CRA EXPLORATION PTY LIMITED

# EL 7342 YAYAH CREEK, N.T.
# EL 7367 EMMERUGGA CREEK, N.T.

## COMBINED FINAL REPORT FOR PERIOD ENDING 9TH MARCH, 1992

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DATE: MAY, 1992

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CRAE Information Systems, Canberra
CRA Exploration, Darwin.



SUBMITTED BY: D.C. PALMER .....

ACCEPTED BY: H.J. ROIKO .....

MAP REFERENCES: Bauhinia Downs SE 53-03
Walhallow SE 53-07



CRAE Report No. 18071

# CONTENTS

## 1. SUMMARY

No significant exploration activities were undertaken with EL 7342 Yayah Creek during the period of tenure.

Field inspection of the Yah Yah copper-prospect located in the central portion of EL 7342 Yayah Creek, indicated that it appears to represent a narrow, secondary copper-bearing brecciated horizon, developed at the disconformity surface between the Tatoola Sandstone and Amelia Dolomite.

During the period of tenure, exploration activities undertaken within EL 7367 Emmerugga Creek were aimed at confirming the potential for significant stratabound mineralisation within the Emmerugga Dolomite, at Margoo copper-prospect.

A 10.5 line km grid was emplaced over the prospect area. A total of 227, minus 2mm fraction soil samples were collected at 25-50m intervals along ten, 200m spaced gridlines positioned over the host stratigraphy. All samples were assayed for a suite of thirteen elements.

Highly anomalous copper values (250ppm-1200ppm), coincident with anomalous Ag-Cu-Pb-Ba association factor scores, were returned from the northwestern portion of the Margoo Prospect grid. The anomalous soil values delineated a narrow (25-100m wide) sporadically mineralised zone, coincident with small, outcropping pods of chalcocite-bearing, brecciated ferroan-dolostone. The pods appear to be developed over a 700-800m section of the Emmerugga Dolomite. A BMR report of "...Cu-anomalism extending for about 7km along strike" within the Emmerugga Dolomite at Margoo prospect is erroneous.

A dipole-dipole array survey was undertaken across the main zone of geochemical anomalism recorded on Line 10 000E (Total 2.0 line km.).

No chargeability anomalies were detected in the vicinity of the basemetal anomalous soil values nor immediately down dip. Apparent resistivity pseudosections display a pattern consistent with a southerly dipping stratigraphic sequence, with strong resistivity contrasts corresponding to mapped geological contacts.

Anomalous copper (max 0.4%) and zinc (0.12%) assays were returned from grab samples of scattered manganiferous ironstone and ferroan-dolomite in the Margoo prospect area.

Mineralisation at Yah Yah and Margoo Prospects occurs as narrow, discordant zones with little evidence to suggest substantial areas of stratabound copper mineralisation.

EL 7342 Yayah Creek and EL 7367 Emmerugga Creek were relinquished on March 9, 1992.

## 2. CONCLUSIONS / RECOMMENDATIONS

Exploration activities completed in the vicinity of Yah Yah copper prospect (EL 7342) and Margoo copper prospect (EL 7367) have indicated that mineralisation occurs as narrow, discordant fault-related pods, with little evidence to suggest the presence of substantive zones of stratabound mineralisation.

In view of the discouraging results achieved at Margoo Prospect (EL 7367), the lack of scope remaining within EL 7367 Emmerugga Creek and the perceived limited target potential within EL 7342 Yayah Creek , recommendations for relinquishment were followed by tenements surrender on 9 March, 1992.

## 3. INTRODUCTION

Contiguous Exploration Licences 7342 and 7367 are situated in the western portion of the Mid-Proterozoic Batten Trough (McArthur Basin), thirty kilometres southwest of Cape Crawford (N.T.).

The tenement areas cover Proterozoic McArthur Group sediments considered prospective for stratabound copper deposits.

Exploration Licence 7342 Yayah Creek, which covers an area of 30 blocks (97 square kilometres) was granted to CRA Exploration Pty Limited on April 5, 1991 for a period of six years.

Exploration Licence 7367 Emmerugga Creek, which covers an area of 134 blocks (431 square kilometres), was granted to CRA Exploration Pty Limited on April 16, 1991 for a period of six years.

To facilitate reporting, the NTDME granted a common reporting date of April 5 for the two exploration licences.

Exploration activities undertaken within the two tenement areas during the period of tenure, failed to disclose evidence for substantive zones of stratabound copper mineralisation.

Exploration Licences 7342 and 7367 were surrendered with effect on March 9, 1992.

This combined final statutory report details all work completed over the relinquished tenements EL 7342 Yayah Creek and EL 7367 Emmerugga Creek during the period of tenure.

## 4. REGIONAL GEOLOGY

Exploration licences 7342 and 7367 occur within the southern portion of the Proterozoic McArthur Basin. The licence areas are located in the western portion of the Batten Trough, which is the central tectonic element of the McArthur Basin.

Four Proterozoic rock suites delineate the McArthur Basin. The oldest is a quartz arenite/basic volcanics/fine grained clastic suite termed the Tawallah Group, overlain by carbonate/evaporite suites of the McArthur Group and Nathan Group, which are in turn overlain by a quartz arenite/lutite suite termed the Roper Group. All four major stratigraphic groups are divided by regional unconformities. The stratigraphic succession of Proterozoic rock units is detailed in Figure 1 (after Jackson et. al., 1987).

A summary of the stratigraphic sequences exposed within and peripheral to the tenement areas are detailed below.

The Tawallah Group sequence is not exposed within the tenement areas.

Units of the Umbolooga Sub-Group (of the McArthur Group) outcrop extensively throughout both exploration licences. The oldest unit in the area is the stromatolitic dolostone and gypsiferous carbonate sequence of the Amelia Dolomite. The Amelia Dolomite is overlain by a quartz arenite sequence termed the Tatoola Sandstone.

These units are exposed within EL 7342 where they form a north-northeast-trending anticlinal structure, in the crest of which, the brecciated Amelia Dolomite/Tatoola Sandstone disconformity surface hosts copper mineralisation at Yah Yah prospect.

The central and eastern portion of EL 7367 Emmerugga Creek is dominated by mildly flexured and faulted conformable sequences of dololutite, dolarenite and siltstone (Tooganinie Formation, Leila Sandstone and Myrtle Shale).

The Myrtle Shale is conformably overlain by a dolostone sequence termed the Emmerugga Dolomite. The Emmerugga Dolomite is divided into two conformable members: a lower Mara Dolomite Member and an upper Mitchell Yard Dolomite Member. The Mara Dolomite Member is comprised of manganiferous dolomite and cherty dololutite. The Mitchell Yard Dolomite is characterised by blocky, karst outcrops of massive dolomite. Secondary-copper mineralised Mara Dolomite, located in the northern portion of EL 7367, is the apparent stratigraphic host to the Margoo copper-prospect.

A laminated dololutite sequence termed the Teena Dolomite separates the Barney Creek Formation from the Emmerugga Dolomite. The Barney Creek Formation is a distinctively pyritic carbonaceous shale unit with minor dolarenite and tuffaceous beds. Within the tenement areas the Barney Creek Formation is poorly exposed.

The uppermost unit of the Umbolooga Sub-group is the Reward Dolomite, which conformably overlies the Barney Creek Formation within the tenement areas. This unit has limited exposure and outcrops on the western margin of EL 7367, where it is unconformably overlain by Nathan Group sediments and by fault contact with the Roper Group.

The Nathan Group dolomites and quartz arenites are folded into truncated domal structures in the northern portion of EL 7367.

Roper Group quartz arenites form a prominent north-south oriented mesa along the western margin of EL 7367 and EL 7342. The folded Roper Group is covered by Cambrian Limestone (Top Springs Limestone) in the southern portion of the tenement areas.

Minor quartz-pebble arenite outliers of Cretaceous Mullaman Beds form isolated mesa cappings within the tenement areas.

Cainozoic laterite, superficial alluvium, sand and soil sporadically cover the exploration licences.

Mineral occurrences are reported within the tenement areas at Margoo copper-prospect (EL 7367) and Yah Yah copper-prospect (EL 7342).

# 5. WORK UNDERTAKEN

## 5.1 Open File Review

The McArthur Group sequence encompassed by and peripheral to EL's 7342 and 7367, have been subjected in the past to detailed surface exploration techniques by several companies including CEC, Ashton, EZ, Australian Cities Services and Shell.

Open file data records report that detailed stream sediment surveying, regional helicopter traversing, geological mapping, rock and soil sampling programmes have been conducted in the immediate tenement areas. Primary focus was directed at exposures of Barney Creek Formation (Umbolooga Sub-group) for repetitions of McArthur River-style Pb-Zn-Ag mineralisation. Investigations have failed to delineate any significant mineralisation, however small basemetal occurrences were located at the Yah Yah and Margoo copper-prospects.

## 5.2 EL 7342 Yayah Creek

Exploration Licence 7342 Yayah Creek which covers an area of 30 blocks (97 square kilometres) was granted to CRA Exploration Pty Limited on April 5, 1991 for a period of six years (Plan NTd 5096). The licence area is contiguous with EL 7367 Emmerugga Creek and encompasses Proterozoic McArthur Group dolomitic sediments which host the Yah Yah copper prospect. Title was acquired over the copper prospect on the conceptual basis that it may represent a small, fault-controlled "leakage" from a buried syngenetic stratiform source.

### 5.2.1 Field Inspection

During the period of tenure, a visit to the Yah Yah copper-prospect was conducted. Field inspection confirmed the presence of secondary copper mineralisation within a narrow (<1m thick), brecciated horizon, developed at a disconformity surface between the Tatoola Sandstone and the underlying Amelia Dolomite.

Yah Yah copper prospect had been previously investigated in 1984 by CRAE, when one grain of gold was reported from a regional gravel sample. Detailed sampling both for heavy minerals and fine fraction stream sediment geochemistry failed to confirm the gold report. A weakly elevated Cu-Co-Ni-Mn association was reported in the direct drainage train from the surface workings. No geochemical anomalism was detected in stream sediment samples collected in areas peripheral to the copper prospect (Colliver, 1985).

A grab rock sample of 'ore' collected during the field inspection from the tailing dump was assayed for a suite of nineteen elements. Geochemical assay results confirmed the presence of "bonanza grade" copper (30.4%), with significant values of Bi (500 ppm), Ag (7 ppm), minor Mo (8 ppm) and Ba (860 ppm).

No alteration assemblages or evidence of weak mineralisation were observed in outcrop peripheral to the series of tailings dumps and small workings, which are exposed over a 100m strike-length.

A rock sample ledger appears in Appendix I. Sample locations are shown on plan NTd 5398. A petrological examination completed on a grab sample of "ore" by Pontifex and Associates is detailed in Appendix IV.

In view of the perceived limited target potential at Yah Yah Copper prospect, no further work was undertaken within EL 7342 Yayah Creek. Title was relinquished to the exploration licence on March 9, 1992.

## 5.3 EL 7367 Emmerugga Creek

Exploration Licence 7367 Emmerugga Creek, which covers an area of 134 blocks (431 square kilometres), was granted to CRA Exploration Pty Limited on April 16, 1991 for a period of six years.

EL 7367 lies 30km south-west of Cape Crawford (N.T.) in the western portion of the Proterozoic Batten Trough (Plan NTd 5108). The tenement area was procured on the basis of a BMR report which referred to the presence of stratabound secondary copper mineralisation within the Mara Dolomite Member; of the Emmerugga Dolomite (Umbolooga Sub-Group). Mineralisation was reported to occur over a 100m strike-length, with stream sediment and soil geochemical surveys indicating "....Cu anomalism extending for about 7km along strike" (Jackson, 1987).

Investigations completed within EL 7367 Emmerugga Creek, have been directly exclusively at confirming the potential for significant stratabound copper mineralisation within the Emmerugga Dolomite, in the vicinity of the Margoo copper-prospect.

### 5.3.1 Soil Sampling

A 10.5 line kilometre grid was emplaced over the Emmerugga Dolomite sequence at Margoo prospect (Plan NTd 5164). A total of 227, minus 2mm fraction soil samples were collected at 25-50m intervals along ten, 200m spaced grid lines positioned over the host stratigraphy (Plan NTd 5179).

Ten soil samples were selected and sieved into the following size fractions: -2mm+20#, -20#+40#, -40#+80# and -80#. Each fraction was assayed for the following element suite; Co, Cr, Cu, Fe, Mn, Ni, Pb, Zn, Ag and Mo by AAS, whilst As and Ba were determined by XRF (DPO 71005). Little apparent contrast in assay values was evident in any particular size fraction. As a consequence, a -2mm fraction from the remaining 217 soil samples was assayed for the same element suite (DPO 71007).

#### 5.3.1.1 Geostatistics

The Margoo prospect soil geochemical data set was interpreted using computer-based statistics.

Frequency distribution histograms prepared for each element, indicated that most conform to the log-normal distribution law and are positively skewed.

Univariate statistics computed on the dataset revealed that the mean trace element values for Cu, Zn, Pb, Ba, Co and Mn are distinctly anomalous and in part inter-correlated. High chromium values in the data set are the result of laboratory contamination incurred during sample preparation. Element values are presented as box plots in Figures 2 and 3.

Scatter plots for log-normalised Cu vs. Mn, Zn vs. Mn and Co vs. Mn are presented in Figures 4 to 6. The plots reveal that variations in the copper content of the soil samples are only inpart dependent upon its corresponding manganese values.

Elemental associations within the geochemical data set were better defined by multivariate factor analysis. Three variable associations or "factors" were found to account for 100% of the total data variability. The three factors are as follows:

| | | |
|---|---|---|
| FACTOR 1 | Mn-Fe-Ni-Zn-Co | (52% data variance) |
| FACTOR 2 | Ag-Cu-Pb-Ba | (29% data variance) |
| FACTOR 3 | As-Ba | (19% data variance) |

The first factor (Mn-Fe-Ni-Zn-Co) accounting for a total of 52% of total data variability is viewed as a scavenging factor. The second factor (Ag-Cu-Pb-Ba) which explains a further 29% of total data variability is considered to express a basemetal association (?secondary dispersion). The final factor (As-Ba) is characterised by a high factor score of As (0.47). The As-Ba association is likely to result from the combination of lithology and the relative exclusivity of arsenic to all other trace elements in the data set.

Data distribution plans were prepared (utilising the J-Map application) and a final synthesis of the statistical results was completed.

#### 5.3.1.2 Data Interpretation

J-map plots of the Margoo Prospect geochemical data set were produced for each FACTOR association, selected raw element values and computed copper residuals.

The FACTOR 1 (Mn-Fe-Ni-Zn-Co) distribution pattern was found to correlate with a zone of elevated manganese (values 4272ppm - 1.0% range) associated with subcropping massive, grey-to-purple dolostone, located in the eastern portion of the grid (Figure 7).

The FACTOR 2 (Ag-Cu-Pb-Ba) distribution pattern appears in Figure 8, and is areally restricted to the northwestern portion of the grid, although several spot highs are evident elsewhere on the grid. The FACTOR 2 association approximately coincides with the disconformity contact of the two dolomitic Members of the Emmerugga Dolomite. This is reflected as a N70 deg. east trend (25-100m wide) of anomalous FACTOR 2 scores on Line 9200E, 9400E, 9600E, 9800E and 10 000E, partially coincident with chalcocite bearing brecciated ferroan-dolostones.

In some cases anomalous FACTOR 2 and FACTOR 1 scores are coincident. This may reflect a "metal scavenging" overprint on the interpreted mineralisation FACTOR 2 association.

A RESIDUAL-Cu plot calculated from a Cu vs Mn regression, highlights the anomalous copper N70 deg. east trend (250-1200 ppm) proximal to the Emmerugga Dolomite disconformity (Figure 9).

The FACTOR 3 (As-Ba) distribution pattern is shown in Figure 10. Anomalous FACTOR 3 scores are concentrated in the southeastern portion of the grid and along the western-most portion of Line 9800N and Line 9600N, coincident with recorded occurrences of Fe-stained shaley dolostone and ironstone/pisolite.

### 5.3.2 Rock Sampling

Initial field inspection confirmed the presence of secondary copper mineralisation within a brecciated ferroan-dolomite host at Margoo Prospect. Geochemical assays of grab rock samples returned a "bonanza grade" copper value of 48.1%, with accessory As (220 ppm), trace Mo (7 ppm), Ag (2 ppm) and Au (0.3 ppm).

Sixteen rock samples were collected across the Margoo Prospect grid area during follow-up programmes. A best rockchip assay of 0.4% Cu, 0.12% Zn, 0.6% Co, was returned from a sample of ferroan-dolomite (21.4% Fe, 13.5% Mn), located on the western margin of the grid. No other significant assay values were reported.

A rock sample ledger appears in Appendix III. Sample locations are shown on plans NTd 5164 and NTd 5179. A petrological examination completed on a grab sample of "ore" by Pontifex and Associates is detailed in Appendix IV.

### 5.3.3 Ground Magnetic Survey

Total field ground magnetics data was routinely collected over the Margoo Prospect grid. A total of 10.5 line km of total field ground magnetics was collected at 10m station spacings.

Due to the absence of magnetic susceptibility contrasts across the Margoo Prospect stratigraphic succession, no significant anomalies or gradients were delineated by the ground magnetics data coverage.

Ground magnetics profiles are shown on plan NTd 5180.

### 5.3.4 Induced Polarisation

During the period of tenure a two line kilometre reconnaissance dipole-dipole array IP traverse was completed at Margoo Prospect, in an attempt to locate shallow responses which could be attributable to disseminated sulphides within the Emmerugga Dolomite sequence.

The dipole-dipole IP survey was undertaken on behalf of CRAE by Zonge Engineering. A GDP-16 six channel receiver was used with a GTT-25 25kw transmitter. Apparent resistivities were measured in the frequency domain using a base frequency of 0.125Hz. Chargeabilities were calculated from the amount the receiver signal lagged behind the transmitted signal (i.e. the degree to which it was out of phase).

Apparent resistivity and three point DC phase (chargeability) data are presented as a pseudo-section on plan NTd 5237.

IP data was collected along Line 10000E (9100N - 11100N) using a 100m dipole separation. Results of the reconnaissance traverse are discussed below.

Recorded resistivity contrasts were found to correspond with mapped geological contacts and they delineate a pattern consistent with a southerly dipping stratigraphic succession. Shaley dolostones located between 9000N - 10400N are characterised by low resistivities and low chargeabilities, whilst higher chargeabilities recorded along the southern portion of the traverse correlate with pyritic dolostones (?Barney Creek Formation).

In the northern portion of the traverse (10400N - 10800N), very high resistivities and very low chargeabilities were recorded coincident with copper anomalous ferroan dolomites. No chargeability anomalies were detected in the vicinity of anomalous soil geochemistry values nor immediately downdip.

## 6. REFERENCES


Colliver I.C. (1985) Sandy Creek EL 4408: "Final Report Period to 8 May, 1985" CRAE Report No. 130506.

Jackson M.J. et. al. (1987) Geology of the Southern McArthur Basin, N.T. BMR Bulletin No. 220


## 7. KEYWORDS

Copper, Geochemistry, Ground IP Survey, Ground Magnetic Survey, McArthur Group, Rock Geochemistry, Petrology, Soil Sampling, Stratabound, Precambrian.

## 8. LOCATION

| | | |
|---|---|---|
| Bauhinia Downs | SE 53-03 | 1:250 000 mapsheet |
| Walhallow | SE 53-07 | 1:250 000 mapsheet |
| O T Downs | 5964 | 1:100 000 mapsheet |
| Hallapunyah | 6064 | 1:100 000 mapsheet |
| Kilgour | 6063 | 1:100 000 mapsheet |
| Bloodwood Ck | 5963 | 1:100 000 mapsheet |

## 9. LIST OF DPO's

DPO's 49197, 49198, 71004, 71005, 71006, 71007, 71011.

