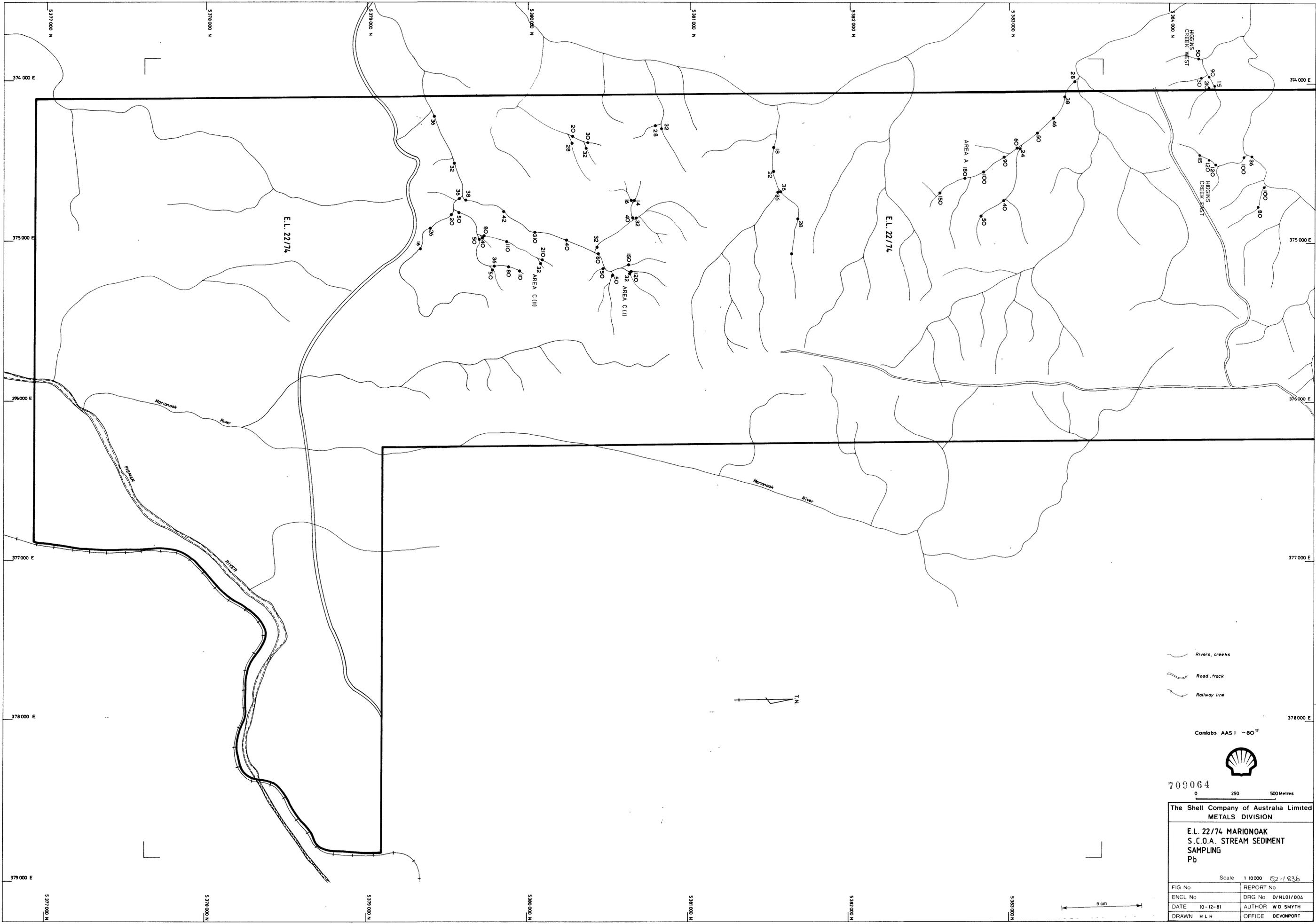
375 000 E

376 000 E

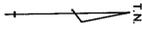
377 000 E

378 000 E

379 000 E



-  Rivers, creeks
-  Road, track
-  Railway line

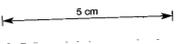


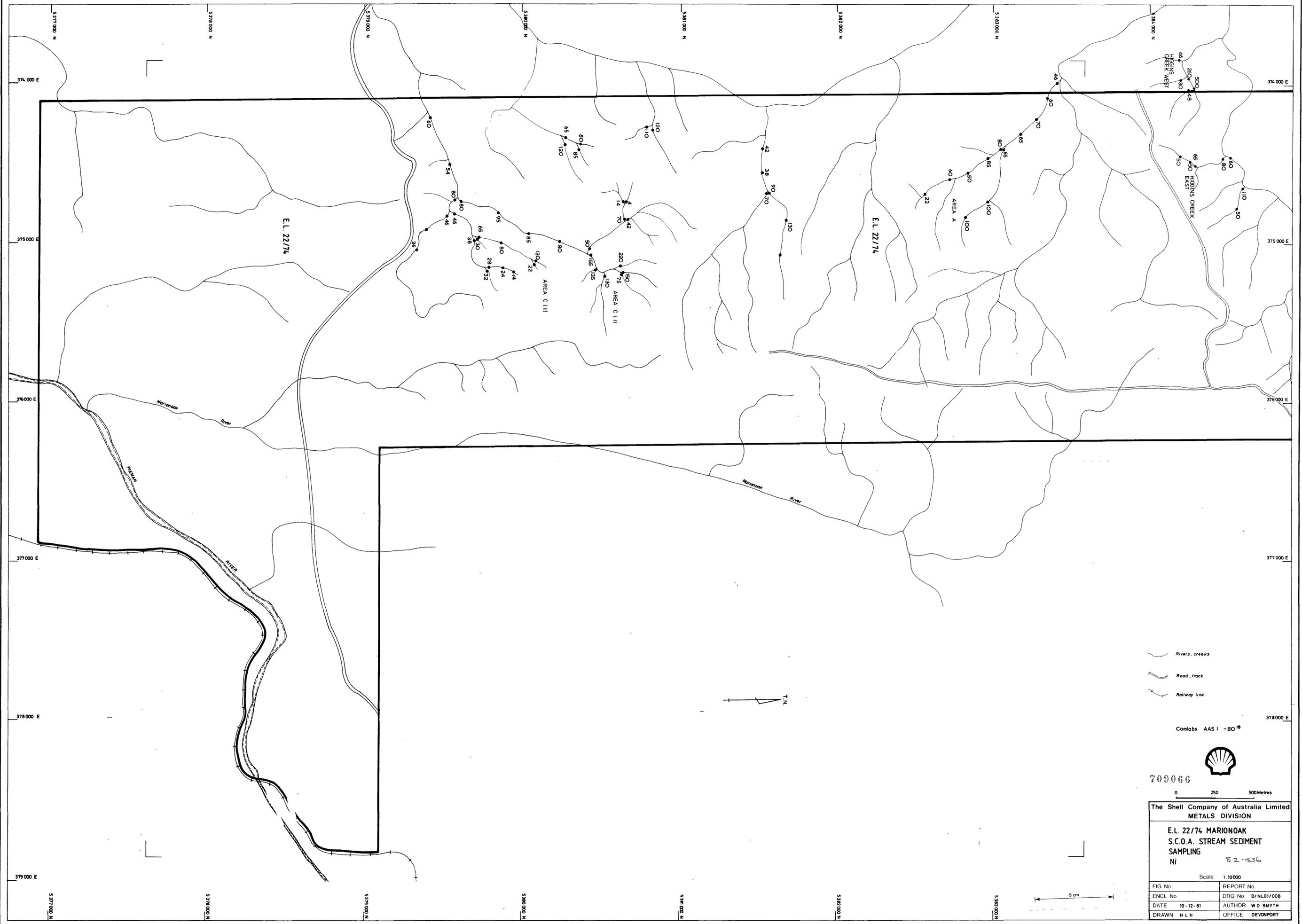
Comlabs AAS I - 80[#]



709064
0 250 500 Metres

The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONOAK S.C.O.A. STREAM SEDIMENT SAMPLING Pb	
Scale 1:10000 62-1836	
FIG No	REPORT No
ENCL No	DRG No D/NL01/004
DATE 10-12-81	AUTHOR W.D. SMYTH
DRAWN H.L.H.	OFFICE DEVONPORT





