CRA EXPLORATION PTY LIMITED

MCN 1720, 1721, 1722 MATHESON CREEK, NT

FINAL REPORT FOR PERIOD ENDING 8th MARCH 1993

SUBMITTED BY : H J ROIKO .....

ACCEPTED BY : W H JOHNSTON ..... for WHJ.

DATE : MAY 1993

COPIES : NT Department of Mines and Energy

: CRAE CIS Canberra

: CRAE Darwin

MAP REFERENCE : Bauhinia Downs SE 53-3

REPORT NO. : 18843

TABLE OF CONTENTS

1. SUMMARY AND CONCLUSIONS

Mineral Claims 1720, 1721 and 1722, located on Matheson Creek in the Glyde locality of the central McArthur Basin, were granted to CRA Exploration Pty Limited on 22nd March 1988. The tenements cover two small kimberlitic diatremes (Emu-1 and Emu-2) which were discovered and evaluated largely prior to mineral claim pegging (Colliver, 1987).

During the period of MC tenure, the following activities were undertaken:

- the palaeoregolith developed on Emu-2 was resampled, yielding abundant fresh kimberlitic chromite and 9 microdiamonds (0.125mm to 0.25mm);
- mapping and sampling of possible kimberlite dyke outcrops localised in the floor of a SSW trending joint from Emu-2;
- compilation and distribution of a comprehensive technical data package on the prospect to prospective purchasers/partners;
- progressive site visits to gauge the degree of natural rehabilitation;
- systematic rehabilitation based on recommendations made by the Conservation Commission of the Northern Territory.

In consideration of the small size and grade of the two kimberlite pipes and the failure of attempts to divest the property, recommendations to relinquish title were followed by surrender of the mineral claims effective 8th March 1993.

2. INTRODUCTION

Three contiguous mineral claims, Matheson Creek MC's 1720, 1721 and 1722, were pegged on 27th August 1987 to protect an area encompassing two small diamondiferous kimberlitic diatremes which were discovered during the course of exploration conducted in EL 4692 (surrendered 25th September 1987). The tenements, covering a cumulative area of 60 hectares, were granted to CRA Exploration Pty. Limited on 22nd March 1988 for a period of five years. Tenure was surrendered with effect 8th March 1993.

The mineral claims are centred on two prominent amphitheatre-like topographic depressions developed on the flat-lying Early Cambrian Bukalara Sandstone Plateau, in the upper reaches of Matheson Creek approximately 68 kilometres ESE of Cape Crawford roadhouse. The location is shown on accompanying plan NTd 4621.

This report summarises work carried out by CRA Exploration Pty Limited on the three mineral claims during the period 22nd March 1988 to 8th March 1993.

3. PREVIOUS WORK (EL 4692)

During the course of routine reconnaissance drainage sampling in field seasons 1983/84, a dispersion train of kimberlitic indicator minerals was recognised in Matheson Creek, an easterly tributary of the Glyde River. The indicators were traced to source in two small topographic depressions.

Selection of possible diatreme/pipe-like features from airborne magnetic survey data independently led to identification of an anomaly correlating with the Matheson Creek 'amphitheatre' features.

Scout core drilling gave intersections of diatreme-facies kimberlitic tuff-breccias beneath a thin veneer of sand cover within both amphitheatre features. Processing of drill core samples revealed the diatremes to be diamondiferous.

Costean samples bulking 59 tonnes (Emu-1, eastern body) and 10 tonnes (Emu-2, western body) were excavated and processed through a rotary pan and Pleitz Jig to produce screened preconcentrates. Three small diamonds and 25 microdiamonds (<0.04mm) were recovered by the CRAE Belmont (WA) laboratory from Emu-1 preconcentrates while the Emu-2 sample yielded 33 small diamonds and 101 microdiamonds. Recovered grade estimates are calculated at 0.03carats/100 tonnes (Emu-1) and 1.1 carats/100 tonnes (Emu-2). No commercial sized stones were recovered. The areal dimensions of the pipes are estimated at 4.3 and 1.8 hectares for Emu-1 and Emu-2 respectively.