## 10. LIST OF PLANS

| Plan No. | Title | Scale |
|---|---|---|
| NTd 5096 | EL 7342 Yayah Creek Location Plan | 1:100 000 |
| NTd 5108 | EL 7367 Emmerugga Creek Location Plan | 1:250 000 |
| NTd 5164 | EL 7367 Emmerugga Creek, Margoo Prospect Geology and Rock Sample Location Plan | 1:25 000 |
| NTd 5179 | EL 7367 Emmerugga Creek Soil and RockSample Location Plan | 1:5 000 |
| NTd 5180 | EL 7367 Emmerugga Creek Margoo Prospect Ground Magnetic Profiles | 1:5 000 |
| NTd 5237 | EL 7367 Emmerugga Creek Induced Polarisation Survey Line 10 000E | 1:10 000 |
| NTd 5398 | EL 7342 Yayah Creek Rock Sample Location Plan | 1:50 000 |

## 11. LIST OF FIGURES

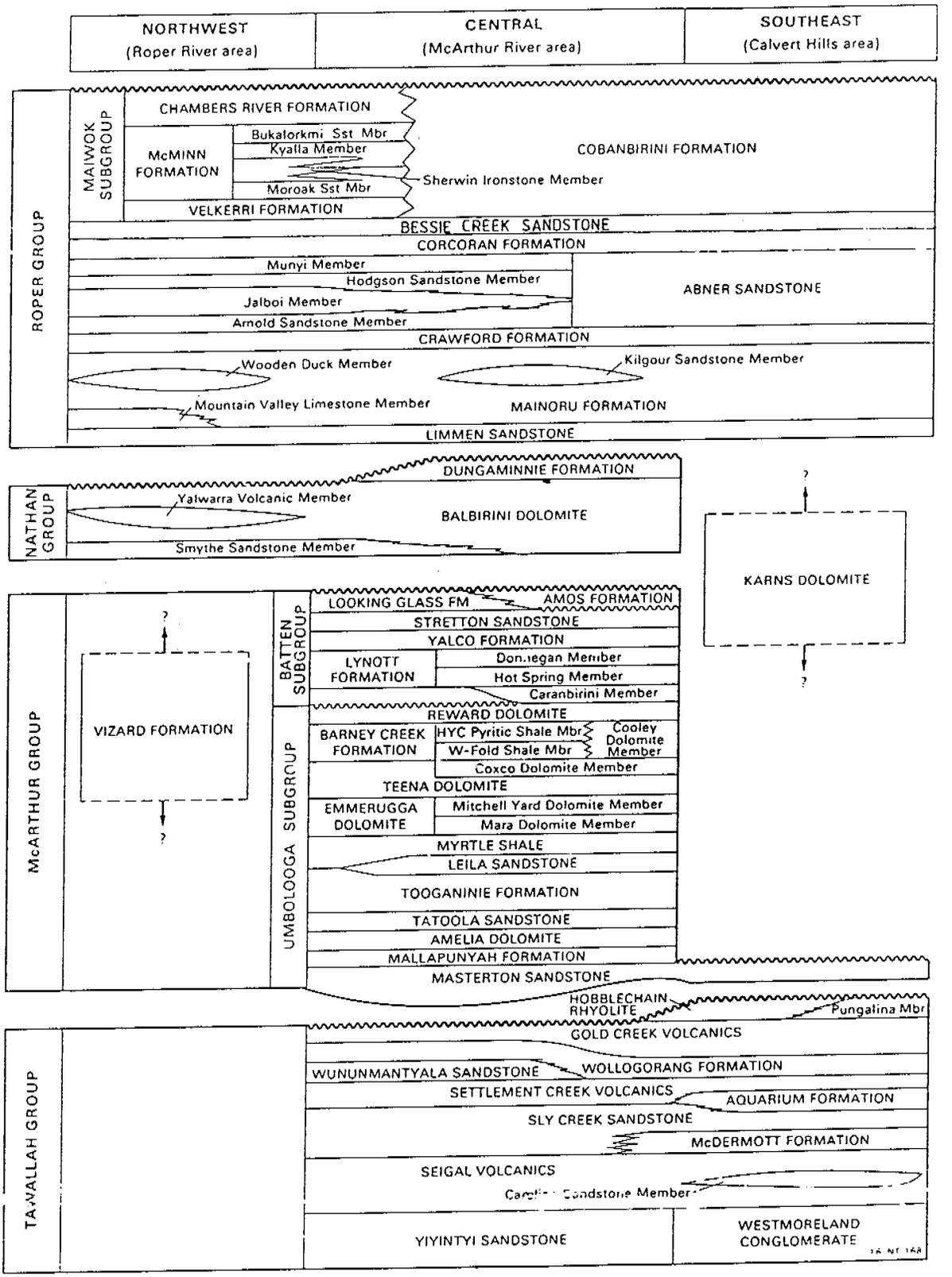
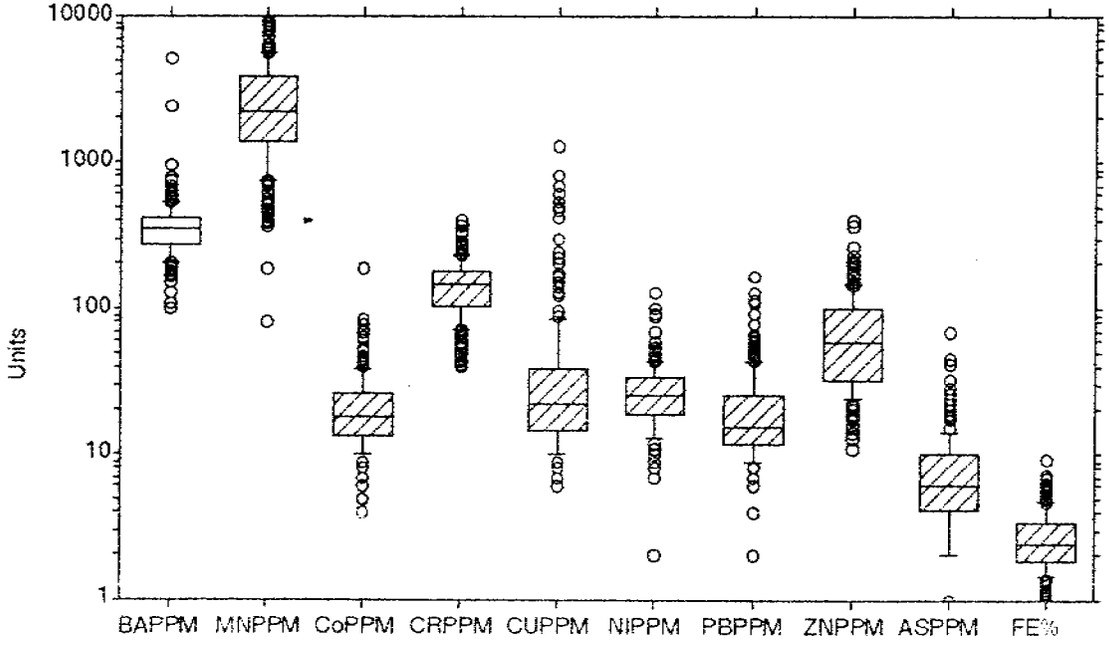



TABLE 1. STRATIGRAPHIC RELATION OF PROTEROZOIC UNITS WITHIN EL 7342 & EL 7367

(after Jackson et. al., 1987)

Figure 1.

# EL 7367 Emmerugga Ck. Margoo Prospect



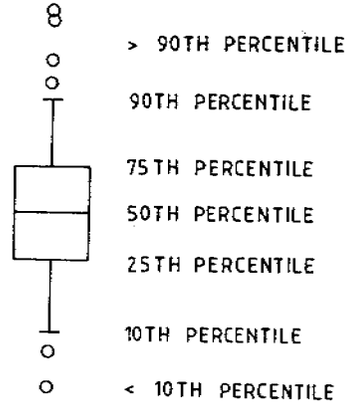
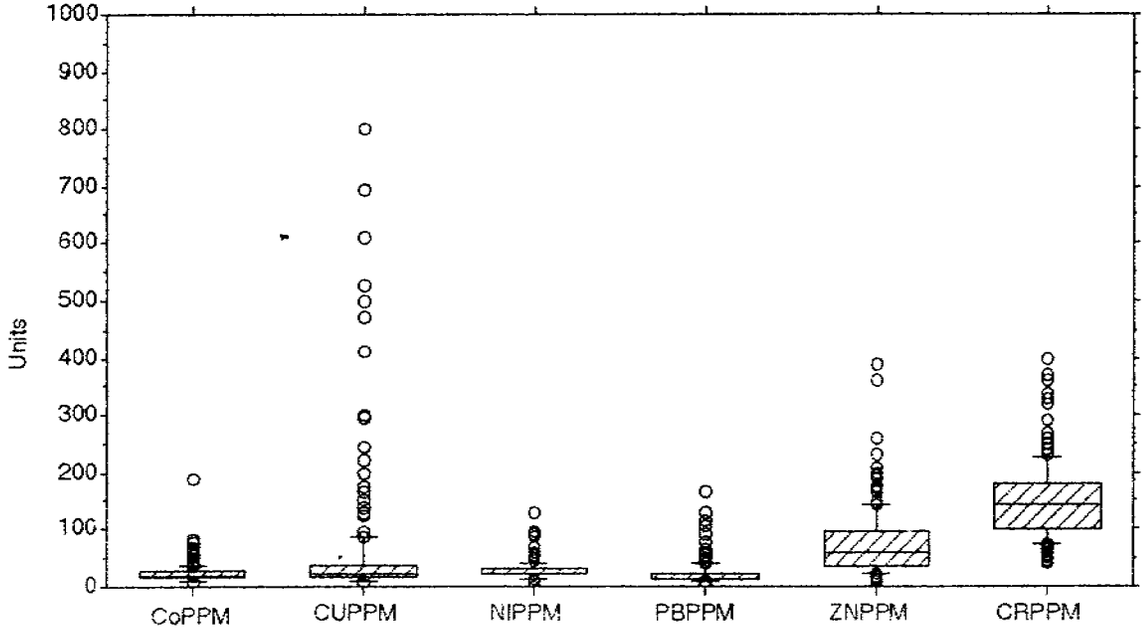




FIGURE 2 EL 7367 EMMERUGGA CREEK Margoo Prospect
-2mm Soil Geochemistry Box Plot Ba-Fe%

## EL 7367 Emmerugga Ck. Margoo Prospect



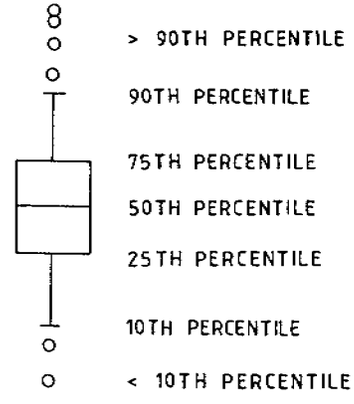




Figure 3 EL 7367 EMMERUGGA CREEK Margoo Prospect
-2mm Soil Geochemistry Box Plot Co-Cr

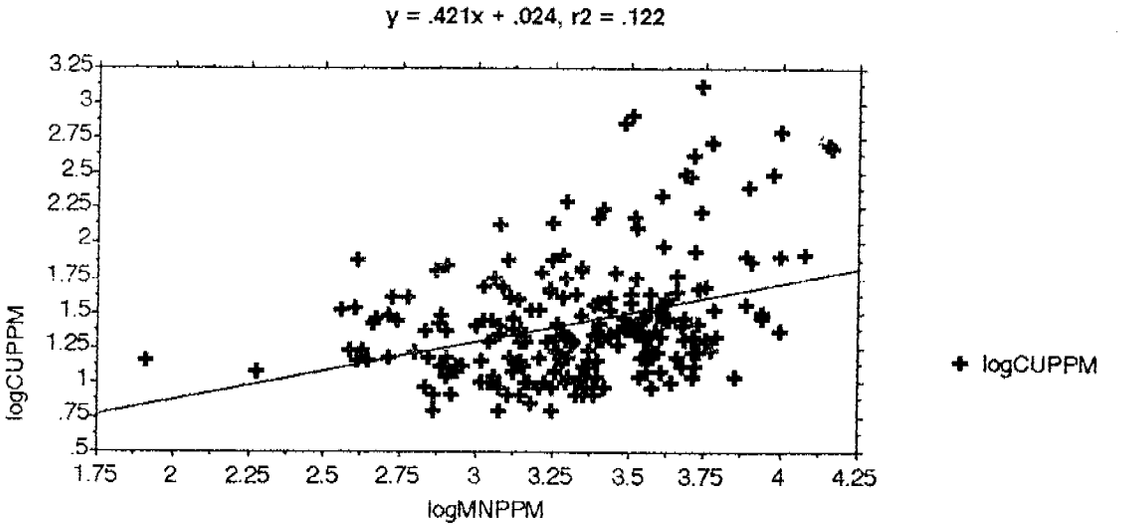



Figure 4 EL 7367 EMMERUGGA CREEK Margoo Prospect
Scatterplot LogCu (ppm) vs Log Mn (ppm)

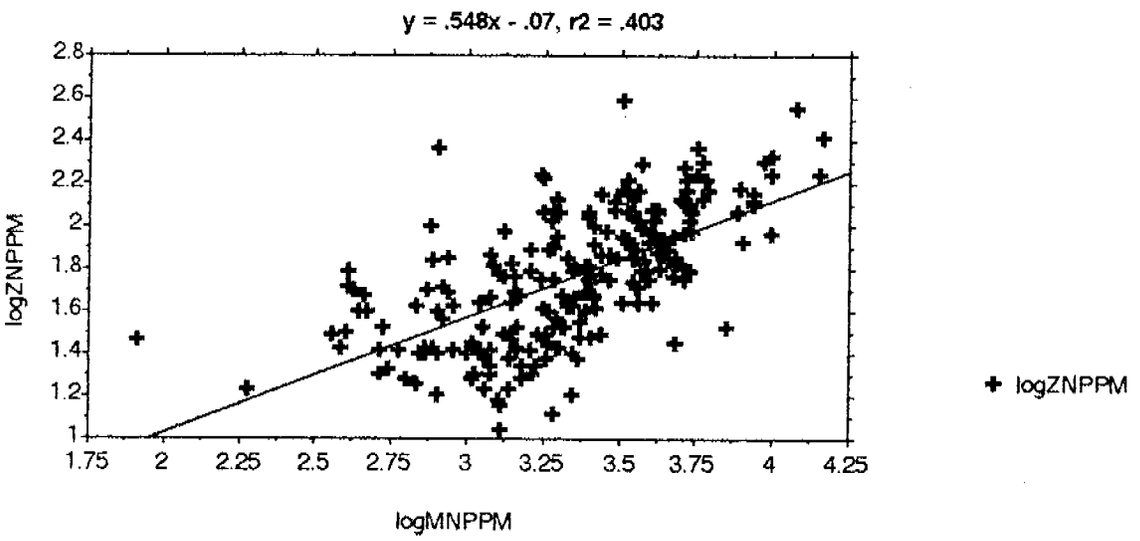



Figure 5 EL 7367 EMMERUGGA CREEK Margoo Prospect
Scatterplot LogZn (ppm) vs Log Mn (ppm)

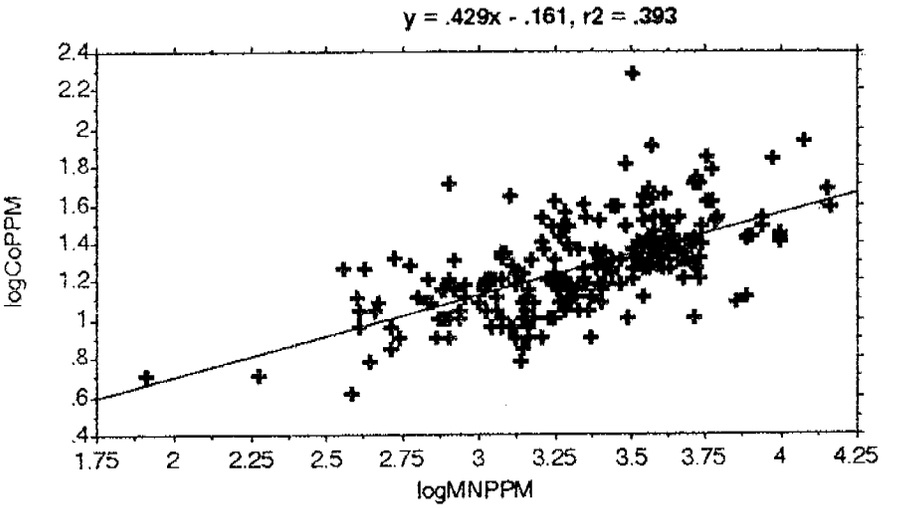
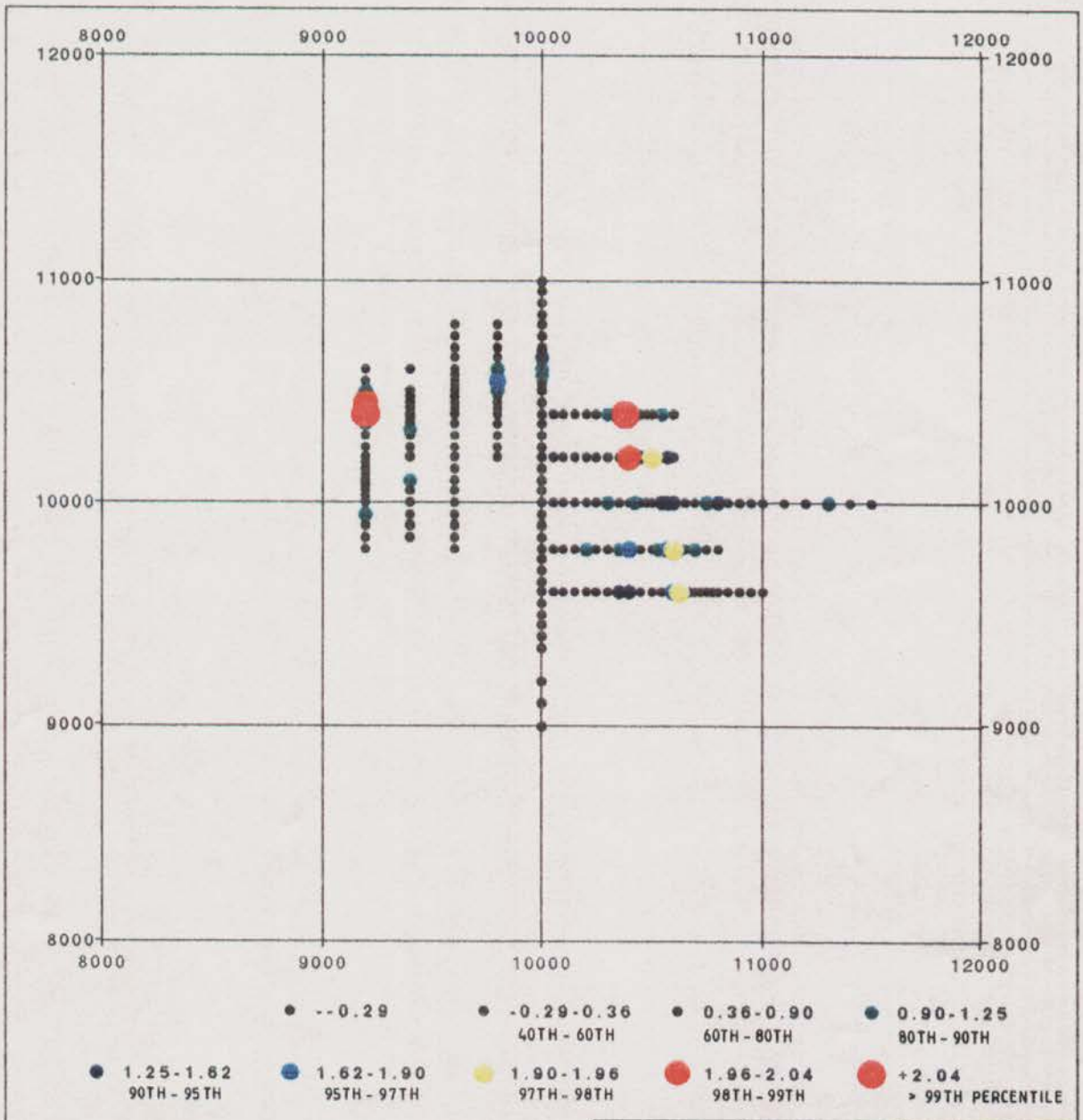



Figure 6 EL 7367 EMMERUGGA CREEK Margoo Prospe
Scatterplot LogCo (ppm) vs Log Mn (ppm)




CRA Exploration Pty.

EL 7367 EMMERUGGA CREEK Margoo Prospect

**FACTOR 1 Distribution**

Mn-Ni-Zn-Co-Fe-Mn Association

jmap

100m

| | | |
|---|---|---|
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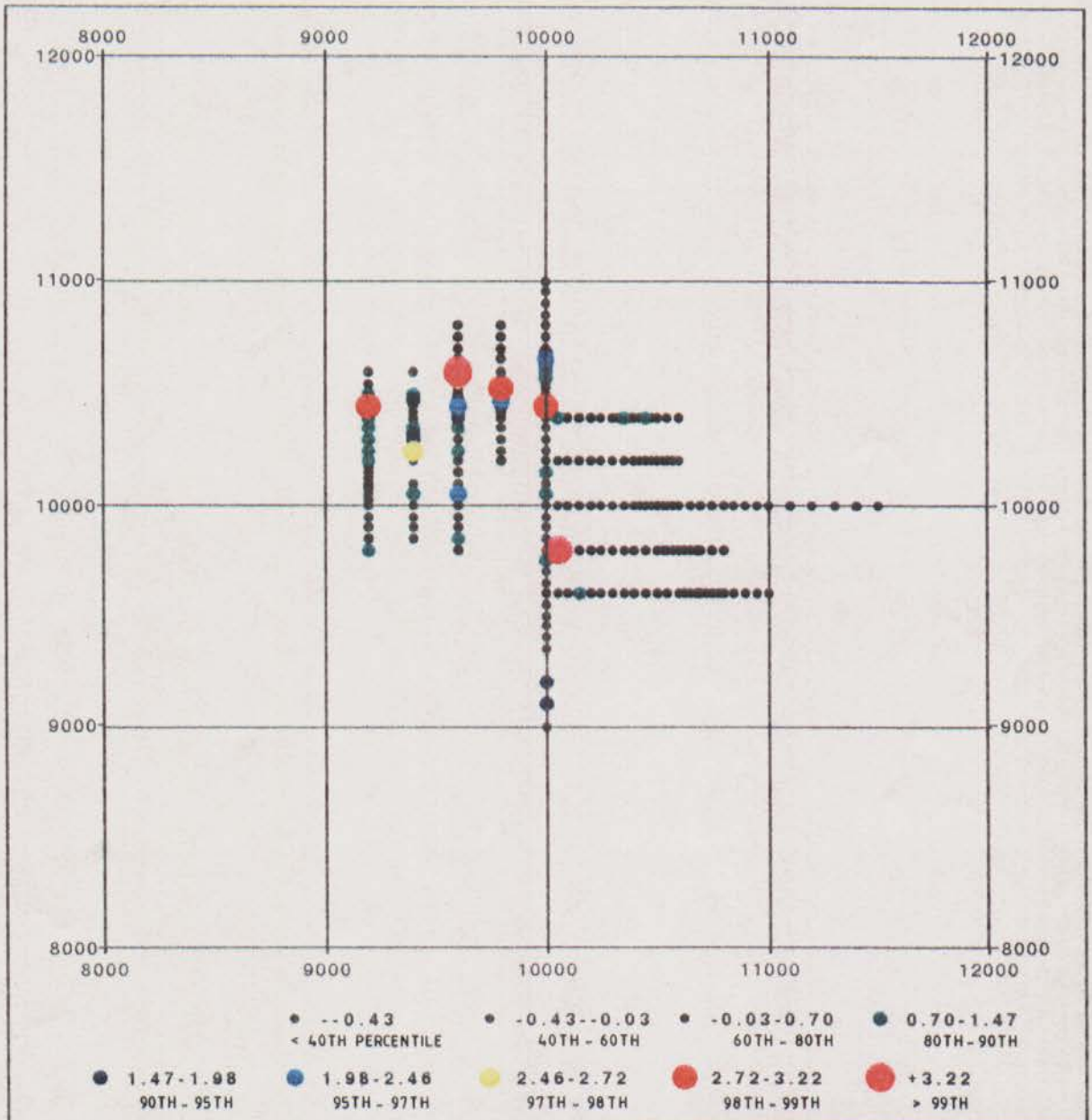
| Drawn: DCP | Date:5/7/91 | Plan:Figure 7 |




CRA Exploration Pty.