-  Rivers, creeks
-  Road, track
-  Railway line

Comlabs AAS I - 80 #

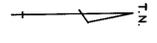


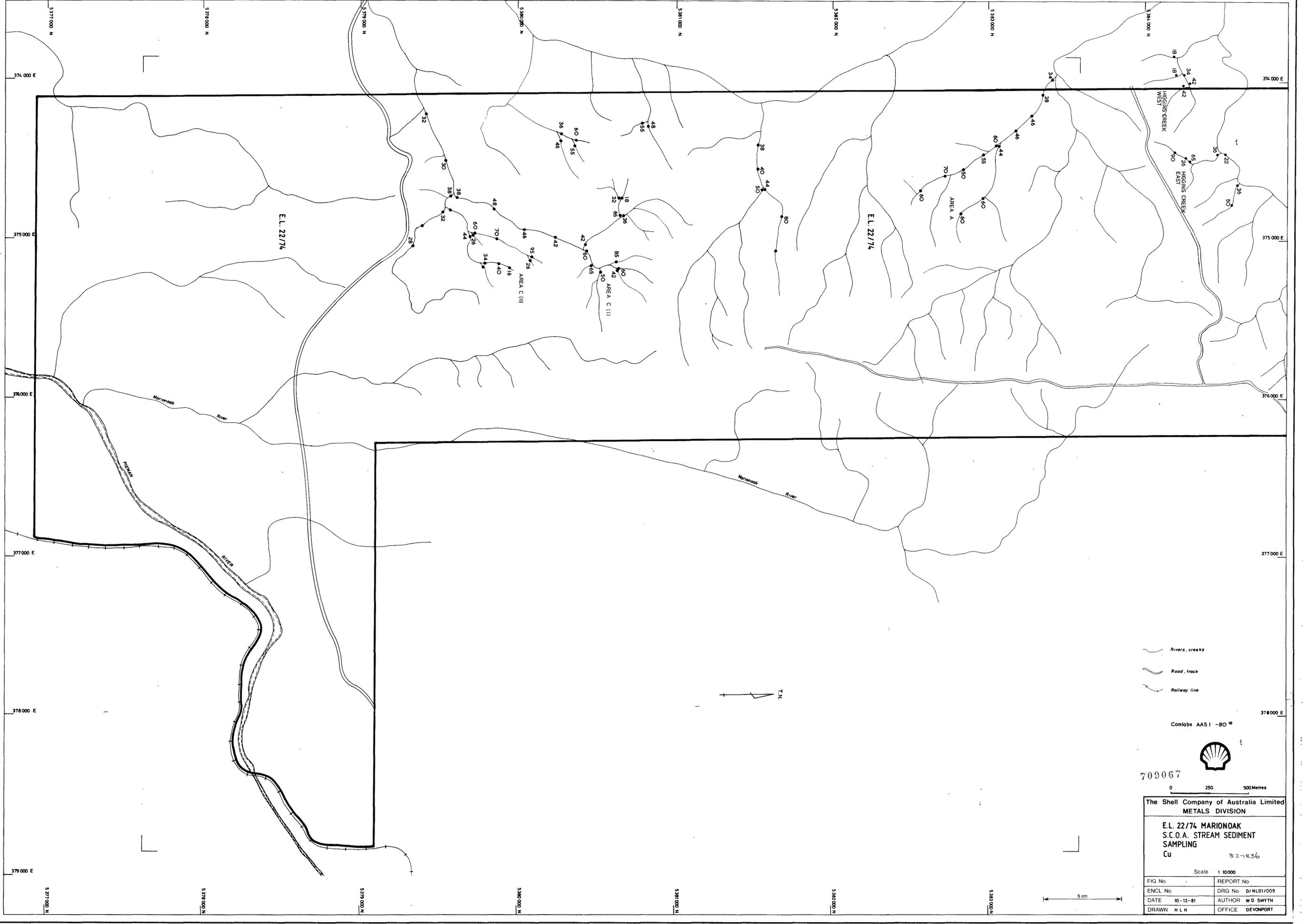
709066

0 250 500 Metres

The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONOOK S.C.O.A. STREAM SEDIMENT SAMPLING Ni 82-1936	
Scale 1:10000	
FIG No	REPORT No
ENCL No	DRG No D/MLD1/008
DATE 10-12-81	AUTHOR WD SMYTH
DRAWN H L H	OFFICE DEVONPORT