A detailed synthesis of regional and local environs exploration activities together with pipe evaluation studies is reported in the Final Report for EL 4692 Glyde (CRAE Report No. 14880, NTDME Report CR87/296).

4. PERIOD OF TENURE ACTIVITIES

4.1 Year 1 Activities

A program of selective sampling of palaeoregolithic material developed on the kimberlitic diatremes was planned to provide additional data on diamond and indicator mineral population size distribution. Sampling was progressively delayed by the presence of standing water in the existing costean exposures. In consequence, no ground disturbance activities were undertaken.

4.2 Year 2 Activities

A 20 kilogram channel rockchip sample (1316633R) of palaeoregolithic material overlying insitu kimberlitic tuff breccias was collected from the walls of a costean excavated on the western side of the Emu-2 diatreme. The sample was submitted to CRAE's Belmont laboratory for microdiamond and kimberlitic indicator mineral observation.

The following positive results were received:

: 56 fresh kimberlitic chromites (3 x >1.0mm , 53 x >0.4mm);

: 9 microdiamonds, dominantly white, transparent to translucent, light to moderately frosted with size ranges of 0.125mm to 0.25mm.

The results confirm the prevalence of small stones identified during previous sampling of the palaeoregolith and underlying kimberlite (CRAE Report No. 14880). Sample locations are presented on Plan NTd 4904. Indicator mineral results are tabulated in Appendix 1.

During the course of local field inspections, a possible kimberlite dyke with rare outcrop exposure was located in a prominent linear joint structure striking south-southwest from Emu-2 (refer plan NTd 4904). The outcrops consisted of a white, soft, weakly banded, rarely vesiculated, pervasively weathered, finely brecciated quartz-kaolin-allophane rock (0.2 - 1.0 metres in width), and an iron-oxide cemented, chaotic cobble and boulder sandstone breccia (5 metre outcrop width).

Representative rockchip samples were collected and processed as per the following :

a) Quartz-kaolin-allophane rock : Whole rock and trace element geochemistry - Analabs Darwin (SNo's 1316639WR/TE, 1316642WR/TE);
: Indicator mineral and microdiamond observation - CRAE Lab Belmont WA (SNo's 1316636-37R);
: Thin Section Petrology - David Cowan & Associates Adelaide (SNo 1316638TS).

b) Sandstone breccia : Whole rock and trace element geochemistry - Analabs Darwin (SNo's 1316641WR/TE);
: Indicator mineral and microdiamond observation - CRAE Laboratory Belmont WA (SNo's 1316634R, 1316635R);
: Thin Section Petrology - David Cowan & Associates Adelaide (SNo 1316640TS).

Whole rock geochemistry for the white kaolinitic rock was not indicative of kimberlite with generally low alkalis and rare earths, together with a very high (>85%) silica component. The sandstone breccia also failed to reflect kimberlitic geochemical affinities. Thin section petrological examinations indicated no primary tuffaceous or volcanogenic characteristics. No microdiamonds or kimberlitic indicators were observed from the thirty kilogram samples submitted to the Belmont laboratory. Sample locations are presented on plan NTd 4904, indicator mineral and geochemistry results are tabulated (Appendix I and II respectively) and petrology reports are included in Appendix III.

A comprehensive exploration assessment review was carried out culminating in the compilation of a composite technical data package on Emu-1 and Emu-2 for future prospective purchasers or partners.

4.3 Year 3 Activities

No ground disturbance field activities were undertaken during tenure year 3. Periodic helicopter supported site visits were made to gauge levels of natural rehabilitation. The costeans were found to have silted up to within one metre of original land surface and access tracks were barely discernable from the air.

The data package on Emu-1 and Emu-2 was distributed to a number of interested parties.

4.4 Year 4 Activities

CRA's Resource Commercialisation division (Melbourne) received expressions of interest from a number of mining companies for further technical information on the Emu-1 and Emu-2 prospects following reviews of the data package.