EL 7367 EMMERUGGA CREEK Margoo Prospect

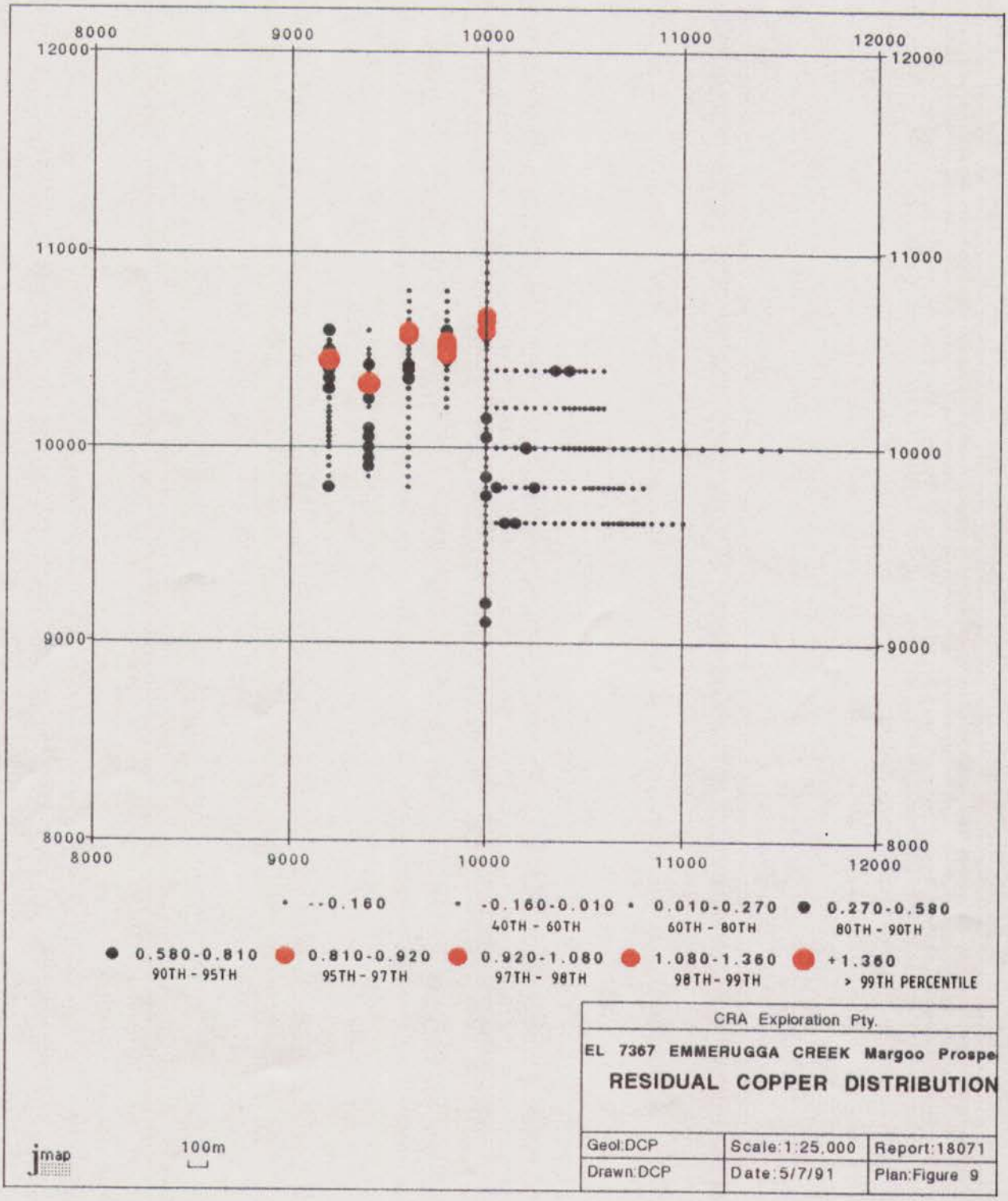
**Factor 2 Distribution**

Cu-Pb-Ag-Ba Association

jmap

100m

| | | |
|---|---|---|
| Geol:DCP | Scale:1:25,000 | Report:18071 |
| Drawn: DCP | Date:5/7/91 | Plan:Figure 8 |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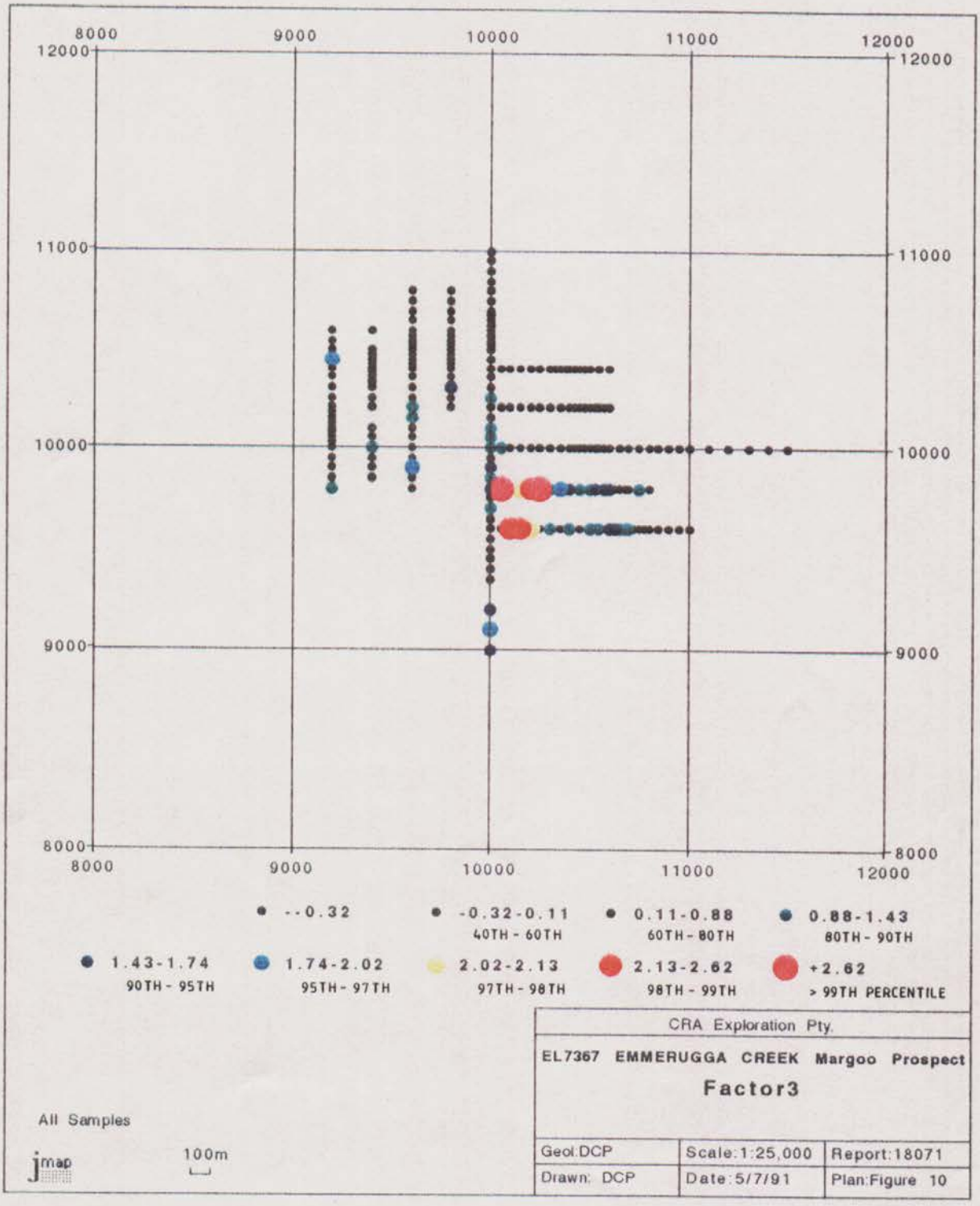
9000
10000
11000
12000
12000
11000
10000
9000
8000
-0.160
-0.160-0.010
40TH - 60TH
0.010-0.270
60TH - 80TH
0.270-0.580
80TH - 90TH
0.580-0.810
90TH - 95TH
0.810-0.920
95TH - 97TH
0.920-1.080
97TH - 98TH
1.080-1.360
98TH - 99TH
+1.360
> 99TH PERCENTILE
CRA Exploration Pty.
EL 7367 EMMERUGGA CREEK Margoo Prospe
RESIDUAL COPPER DISTRIBUTION
Geol:DCP
Scale:1:25,000
Report:18071
Drawn:DCP
Date:5/7/91
Plan:Figure 9
jmap
100m


8000
9000
10000
11000
12000
12000
11000
10000
9000
8000
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-0.32-0.11
40TH - 60TH
0.11-0.88
60TH - 80TH
0.88-1.43
80TH - 90TH
1.43-1.74
90TH - 95TH
1.74-2.02
95TH - 97TH
2.02-2.13
97TH - 98TH
2.13-2.62
98TH - 99TH
+2.62
> 99TH PERCENTILE
CRA Exploration Pty.
EL7367 EMMERUGGA CREEK Margoo Prospect
Factor3
All Samples
jmap
100m
Geol:DCP
Scale:1:25,000
Report:18071
Drawn: DCP
Date:5/7/91
Plan:Figure 10

# APPENDIX I

## EL 7342 YAYAH CREEK
## ROCK SAMPLE LEDGER AND ASSAY RESULTS

**CRA EXPLORATION PTY LIMITED SAMPLE LEDGER**

**EL 7342 YAH YAH CREEK**

Map Ref: WALHALLOW SE5307 BAUHINIA DOWNS SE5303 AREA:
COLLECTED BY:PALMER DC/ ROIKO H J
Date: MARCH 1991
**PROGRAMME: Yayah Cu, Margoo Cu, Prospect - ROCK**
**DPO: 49197**
**SAMPLE RANGE: 2659005 No of Samples:1**
LAB: Classic CRAE PLAN NTd No.:

| SAMPLE No. | EASTING | NORTHING | SAMPLE TYPE | WIDTH | DESCRIPTION | Cu | Pb | Zn | Ni | Co | Fe% | Mn | Bi | Cr | Ag | Mo |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2659005 | 545947 | 8115842 | grab | | Heavy, green to blue-green Breccia with subangular, siltstone clasts in malachite dominant matrix. Minor chrysocolla and geothitte.. Ore dump material from Yayah Pit | 30.40% | 63 | 63 | 29 | 22 | 2.00% | 47 | 500 | 39 | 7 | 8 |
| | | | | | **ANALYSIS METHOD :** | AAS | AAS | AAS | AAS | AAS | AAS | AAS | AAS | AAS | AAS | AAS |
| | | | | | **DETECTION LIMIT:** | 2ppm | 4ppm | 2ppm | 4ppm | 4ppm | 5ppm | 4ppm | 10ppm | 4ppm | 1ppm | 1ppm |
| | | | | | | **As** | **Au ppb** | **Pt ppb** | **Pd ppb** | **Sb** | **U** | **W** | **Ba** | | | |
| | | | | | | -1 | 6 | -1 | 3 | -1 | -1 | -1 | 860 | | | |
| | | | | | **ANALYSIS METHOD :** | AAS | FIRE | FIRE | FIRE | XRF | XRF | XRF | XRF | | | |
| | | | | | **DETECTION LIMIT:** | 50ppm | 1ppb | 5ppb | 1ppb | 4ppm | 4ppm | 10ppm | 10ppm | | | |

NB: -1=NOT DETECTED/ALL VALUES PPM EXCEPT WHERE STATED

# APPENDIX II

## EL 7367 EMMERUGGA CREEK
## SOIL SAMPLE LEDGER AND ASSAY RESULT

**CRA EXPLORATION PTY LIMITED SAMPLE LEDGER**

**EMMERUGGA CREEK EL 7367**

**Map Reference:** BAUHINIA DOWNS SE 5303
**COLLECTED BY:** N STOLZ
**Date:** JUNE 1991
**PROGRAMME** :MARGOO PROSPECT -2mm SOIL SAMPLING
**DPO:** 71007
**No of Samples :** 227
**LAB:** Classic CRAE PLAN NTd No.:

| EASTINGS LOCAL | NORTHINGS LOCAL | SAMPLE NO | DEPTH FROM | DEPTH TO | SAMPLE DESC % | COLOUR | GEOLOGICAL OBSERVATIONS |
|---|---|---|---|---|---|---|---|
| 10000 | 11000 | 3204125 | 0 | 10 | 30% Gravel | Brown | |
| 10000 | 10950 | 3204126 | 0 | 6 | 25% Gravel | Brown | |
| 10000 | 10900 | 3204127 | 0 | 10 | 40% Gravel | Brown | |
| 10000 | 10850 | 3204128 | 0 | 10 | 60% Gravel | Brown | |
| 10000 | 10800 | 3204129 | 0 | 10 | 40% Gravel | Brown | Gritty Bands, Purple, Massive Dolostone |
| 10000 | 10750 | 3204130 | 0 | 4 | 10% Gravel | Brown | Banded, Purple, Massive Dolostone |
| 10000 | 10700 | 3204131 | 0 | 3 | 10% Gravel | Brown | Purple, Massive Dolostone |
| 10000 | 10675 | 3204132 | 0 | 10 | 40% Gravel | Brown | |
| 10000 | 10650 | 3204133 | 0 | 10 | 40% Gravel | Brown | Cream/Grey/Fe stained dolostone (Banded) |
| 10000 | 10625 | 3204134 | 0 | 6 | 10% Gravel | Brown | Whitish "Gungy" Dolostone |
| 10000 | 10600 | 3204135 | 0 | 10 | 20% Gravel | Brown | Cu in Pt, Fe stained Purple/grey Dolostone |
| 10000 | 10575 | 3204136 | 0 | 5 | 10% Gravel | Brown | |
| 10000 | 10550 | 3204137 | | | | Brown | Stained Purple/Gey Dolostone |
| 10000 | 10525 | 3204138 | | | | Brown | Stained Purple/Grey Dolostone |
| 10000 | 10500 | 3204139 | | | | Brown | Massive purple Dolostone |
| 10000 | 10450 | 3204140 | | | | Brown | Massive Purple Dolostone |
| 10000 | 10400 | 3204141 | | | | Brown | |
| 10000 | 10350 | 3204142 | | | | Brown | |
| 10000 | 10300 | 3204143 | | | | Brown | |
| 10000 | 10250 | 3204144 | | | | Brown | |
| 10000 | 10200 | 3204145 | | | | Brown | |
| 10000 | 10150 | 3204146 | | | | Brown | |
| 10000 | 10100 | 3204147 | | | | Brown | |
| 10000 | 10050 | 3204148 | | | | Brown | |
| 10000 | 10000 | 3204149 | | | | Brown | |
| 10000 | 9950 | 3204150 | | | | Brown | |
| 10000 | 9900 | 3204151 | | | | Brown | |

**PROGRAMME :MARGOO PROSPECT -2mm SOIL SAMPLING**

| EASTINGS LOCAL | NORTHINGS LOCAL | SAMPLE NO | DEPTH FROM | DEPTH TO | SAMPLE DESC % | COLOUR | GEOLOGICAL OBSERVATIONS |
|---|---|---|---|---|---|---|---|
| 10000 | 9850 | 3204152 | | | | Brown | |
| 10000 | 9800 | 3204153 | | | | Brown | |
| 10000 | 9750 | 3204154 | | | | Brown | |
| 10000 | 9700 | 3204155 | | | | Brown | |
| 10000 | 9650 | 3204156 | | | | Brown | |
| 10000 | 9600 | 3204157 | | | | Brown | |
| 10000 | 9550 | 3204158 | | | | Brown | |
| 10000 | 9500 | 3204159 | | | | Brown | |
| 10000 | 9450 | 3204160 | | | | Brown | Fe stained Dolostone/ purple dolostone |
| 10000 | 9400 | 3204161 | | | | Brown | |
| 10000 | 9350 | 3204162 | | | | Brown | |
| 10000 | 9200 | 3204352 | | | 30% SAND | Light Brown | Grey Dolostone Shaley Outcrop |
| 10000 | 9100 | 3204353 | | | 30% Sand | Light Brown | Purple/Grey Coarse Dolostone |
| 10000 | 9000 | 3204354 | | | 20% Sand | Light Brown | Purple Dolostone |
| ***LINE*** | ***9800E*** | | | | | | |
| 9800 | 10800 | 3204163 | 0 | 10 | 10% Gravel | Brown | Coarse Purple/ Grey Mass Dolostone |
| 9800 | 10750 | 3204164 | 0 | 10 | 15% Gravel | Brown | Glauconitic Purple/Grey Mass Dolostone |
| 9800 | 10700 | 3204165 | 0 | 10 | 25% Gravel | Brown | Purple/Grey Bedded Dolostone |
| 9800 | 10650 | 3204166 | 0 | 10 | 25% Gravel | Brown | Purple/Grey bedded dolostone |
| 9800 | 10600 | 3204167 | 0 | 10 | 30% Gravel | Brown | Purple/Grey bedded dolostone |
| 9800 | 10575 | 3204168 | 0 | 10 | 25% Gravel | Brown | |
| 9800 | 10550 | 3204169 | 0 | 10 | 20% Gravel | Brown | Fe Staining. Purple/grey bedded dolostone |
| 9800 | 10525 | 3204170 | 0 | 10 | 15% Gravel | Brown | Poorly coated Pink Dolostone |
| 9800 | 10500 | 3204171 | 0 | 10 | 10% Gravel | Brown | Fe Stained Brecciated? Purple/grey dolostone |
| 9800 | 10475 | 3204172 | 0 | 10 | 10% Gravel | Brown | Fe Laminated dolost. White "gungy" dolostone |
| 9800 | 10450 | 3204173 | 0 | 5 | 10% Gravel | Brown | White "gungy" Dolostone Breccia & Fe stained |
| 9800 | 10425 | 3204174 | 0 | 10 | 10% Gravel | Brown | |
| 9800 | 10400 | 3204175 | 0 | 5 | 10% Gravel | Brown | Purple/Grey Mass dolostone |
| 9800 | 10350 | 3204176 | 0 | 10 | 10% Gravel | Brown | Purple/Grey mass dolostone |
| 9800 | 10300 | 3204177 | 0 | 10 | 40% Gravel | Brown | Grey/green/purple dolostone. Shale Hill (well cleaved) |
| 9800 | 10250 | 3204178 | 0 | 10 | 5% Gravel | Brown | Low lying flood plain |
| 9800 | 10200 | 3204179 | 0 | 10 | 20% Gravel | Brown | Dolostone Shale |

**PROGRAMME :MARGOO PROSPECT -2mm SOIL SAMPLING**

| EASTINGS LOCAL | NORTHINGS LOCAL | SAMPLE NO | DEPTH FROM | DEPTH TO | SAMPLE DESC % | COLOUR | GEOLOGICAL OBSERVATIONS |
|---|---|---|---|---|---|---|---|
| ***LINE*** | ***9600 E*** | | | | | | |
| 9600 | 10800 | 3204180 | 0 | 10 | 20% Gravel | Brown | |
| 9600 | 10750 | 3204181 | 0 | 10 | 20% Gravel | | |
| 9600 | 10700 | 3204182 | | | | | Purple/grey bedded. Massive dolostone |
| 9600 | 10650 | 3204183 | | | | | Purple/grey bedded. Massive purple dolostone + Gritty Beds |
| 9600 | 10600 | 3204184 | | | | | Purple/grey bedded. Massive dolostone |
| 9600 | 10575 | 3204185 | | | | | |
| 9600 | 10550 | 3204186 | | | | | Purple/grey bedded./massive dolostone |
| 9600 | 10525 | 3204187 | | | | | Purple/Grey bedded /Mass dolostone |
| 9600 | 10500 | 3204188 | | | | | |
| 9600 | 10475 | 3204189 | | | 20% Gravel | | Bedded. Purple/grey + Gritty bands |
| 9600 | 10450 | 3204190 | | | 70% Gravel | | Massive purple dolostone |
| 9600 | 10425 | 3204191 | | | 20% Gravel | | Assorted Brecciated Fe stained dolostone |
| 9600 | 10400 | 3204192 | | | 20% Gravel | | Assorted Brecciated Fe stained course purple bedded dolostone |
| 9600 | 10350 | 3204193 | | | | | White "gungy" dolostone purple dolostone. |
| 9600 | 10300 | 3204194 | | | | | Purple massive dolostone+white brecciated agglomerate |
| 9600 | 10250 | 3204195 | | | | | Cream/white pink powdery + massive purple dolostone |
| 9600 | 10200 | 3204196 | | | | | Cream/white/pink powdery + massive purple dolostone |
| 9600 | 10150 | 3204197 | | | | | Purple/white/pink "gungy" dolostone |
| 9600 | 10100 | 3204198 | | | | | Purple/white/pink dolostone. Bedded |
| 9600 | 10050 | 3204199 | | | | | Brown purple dolostone. Some Fe staining |
| 9600 | 10000 | 3204200 | | | | | Shaley purple/grey dolostone. Banded |
| 9600 | 9950 | 3204201 | | | | | Shaley purple/grey dolostone |
| 9600 | 9900 | 3204202 | | | 20% Gravel | | Shaley/grey dolostone. Outcropping in creek |
| 9600 | 9850 | 3204203 | | | 20% Gravel | | Grey/brown block dolostone |
| 9600 | 9800 | 3204204 | 0 | 10 | 20% Gravel | | Mass purple dolostone |
| ***LINE*** | ***9400 E*** | | | | | | |
| 9400 | 10600 | 3204205 | 0 | 5 | 5% Gravel | Brown | Massive purple/grey dolostone |
| 9400 | 10550 | 3204206 | CREEK BED | RED ROCK | SAMPLE | | Dolomite cliff. Massive purple/grey dolostone |
| 9400 | 10500 | 3204207 | 0 | 10 | 15% Gravel | Brown | |
| 9400 | 10475 | 3204208 | 0 | 5 | 15% Gravel | Brown | Massive purple/grey dolostone |
| 9400 | 10450 | 3204209 | 0 | 5 | 20% Gravel | Brown | Massive purple/grey dolostone |
| 9400 | 10425 | 3204210 | 0 | 10 | 10% Gravel | Brown | Top of hill. Massive purple/grey dolostone |
| 9400 | 10400 | 3204211 | 0 | 10 | 25% Gravel | Brown | Limestone + massive purple/grey dolostone |
| 9400 | 10375 | 3204212 | 0 | 10 | 10% Gravel | Brown | Massive purple/grey dolostone |
| 9400 | 10350 | 3204213 | 0 | 10 | 15% Gravel | Brown | Massive purple/grey dolostone |