5 cm





-  Rivers, creeks
-  Road, track
-  Railway line

Comlabs AAS I -80 #

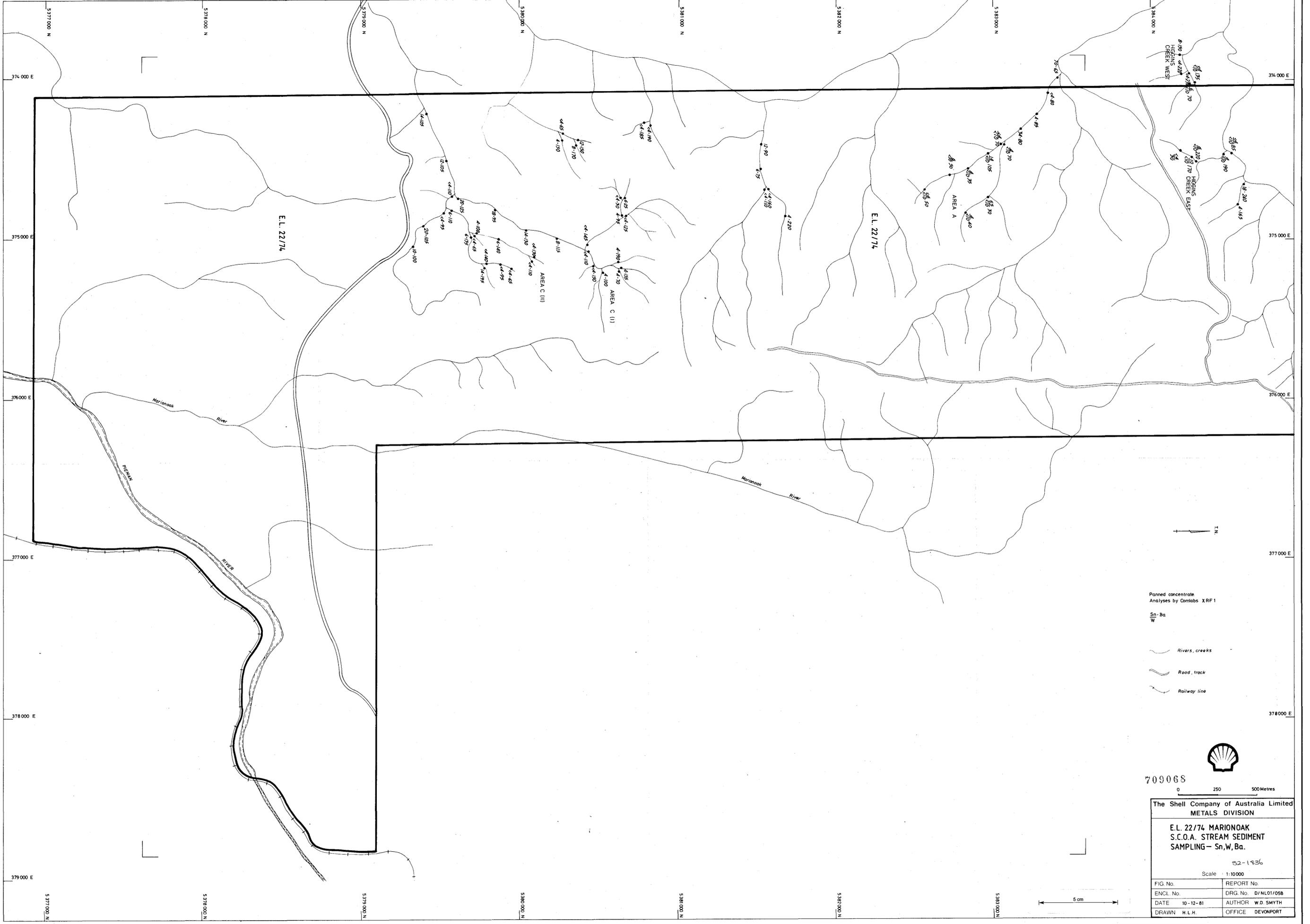


709067

0 250 500 Metres

The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONOAK S.C.O.A. STREAM SEDIMENT SAMPLING Cu 82-1836	
Scale 1:10000	
FIG No	REPORT No
ENCL No	DRG No D/ML01/009
DATE 10-12-81	AUTHOR W D SMYTH
DRAWN H L H	OFFICE DEVONPORT