A prospect visit in early 1992 reconfirmed the remarkable progression of natural regrowth and sediment infill of costeans and access tracks. It was decided however, to professionally rehabilitate the prospect during the final year of tenure in the advent of failure to secure a joint venture partner or lease purchaser.

4.5 Year 5 Activities

No definitive aquisition offer for the property was received from interested parties.

As initiation to rehabilitation, a site visit with a field officer of the Conservation Commission of the Northern Territory (Mr K Jolley) resulted in a list of guidelines and recommendations for the rehabilitation of disturbed areas at Emu-1 and Emu-2 (refer Appendix IV and Figure 1).

The recommendations were adopted and the work was contracted to MIN EX (NT) PTY LTD of Humpty Doo. The appropriate earthworks were carried out in late October 1992. The restoration work was further inspected by the Conservation Commission officer and subsequently declared as having been performed satisfactorily (letter Jolley - NTDME 22/12/92, Appendix IV).

Pursuant to recommendations for relinquishment of title, Matheson Creek Mineral Claims 1720, 1721 and 1722 were surrendered with effect 8th March 1993. Correspondence received from the NTDME (included in Appendix V) on 7th May 1993 states that the tenements have been cleared by the Department's Mining Technical Officers and that no further inspection is required.

5. REHABILITATION

MCN's 1720, 1721 and 1722 were professionally rehabilitated and titles have been cleared by the NTDME (refer section 4.5 Year 5 Activities). Post-rehabilitation photographs are included in Appendix IV with photo site references presented on Figure 1 (App. IV).

6. EXPENDITURE

Grouped expenditure on the three tenements for the period of tenure ending 8th March 1993 totalled $117,948. Expenditure breakdowns for each year is tabulated below.

	1st Year	2nd Year	3rd Year	4th Year	5th Year	TOTAL
Payroll	$1,211	$9,131	$2,951	$1,643	$8,307	$23,243
Contractors	$10,005	$1,478	$7,164	$5,000	$26,481	$50,128
Field&Transport	$1,186	$1,512	$904	$10	$518	$4,130
Travel & Accommodation	$859	$1,816	$0	$0	$398	$3,073
Laboratory	$0	$5,792	$0	$0	$0	$5,792
Rent&Property	$1,420	$980	$861	$0	$0	$3,261
Regional Overheads	$346	$5,034	$1,890	$396	$3,903	$11,569
District Administration	NA	NA	$2,196	$1,151	$13,405	$16,752
TOTAL	$15,027	$25,743	$15,966	$8,200	$53,012	$117,948

7. REFERENCES

Colliver, I.C. 1987	:	EL 4692 Glyde (including MCN 1720-22) Confidential Final Report Period Ending 25th Sept 1987 CRAE Report No. 14880 (NTDME Report CR87/296)
Colliver, I.C. 1989	:	MCN 1720, 1721, 1722 Matheson Creek, N.T. First Annual Report - Period to 21st March 1989
Roiko, H.J. 1990	:	MCN 1720, 1721, 1722 Matheson Creek, N.T. Second Annual Report - Year Ending 21st March 1990 CRAE Report No. 16529
Palmer, D.C. 1991	:	MCN 1720, 1721, 1722 Matheson Creek, N.T. Third Annual Report - Year Ending 21st March 1991 CRAE Report No. 17326
Roiko, H.J. 1992	:	MCN 1720, 1721, 1722 Matheson Creek, N.T. Fourth Annual Report - Period Ending 21st March 1992

8. KEYWORDS

Diamonds, Microdiamonds, Chromite, Indicator Minerals, Kimberlite, Diatreme, Rock Geochemistry, Petrology, Rehabilitation, Regolith.

9. LOCATION

Bauhinia Downs SE 53-03 1:250 000 sheet.

Glyde 6164 1:100 000 sheet.