**PROGRAMME :MARGOO PROSPECT -2mm SOIL SAMPLING**

| EASTINGS LOCAL | NORTHINGS LOCAL | SAMPLE NO | DEPTH FROM | DEPTH TO | SAMPLE DESC % | COLOUR | GEOLOGICAL OBSERVATIONS |
|---|---|---|---|---|---|---|---|
| ***LINE*** | ***9400 E*** | | | | | | |
| 9400 | 10325 | 3204214 | 0 | 10 | 15% Gravel | Brown | Massive purple/grey dolostone |
| 9400 | 10300 | 3204215 | 0 | 10 | 20% Gravel | Brown | Limestone |
| 9400 | 10250 | 3204216 | 0 | 10 | 20% Gravel | Brown | Massive purple/grey dolostone |
| 9400 | 10200 | 3204217 | 0 | 10 | 5% Gravel | Brown | Possible flood sediment. Massive purple/grey dolostone |
| 9400 | 10150 | 3204218 | CREEK BED | BED ROCK | SAMPLE | | Pink dolostone |
| 9400 | 10100 | 3204219 | 0 | 10 | 30% Gravel | Brown | Purple dolostone |
| 9400 | 10050 | 3204220 | 0 | 10 | 50% Gravel | Brown | purple dolostone |
| 9400 | 10000 | 3204221 | 0 | 5 | 40% Gravel | Light Grey | Grey shale Bed rock |
| 9400 | 9950 | 3204222 | 0 | 10 | 5% Gravel | Brown | Shale fragments |
| 9400 | 9900 | 3204223 | 0 | 10 | | Grey/brown | Weathered shale fragments |
| 9400 | 9850 | 3204224 | 0 | 5 | | Light brown | Sandy- possible flood sediment- No bed rock |
| 9400 | 9800 | 3204225 | CREEK BD SED | BED ROCK | SAMPLE | | Dark grey dolomite plus sulphides. |
| ***LINE*** | ***9200 E*** | | | | | | |
| 9200 | 10600 | 3204226 | | | | | |
| 9200 | 10550 | 3204227 | | | | | Gritty beds |
| 9200 | 10500 | 3204228 | | | | | Massive/bedded purple/grey dolostone |
| 9200 | 10450 | 3204229 | | | | | Fe stained Brec dolostone + white "gunge" |
| 9200 | 10400 | 3204230 | | | | | Some Fe stain. Massive bedded/ purple/greey dolostone and |
| 9200 | 10350 | 3204231 | | | | | Weathered Fe stained massive bedded purple/grey dolostone |
| 9200 | 10300 | 3204232 | | | | | Massive purple/grey dolostone |
| 9200 | 10250 | 3204233 | | | | | Massive purple/grey dolostone |
| 9200 | 10200 | 3204234 | | | | | Fe stained dolostone. Bedded purple/grey and gritty |
| 9200 | 10175 | 3204235 | | | | | |
| 9200 | 10150 | 3204236 | | | | | Close to Creek. |
| 9200 | 10125 | 3204237 | | | | | |
| 9200 | 10100 | 3204238 | | | | | Massive purple/grey dolostone |
| 9200 | 10075 | 3204239 | | | | | Massive purple/grey dolostone |
| 9200 | 10050 | 3204240 | | | | | massive purple /grey dolostone Very rugged |
| 9200 | 10025 | 3204241 | | | | | Massive purple/grey dolostone |
| 9200 | 10000 | 3204242 | | | | | Massive purple/grey dolostone. Brecciated? |
| 9200 | 9950 | 3204243 | | | | | Bedded purple/grey dolostone + red beds & brecciated Fe stone |
| 9200 | 9900 | 3204244 | | | | | Purple/grey dolostone+ Red Beds |
| 9200 | 9850 | 3204245 | | | | | Shaley Outcrop, purple dolostone |

**PROGRAMME :MARGOO PROSPECT -2mm SOIL SAMPLING**

| EASTINGS LOCAL | NORTHINGS LOCAL | SAMPLE NO | DEPTH FROM | DEPTH TO | SAMPLE DESC % | COLOUR | GEOLOGICAL OBSERVATIONS |
|---|---|---|---|---|---|---|---|
| BASE 9200 | 9800 | 3204246 | | | | | Shaley Outcrop, purple/grey bedded dolostone |
| ***LINE*** | ***10400 N*** | | | | | | |
| 10600 | 10400 | 3204247 | | | 20% Gravel | | |
| 10550 | 10400 | 3204248 | | | 60% Gravel | | |
| 10500 | 10400 | 3204249 | | | 30% Gravel | | |
| 10475 | 10400 | 3204250 | | | 30% Gravel | | |
| 10450 | 10400 | 3204251 | | | 30% Gravel | | |
| 10425 | 10400 | 3204252 | | | | | |
| 10400 | 10400 | 3204253 | | | | | Very rugged. Massive purple dolostone |
| 10375 | 10400 | 3204254 | | | | | Very rugged. Massive purple dolostone |
| 10350 | 10400 | 3204255 | | | | | Very rugged. Massive purple dolostone |
| 10325 | 10400 | 3204256 | | | | | Very rugged. Massive purple dolostone |
| 10300 | 10400 | 3204257 | | | | | Very rugged. Massive purple dolostone |
| 10250 | 10400 | 3204258 | | | | | Very rugged. Massive white/cream dolostone |
| 10200 | 10400 | 3204259 | | | | | Very Rugged. Powdery massive white/cream dolostone |
| 10150 | 10400 | 3204260 | | | 30% Gravel | Cream | Bedded for stained dolostone. Massive purple dolostone |
| 10100 | 10400 | 3204261 | | | 10% Gravel | | massive purple dolostone |
| 10050 | 10400 | 3204262 | | | 20% Gravel | | Massive purple dolostone |
| 10000 | E | | | | | | Massive purple dolostone |
| 9950 | E | | | | | | Grey shaley outcrop dolostone |
| ***LINE*** | ***10200 N*** | | | | | | |
| 10600 | 10200 | 3204263 | 0 | 10 | 10% Gravel | Brown | Purple dolostone |
| 10575 | 10200 | 3204264 | 0 | 10 | 20% Gravel | Brown | Purple dolostone + sandy bands |
| 10550 | 10200 | 3204265 | 0 | 10 | 20% Gravel | Brown | Pink/grey dolostone |
| 10525 | 10200 | 3204266 | 0 | 10 | 40% Gravel | Brown | Grey banded (gritty) dolostone |
| 10500 | 10200 | 3204267 | 0 | 10 | 40% Gravel | Brown | Weathered shaley fragments. Cream/purple dolostone |
| 10475 | 10200 | 3204268 | 0 | 5 | 40% Gravel | Brown | Weathered shaley fragments. Cream dolostone |
| 10450 | 10200 | 3204269 | 0 | 10 | 40% Gravel | Brown | Weathered shaley fragments. Cream dolostone |
| 10425 | 10200 | 3204270 | 0 | 10 | 30% Gravel | Brown | |
| 10400 | 10200 | 3204271 | 0 | 10 | 30% Gravel | Brown | Massive purple dolostone |
| 10350 | 10200 | 3204272 | 0 | 10 | 30% Gravel | Brown | Hill. Massive purple dolostone |
| 10300 | 10200 | 3204273 | 0 | 10 | 30% Gravel | Brown | Course fine beds. Purple/grey dolostone |
| 10250 | 10200 | 3204274 | 0 | 10 | 30% Gravel | Brown | Gritty/coarse/fine Beds. Purple/grey dolostone |
| 10200 | 10200 | 3204275 | 0 | 10 | 30% Gravel | Brown | Gritty Bads. Purple/grey bedded dolostone |
| 10150 | 10200 | 3204276 | 0 | 10 | 30% Gravel | Brown | |

**PROGRAMME :MARGOO PROSPECT -2mm SOIL SAMPLING**

| EASTINGS LOCAL | NORTHINGS LOCAL | SAMPLE NO | DEPTH FROM | DEPTH TO | SAMPLE DESC % | COLOUR | GEOLOGICAL OBSERVATIONS |
|---|---|---|---|---|---|---|---|
| BASE | 10200 | | | | | | |
| ***LINE*** | ***10000 N*** | | | | | | |
| 10100 | 10200 | 3204277 | 0 | 10 | 30% Gravel | Brown | Purple dolostone |
| 10050 | 10200 | 3204278 | 0 | 10 | 30% Gravel | Brown | Banded purple/grey shaley outcrop dolostone |
| 11500 | 10000 | 3204279 | 0 | 5 | 20% Gravel | Brown | Purple dolostone glauconite |
| 11400 | 10000 | 3204280 | 0 | 5 | 20% Gravel | Brown | Purple dolostone |
| 11300 | 10000 | 3204281 | 0 | 10 | 15% Gravel | Brown | Ferruginised dolostone |
| 11200 | 10000 | 3204282 | 0 | 10 | 10% Gravel | Brown | Purple/grey dolostone |
| 11100 | 10000 | 3204283 | 0 | 10 | 20% Gravel | Brown | Purple/grey dolostone |
| 11000 | 10000 | 3204284 | 0 | 10 | 20% Gravel | Brown | Coarse purple/grey dolostone |
| 10950 | 10000 | 3204285 | 0 | 10 | 40% Gravel | Brown | Purple/grey dolostone |
| 10900 | 10000 | 3204286 | 0 | 10 | 40% Gravel | Brown | Purple/grey dolostone |
| 10850 | 10000 | 3204287 | 0 | 10 | 30% Gravel | Brown | Purple/grey dolostone Glauconite |
| 10800 | 10000 | 3204288 | 0 | 10 | 40% Gravel | Brown | Purple/grey dolostone |
| 10750 | 10000 | 3204289 | 0 | 10 | 20% Gravel | Brown | Purple/grey dolostone |
| 10700 | 10000 | 3204290 | 0 | 10 | 40% Gravel | Brown | Gritty bands. Purple/grey dolostone |
| 10650 | 10000 | 3204291 | 0 | 10 | 20% Gravel | Brown | Purple/grey dolostone |
| 10600 | 10000 | 3204292 | 0 | 10 | 10% Gravel | Brown | Purple/grey dolostone |
| 10575 | 10000 | 3204293 | 0 | 10 | 10% Gravel | Brown | Purple/grey dolostone |
| 10550 | 10000 | 3204294 | 0 | 10 | 10% Gravel | Brown | Purple/grey dolostone |
| 10525 | 10000 | 3204295 | 0 | 10 | 30% Gravel | Brown | Weathered white rock (dolo?) Purple/grey dolostone |
| 10500 | 10000 | 3204296 | 0 | 10 | 40% Gravel | Brown | Fe staining. Purple/grey dolostone |
| 10475 | 10000 | 3204297 | 0 | 5 | 30% Gravel | Brown | Some Fe stains. Gritty bands. Purple/grey dolostone |
| 10450 | 10000 | 3204298 | 0 | 5 | 20% Gravel | Brown | Gritty bands. Purple/grey dolostone |
| 10425 | 10000 | 3204299 | 0 | 10 | 30% Gravel | Brown | Purple/grey dolostone |
| 10400 | 10000 | 3204300 | 0 | 10 | 30% Gravel | Brown | Purple/grey dolostone |
| 10350 | 10000 | 3204301 | 0 | 5 | 30% Gravel | Brown | Purple dolostone. Fe stained. Gritty bands |
| 10300 | 10000 | 3204302 | 0 | 10 | 30% Gravel | Brown | Purple dolostone. Fe stained. |
| 10250 | 10000 | 3204303 | 0 | 5 | 40% Gravel | Light Grey | Fe Stained. Folded laminated dolostone |
| 10200 | 10000 | 3204304 | 0 | 10 | 20% Gravel | Light Grey | Light grey/brown dolostone float |
| 10150 | 10000 | 3204305 | 0 | 5 | 30% Gravel | Light Brown | Banded Fe stained dolostone |
| 10100 | 10000 | 3204306 | 0 | 5 | 30% Gravel | Light Brown | Shaley outcrop.Banded purple/grey dolostone |
| 10050 | 10000 | 3204307 | 0 | 5 | 20% Gravel | Light Brown | Shaley outcrop. Banded purple/grey dolostone |

**PROGRAMME :MARGOO PROSPECT -2mm SOIL SAMPLING**

| EASTINGS LOCAL | NORTHINGS LOCAL | SAMPLE NO | DEPTH FROM | DEPTH TO | SAMPLE DESC % | COLOUR | GEOLOGICAL OBSERVATIONS |
|---|---|---|---|---|---|---|---|
| ***LINE*** | ***9800 N*** | | | | | | |
| 10800 | 9800 | 3204308 | 0 | 10 | 40% Gravel | Brown | Quartz shale Scree |
| 10750 | 9800 | 3204309 | 0 | 10 | 40% Gravel | Brown | Purple dolostone scree |
| 10700 | 9800 | 3204310 | 0 | 10 | 35% Gravel | Brown | Scree |
| 10675 | 9800 | 3204311 | 0 | 10 | 30% Gravel | Brown | Grey dolostone |
| 10650 | 9800 | 3204312 | 0 | 10 | 20% Gravel | Brown | Purple dolostone |
| 10625 | 9800 | 3204313 | 0 | 10 | 50% Gravel | Brown | Purple dolostone + grey bands |
| 10600 | 9800 | 3204314 | 0 | 10 | 40% Gravel | Brown | Purple dolostone+ cream dolost |
| 10575 | 9800 | 3204315 | 0 | 5 | 30% Gravel | Brown | Purple dolostone |
| 10550 | 9800 | 3204316 | 0 | 5 | 30% Gravel | Brown | Purple dolostone |
| 10525 | 9800 | 3204317 | 0 | 5 | 30% Gravel | Brown | Coarse purple dolostone |
| 10500 | 9800 | 3204318 | 0 | 5 | 30% Gravel | Brown | Purple dolostone |
| 10450 | 9800 | 3204319 | 0 | 5 | 20% Gravel | Brown | Pink/purple/grey dolostone |
| 10400 | 9800 | 3204320 | 0 | 10 | 30% Gravel | Brown | Purple dolostone |
| 10350 | 9800 | 3204321 | 0 | 5 | 20% Gravel | Brown | Fe stone + pisolite. Purple/grey dolostone+ Glauconite |
| 10300 | 9800 | 3204322 | 0 | 5 | 20% Gravel | Light Brown | Light grey dolostone |
| 10250 | 9800 | 3204323 | 0 | 5 | 10% Gravel | Light Brown | Weathered Fe stained dolostone float |
| 10200 | 9800 | 3204324 | 0 | 5 | 15% Gravel | Light Brown | Juicy Red bedded dolostone Weathered Fe stained dolostone float |
| 10150 | 9800 | 3204325 | 0 | 5 | 20% Gravel | Light Brown | Purple dolostone |
| 10100 | 9800 | 3204326 | 0 | 5 | 20% Gravel | Light Brown | Shaley dolostone float |
| 10050 | 9800 | 3204327 | 0 | 10 | 25% Gravel | Light Brown | Grey dolostone shaley outcrop |
| ***LINE*** | ***9600 N*** | | | | | | |
| 11000 | 9600 | 3204328 | | | 30% Gravel | | Coarse purple/grey dolostone |
| 10950 | 9600 | 3204329 | | | 30% Gravel | | Quartz/sandstone + massive purple dolostone |
| 10900 | 9600 | 3204330 | | | 30% Gravel | | Massive purple dolostone |
| 10850 | 9600 | 3204331 | | | 30% Gravel | | Bedded purple/grey dolostone with gritty bands |
| 10800 | 9600 | 3204332 | | | 30% Gravel | | |
| 10775 | 9600 | 3204333 | | | 30% Gravel | | |
| 10750 | 9600 | 3204334 | | | 30% Gravel | | Brown/grey/purple Stromatotic(?) dolostone. Fe stained |
| 10725 | 9600 | 3204335 | | | 30% Gravel | | |
| 10700 | 9600 | 3204336 | | | 30% Gravel | | Massive red purple/grey dolostone with gritty bands. Fe staining |
| 10675 | 9600 | 3204337 | | | 30% Gravel | | |
| 10650 | 9600 | 3204338 | | | 30% Gravel | | Massive red purple/grey dolostone with gritty bands |
| 10625 | 9600 | 3204339 | | | 30% Gravel | | |

**PROGRAMME :MARGOO PROSPECT -2mm SOIL SAMPLING**

| EASTINGS LOCAL | NORTHINGS LOCAL | SAMPLE NO | DEPTH FROM | DEPTH TO | SAMPLE DESC % | COLOUR | GEOLOGICAL OBSERVATIONS |
|---|---|---|---|---|---|---|---|
| *LINE* | *9600 N* | | | | | | |
| 10600 | 9600 | 3204340 | | | 30% Gravel | | Massive purple/grey dolostone |
| 10550 | 9600 | 3204341 | | | 30% Gravel | | Massive purple/grey dolostone |
| 10500 | 9600 | 3204342 | | | 30% Gravel | | Massive purple/grey dolostone |
| 10450 | 9600 | 3204343 | | | 30% Gravel | | Coarse purple "mudflake breccia" dolostone |
| 10400 | 9600 | 3204344 | | | 30% Gravel | | Massive purple/grey dolostone |
| 10350 | 9600 | 3204345 | | | 30% Gravel | | Massive bedded purple/grey dolostone + Fe stones |
| 10300 | 9600 | 3204346 | | | 30% Gravel | | Fe stones. Fe stained Shaly dolostone |
| 10250 | 9600 | 3204347 | | | 30% Gravel | | Bedded shaly purple/grey dolostone. Cream dolostone |
| 10200 | 9600 | 3204348 | | | 30% Gravel | | Fe stained. Shaly dolostone + Fe stones |
| 10150 | 9600 | 3204349 | | | 30% Gravel | | Red Shaly Dolostone. Fe stained/Scree |
| 10100 | 9600 | 3204350 | | | 30% Gravel | | Soil sample close to creek. |
| 10050 | 9600 | 3204351 | | | 30% Gravel | | Shaley outcrop bedded purple/grey dolostone.Close to creek |
| *LINE* | *9000 E* | | | | | | |
| 9000 | 10600 | 3204384 | 0 | 10 | 05% Gravel | | Coarse quartz sand/dolostone. Purple |
| 9000 | 10550 | 3204385 | 0 | 10 | 40% Gravel | | Massive bedded purple/brown dolostone |
| 9000 | 10500 | 3204386 | 0 | 10 | 50% Gravel | | Massive purple/grey dolostone. Lots of soil & Grass |
| 9000 | 10475 | 3204387 | 0 | 10 | 50% Gravel | | Massive purple/grey dolostone. Fe stained scree |
| 9000 | 10450 | 3204388 | 0 | 10 | 40% Gravel | | Purple massive dolostone/ironstone (gungy) Fe stained scree |
| 9000 | 10425 | 3204389 | 0 | 10 | 50% Gravel | | Ironstone. Fe stained scree |
| 9000 | 10400 | 3204390 | 0 | 10 | 50% Gravel | | Sandstone? Fe stained (after dolostone) Fe stained scree |
| 9000 | 10375 | 3204391 | 0 | 10 | 40% Gravel | | Fe stained scree/Fe stone |
| 9000 | 10350 | 3204392 | 0 | 10 | 50% Gravel | | Purple/brown massive dolostone. Brecciated cracks filled with F |
| 9000 | 10325 | 3204393 | 0 | 10 | 50% Gravel | | Purple/grey massive dolostone. Possible transported soil from |
| 9000 | 10300 | 3204394 | 0 | 10 | 50% Gravel | | Purple/grey massive dolostone. Possible transport of soil |
| 9000 | 10250 | 3204395 | 0 | 10 | 50% Gravel | | Fe stained scree. Fe stained calcrete/silicate? Rock |
| 9000 | 10200 | 3204396 | 0 | 10 | 40% Gravel | | Fe stained scree. Possibly from up hill |
| 9000 | 10150 | 3204397 | 0 | 10 | 40% Gravel | | Massive purple/brown dolostone |
| 9000 | 10100 | 3204398 | 0 | 10 | 40% Gravel | | Massive purple /grey dolostone |
| 9000 | 10050 | 3204399 | 0 | 10 | 40% Gravel | | Low rocky ridge. Brown/purple dolostone. Brecciated |
| 9000 | 10000 | 3204400 | 0 | 10 | 50% Gravel | | Shaley grey fine grain dolostone. Dipping from 20 deg to 210 deg with Fe stained scree |
| 10200 | 10450 | 3204383 | 0 | 10 | 50% Gravel | | Course purple massive cream/pink/purple dolostone |

**PROGRAMME :MARGOO PROSPECT -2mm SOIL SAMPLING**

| EASTINGS LOCAL | NORTHINGS LOCAL | SAMPLE NO | DEPTH FROM | DEPTH TO | SAMPLE DESC % | COLOUR | GEOLOGICAL OBSERVATIONS |
|---|---|---|---|---|---|---|---|
| *LINE* | *9000 E* | | | | | | |
| 10200 | 10500 | 3204382 | 0 | 10 | 50% Gravel | | Bedded purple/pink/cream dolostone + hard bands. Fe staining with Fe stained dolostone scree |
| 10200 | 10550 | 3204381 | 0 | 10 | 50% Gravel | | |
| 10200 | 10600 | 3204380 | 0 | 10 | 50% Gravel | | |
| 10200 | 10625 | 3204379 | 0 | 10 | 50% Gravel | | |
| 10200 | 10650 | 3204378 | 0 | 10 | 10% Gravel | | |
| 10200 | 10675 | 3204377 | 0 | 10 | 05% Gravel | | |
| 10200 | 10700 | 3204376 | 0 | 10 | 50% Gravel | | |
| 10200 | 10725 | 3204375 | 0 | 10 | 50% Gravel | | |
| 10200 | 10750 | 3204374 | 0 | 10 | 50% gravel | | |
| 10200 | 10775 | 3204373 | 0 | 10 | 40% Gravel | | |
| 10200 | 10800 | 3204372 | 0 | 10 | 50% gravel | | |
| 10200 | 10850 | 3204371 | 0 | 10 | 70% Gravel | | |
| 10200 | 10900 | 3204370 | 0 | 10 | 50% Gravel | | |
| 10200 | 10950 | 3204369 | 0 | 10 | 50% Gravel | | |
| 10200 | 11000 | 3204368 | 0 | 10 | 40% Gravel | | |
| 10600 | 11000 | 3204401 | | | 50% Gravel | | |
| 10600 | 10950 | 3204402 | | | 40% Gravel | | |
| 10600 | 10900 | 3204403 | | | 60% Gravel | | |
| 10600 | 10850 | 3204404 | | | 70% Gravel | | |
| 10600 | 10800 | 3204405 | | | 40% Gravel | | |
| 10600 | 10750 | 3204406 | | | 70% Gravel | | |
| 10600 | 10700 | 3204407 | | | 40% Gravel | | |
| 10600 | 10650 | 3204408 | | | 60% Gravel | | |
| 10600 | 10600 | 3204409 | | | 40% Gravel | | |
| 10600 | 10550 | 3204410 | | | 50% Gravel | | |
| 10600 | 10500 | 3204411 | | | 50% Gravel | | |
| 10600 | 10450 | 3204412 | | | 60^ Gravel | | |