5 cm



Planned concentrate
Analyses by Comlabs XRF 1
Sn, Ba
W

- Rivers, creeks
- Road, track
- Railway line



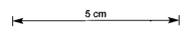
709068
0 250 500 Metres

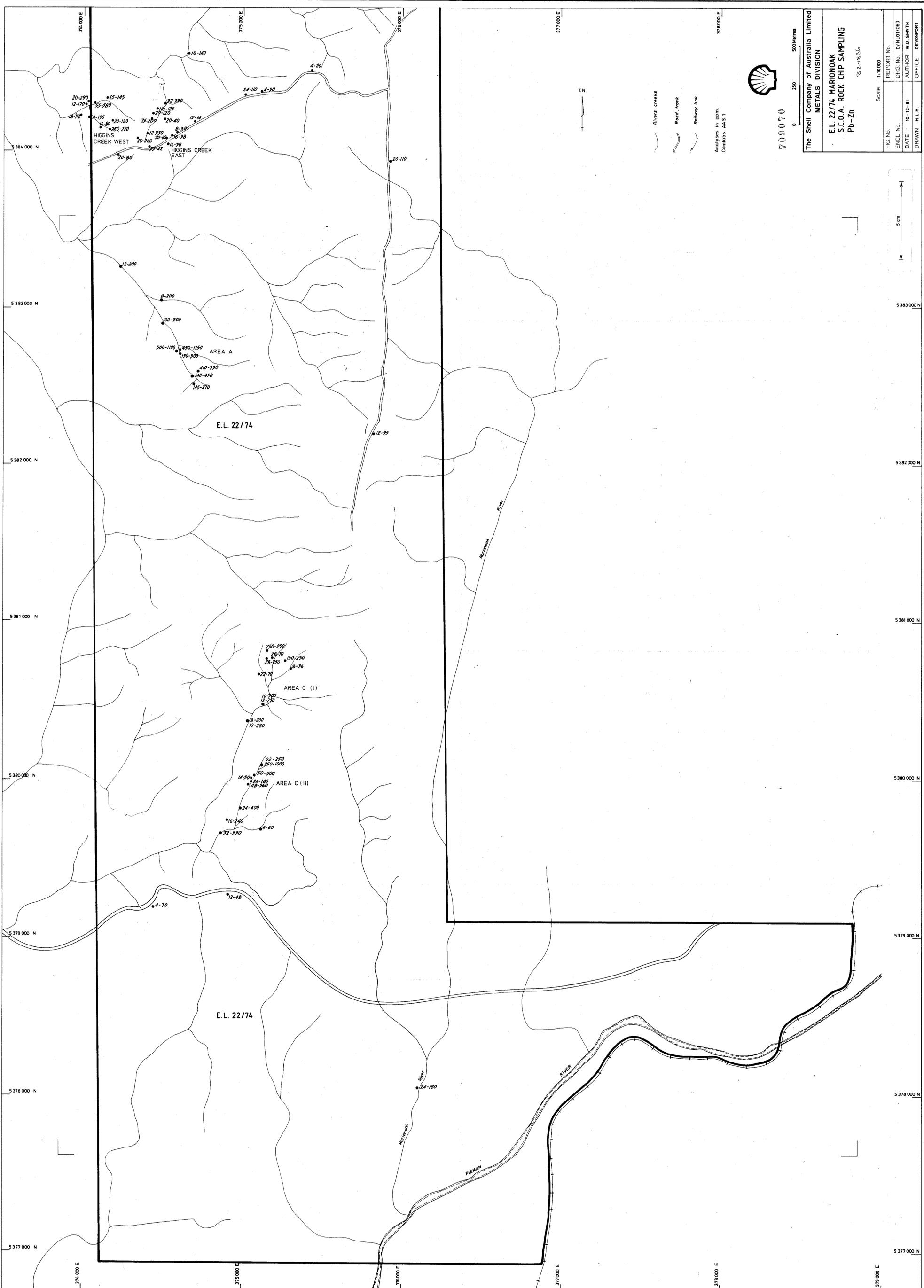
The Shell Company of Australia Limited
METALS DIVISION

E.L. 22/74 MARIONOAK
S.C.O.A. STREAM SEDIMENT
SAMPLING - Sn, W, Ba.