10. LIST OF DPO'S

49159, 49160, 49162

11. LIST OF PLANS

Plan No.	Title	Scale
NTd 4621	Matheson Creek Mineral Claims MC's 1720, 1721, 1722 Location Plan	1:100 000
NTd 4904	Matheson Creek MC's 1720-1722 Geology and Sample Location Plan	1:1 000

APPENDIX I

INDICATOR MINERAL AND MICRODIAMOND RESULTS

SAMPLE NUMBER	NUMBER OF CHROMITES	NUMBER OF MICRODIAMONDS
1316633	56	9
1316634	0	0
1316635	0	0
1316636	0	0
1316637	0	0

APPENDIX II

GEOCHEMISTRY ASSAY RESULTS

Entered 8/89

ANALABS

A Division of Inchcape Inspection and Testing Services, Australia, Pty. Ltd.
Division of Inchcape Inspection and Testing Services Pty Ltd

(089) 84 3849 | Cnr Coonawarra & Mataram Rds, Winnellie | Fax: (089) 84 3984

ANALYTICAL REPORT No. 15.8.14.03506

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:

CRA EXPLORATION
PO.BOX 39598

WINNELLIE N.T 0821

ORDER No.	PROJECT
49160	

DATE RECEIVED	RESULTS REQUIRED
06/06/89	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES
3	22/06/89	1

TOTAL No. OF SAMPLES: 4

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
1316639,1316641/3	RO Prep: 009,017	V,Cr,Mn,Ni,Co,Cu,Zn,Ba,Y,La,Ce,Zr,Hf,Nb,Th/201
1316639,1316641/3	RO Prep: 009,017	[illegible]

RECEIVED 23 JUN 1989

REMARKS

RESULTS TO
D. J. HAMDORF
CRA EXPLORATION
P.O. BOX 39598
WINNELLIE
DARWIN N.T. 0821

RESULTS TO
CHIEF GEOLOGIST INFORMATION SERVICES
CRA EXPLORATION PTY LTD
P.O. BOX 656
FYSHWICK
A.C.T. 2609

RESULTS TO

AUTHORISED OFFICER

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	15.8.14.03506	22/06/89	49160	1 OF 3

TUBE No.	SAMPLE No.	V	Cr	Mn	Co	Ni	Cu	Zn	Y	Zr
1	1316639	31	94	48	<5	<10	<5	6	3	25
2	1316641	283	160	157	8	16	6	18	14	140
3	1316642	35	18	28	<5	10	<5	10	7	48
4	1316643	60	105	102000	1133	169	11	602	94	28
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	2	10	15	5	10	5	5	1	5
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
25	METHOD	201	201	201	201	201	201	201	201	201

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No	PAGE
	15.8.14.03506	22/06/89	49160	2 OF 3

TUBE No.	SAMPLE No.	Nb	Ba	La	Ce	Hf	Th	Al2O3	CaO	Fe2O3
1	1316639	<10	156	<5	<15	<10	<10	1.81	186	2.80
2	1316641	<10	264	24	53	<10	16	8.78	372	19.20
3	1316642	<10	481	15	39	<10	<10	3.72	243	2.87
4	1316643	<10	10001	27	86	<10	<10	3.44	744	41.00
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	10	5	5	15	10	10	0.04	70	0.03
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	%
25	METHOD	201	201	201	201	201	201	204	204	204

Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	15.8.14.03506	22/06/89	49160	3 OF 3

TUBE No.	SAMPLE No.	K2O	MgO	MnO	Na2O	P2O5	SiO2	TiO2	LOI	
1	1316639	0.32	474	62	432	843	86.5	387	7.80	
2	1316641	1.01	1300	204	400	13300	60.5	2711	8.11	
3	1316642	1.88	693	36	721	1620	87.4	734	3.34	
4	1316643	0.80	3000	132000	632	2930	13.3	1720	12.34	
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	0.06	20	20	70	200	0.2	30	0.01	
24	UNITS	%	ppm	ppm	ppm	ppm	%	ppm	%	
25	METHOD	204	204	204	204	204	204	204	615	

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
--- = element not determined

AUTHORISED OFFICER

APPENDIX III

PETROLOGY REPORTS

David Cowan & Associates Pty. Ltd.