CLASSIC LABORATORIES LTD

Job: 1DN0664
O/N: DPO No.71007

Final

ANALYTICAL REPORT

| SAMPLE | Co | Cr | Cu | Fe | Mn | Ni | Pb |
|---|---|---|---|---|---|---|---|
| 3204125 | 16 | 150 | 10 | 2.68% | 1700 | 20 | 9 |
| 3204126 | 19 | 200 | 11 | 4.74% | 5200 | 35 | 12 |
| 3204127 | 10 | 185 | 6 | 2.56% | 1800 | 20 | 11 |
| 3204128 | 18 | 79 | 9 | 2.20% | 2450 | 25 | 11 |
| 3204129 | 11 | 140 | 13 | 1.56% | 1420 | 15 | 7 |
| 3204130 | 10 | 140 | 24 | 2.18% | 3100 | 20 | 12 |
| 3204141 | 19 | 180 | 16 | 2.14% | 3860 | 30 | 24 |
| 3204142 | 10 | 140 | 12 | 1.58% | 870 | 16 | 8 |
| 3204143 | 10 | 115 | 14 | 2.24% | 1410 | 17 | 12 |
| 3204144 | 8 | 76 | 6 | 1.59% | 720 | 12 | 7 |
| 3204145 | 11 | 150 | 13 | 2.18% | 870 | 15 | 8 |
| 3204146 | 11 | 170 | 76 | 1.58% | 410 | 16 | 16 |
| 3204147 | 7 | 125 | 15 | 1.48% | 520 | 8 | 9 |
| 3204148 | 10 | 99 | 62 | 1.62% | 740 | 12 | 25 |
| 3204149 | 14 | 120 | 14 | 2.22% | 1040 | 15 | 11 |
| 3204150 | 12 | 115 | 23 | 1.35% | 680 | 9 | 10 |
| 3204151 | 10 | 95 | 30 | 2.06% | 770 | 14 | 16 |
| 3204152 | 9 | 105 | 30 | 2.20% | 520 | 12 | 20 |
| 3204153 | 11 | 79 | 41 | 3.94% | 1920 | 24 | 30 |
| 3204154 | 11 | 110 | 49 | 1.91% | 1070 | 14 | 15 |
| 3204155 | 14 | 87 | 26 | 2.86% | 1860 | 12 | 11 |
| 3204156 | 16 | 105 | 25 | 5.70% | 4750 | 30 | 23 |
| 3204157 | 22 | 98 | 16 | 3.88% | 3640 | 34 | 13 |
| 3204158 | 26 | 135 | 32 | 4.02% | 3770 | 32 | 18 |
| 3204159 | 18 | 100 | 30 | 2.74% | 2240 | 27 | 12 |
| 3204160 | 14 | 105 | 10 | 1.87% | 1460 | 20 | 9 |
| 3204161 | 12 | 120 | 11 | 3.32% | 7100 | 19 | 10 |
| 3204162 | 13 | 130 | 20 | 2.12% | 1960 | 14 | 10 |
| 3204163 | 10 | 140 | 7 | 1.69% | 1520 | 12 | 8 |
| 3204164 | 8 | 180 | 10 | 1.74% | 1460 | 17 | 9 |
| 3204165 | 9 | 140 | 6 | 1.32% | 1190 | 13 | 7 |
| 3204166 | 18 | 165 | 23 | 2.20% | 3510 | 14 | <4 |
| 3204167 | 18 | 125 | 87 | 2.92% | 5300 | 50 | 9 |
| 3204168 | 20 | 140 | 140 | 1.43% | 1780 | 20 | 9 |
| 3204169 | 38 | 110 | 470 | 6.80% | 1.47% | 44 | 36 |
| 3204170 | 28 | 170 | 610 | 4.44% | 1.00% | 35 | 55 |
| 3204171 | 25 | 175 | 410 | 3.04% | 5100 | 25 | 54 |
| 3204172 | 30 | 260 | 200 | 1.59% | 1960 | 24 | 49 |
| 3204173 | 16 | 320 | 130 | 1.57% | 1190 | 19 | 34 |
| 3204174 | 20 | 210 | 23 | 3.16% | 2970 | 33 | 20 |
| 3204175 | 16 | 145 | 14 | 2.14% | 1950 | 25 | 11 |
| 3204176 | 9 | 140 | 14 | 1.92% | 410 | 19 | 12 |
| 3204177 | 13 | 62 | 13 | 1.48% | 900 | 16 | 16 |
| 3204178 | 13 | 145 | 21 | 1.90% | 1430 | 15 | 10 |
| 3204179 | 14 | 125 | 12 | 2.08% | 1830 | 15 | 7 |
| 3204180 | 12 | 195 | 11 | 1.93% | 2010 | 15 | 11 |
| 3204181 | 11 | 160 | 10 | 2.14% | 2120 | 15 | 11 |
| 3204182 | 10 | 175 | 16 | 3.04% | 5100 | 19 | 14 |
| 3204183 | 8 | 165 | 13 | 1.39% | 2370 | 14 | 8 |
| 3204184 | 47 | 100 | 500 | 1.57% | 1.42% | 23 | 115 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| DET.LIM | 4 | 4 | 2 | 5 | 4 | 4 | 4 |
| SCHEME | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 |
| UPPER SCHEME | | | | | AAS2C | | |

ANALYTICAL REPORT

| SAMPLE | Co | Cr | Cu | Fe | Mn | Ni | Pb |
|---|---|---|---|---|---|---|---|
| 3204185 | 25 | 210 | 300 | 3.22% | 4850 | 25 | 60 |
| 3204186 | 16 | 160 | 37 | 2.48% | 3280 | 19 | 14 |
| 3204187 | 10 | 165 | 19 | 1.83% | 1720 | 13 | 7 |
| 3204188 | 9 | 220 | 19 | 1.50% | 1470 | 12 | 9 |
| 3204189 | 27 | 185 | 80 | 4.90% | 1.00% | 30 | 31 |
| 3204190 | 26 | 220 | 79 | 3.90% | 7700 | 27 | 37 |
| 3204191 | 19 | 200 | 175 | 1.70% | 2620 | 15 | 61 |
| 3204192 | 21 | 200 | 155 | 2.12% | 2490 | 16 | 57 |
| 3204193 | 26 | 170 | 95 | 3.44% | 4110 | 25 | 44 |
| 3204194 | 15 | 230 | 24 | 1.98% | 1330 | 17 | 12 |
| 3204195 | 6 | 170 | 14 | 1.34% | 440 | 13 | 18 |
| 3204196 | 11 | 90 | 11 | 1.56% | 1140 | 16 | 15 |
| 3204197 | 8 | 105 | 12 | 1.01% | 1330 | <4 | 6 |
| 3204198 | 7 | 75 | 8 | 8800 | 1400 | <4 | <4 |
| 3204199 | 17 | 92 | 38 | 1.39% | 1390 | 21 | 15 |
| 3204200 | 15 | 94 | 11 | 1.80% | 2230 | 20 | 6 |
| 3204201 | 15 | 68 | 15 | 1.37% | 1950 | 18 | 8 |
| 3204202 | 20 | 66 | 33 | 3.22% | 2800 | 27 | 19 |
| 3204203 | 12 | 125 | 32 | 1.64% | 1510 | 20 | 16 |
| 3204204 | 14 | 150 | 26 | 2.14% | 2560 | 20 | 12 |
| 3204205 | 6 | 180 | 13 | 1.41% | 1390 | 18 | 8 |
| 3204207 | 27 | 175 | 71 | 6.10% | 8000 | 29 | 25 |
| 3204208 | 20 | 210 | 44 | 2.84% | 4570 | 27 | 18 |
| 3204209 | 16 | 145 | 44 | 1.52% | 1740 | 22 | 17 |
| 3204210 | 15 | 155 | 66 | 1.98% | 2210 | 26 | 23 |
| 3204211 | 14 | 150 | 17 | 1.70% | 1830 | 18 | 9 |
| 3204212 | 13 | 125 | 19 | 1.46% | 2080 | 18 | 12 |
| 3204213 | 23 | 175 | 58 | 4.66% | 4560 | 33 | 29 |
| 3204214 | 24 | 240 | 1280 | 4.48% | 5500 | 36 | 47 |
| 3204215 | 25 | 180 | 125 | 3.20% | 3380 | 31 | 45 |
| 3204216 | 40 | 165 | 75 | 3.10% | 1780 | 37 | 93 |
| 3204217 | 4 | 270 | 17 | 1.30% | 380 | 17 | 7 |
| 3204219 | 38 | 210 | 59 | 2.64% | 2890 | 51 | 13 |
| 3204220 | 24 | 190 | 55 | 2.60% | 1970 | 41 | 11 |
| 3204221 | 19 | 140 | 40 | 2.24% | 600 | 21 | 18 |
| 3204222 | 13 | 210 | 34 | 1.73% | 400 | 20 | 20 |
| 3204223 | 5 | 240 | 14 | 1.54% | 82 | 14 | 8 |
| 3204224 | 5 | 270 | 12 | 1.33% | 190 | 13 | <4 |
| 3204226 | 12 | 400 | 29 | 1.95% | 470 | 25 | 13 |
| 3204227 | 14 | 290 | 20 | 1.99% | 2060 | 22 | 13 |
| 3204228 | 30 | 200 | 165 | 4.32% | 5500 | 34 | 50 |
| 3204229 | 190 | 145 | 800 | 2.38% | 3.28% | 69 | 66 |
| 3204230 | 68 | 155 | 300 | 5.10% | 9300 | 57 | 42 |
| 3204231 | 33 | 155 | 220 | 3.36% | 4050 | 51 | 43 |
| 3204232 | 36 | 270 | 81 | 2.56% | 1950 | 36 | 62 |
| 3204233 | 18 | 210 | 40 | 2.68% | 2780 | 26 | 47 |
| 3204234 | 12 | 190 | 37 | 2.54% | 2560 | 24 | 49 |
| 3204235 | 22 | 180 | 35 | 3.02% | 2450 | 25 | 30 |
| 3204236 | 8 | 400 | 27 | 1.43% | 550 | 16 | 27 |
| 3204237 | 23 | 240 | 42 | 3.04% | 2120 | 31 | 8 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| DET.LIM | 4 | 4 | 2 | 5 | 4 | 4 | 4 |
| SCHEME | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 |
| UPPER SCHEME | | | | | AAS2C | | |

| SAMPLE | Co | Cr | Cu | Fe | Mn | Ni | Pb |
|---|---|---|---|---|---|---|---|
| 3204238 | 18 | 200 | 22 | 2.54% | 2440 | 26 | 11 |
| 3204239 | 18 | 185 | 21 | 2.74% | 2610 | 29 | 13 |
| 3204240 | 18 | 220 | 29 | 3.80% | 4290 | 36 | 18 |
| 3204241 | 18 | 230 | 27 | 3.68% | 4270 | 33 | 17 |
| 3204242 | 16 | 210 | 26 | 4.04% | 5400 | 42 | 16 |
| 3204243 | 22 | 260 | 28 | 3.68% | 4880 | 46 | 21 |
| 3204244 | 12 | 340 | 24 | 3.72% | 1400 | 34 | 25 |
| 3204245 | 10 | 250 | 23 | 1.39% | 800 | 20 | 15 |
| 3204246 | 11 | 170 | 26 | 3.12% | 460 | 40 | 78 |
| 3204247 | 15 | 145 | 18 | 3.10% | 2920 | 32 | 14 |
| 3204248 | 20 | 165 | 13 | 3.88% | 4770 | 42 | 16 |
| 3204249 | 13 | 370 | 17 | 2.24% | 2380 | 25 | 14 |
| 3204250 | 24 | 330 | 23 | 3.58% | 3900 | 35 | 17 |
| 3204251 | 22 | 290 | 37 | 2.04% | 4190 | 33 | 130 |
| 3204252 | 30 | 175 | 46 | 1.65% | 1740 | 36 | 12 |
| 3204253 | 30 | 115 | 37 | 1.90% | 4240 | 43 | 13 |
| 3204254 | 85 | 360 | 83 | 4.86% | 1.20% | 130 | 24 |
| 3204255 | 51 | 230 | 70 | 4.54% | 800 | 93 | 27 |
| 3204256 | 21 | 120 | 47 | 2.80% | 5400 | 47 | 20 |
| 3204257 | 19 | 165 | 56 | 3.30% | 3390 | 41 | 28 |
| 3204258 | 15 | 175 | 13 | 8000 | 910 | 20 | 9 |
| 3204259 | 14 | 200 | 13 | 1.40% | 770 | 27 | 11 |
| 3204260 | 18 | 140 | 17 | 2.64% | 420 | 27 | 12 |
| 3204261 | 20 | 170 | 16 | 2.58% | 3960 | 34 | 13 |
| 3204262 | 18 | 155 | 12 | 1.95% | 4060 | 29 | 27 |
| 3204263 | 22 | 145 | 21 | 3.26% | 3780 | 23 | 14 |
| 3204264 | 41 | 165 | 49 | 7.02% | 5700 | 36 | 20 |
| 3204265 | 21 | 125 | 20 | 2.76% | 2510 | 30 | 14 |
| 3204266 | 27 | 105 | 21 | 2.88% | 1850 | 42 | 13 |
| 3204267 | 79 | 100 | 43 | 2.94% | 3750 | 99 | 19 |
| 3204268 | 38 | 170 | 22 | 2.80% | 2770 | 70 | 10 |
| 3204269 | 63 | 230 | 29 | 2.44% | 3090 | 89 | 14 |
| 3204270 | 43 | 115 | 22 | 1.15% | 3490 | 59 | 15 |
| 3204271 | 32 | 145 | 33 | 9.12% | 6000 | 49 | 25 |
| 3204272 | 17 | 145 | 21 | 2.16% | 2800 | 25 | 12 |
| 3204273 | 24 | 160 | 38 | 2.10% | 4180 | 31 | 24 |
| 3204274 | 16 | 175 | 10 | 1.73% | 1110 | 20 | 9 |
| 3204275 | 14 | 195 | 18 | 1.09% | 2060 | 19 | 11 |
| 3204276 | 19 | 200 | 20 | 1.72% | 3620 | 26 | 13 |
| 3204277 | 11 | 170 | 23 | 1.19% | 1950 | 16 | 10 |
| 3204278 | 8 | 155 | 15 | 1.38% | 810 | 21 | 9 |
| 3204279 | 9 | 150 | 15 | 1.88% | 1290 | 19 | 9 |
| 3204280 | 9 | 94 | 8 | 1.70% | 1270 | 18 | 7 |
| 3204281 | 29 | 140 | 9 | 5.52% | 3840 | 27 | 12 |
| 3204282 | 14 | 105 | 10 | 2.64% | 1980 | 23 | 11 |
| 3204283 | 23 | 150 | 8 | 3.70% | 2470 | 30 | 14 |
| 3204284 | 18 | 160 | 12 | 4.80% | 3660 | 30 | 19 |
| 3204285 | 11 | 115 | 9 | 2.04% | 2320 | 22 | 12 |
| 3204286 | 8 | 160 | 9 | 2.34% | 1620 | 16 | 12 |
| 3204287 | 15 | 175 | 20 | 3.30% | 2610 | 31 | 15 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| DET.LIM | 4 | 4 | 2 | 5 | 4 | 4 | 4 |
| SCHEME | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 |
| UPPER SCHEME | | | | | AAS2C | | |

CLASSIC LABORATORIES LTD

Job: 1DN0664
O/N: DPO No.71007

Final

ANALYTICAL REPORT

| SAMPLE | Co | Cr | Cu | Fe | Mn | Ni | Pb |
|---|---|---|---|---|---|---|---|
| 3204288 | 25 | 175 | 23 | 4.86% | 9900 | 41 | 16 |
| 3204289 | 23 | 160 | 21 | 3.14% | 4070 | 35 | 15 |
| 3204290 | 20 | 140 | 22 | 2.90% | 3360 | 30 | 23 |
| 3204291 | 18 | 145 | 42 | 3.70% | 3270 | 34 | 35 |
| 3204292 | 30 | 160 | 29 | 4.70% | 8600 | 30 | 28 |
| 3204293 | 33 | 150 | 29 | 4.60% | 8600 | 32 | 39 |
| 3204294 | 34 | 195 | 31 | 4.64% | 8700 | 32 | 31 |
| 3204295 | 23 | 185 | 25 | 2.92% | 3240 | 29 | 21 |
| 3204296 | 16 | 115 | 10 | 1.87% | 2210 | 21 | 12 |
| 3204297 | 15 | 135 | 11 | 3.60% | 2520 | 28 | 21 |
| 3204298 | 19 | 145 | 9 | 2.28% | 2670 | 20 | 14 |
| 3204299 | 21 | 170 | 32 | 4.44% | 3970 | 35 | 32 |
| 3204300 | 25 | 240 | 28 | 3.16% | 3600 | 37 | 20 |
| 3204301 | 22 | 160 | 20 | 3.38% | 4900 | 28 | 17 |
| 3204302 | 13 | 78 | 36 | 6.90% | 7700 | 21 | 28 |
| 3204303 | 21 | 140 | 25 | 1.90% | 1190 | 20 | 31 |
| 3204304 | 18 | 83 | 33 | 1.04% | 360 | 18 | 23 |
| 3204305 | 17 | 110 | 28 | 2.20% | 1330 | 42 | 17 |
| 3204306 | 16 | 74 | 11 | 1.61% | 810 | 15 | 8 |
| 3204307 | 15 | 79 | 10 | 1.74% | 1050 | 16 | 9 |
| 3204308 | 20 | 120 | 12 | 1.32% | 830 | 22 | 12 |
| 3204309 | 34 | 80 | 15 | 2.38% | 4590 | 30 | 12 |
| 3204310 | 32 | 100 | 27 | 5.30% | 3500 | 25 | 24 |
| 3204311 | 27 | 75 | 10 | 3.18% | 4400 | 24 | 12 |
| 3204312 | 22 | 89 | 9 | 1.90% | 1200 | 16 | 14 |
| 3204313 | 42 | 67 | 17 | 2.70% | 3780 | 44 | 14 |
| 3204314 | 71 | 64 | 20 | 4.18% | 5700 | 57 | 18 |
| 3204315 | 51 | 53 | 19 | 4.96% | 5400 | 45 | 19 |
| 3204316 | 47 | 93 | 21 | 1.29% | 3690 | 44 | 14 |
| 3204317 | 46 | 86 | 14 | 2.42% | 3690 | 42 | 15 |
| 3204318 | 38 | 86 | 11 | 2.40% | 3470 | 28 | 22 |
| 3204319 | 25 | 72 | 15 | 1.95% | 1600 | 18 | 15 |
| 3204320 | 54 | 76 | 13 | 3.14% | 5300 | 68 | 17 |
| 3204321 | 45 | 68 | 27 | 3.30% | 4160 | 36 | 21 |
| 3204322 | 16 | 86 | 27 | 3.34% | 1130 | 7 | 32 |
| 3204323 | 44 | 44 | 76 | 3.62% | 1280 | 27 | 42 |
| 3204324 | 34 | 58 | 33 | 7.10% | 1620 | 30 | 16 |
| 3204325 | 12 | 49 | 25 | 2.54% | 1000 | 7 | 12 |
| 3204326 | 16 | 75 | 27 | 2.52% | 1060 | 11 | 21 |
| 3204327 | 21 | 40 | 40 | 1.80% | 530 | 9 | 165 |
| 3204328 | 23 | 145 | 15 | 3.50% | 2000 | 8 | 22 |
| 3204329 | 30 | 94 | 15 | 2.76% | 1890 | 10 | 21 |
| 3204330 | 14 | 120 | 26 | 1.84% | 760 | 20 | 19 |
| 3204331 | 8 | 110 | 8 | 1.64% | 720 | 11 | 13 |
| 3204332 | 32 | 105 | 14 | 1.92% | 2510 | 36 | 16 |
| 3204333 | 34 | 110 | 8 | 2.44% | 2290 | 30 | 15 |
| 3204334 | 20 | 92 | 10 | 2.68% | 1490 | 31 | 14 |
| 3204335 | 14 | 48 | 8 | 2.32% | 830 | 17 | 13 |
| 3204336 | 23 | 69 | 8 | 2.76% | 2120 | 19 | 16 |
| 3204337 | 24 | 46 | 15 | 2.60% | 3490 | 20 | 10 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| DET.LIM | 4 | 4 | 2 | 5 | 4 | 4 | 4 |
| SCHEME | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 |

ANALYTICAL REPORT

| SAMPLE | Co | Cr | Cu | Fe | Mn | Ni | Pb |
|---|---|---|---|---|---|---|---|
| 3204338 | 51 | 62 | 16 | 3.56% | 5100 | 43 | 22 |
| 3204339 | 60 | 75 | 17 | 5.06% | 5900 | 59 | 26 |
| 3204340 | 51 | 71 | 16 | 4.40% | 5400 | 54 | 22 |
| 3204341 | 16 | 92 | 9 | 1.53% | 680 | 19 | 9 |
| 3204342 | 33 | 86 | 15 | 2.84% | 3830 | 37 | 15 |
| 3204343 | 17 | 100 | 9 | 1.99% | 1770 | 20 | 10 |
| 3204344 | 34 | 89 | 21 | 6.32% | 6200 | 29 | 36 |
| 3204345 | 26 | 120 | 21 | 6.20% | 5200 | 32 | 30 |
| 3204346 | 12 | 77 | 15 | 2.30% | 700 | 16 | 44 |
| 3204347 | 19 | 58 | 40 | 1.40% | 1290 | 13 | 41 |
| 3204348 | 13 | 41 | 16 | 1.44% | 630 | 11 | 59 |
| 3204349 | 39 | 63 | 63 | 3.12% | 2230 | 33 | 36 |
| 3204350 | 22 | 78 | 48 | 6.02% | 1220 | 35 | 37 |
| 3204351 | 17 | 77 | 19 | 2.50% | 1400 | 20 | 15 |
| 3204352 | 13 | 58 | 54 | 1.90% | 1160 | 11 | 42 |
| 3204353 | 23 | 54 | 60 | 2.18% | 1650 | 16 | 23 |
| 3204354 | 22 | 50 | 20 | 2.58% | 2620 | 26 | 12 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| DET.LIM | 4 | 4 | 2 | 5 | 4 | 4 | 4 |
| SCHEME | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 | AAS2 |