52-1936
Scale 1:10000

FIG No.	REPORT No.
ENCL No.	DRG. No. D/NL01/058
DATE 10-12-81	AUTHOR W.D. SMYTH
DRAWN H.L.H.	OFFICE DEVONPORT





709070

Scale: 1:10000
0 250 500 Metres

The Shell Company of Australia Limited
METALS DIVISION

E.L. 22/74, MARIONOAK
S.C.O.A. ROCK CHIP SAMPLING
Pd-Zn
62-11536

FIG. No.	REPORT No.
ENCL. No.	DRG. No. D/ALD/050
DATE	AUTHOR W.D. SMYTH
DRAWN H.L.H.	OFFICE DEVONPORT

Analyses in ppm.
Comlabs AAS 1



5 383 000 N

5 382 000 N

5 381 000 N

5 380 000 N

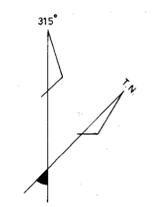
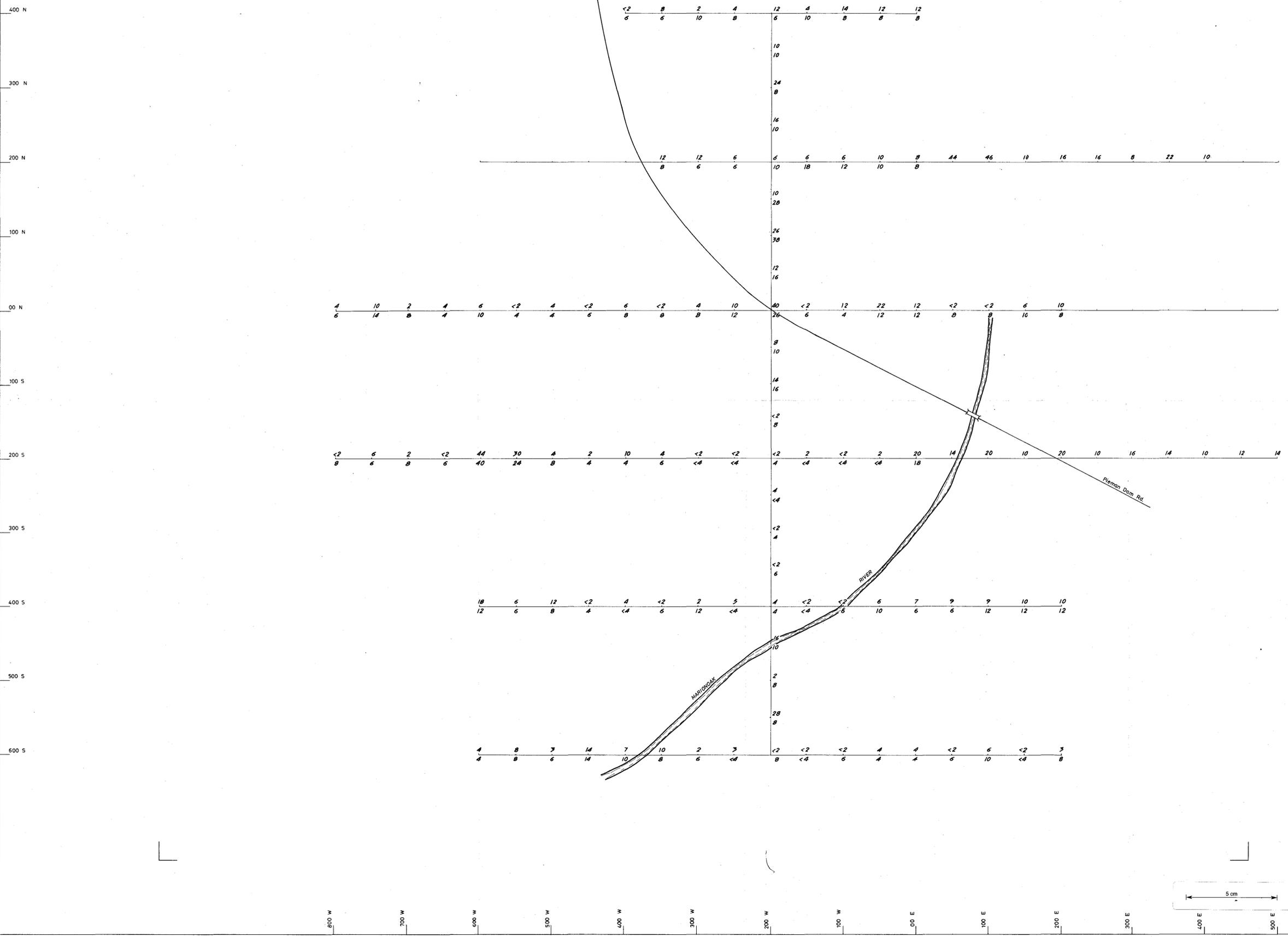
5 379 000 N