PETROLOGICAL & GEOLOGICAL SERVICES

5 MOUNTFORD AVENUE,
BRIDGEWATER, S.A. 5155
Telephone (08) 339 5560

Mrs. I. C. Colliver / D. Hamdorf,
CRA Exploration Pty. Ltd.,
P.O. Box 34598,
WINNELLIE/ N.T. 0821

5th July, 1989.

REPORT DCA 89/6/2.

YOUR REFERENCE:	DPO No. 49159
DATE RECEIVED:	9th June, 1989.
SAMPLE NO'S:	1316638, 1316640
SUBMITTED BY:	D. Hamdorf.
WORK REQUIRED:	Petrology.

DAVID COWAN, M.Aus.I.M.M.

Copy to:
The Chief Geologist,
Information Services,
C.R.A. Exploration Pty. Ltd.,
P.O. Box 656,
FYSHWICK/ A.C.T. 2609

REPORT DCA 89/6/2.

Two samples of weathered and variably ferruginised rock chips were received for petrological examination and interpretation. Representative thin sections were prepared and examined together with respective offcuts, and are detailed below:

SAMPLE 1316638. (Section DCA 0042).

This rock consists largely of secondary optically amorphous mesoscopically pale brown-white allophane, or a related hydrated A1-silicate phase, with subordinate to minor intergrown micro-crystalline "kaolin" (i.e., an optically indeterminate kaolinite-group clay). Variably corroded fine to medium sand sized quartz grains are thinly disseminated throughout and locally concentrated into spongy clusters. Rare silt to fine sand sized degraded mica flakes are evident.

Texturally this rock exhibits a composite of planar to contorted-banded and poorly sorted breccia textures in irregularly inter-spersed zones. These are locally complexed by dilatation and secondary pisolitic structures. Relict features support a sedimentary or slump breccia mode of origin for the original rock

Close examination reveals sporadic vaguely eutaxite-like relict-microtextured clasts suggesting the rock was initially reworked tuffaceous or at least partly volcanically derived. The bulk of clasts, however, represent degraded pelitic (shaly) types. Sporadic crudely "pumiceous-textured" zones represent degraded and allophane replaced plant material (roots and related fibres).

Overall there is no substantial evidence for a primary tuffaceous or "volcanoclastic" origin for this rock.

SAMPLE NO 1316640. (Section No. DCA 0043).

This rock may be broadly classified as a "ferricrete" and consists essentially of a loose framework of variably marginally corroded fine to medium sand sized quartz grains cemented by limonite and limonitic clay aggregates.

Sporadic quartz composites are present with vein-type and meta-quartzite-derived characteristics. Accessories include a few partly degraded and poorly determinate feldspar grains and rare sandstone-derived rounded detrital tourmaline grains.

In detail this rock is intraclastic with millimetric to centi-metric scale semi-dimensionally orientated clasts in a conpos-itionally and texturally similar matrix. General features are typical of ferruginised sandy regoliths developed on quartzose sandstone terraines. There are no tangible volcanic or tuffaceous features.

mu : microns

APPENDIX IV

REHABILITATION RECOMMENDATIONS AND CORRESPONDENCE

POST-REHABILITATION PHOTOGRAPHS

FIGURE 1 - REHABILITATION BASE PLAN

CONSERVATION COMMISSION OF THE NORTHERN TERRITORY

KATHERINE OFFICE
P.O. BOX 344, KATHERINE
N.T. 0851 AUSTRALIA
TELEPHONE: (089) 72 8770
FACSIMILE: (089) 72 2373

OUR REF:

YOUR REF:

John Roiko
Chief Geologist
C.R.A. Exploration
P.O. Box 39598
WINNELLIE NT

Dear John

In response to your request for advice and recommendations for the rehabilitation of disturbed areas at the Emu Prospect the following is provided.