ANALYTICAL REPORT

| SAMPLE | Zn | Cd | Mo | Ag | As | Ba |
|---|---|---|---|---|---|---|
| 3204125 | 22 | <0.1 | <1 | 0.1 | 6 | 480 |
| 3204126 | 64 | <0.1 | <1 | <0.1 | 15 | 630 |
| 3204127 | 29 | <0.1 | <1 | <0.1 | 9 | 260 |
| 3204128 | 62 | <0.1 | <1 | <0.1 | 8 | 280 |
| 3204129 | 58 | <0.1 | <1 | <0.1 | 8 | 280 |
| 3204130 | 70 | <0.1 | <1 | <0.1 | 9 | 180 |
| 3204141 | 56 | <0.1 | <1 | <0.1 | 3 | 470 |
| 3204142 | 70 | <0.1 | <1 | <0.1 | <2 | 350 |
| 3204143 | 67 | <0.1 | <1 | <0.1 | 3 | 360 |
| 3204144 | 27 | <0.1 | <1 | <0.1 | 8 | 350 |
| 3204145 | 49 | <0.1 | <1 | <0.1 | 8 | 370 |
| 3204146 | 62 | <0.1 | <1 | <0.1 | 11 | 450 |
| 3204147 | 26 | <0.1 | <1 | <0.1 | 22 | 420 |
| 3204148 | 50 | <0.1 | <1 | <0.1 | 24 | 380 |
| 3204149 | 28 | <0.1 | <1 | <0.1 | 14 | 390 |
| 3204150 | 18 | <0.1 | <1 | <0.1 | 7 | 390 |
| 3204151 | 27 | <0.1 | <1 | <0.1 | 26 | 410 |
| 3204152 | 20 | <0.1 | <1 | <0.1 | 22 | 380 |
| 3204153 | 80 | <0.1 | <1 | <0.1 | 17 | 480 |
| 3204154 | 20 | <0.1 | <1 | 0.1 | 12 | 410 |
| 3204155 | 28 | <0.1 | <1 | <0.1 | 11 | 410 |
| 3204156 | 58 | <0.1 | <1 | 0.1 | 10 | 450 |
| 3204157 | 51 | <0.1 | <1 | <0.1 | 4 | 370 |
| 3204158 | 62 | <0.1 | <1 | <0.1 | 9 | 340 |
| 3204159 | 25 | <0.1 | <1 | <0.1 | 6 | 360 |
| 3204160 | 27 | <0.1 | <1 | <0.1 | <2 | 320 |
| 3204161 | 33 | <0.1 | <1 | <0.1 | <2 | 290 |
| 3204162 | 27 | <0.1 | <1 | <0.1 | <2 | 340 |
| 3204163 | 22 | <0.1 | <1 | <0.1 | 6 | 220 |
| 3204164 | 34 | <0.1 | <1 | <0.1 | 10 | 250 |
| 3204165 | 20 | <0.1 | <1 | <0.1 | <2 | 320 |
| 3204166 | 71 | <0.1 | <1 | <0.1 | 12 | 290 |
| 3204167 | 145 | <0.1 | <1 | <0.1 | 11 | 340 |
| 3204168 | 115 | <0.1 | <1 | <0.1 | 7 | 330 |
| 3204169 | 260 | 1.5 | <1 | 0.1 | 5 | 610 |
| 3204170 | 210 | 1.3 | <1 | 0.2 | 2 | 700 |
| 3204171 | 190 | 0.7 | <1 | <0.1 | 3 | 500 |
| 3204172 | 135 | <0.1 | <1 | 0.1 | 5 | 410 |
| 3204173 | 72 | <0.1 | <1 | 0.1 | <2 | 290 |
| 3204174 | 72 | 0.5 | <1 | <0.1 | 6 | 430 |
| 3204175 | 56 | <0.1 | <1 | <0.1 | 3 | 450 |
| 3204176 | 51 | <0.1 | <1 | <0.1 | 4 | 420 |
| 3204177 | 26 | <0.1 | <1 | <0.1 | 11 | 430 |
| 3204178 | 49 | <0.1 | <1 | <0.1 | 9 | 350 |
| 3204179 | 24 | <0.1 | <1 | <0.1 | 6 | 350 |
| 3204180 | 27 | <0.1 | <1 | <0.1 | 5 | 230 |
| 3204181 | 42 | <0.1 | <1 | <0.1 | 8 | 250 |
| 3204182 | 56 | <0.1 | <1 | 0.1 | 11 | 165 |
| 3204183 | 30 | <0.1 | <1 | <0.1 | 8 | 350 |
| 3204184 | 175 | <0.1 | <1 | 0.2 | 4 | 2400 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm |
| DET.LIM | 2 | 0.1 | 1 | 0.1 | 2 | 10 |
| SCHEME | AAS2 | AAS2 | AAS2 | AAS2A | XRF1 | XRF1 |

Final

ANALYTICAL REPORT

| SAMPLE | Zn | Cd | Mo | Ag | As | Ba |
|---|---|---|---|---|---|---|
| 3204185 | 28 | <0.1 | <1 | 0.1 | 10 | 500 |
| 3204186 | 44 | <0.1 | <1 | <0.1 | 8 | 290 |
| 3204187 | 31 | <0.1 | <1 | <0.1 | 6 | 250 |
| 3204188 | 26 | <0.1 | <1 | <0.1 | 4 | 190 |
| 3204189 | 92 | 0.4 | <1 | 0.1 | 13 | 600 |
| 3204190 | 115 | 0.2 | <1 | 0.2 | 8 | 410 |
| 3204191 | 100 | <0.1 | <1 | <0.1 | 12 | 540 |
| 3204192 | 115 | <0.1 | <1 | <0.1 | 8 | 450 |
| 3204193 | 105 | <0.1 | <1 | <0.1 | 8 | 640 |
| 3204194 | 58 | <0.1 | <1 | <0.1 | 7 | 270 |
| 3204195 | 40 | <0.1 | <1 | 0.1 | 12 | 300 |
| 3204196 | 24 | <0.1 | <1 | <0.1 | 14 | 410 |
| 3204197 | 31 | <0.1 | <1 | <0.1 | 11 | 300 |
| 3204198 | 32 | <0.1 | <1 | 0.1 | 9 | 230 |
| 3204199 | 17 | <0.1 | <1 | 0.4 | 4 | 400 |
| 3204200 | 16 | <0.1 | <1 | <0.1 | <2 | 410 |
| 3204201 | 13 | <0.1 | <1 | <0.1 | 3 | 430 |
| 3204202 | 31 | <0.1 | <1 | <0.1 | 13 | 520 |
| 3204203 | 19 | 0.5 | <1 | 0.1 | 9 | 350 |
| 3204204 | 30 | <0.1 | <1 | 0.1 | 3 | 330 |
| 3204205 | 24 | <0.1 | <1 | <0.1 | 5 | 210 |
| 3204207 | 85 | <0.1 | <1 | 0.1 | 14 | 410 |
| 3204208 | 70 | <0.1 | <1 | 0.2 | 13 | 300 |
| 3204209 | 56 | <0.1 | <1 | <0.1 | 5 | 175 |
| 3204210 | 62 | <0.1 | <1 | <0.1 | 9 | 195 |
| 3204211 | 31 | <0.1 | <1 | <0.1 | 9 | 240 |
| 3204212 | 33 | <0.1 | <1 | <0.1 | 3 | 220 |
| 3204213 | 69 | <0.1 | <1 | 0.1 | 9 | 290 |
| 3204214 | 115 | <0.1 | <1 | <0.1 | 6 | 520 |
| 3204215 | 115 | <0.1 | <1 | 0.1 | 2 | 580 |
| 3204216 | 170 | <0.1 | <1 | 0.2 | 8 | 430 |
| 3204217 | 27 | <0.1 | <1 | <0.1 | <2 | 130 |
| 3204219 | 95 | <0.1 | <1 | <0.1 | 12 | 330 |
| 3204220 | 90 | <0.1 | <1 | 0.1 | 10 | 420 |
| 3204221 | 26 | <0.1 | <1 | <0.1 | 28 | 290 |
| 3204222 | 32 | <0.1 | <1 | <0.1 | 14 | 210 |
| 3204223 | 29 | <0.1 | <1 | <0.1 | <2 | 155 |
| 3204224 | 17 | <0.1 | <1 | <0.1 | 2 | 100 |
| 3204226 | 40 | <0.1 | <1 | <0.1 | 7 | 290 |
| 3204227 | 33 | <0.1 | <1 | <0.1 | 4 | 400 |
| 3204228 | 94 | <0.1 | <1 | <0.1 | 11 | 540 |
| 3204229 | 390 | <0.1 | <1 | <0.1 | 20 | 5100 |
| 3204230 | 200 | <0.1 | <1 | <0.1 | 4 | 760 |
| 3204231 | 105 | <0.1 | <1 | <0.1 | 7 | 320 |
| 3204232 | 120 | <0.1 | <1 | <0.1 | 11 | 250 |
| 3204233 | 60 | <0.1 | <1 | <0.1 | 6 | 470 |
| 3204234 | 54 | <0.1 | <1 | <0.1 | 7 | 390 |
| 3204235 | 65 | <0.1 | <1 | <0.1 | 8 | 310 |
| 3204236 | 21 | <0.1 | <1 | <0.1 | 2 | 110 |
| 3204237 | 70 | <0.1 | <1 | <0.1 | 3 | 370 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm |
| DET.LIM | 2 | 0.1 | 1 | 0.1 | 2 | 10 |
| SCHEME | AAS2 | AAS2 | AAS2 | AAS2A | XRF1 | XRF1 |

| SAMPLE | Zn | Cd | Mo | Ag | As | Ba |
|---|---|---|---|---|---|---|
| 3204238 | 49 | <0.1 | <1 | <0.1 | 6 | 330 |
| 3204239 | 47 | <0.1 | <1 | <0.1 | 6 | 290 |
| 3204240 | 63 | <0.1 | <1 | 0.1 | 4 | 310 |
| 3204241 | 86 | <0.1 | <1 | 0.1 | 5 | 310 |
| 3204242 | 61 | <0.1 | <1 | 0.1 | 5 | 340 |
| 3204243 | 70 | <0.1 | <1 | <0.1 | 8 | 400 |
| 3204244 | 43 | <0.1 | <1 | <0.1 | 18 | 360 |
| 3204245 | 25 | <0.1 | <1 | <0.1 | 8 | 340 |
| 3204246 | 48 | <0.1 | <1 | <0.1 | 68 | 390 |
| 3204247 | 56 | <0.1 | <1 | <0.1 | 5 | 210 |
| 3204248 | 90 | <0.1 | <1 | <0.1 | 5 | 410 |
| 3204249 | 35 | <0.1 | <1 | <0.1 | 6 | 240 |
| 3204250 | 61 | <0.1 | <1 | <0.1 | 14 | 310 |
| 3204251 | 120 | <0.1 | <1 | <0.1 | 6 | 250 |
| 3204252 | 175 | <0.1 | <1 | <0.1 | 3 | 210 |
| 3204253 | 115 | <0.1 | <1 | <0.1 | 7 | 330 |
| 3204254 | 360 | 0.4 | <1 | <0.1 | 5 | 940 |
| 3204255 | 230 | 0.5 | <1 | 0.1 | 4 | 620 |
| 3204256 | 120 | <0.1 | <1 | <0.1 | 3 | 320 |
| 3204257 | 165 | <0.1 | <1 | <0.1 | 11 | 360 |
| 3204258 | 42 | <0.1 | <1 | <0.1 | 11 | 420 |
| 3204259 | 69 | <0.1 | <1 | <0.1 | 18 | 580 |
| 3204260 | 50 | <0.1 | <1 | <0.1 | 6 | 370 |
| 3204261 | 56 | <0.1 | <1 | <0.1 | 2 | 340 |
| 3204262 | 44 | <0.1 | <1 | 0.1 | 2 | 580 |
| 3204263 | 67 | <0.1 | <1 | <0.1 | 5 | 220 |
| 3204264 | 230 | 0.8 | <1 | 0.1 | 10 | 300 |
| 3204265 | 65 | <0.1 | <1 | <0.1 | 6 | 200 |
| 3204266 | 77 | <0.1 | <1 | <0.1 | 4 | 230 |
| 3204267 | 195 | <0.1 | <1 | <0.1 | 12 | 410 |
| 3204268 | 140 | <0.1 | <1 | <0.1 | 6 | 310 |
| 3204269 | 130 | <0.1 | <1 | <0.1 | 8 | 270 |
| 3204270 | 115 | <0.1 | <1 | <0.1 | 4 | 230 |
| 3204271 | 165 | <0.1 | <1 | <0.1 | 4 | 350 |
| 3204272 | 73 | <0.1 | <1 | <0.1 | 6 | 195 |
| 3204273 | 76 | <0.1 | <1 | <0.1 | 6 | 410 |
| 3204274 | 44 | <0.1 | <1 | <0.1 | 3 | 220 |
| 3204275 | 48 | 0.5 | <1 | <0.1 | 4 | 210 |
| 3204276 | 51 | <0.1 | <1 | <0.1 | 9 | 390 |
| 3204277 | 33 | <0.1 | <1 | <0.1 | 8 | 550 |
| 3204278 | 40 | <0.1 | <1 | <0.1 | 5 | 400 |
| 3204279 | 14 | <0.1 | <1 | <0.1 | 7 | 550 |
| 3204280 | 15 | <0.1 | <1 | <0.1 | 5 | 290 |
| 3204281 | 97 | 0.4 | <1 | <0.1 | 8 | 330 |
| 3204282 | 37 | <0.1 | <1 | <0.1 | 6 | 260 |
| 3204283 | 40 | <0.1 | <1 | <0.1 | 9 | 260 |
| 3204284 | 43 | <0.1 | <1 | <0.1 | 6 | 250 |
| 3204285 | 24 | <0.1 | <1 | <0.1 | 9 | 240 |
| 3204286 | 26 | <0.1 | <1 | <0.1 | 7 | 230 |
| 3204287 | 82 | <0.1 | <1 | <0.1 | 2 | 200 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm |
| DET.LIM | 2 | 0.1 | 1 | 0.1 | 2 | 10 |
| SCHEME | AAS2 | AAS2 | AAS2 | AAS2A | XRF1 | XRF1 |

Final

ANALYTICAL REPORT

| SAMPLE | Zn | Cd | Mo | Ag | As | Ba |
|---|---|---|---|---|---|---|
| 3204288 | 175 | 0.6 | <1 | <0.1 | 9 | 290 |
| 3204289 | 120 | 0.3 | <1 | <0.1 | 2 | 230 |
| 3204290 | 87 | 0.3 | <1 | <0.1 | 6 | 300 |
| 3204291 | 145 | 0.4 | <1 | <0.1 | 4 | 310 |
| 3204292 | 130 | 0.9 | <1 | <0.1 | 4 | 450 |
| 3204293 | 140 | 0.7 | <1 | <0.1 | 9 | 400 |
| 3204294 | 125 | 0.7 | <1 | <0.1 | 3 | 380 |
| 3204295 | 88 | 0.2 | <1 | <0.1 | 4 | 450 |
| 3204296 | 42 | <0.1 | <1 | <0.1 | 5 | 290 |
| 3204297 | 57 | <0.1 | <1 | <0.1 | 5 | 210 |
| 3204298 | 41 | <0.1 | <1 | <0.1 | 2 | 250 |
| 3204299 | 84 | <0.1 | <1 | <0.1 | 6 | 330 |
| 3204300 | 77 | <0.1 | <1 | <0.1 | 5 | 320 |
| 3204301 | 66 | <0.1 | <1 | <0.1 | 10 | 370 |
| 3204302 | 115 | <0.1 | <1 | <0.1 | 5 | 440 |
| 3204303 | 22 | <0.1 | <1 | <0.1 | 15 | 360 |
| 3204304 | 31 | <0.1 | <1 | <0.1 | 3 | 370 |
| 3204305 | 95 | <0.1 | <1 | <0.1 | 8 | 410 |
| 3204306 | 16 | <0.1 | <1 | <0.1 | 2 | 350 |
| 3204307 | 19 | <0.1 | <1 | <0.1 | 6 | 380 |
| 3204308 | 52 | 0.7 | <1 | 0.1 | 5 | 110 |
| 3204309 | 77 | 0.3 | <1 | <0.1 | 7 | 340 |
| 3204310 | 135 | 0.3 | <1 | <0.1 | 2 | 250 |
| 3204311 | 87 | <0.1 | <1 | <0.1 | 5 | 320 |
| 3204312 | 46 | <0.1 | <1 | <0.1 | 2 | 165 |
| 3204313 | 98 | 0.1 | <1 | <0.1 | 4 | 310 |
| 3204314 | 175 | 0.4 | <1 | <0.1 | 10 | 470 |
| 3204315 | 105 | 0.2 | <1 | <0.1 | 6 | 310 |
| 3204316 | 145 | <0.1 | <1 | <0.1 | 7 | 260 |
| 3204317 | 105 | <0.1 | <1 | <0.1 | 12 | 600 |
| 3204318 | 79 | <0.1 | <1 | <0.1 | 6 | 390 |
| 3204319 | 62 | <0.1 | <1 | <0.1 | 7 | 260 |
| 3204320 | 165 | 0.5 | <1 | <0.1 | 13 | 480 |
| 3204321 | 93 | 0.5 | <1 | <0.1 | 14 | 490 |
| 3204322 | 34 | <0.1 | <1 | <0.1 | 7 | 420 |
| 3204323 | 60 | <0.1 | <1 | <0.1 | 28 | 490 |
| 3204324 | 77 | <0.1 | <1 | <0.1 | 14 | 470 |
| 3204325 | 25 | <0.1 | <1 | <0.1 | 9 | 420 |
| 3204326 | 27 | <0.1 | <1 | <0.1 | 13 | 400 |
| 3204327 | 33 | <0.1 | <1 | 0.3 | 32 | 420 |
| 3204328 | 115 | <0.1 | <1 | <0.1 | 5 | 170 |
| 3204329 | 105 | <0.1 | <1 | <0.1 | 5 | 200 |
| 3204330 | 99 | <0.1 | <1 | <0.1 | 3 | 170 |
| 3204331 | 25 | <0.1 | <1 | <0.1 | <2 | 180 |
| 3204332 | 110 | <0.1 | <1 | <0.1 | 5 | 220 |
| 3204333 | 63 | 0.2 | <1 | <0.1 | 6 | 250 |
| 3204334 | 47 | 0.2 | <1 | <0.1 | 3 | 155 |
| 3204335 | 37 | <0.1 | <1 | <0.1 | 3 | 110 |
| 3204336 | 44 | <0.1 | <1 | <0.1 | 6 | 175 |
| 3204337 | 55 | <0.1 | <1 | <0.1 | 4 | 200 |
| UNITS | ppm | ppm | ppm | ppm | ppm | ppm |
| DET.LIM | 2 | 0.1 | 1 | 0.1 | 2 | 10 |
| SCHEME | AAS2 | AAS2 | AAS2 | AAS2A | XRF1 | XRF1 |

CLASSIC LABORATORIES LTD

Job: 1DN0664
O/N: DPO No.71007

Final

ANALYTICAL REPORT

| SAMPLE | Zn | Cd | Mo | Ag | As | Ba |
|---|---|---|---|---|---|---|
| 3204338 | 130 | 0.3 | <1 | <0.1 | 6 | 330 |
| 3204339 | 135 | <0.1 | <1 | <0.1 | 10 | 430 |
| 3204340 | 125 | 0.2 | <1 | <0.1 | 11 | 380 |
| 3204341 | 42 | <0.1 | <1 | <0.1 | 8 | 440 |
| 3204342 | 68 | <0.1 | <1 | <0.1 | 13 | 410 |
| 3204343 | 41 | <0.1 | <1 | <0.1 | 5 | 310 |
| 3204344 | 145 | <0.1 | <1 | <0.1 | 11 | 540 |
| 3204345 | 93 | <0.1 | <1 | <0.1 | 5 | 440 |
| 3204346 | 25 | <0.1 | <1 | <0.1 | 6 | 520 |
| 3204347 | 11 | <0.1 | <1 | <0.1 | 2 | 400 |
| 3204348 | 19 | <0.1 | <1 | <0.1 | 6 | 420 |
| 3204349 | 42 | <0.1 | <1 | 0.1 | 42 | 520 |
| 3204350 | 65 | <0.1 | <1 | <0.1 | 45 | 480 |
| 3204351 | 29 | <0.1 | <1 | 0.1 | 4 | 400 |
| 3204352 | 17 | <0.1 | <1 | 0.1 | 11 | 410 |
| 3204353 | 20 | <0.1 | <1 | 0.2 | 19 | 380 |
| 3204354 | 46 | <0.1 | <1 | <0.1 | 6 | 360 |

| UNITS | ppm | ppm | ppm | ppm | ppm | ppm |
|---|---|---|---|---|---|---|
| DET.LIM | 2 | 0.1 | 1 | 0.1 | 2 | 10 |
| SCHEME | AAS2 | AAS2 | AAS2 | AAS2A | XRF1 | XRF1 |

# APPENDIX III

## EL 7367 EMMERUGGA CREEK
## ROCK SAMPLE LEDGER AND ASSAY RESULTS

CRA EXPLORATION PTY LIMITED SAMPLE LEDGER

EMMERUGGA CREEK EL 7367

Map Reference: BAUHINIA DOWNS SE 5303
COLLECTED BY: D C PALMER
Date: MARCH 1991
PROGRAMME:MARGOO PROSPECT RECONNAISSANCE ROCK SAMPLES
DPO: 49197, 49198
No of Samples : 4
LAB: Classic CRAE PLAN NTd No.: 5164, 5179

| SAMPLE No. | EASTING AMG | NORTHING AMG | SAMPLE TYPE | WIDTH (m) | DESCRIPTION | Cu | Pb | Zn | Ag | As | Ni | Co | Au ppb | U | Ba | Cr | Fe% | Mn | Bi | Pt ppb | Pd ppb | Sb | W | Mo |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2659001 | 549656 | 8147313 | Chip | | Weathered pale red-brown, vuggy ferroan dolomite with minor chert. Minor malachite/crysocella splashes on weathered surface. Host lithology to MARGOO PROSPECT | 890 | 19 | 43 | -1 | -1 | 14 | 14 | 10 | -1 | 360 | -1 | 0.35 | 120 | -1 | -1 | 2 | -1 | -1 | 8 |
| 2659002 | 549656 | 8147313 | Chip | | Hand Specimen as per above | | | | | | | | | | | | | | | | | | | |
| 2659003 | 549655 | 8147312 | Chip | | Sub massive. vughy malachite and chalcocite ore from Margoo Formation Shallow pothole | 48.10% | 72 | 390 | 2 | 220 | 31 | 18 | 300 | 4 | 190 | 4 | 6.1 | 61 | -1 | 5 | 1 | 4 | 10 | 7 |
| 2659004 | 549655 | 8147312 | Chip | | Hand specimen as per above sample | | | | | | | | | | | | | | | | | | | |
| | | | | | ANALYSIS METHOD: DETECTION LIMIT: | AAS 2 ppm | AAS 4 ppm | AAS 2 ppm | AAS 1 ppm | AAS 50 ppm | AAS 4 ppm | AAS 4 ppm | FIRE 0.001 ppm | XRF 4 ppm | XRF 10 ppm | AAS 4 ppm | AAS 5 ppm | AAS 4 ppm | AAS 10 ppm | FIRE 5 ppb | FIRE 1 ppb | XRF 4 ppm | XRF 10 ppm | AAS 10 ppm |