5 378 000 N

5 377 000 N

E.L. 22/74

E.L. 22/74



Cu
Ni

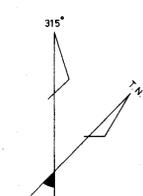
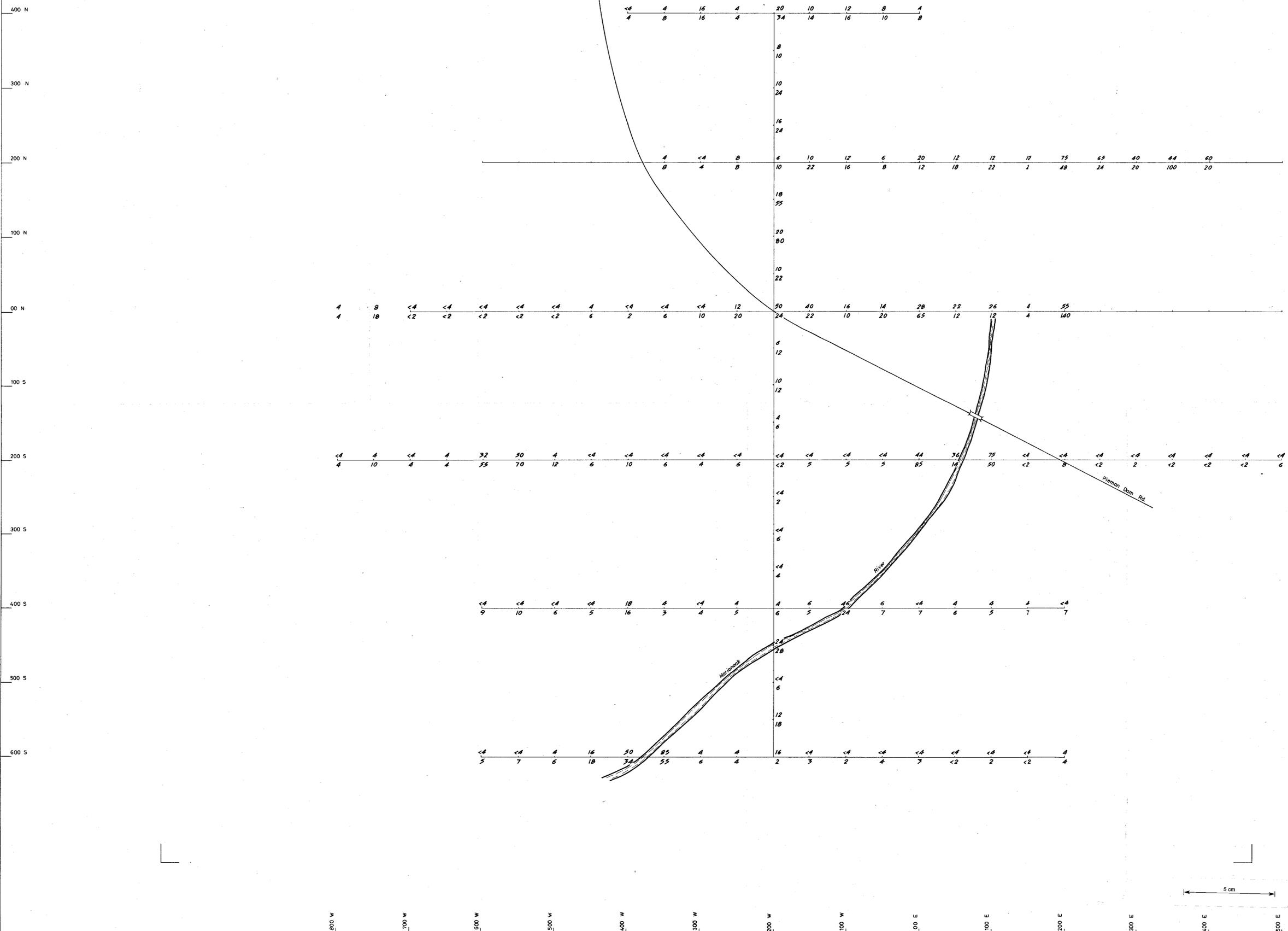
NOTE: Analyses in ppm.
Comlabs AAS 1

709072

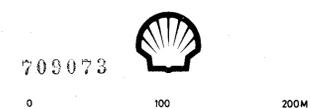


0 100 200M

The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONDALE BASTYAN DAM GRID GEOCHEMISTRY RESULTS Cu - Ni	
Scale 1:2500	
FIG. No.	REPORT No.
ENCL. No.	DRG. No. D/NL01/014
DATE 6-4-82	AUTHOR W.D. SMYTH
DRAWN H.L.H.	OFFICE DEVONPORT