E1A — Push mullock heaps into excavated area battered off to drainage line profile.

E1B — As for E1A

E1C — As for E1A

E1D — Push heaps into excavated area and track cutting. Restore track cutting to original ground level first. If there is insufficient material leave a depression in the excavated area.

E1E — Push heaps into excavated area. Reinstate bank profile. Reinstating of bank profile is the priority.

E2A — Remove heap A to o.g.l. place material in deepest part of costean. Do not touch heap B.

E2B — Do not touch.

E2C — Reinstate bank profile using heavier material as armouring on the bank.

Area A — Steep sided road cutting - leave to batter off naturally.

Area B — Incised road cutting. There is one tree in this area that is having its roots undermined. It is suggested that material from the windrow in this area be used to nearly fill the hole. The hole should then be capped with 3 or 4 buckets of heavy material from the mullock heap at costean E1E. The windrow should be back bladed at spacings of approximately 5 metres. This spacing should be determined onsite and depends on the amount of vegetative regrowth.

Area C The road leading up the side of the scarp. There is a very eroded area on this road which will need filling to make it trafficable. This filling should be obtained from the roads downslope windrow. If possible the road should be cambered to the downslope side using the bucket of the loader to back blade the windrows to the upslope side. If there is insufficient material to change the camber of the road it will be necessary to construct banks every fifteen (15) metres to direct water off the road to the downslope side. These banks will be required for the length of road from the base up to the first turn in the road. The eroded area of loose pushed rock should be left to stabilise naturally. The sites and areas referred to are as marked on the attached plan.

GENERAL COMMENTS:

The only machinery which may be used is a rubber tyred loader or equivalent. It should only traffic designated working areas. As the track leading to the site has nearly rehabilitated naturally over the last seven years traffic over this track should be kept to a minimum. There should be one trip in with the loader and an accompanying vehicle carrying fuel and supplies, and one trip out. Any work undertaken to make the track trafficable should be rehabilitated on the outward trip.

All rubbish is to be removed from the site.

This rehabilitation programme although basically cosmetic should give the best results with the least disturbance. There are further steps which could be undertaken. However it is felt that the benefits of these actions are far out weighed by the level of disturbance and de-stabilisation required for their implementation.

The lesson to be learned from this exercise is that no matter what the intentions are for an area it should never the less be rehabilitated before the onset of the wet season. If further works are undertaken it is a simple matter to re-open the area the following dry season.
With C.R.A.'s new environmental policy it is believed that this procedure should be followed automatically.

If there are any further queries on the rehabilitation programme as proposed or on any other areas of concern please do not hesitate to contact me on 738649 or Wolf Sievers on 738659.

Yours sincerely,

Kit Jolley
for DIRECTOR.

9 September 1992

C.C. Phil Lachlan D.M.E.

Phil Lachlan
Dept. Mines and Energy
PO Box 2901
DARWIN NT 0801

RE: INSPECTION OF REHABILITATION WORKS AT EMU PROSPECT

An inspection of the rehabilitation works at the Emu Prospect was undertaken on 31 October 1992. All work as detailed in the recommendations had been satisfactorily performed except for two banks on the access track (Area C). These two banks were sloped back towards the drainage line instead of away from it. It was not considered worthwhile to bring the machinery back down the track to adjust these banks as the effect of this minor error would be minimal due to the rocky nature of the area.

It is expected that there will be some movement of soil over the whole of the disturbed area before it revegetates and stabilises. This will be particularly so on Area A which was recommended not to be touched but left to rehabilitate naturally over time. However with the removal of the stockpiles and the filling in of the costeans the area should,within one wet season be basically unrecognisable as a mining site and within a few more years it should have returned to a natural stable condition.

Kit Jolley
for DIRECTOR

22 December 1992

PHOTO 1 View looking west at site E1E showing reinstated bank profile and contoured costean/mullock sites.