CRA EXPLORATION PTY LIMITED SAMPLE LEDGER

EMMERUGGA CREEK EL 7367

Map Reference: BAUHINIA DOWNS SE 5303
COLLECTED BY: N STOLZ
Date: JUNE 1991
PROGRAMME :MARGOO PROSPECT RECONNAISSANCE
DPO: 71006
No of Samples : 16
LAB: Classic CRAE PLAN NTd No.:

| SAMPLE No. | EASTING AMG | NORTHING AMG | SAMPLE TYPE | WIDTH (m) | DESCRIPTION | Cu | Pb | Zn | Ni | Co | Cr | Fe% | Fe | Au | Mn | Bi | Cd | Ag | As | Mo | Ba |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3204206 | 9400 | 10550 | Chip | | Massive purple dolostone | 18 | 13 | 33 | 2 | 8 | 2 | | 8900 | 0.004 | 1770 | 5 | 1 | -1 | 25 | 4 | 20 |
| 3204218 | 9400 | 10150 | Chip | | Pink silicified? dolstone | 6 | 2 | 15 | 2 | 2 | 2 | | 7500 | 0.017 | 800 | 5 | -1 | -1 | 25 | 2 | 45 |
| 3204355 | 9200 | 10450 | Chip | | Banded red-grey ferruginous dolostone | 2160 | 11 | 610 | 60 | 175 | 2 | 8 | | 0.006 | 6.28% | 5 | 2 | -1 | 25 | 5 | 4400 |
| 3204356 | 9200 | 10450 | Chip | | | 4700 | 14 | 1270 | 120 | 580 | 2 | 21.4 | | 0.0005 | 13.50% | 5 | 9 | -1 | 25 | 6 | 9400 |
| 3204357 | 9200 | 9970 | Chip | 10 | Fe stained, dolostone and red layers | 34 | 7 | 36 | 12 | 10 | 19 | 1.41 | | 0.0005 | 1960 | 5 | 1 | -1 | 25 | 3 | 920 |
| 3204358 | 9800 | 10500 | Chip | | Ferruginous brecciated?, purple-grey dolostone | 1300 | 510 | 1150 | 40 | 135 | 2 | 7.5 | | 0.001 | 2300 | 5 | 6 | -1 | 25 | 2 | 1560 |
| 3204359 | 9800 | 10450 | Chip | | Brecciated dark grey dolostone (plus sulphide set in white dolostone host | 140 | 22 | 75 | 10 | 23 | 6 | | 6300 | 0.001 | 1920 | 5 | 1 | -1 | 25 | 5 | 250 |
| 3204360 | 9600 | 10420 | Chip | 25 | Brecciated ferruginous dolostone, iron stone. | 920 | 47 | 970 | 30 | 100 | 2 | 7.02 | | 0.001 | 2.40% | 5 | 4 | -1 | 25 | 4 | 1620 |
| 3204361 | 9600 | 10360 | Chip | | Purple-grey dolostone shale | 10 | 2 | 51 | 22 | 15 | 23 | 1.67 | | 0.0005 | 310 | 5 | -1 | -1 | 25 | 4 | 500 |
| 3204362 | 9800 | 10270 | Chip | 3 | Purple dolostone shale, brecciated. | 27 | 12 | 24 | 21 | 7 | 19 | 1.46 | | 0.001 | 1410 | 5 | -1 | -1 | 25 | 5 | 360 |
| 3204363 | 9800 | 10500 | Chip | | White-pink brecciated dolostone | 105 | 27 | 14 | 2 | 2 | 2 | 30.4 | | 0.0005 | 175 | 5 | -1 | -1 | 25 | 6 | 700 |
| 3204364 | 10250 | 10000 | Chip | | Ferruginous layered dolostone and ironstone | 18 | 41 | 110 | 23 | 49 | 10 | 30.1 | | 0.0005 | 1.23% | 5 | -1 | -1 | 25 | 5 | 780 |
| 3204365 | 10930 | 9600 | Chip | | Fe stained. Bedded sandstone/quartzite | 7 | 2 | 14 | 2 | 2 | 340 | | 9600 | 0.014 | 115 | 5 | -1 | -1 | 25 | 13 | 25 |

NB: ALL VALUES ARE PPM UNLESS STATED

EMMERUGGA CREEK EL 7367

Map Reference: BAUHINIA DOWNS SE 5303
COLLECTED BY: N STOLZ
Date: JUNE 1991
**PROGRAMME :MARGOO PROSPECT RECONNAISSANCE**
**DPO: 71006**
No of Samples : 16
LAB: Classic CRAE PLAN NTd No.:

| SAMPLE No. | EASTING AMG | NORTHING AMG | SAMPLE TYPE | WIDTH (m) | DESCRIPTION | Cu | Pb | Zn | Ni | Co | Cr | Fe% | Fe | Au | Mn | Bi | Cd | Ag | As | Mo | Ba |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3204366 | 10300 | 9600 | Chip | 25 | Ferruginous dolostone shale, Fe sandstone | 48 | 145 | 145 | 36 | 51 | 27 | 27.3 | | 0.002 | 3270 | 5 | -1 | -1 | 25 | 5 | 540 |
| 3204367 | 10170 | 9600 | Chip | | Ferruginous dolostone and red layers. | 94 | 45 | 115 | 44 | 52 | 12 | 24.7 | | 0.004 | 5000 | 5 | -1 | -1 | 25 | 4 | 580 |
| 3204225 | 9400 | 9800 | Chip | | Dark grey dolostone and sulphide | 8 | 7 | 44 | 12 | 9 | 24 | 10.1 | | 0.001 | 880 | 5 | -1 | -1 | 25 | 2 | 300 |
| | | | | | ANALYSIS METHOD: | AAS | AAS | AAS | AAS | AAS | AAS | AAS | AAS | FIRE | AAS | AAS | AAS | AAS | AAS | AAS | XRF |
| | | | | | DETECTION LIMIT: | 2ppm | 4ppm | 2ppm | 4ppm | 4ppm | 4ppm | 5ppm | 5ppm | 0.001 ppm | 4ppm | 10ppm | 1ppm | 1ppm | 50ppm | 1ppm | 10ppm |

# APPENDIX IV

## PETROLOGICAL REPORT NO. 5865
## PONTIFEX AND ASSOCIATES

# Pontifex & Associates Pty. Ltd.

TEL. (08) 332 6744
A.H. (08) 31 3816
FAX (08) 332 5062

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067


## MINERALOGICAL REPORT NO. 5865

**by A.C. Purvis, PhD**

May 9th 1991

**TO:**

David Palmer/H.J. Roiko
CRA Exploration Pty Ltd
18km Post, Stuart Hwy
BERRIMAH NT 0828

**COPY TO :**

A.J. Webb
CRA Exploration Pty Ltd
PO Box 29598
WINNELLIE NT 0821

Chief Information Officer
CRA Exploration Pty Ltd
PO Box 3809
MANUKA ACT 2603

**YOUR REFERENCE:** DPO 49198

**MATERIAL:** Rock Samples (3)

**IDENTIFICATION:** 2659002, 9004, 9006

**WORK REQUESTED:** Thin and polished section preparation and description.

**SAMPLES & SECTIONS** Returned to your Berrimah address with this report.

PONTIFEX & ASSOCIATES PTY. LTD.

## SUMMARY COMMENTS

The three samples described in this report were examined in normal thin section (2659002) and in polished thin section (2659004 and 9006).

Sample 2659002 is a rather heterogeneous (fragmented) dolomite, with veins and aptches of calcite, also with patches of limonite of variable intensity. Samples 2659004 and 9006 are dominated by abundant secondary copper minerals.

In 2659004, extensive malachite incorporates scattered crystals of cuprite, very small patches of tenorite, with localised limonite staining, rare native copper; also with patches of supergene silty clays. The native copper is enclosed in cuprite and indicates two stages of oxidation :

$$2\,Cu + \tfrac{1}{2}O_2 = Cu_2O$$
cuprite

$$Cu_2O + \tfrac{1}{2}O_2 = 2CuO$$
cuprite tenorite

Poorly defined colloform material associated with the tenorite may be cryptocrystalline or amorphous CuO.

Sample 2659006 consists of malachite invading, and acting as a matrix to, scattered (breccia) fragments of fine silicified sediment. There are minor scattered patches of limonite and stringers of chrysocolla. Local boxwork in some of the limonite appears to be of superficial 'lateritic' origin rather than to represent former uslphides in-situ.

There is no positive indication of former primary copper minerals in either 2659004 or 9006.

## INDIVIDUAL DESCRIPTIONS

2659002 — Brecciated, limonite-stained dolomite, with patches and veins of calcite, partly porous.

Variably limonite stained, granular carbonate dominates this rock and this has beenc ut by an extensive irregular network of partly porous veins of clear carbonate. Staining of the sections offcut with Alizarin Red indicates that much of the fine carbonate in dolomite, forming angular breccia blocks to 15mm size. These blocks are internally veined by calcite, also they are set within a host of patchy limonite-stained calcite with porous calcite veins. There is a single small block of apparently opalised (supergene) 'claystone', with minor dispersed fine carbonate.

Dolomite forms probably 40% of the rock, with 40% limonite + calcite dolomite, and 20% calcite veins.

Small intensely limonitised spots 0.5-1.5mm in diameter are present; these appear to be laterite-like concretions, (without any clear evidence that they may represent ex-sulphides).

| | |
|---|---|
| **2659004** | Mass of porous, irregularly colloform and fine crystalline malachite, incorporating abundant scattered crystals of cuprite, and patchy tenorite. Variable limonite staining, patches of supergene silty clays, and supergene quartz. Trace small grains of native copper in cuprite. |

The components of this rock form poorly defined and merging zones as follows :

(1) cores of limonite-stained malachite incorporating patches of brown clay to 4mm long

(2) large areas, some with irregular colloform outline of fine crystalline/granular malachite enclosing scattered crystals of cuprite commonly about 0.8mm size, with associated very small patches of finer crystalline* tenorite, also small lenses of orange clay

(3) patches of supergene silty clays enclosing minor, localised, ragged to spherulitic malachite ± limonite, and rare quartz grains to 0.6mm long. Angular fragments of opalised siltstone 1-4mm in size occur locally in these patches.

(4) an abundant porosity, mostly as scalloped voids within irregularly colloform malachite, with discontinuous linings, and layers of limonite and microcrystalline quartz. There are also linings of colloform clays.

Some of the cuprite crystals contain rare, very small grains of native copper.

* Two types of tenorite are present, a crystalline variety composed of fibrous subradiating crystals and an ultra-fine colloform variety, apparently isotropic in reflected light.

Overall mineral abundances are :

| | |
|---|---|
| malachite | 50% |
| cuprite | 5-7% |
| tenorite | 3-5% |
| limonite | 5-7% |
| clays/claystones (opalised) | 30% |
| native-Cu | trace |

There is no clear evidence that any of these secondary copper minerals specifically replace, pre-existing sulphides in-situ. The objective examination could not therefore identify the primary source of the copper.

**2659006**

Breccia of siltstone and shale fragments partly invaded, and set within, a matrix of malachite. Minor patches of limonite and stringers of chrysocolla.

Angular apparent breccia fragments of siltstone and shale, to 20mm long, are scattered to form about 50% of this rock. Some of these have been partky flooded by malachite, and others contain patches and veins of chrysocolla.

These fragments appear to be largely siliceous, with minor ultrafine foliated sericite. Some silt-sized quartz grains are disseminated or occur in layers.

The whole rock matrix is mostly granular to fibrous malachite, with some areas stained by locally abundant limonite. Several patches of dense limonite to 5mm across have internal boxwork textures, but enclosed in an overall circular/spheroidal shape, to suggest that these patches represent 'laterite-like' nodules of supergene origin, rather than necessarily replacing sulphide in-situ. Other patches of limonite are relatively diffuse without any 'boxwork'.

The approximate abundances of these components are :

| | |
|---|---|
| fragments of silty shale to siltstone (partly invaded by malachite) | approx 50% |
| malachite | approx 35% |
| limonite | 5-7% |
| chrysocolla | 2-3% |

SELECTED PHOTOMICROGRAPHS TO ACCOMPANY REPORT 5865 TO CRA EXPLORATION, BERRIMAH NT (9/5/91)

**Fig 1** **2659004** **Scale : 10mm = 0.025mm**

PTS reflected light.

Cuprite (pink internal reflections), enclosing patches of sheaf-like crystalline and tenorite (beige to brownish bireflectance), all within malachite (black, faint greenish tinges).

**Fig 2** **2659004** **Scale : 10mm = 0.025mm**

PTS Reflected light, nicols partly crossed, same field of view as fig. 1.

The cuprite is now seen to be bright red, and the tenorite show strong anisotropy. The malachite is more obviously green than in fig 1.

**Fig 3** **2659004** **Scale : 10mm = 0.025mm**

PTS Reflected light.

Native copper (bright grains) in cuprite (as in Fig 1) all enclosed in malachite.

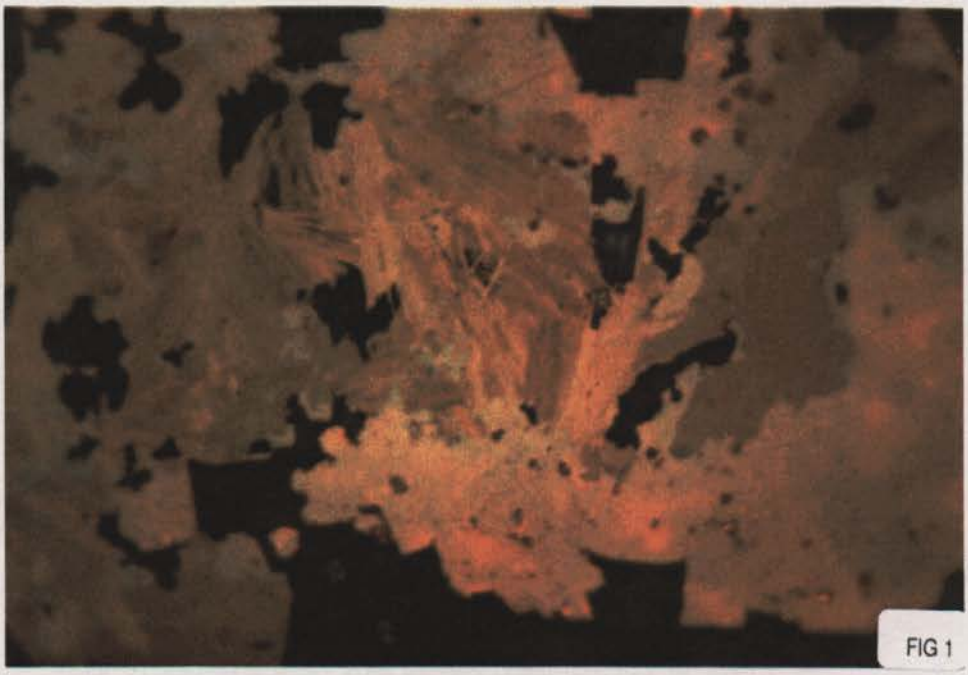


FIG 1

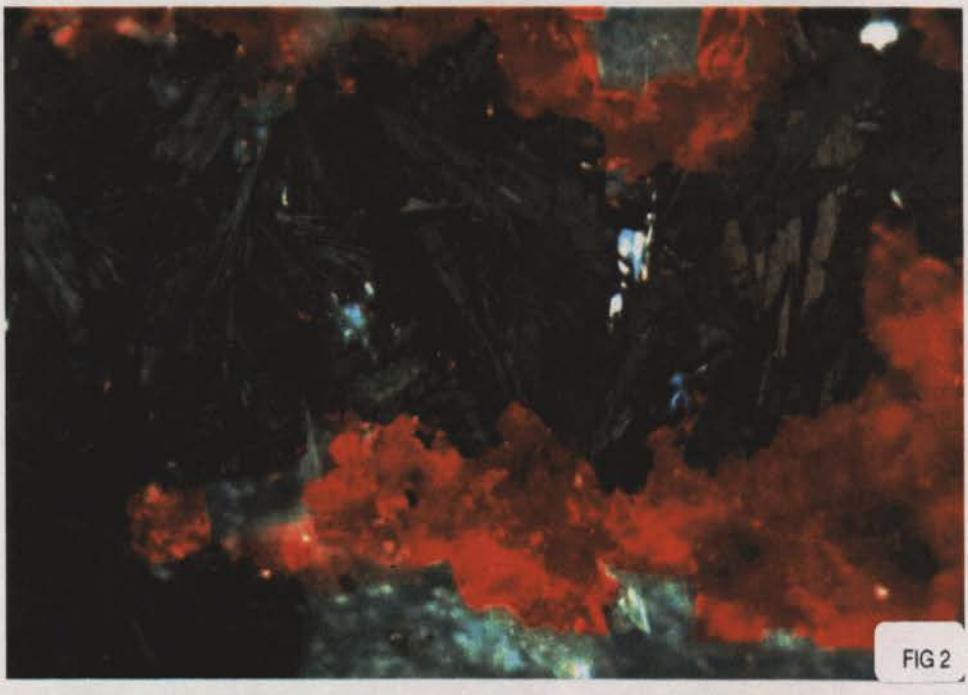
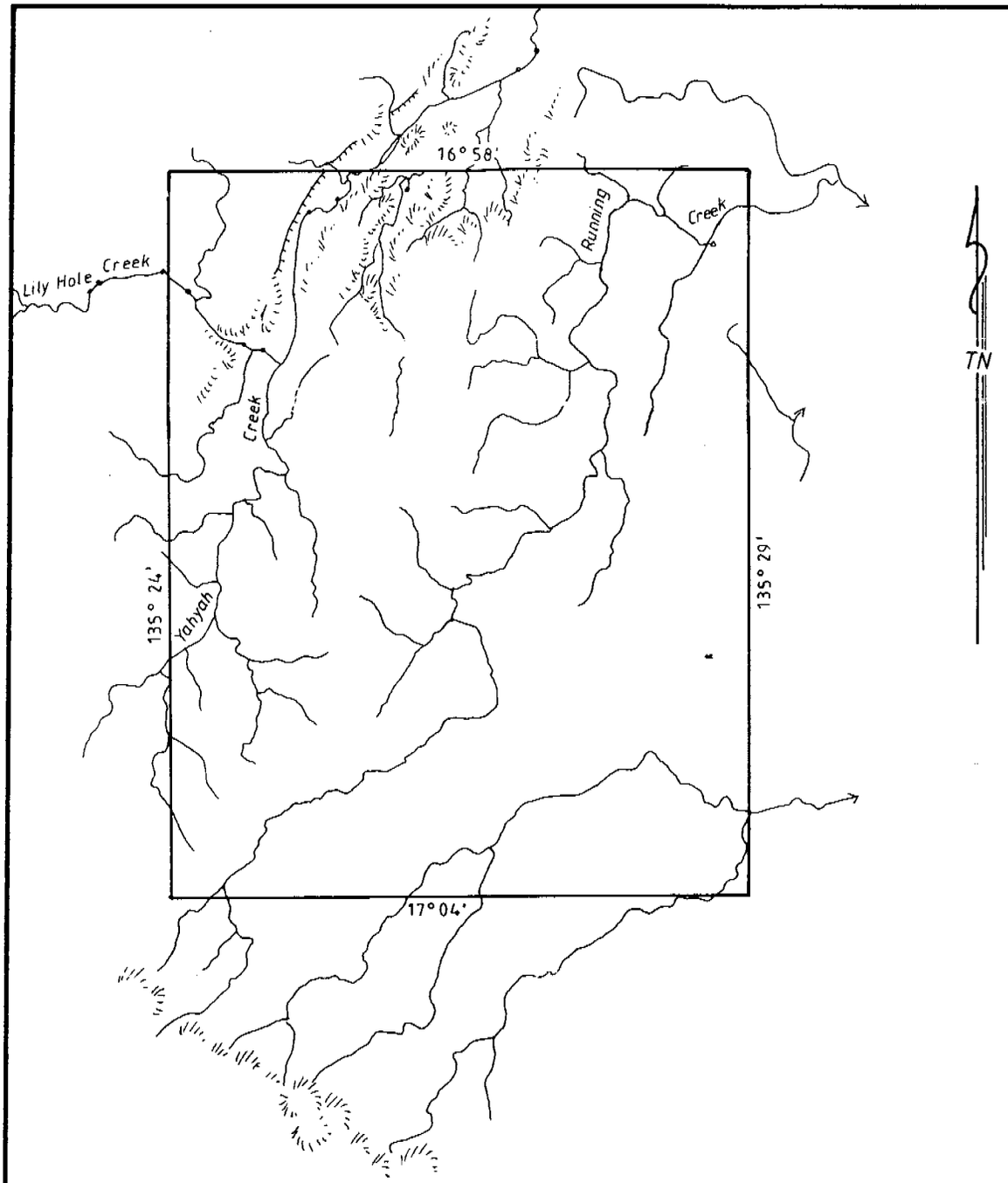


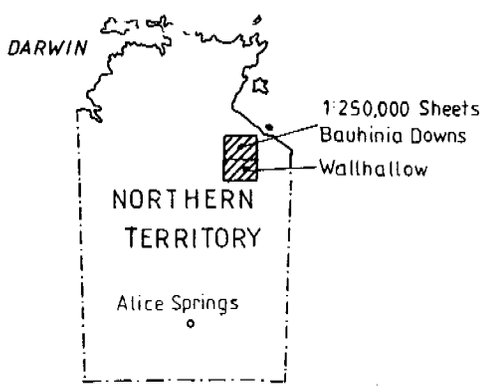
FIG 2

FIG 3




AREA : 30 blocks
approx. 98 sq. km.