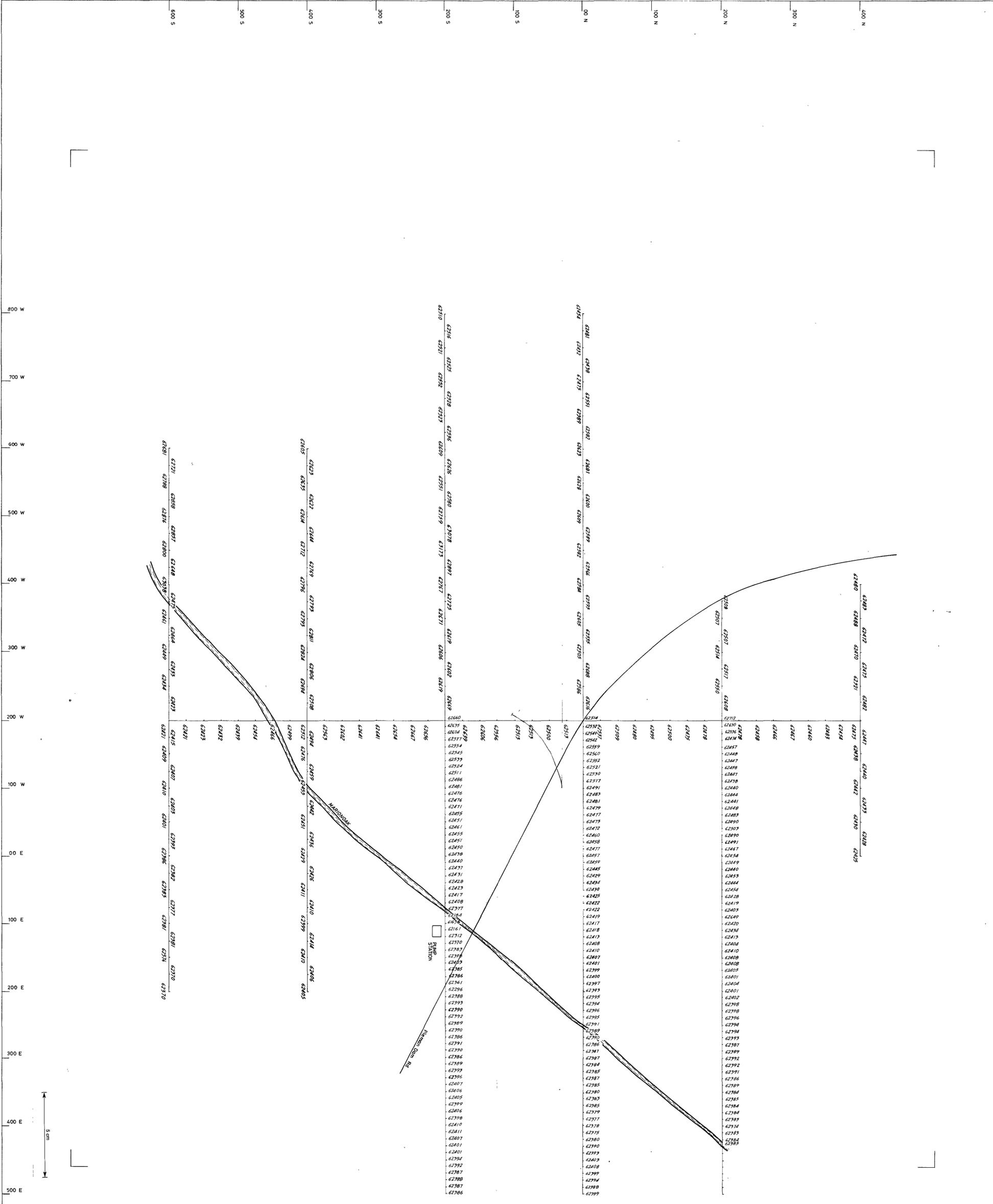


Pb
Zn
NOTE: Analyses in ppm.
Comlabs AAS1



The Shell Company of Australia Limited METALS DIVISION	
E.L. 22/74 MARIONOAK BASTYAN DAM GRID GEOCHEMISTRY RESULTS Pb - Zn	
Scale 1: 2500	
FIG. No.	REPORT No.
ENCL. No.	DRG. No. D/NL01/015
DATE 6-4-82	AUTHOR W.D. SMYTH
DRAWN H.L.H.	OFFICE DEVONPORT

82-1836



709074

The Shell Company of Australia Limited
METALS DIVISION

E. L. 22/74 MARDONAK
BASTYAN DAM GRID
GROUND MAGNETICS

Scale 1:2500
63-1-6-36

REPORT No. _____

ENCL. No. _____

DATE 26-2-82

DRAWN H. L. H.

OFFICE DEVONPORT

FIG. No. _____

ENCL. No. _____

DATE 26-2-82

DRAWN H. L. H.

REPORT No. _____

ENCL. No. _____

DATE 26-2-82

DRAWN H. L. H.