0 1 2 3 4 5 6 7 8 Km



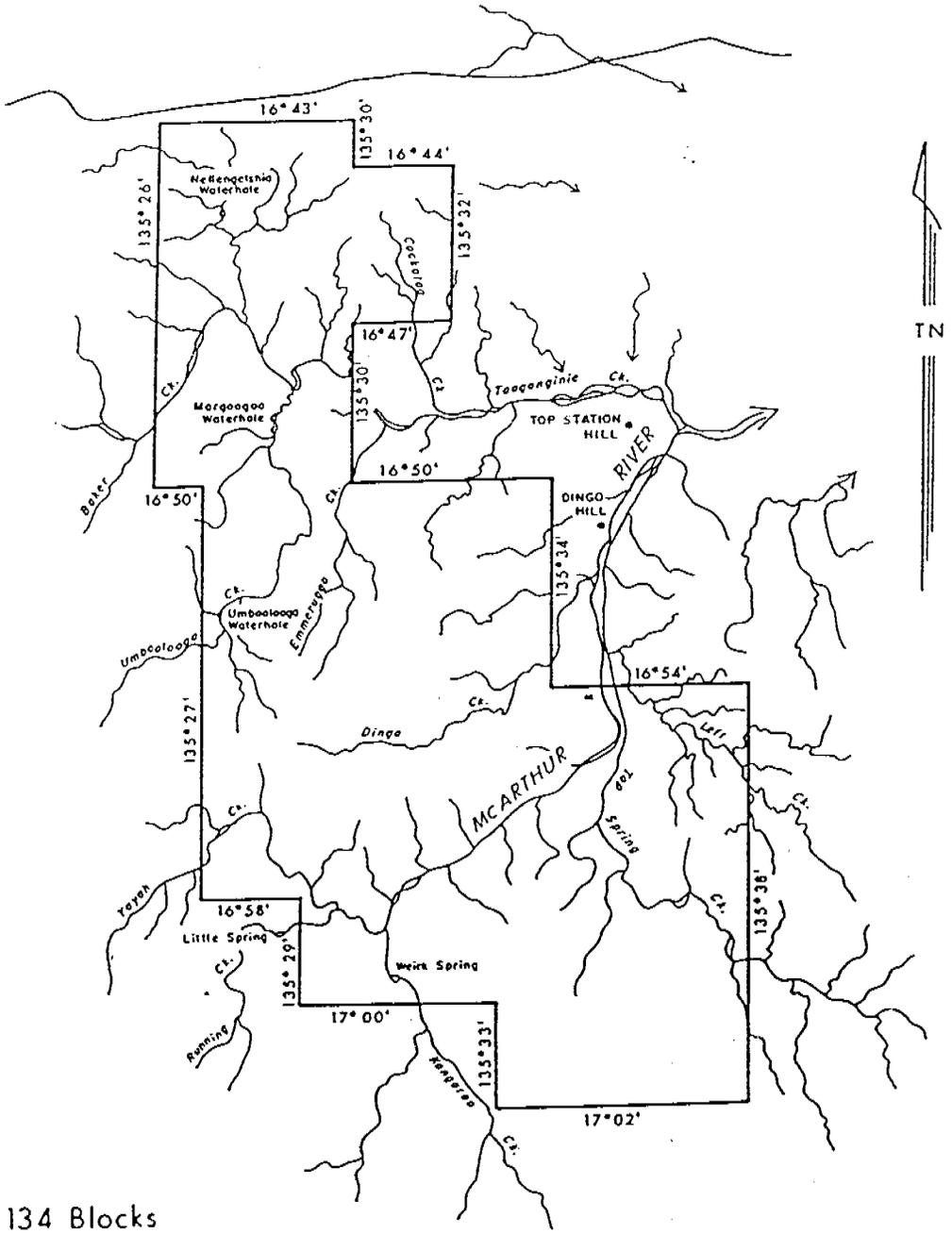

CRA EXPLORATION PTY LIMITED

EL 7342

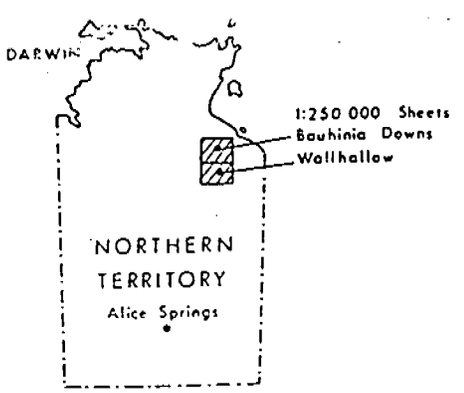
# YAYAH CREEK

## LOCATION PLAN

| | |
|---|---|
| REFERENCE SE53-3 BAUHINIA DOWNS/SE53-7 WALLHALLOW | |
| SCALE 1:100,000 | DATE DECEMBER 1990 |
| AUTHOR DCP | REPORT 18071 |
| DRAWN SRJ | PLAN No NTd 5096 |




AREA : 134 Blocks
approx : 436 sq. km



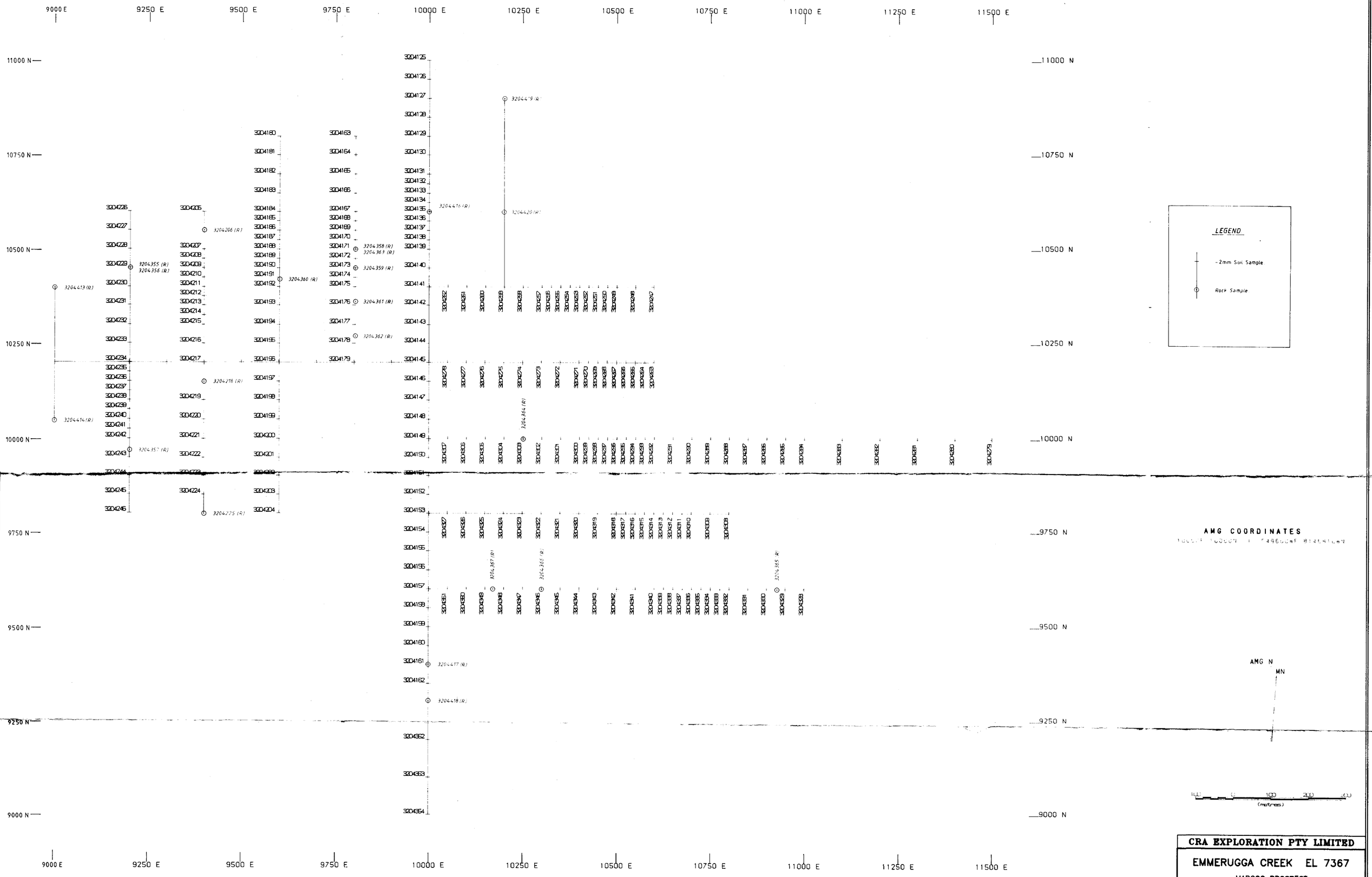

CRA EXPLORATION PTY LIMITED

EL 7367

EMMERUGGA CREEK

LOCATION PLAN

| | |
|---|---|
| REFERENCE SE53-3 BAUHINIA DOWNS/SE53-7 WALLHALLOW | |
| SCALE 1:250 000 | |
| AUTHOR DCP | REPORT 18071 |
| DATE JAN 1991 | PLAN No NTd 5108 |




**CRA EXPLORATION PTY LIMITED**

# EMMERUGGA CREEK EL 7367

## MARGOO PROSPECT

SOIL & ROCK SAMPLE LOCATION PLAN

| AUTHOR | DRAWN | DATE | SCALE | REPORT |
|---|---|---|---|---|
| EMS | EMS | 12.06.91 | 1:5000 | 18071 |
| REF. BAUHINIA DOWNS SE53-03 | | DIRECTORY | PLAN NoNTd5179 | |

CR92/327A

547000 550000 553000

8148000 8147000 8146000 8145000 8144000

3204415 (R)
3204358 (R)
3204363 (R)
3204359 (R)
3204419 (R)
2659001, 2659003
(2659002, 2659004)
3204360 (R)
3204416 (R)
3204206 (R)
3204420 (R)
3204355 (R)
3204356 (R)
3204413 (R)
3204218 (R)
3204414 (R)
3204357 (R)
3204225 (R)
3204362 (R)
3204361 (R)
3204364 (R)
3204367 (R)
3204366 (R)
3204417 (R)
3204418 (R)
3204365 (R)

Emea Emei Emp Emc

45 20 30

TN

0 500 1000 1500
(METRES)

## STRATIGRAPHIC COLUMN

PROTEROZOIC
Mc ARTHUR GROUP
UMBOLOOGA SUBGROUP

Coxco Dolomite Member — Emc
Teena Dolomite — Emp

Michell Yard Dolomite — Emei
Emmerugga Dolomite — Eme
Mara Member Dolomite — Emea

## LEGEND

- FAULT.
- GEOLOGICAL BOUNDARY.
- DRAINAGE.
- SYNCLINE.
- ⊙ 2659001 ROCK SAMPLE
- 2659002 PETROLOGY SAMPLE.
- X MARGOO PROSPECT.

CRA EXPLORATION PTY LIMITED

# EMMERUGGA CREEK EL 7367
## MARGOO PROSPECT GEOLOGY AND ROCK SAMPLE LOCATION PLAN

| | |
|---|---|
| REF. SE 53-03 BAUHINIA DOWNS | |
| SCALE 1:25,000 | DRAWN TTN |
| AUTHOR D.C.P | REPORT 18071 |
| DATE APRIL 1991 | PLAN No NTd 5164 |

135°20'

135°30'

17°00'

17°05'

8120

8119

8118

8117

8116

8115

8114

8113

8112

536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553

YAYAH CREEK

RUNNING CREEK

2659005
2659006
Yah Yah
(Cu)

EL 7342 YAYAH CREEK

## LEGEND

EL BOUNDARY

o 2659005 ROCK SAMPLE

2659006 (Petrology)

0 1 2 3 4
(Kilometres)

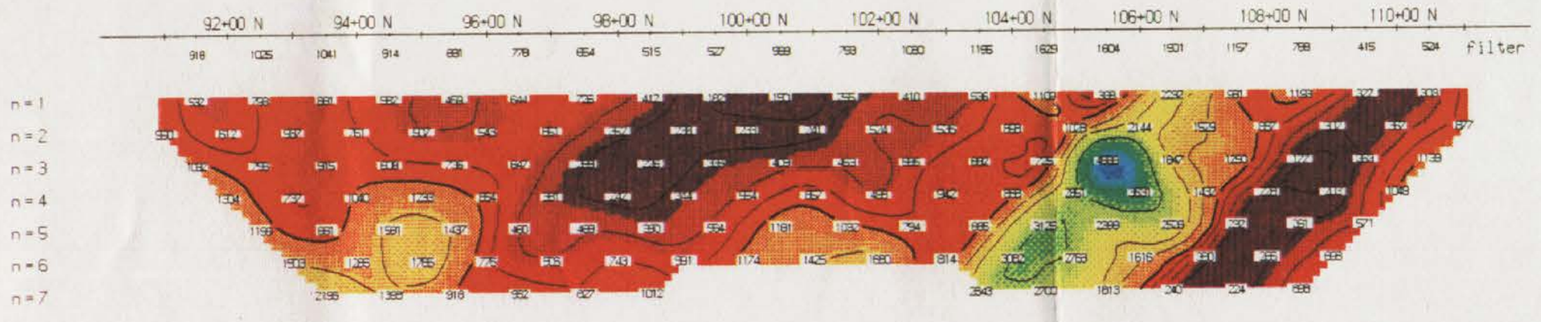
C R A EXPLORATION PTY LIMITED

# YAYAH CREEK EL 7342

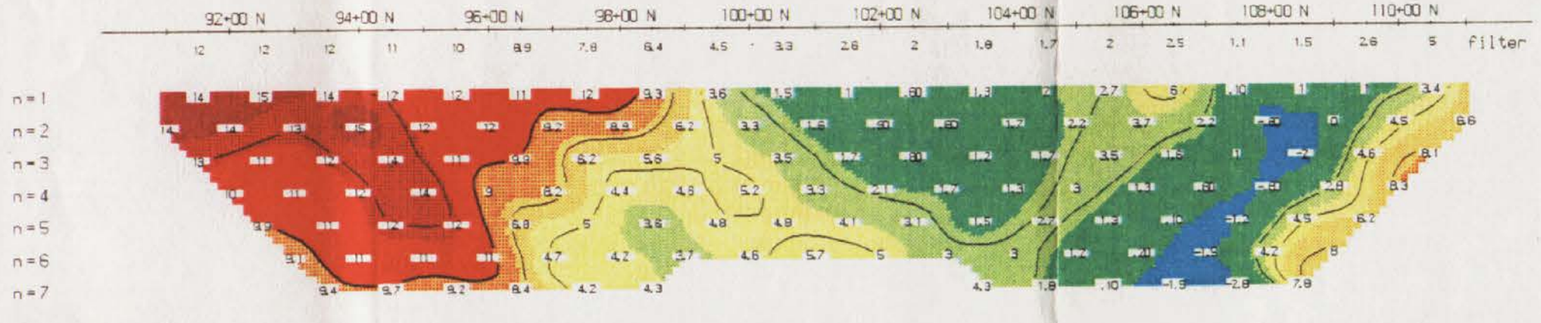
## ROCK SAMPLE LOCATION PLAN

| | |
|---|---|
| REFERENCE SE53-7 WALLHALLOW | |
| SCALE 1:50,000 | DATE APRIL 1992 |
| AUTHOR D.C.P | REPORT 18071 |
| DRAWN S.R.J | PLAN No. NTd 5398 |

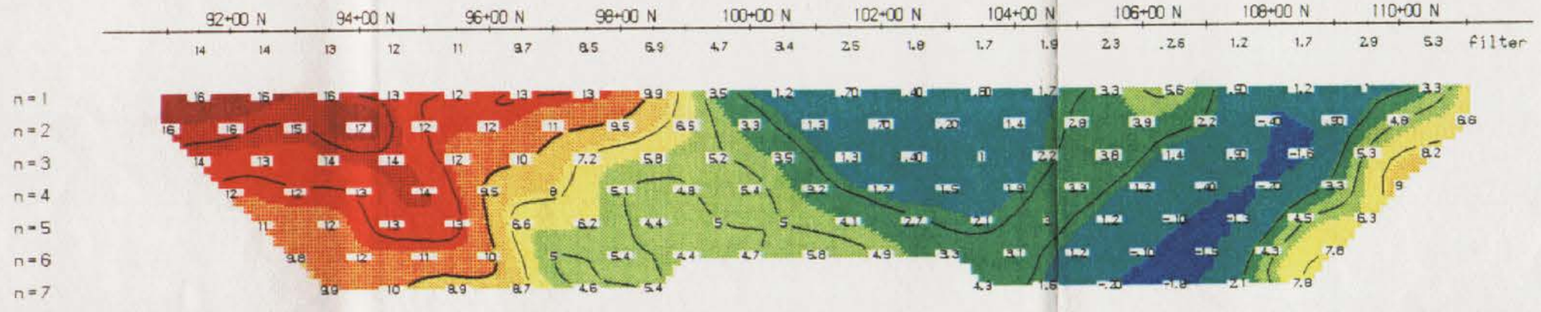
# Line 10000E




RESISTIVITY
(ohm-m)

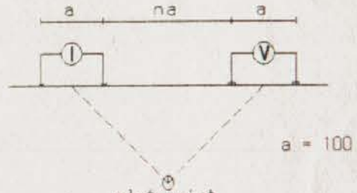



1/8 HERTZ PHASE
(mrad)




3-PT DC PHASE
(mrad)

Dipole-Dipole Array




Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10....

Scale 1:10000

100 0 100 200 300 400
(metres)

**CRA Exploration**

**Emmerugga Creek, NT**
Induced Polarization Survey

Date: 91/08/15

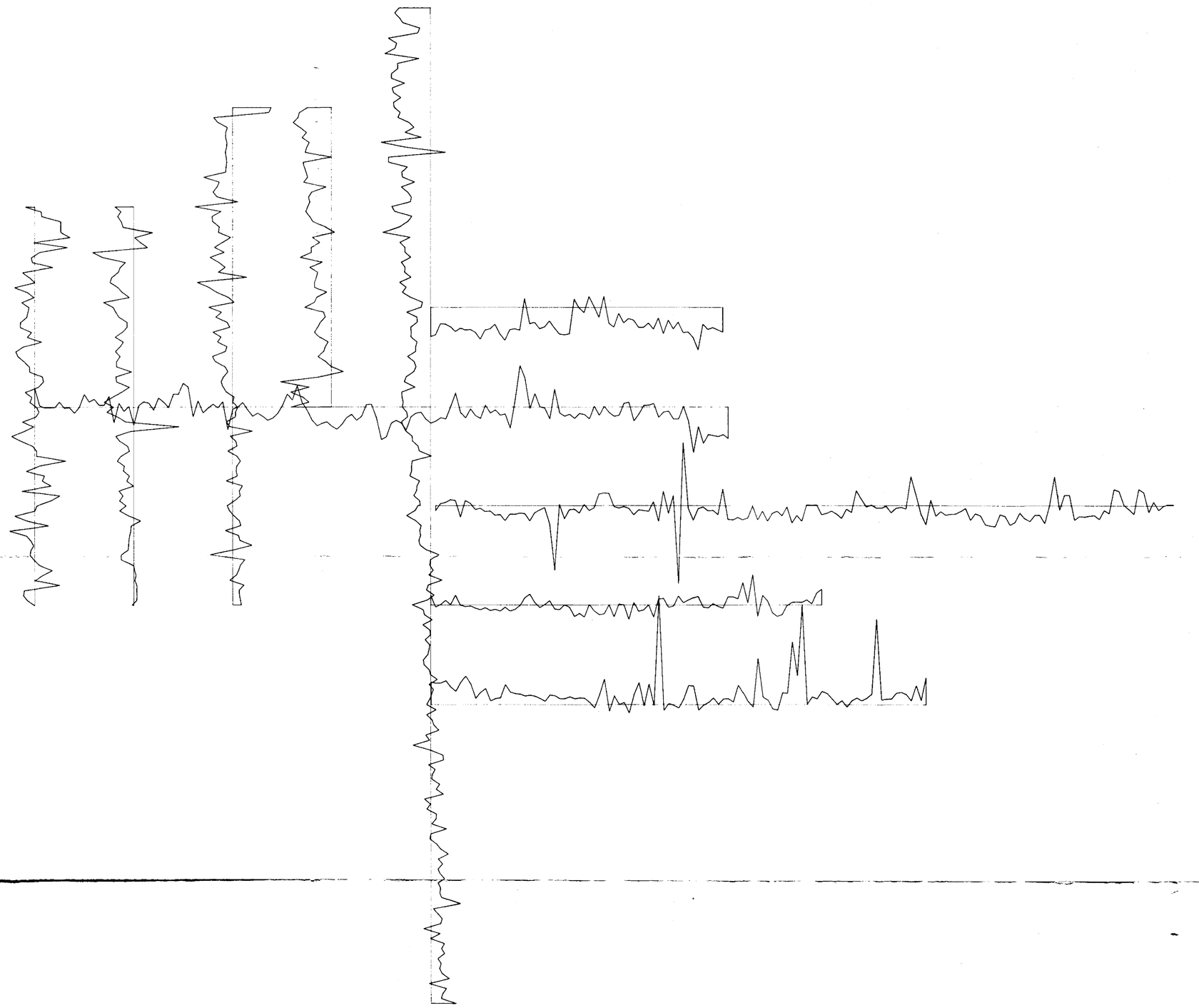
By Zonge Engineering

JOB 069 *NTd 5237.*

REPORT No. 18071

9250 E 9500 E 9750 E 10000 E 10250 E 10500 E 10750 E 11000 E 11250 E 11500 E

11000 N
10750 N
10500 N
10250 N
10000 N
9750 N
9500 N
9250 N
9000 N



**DATA AQUISITION**

| | | |
|---|---|---|
| INSTRUMENT | : | SCINTREX MP3 |
| OPERATOR | : | EMS |
| SURVEY DATE | : | 4 JUNE 1991 |
| DIURNAL CORRECTION | : | APPLIED |
| READING INTERVAL | : | 10 metres |
| VERTICAL SCALE | : | 10 nT/cm |

**AMG COORDINATES**

10000E 10000N : 549600mE 8146810mN

AMG N
MN

GRID NORTH = 9.5° MAGNETIC

100 0 100 200 300
(metres)

**CRA EXPLORATION PTY LIMITED**

# EMMERUGGA CREEK EL 7367

## MARGOO PROSPECT

## GROUND MAGNETIC PROFILES

| AUTHOR | DRAWN | DATE | SCALE | REPORT |
|---|---|---|---|---|
| EMS | EMS | 12.06.91 | 1:5000 | 18071 |
| REF. BAUHINIA DOWNS SE53-03 | DIRECTORY | PLAN No.NTd5180 | | |