PHOTO 2 View looking southwest at site E1E showing levelled and filled mullock/costean site, now contoured with topsoil.

PHOTO 3 View looking south at site E1A, showing levelled and filled mullock/costean site, contoured with topsoil to drainage line (foreground).

PHOTO 4 View looking north at site E1D, showing levelled and filled mullock/costean site, contoured with topsoil to old ground level.

PHOTO 5 View looking southeast at site E1C, showing levelled and filled mullock/costean site, contoured with topsoil.

PHOTO 6 View looking north at site E1B, filled and levelled mullock/costean site.

PHOTO 7 View looking west-southwest showing contoured sites E1B, E1C, E1A and E1E.

PHOTO 8

View looking east showing rehabilitated road cuttings and back bladed windrow used to restore vegetated creek bank (RHS) at Area B.

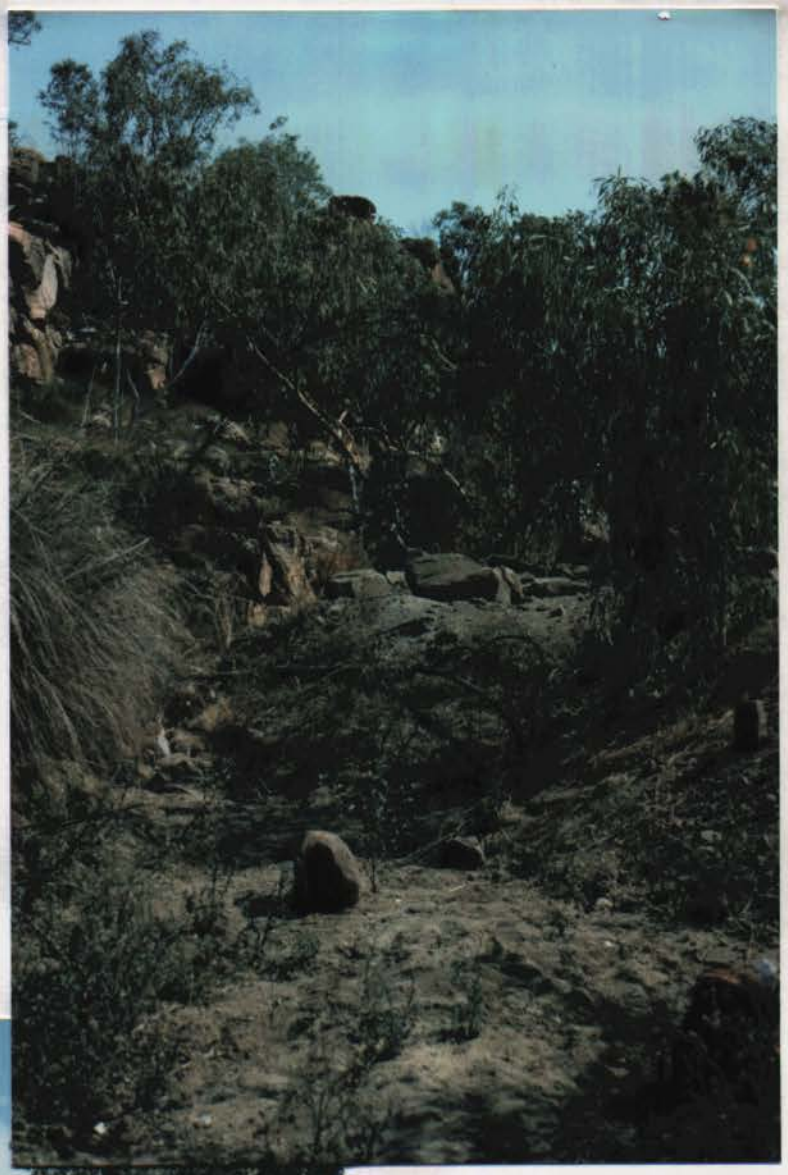


PHOTO 9

View looking north showing site E2A mullock restored to O.g.l. (background) and filled costean.

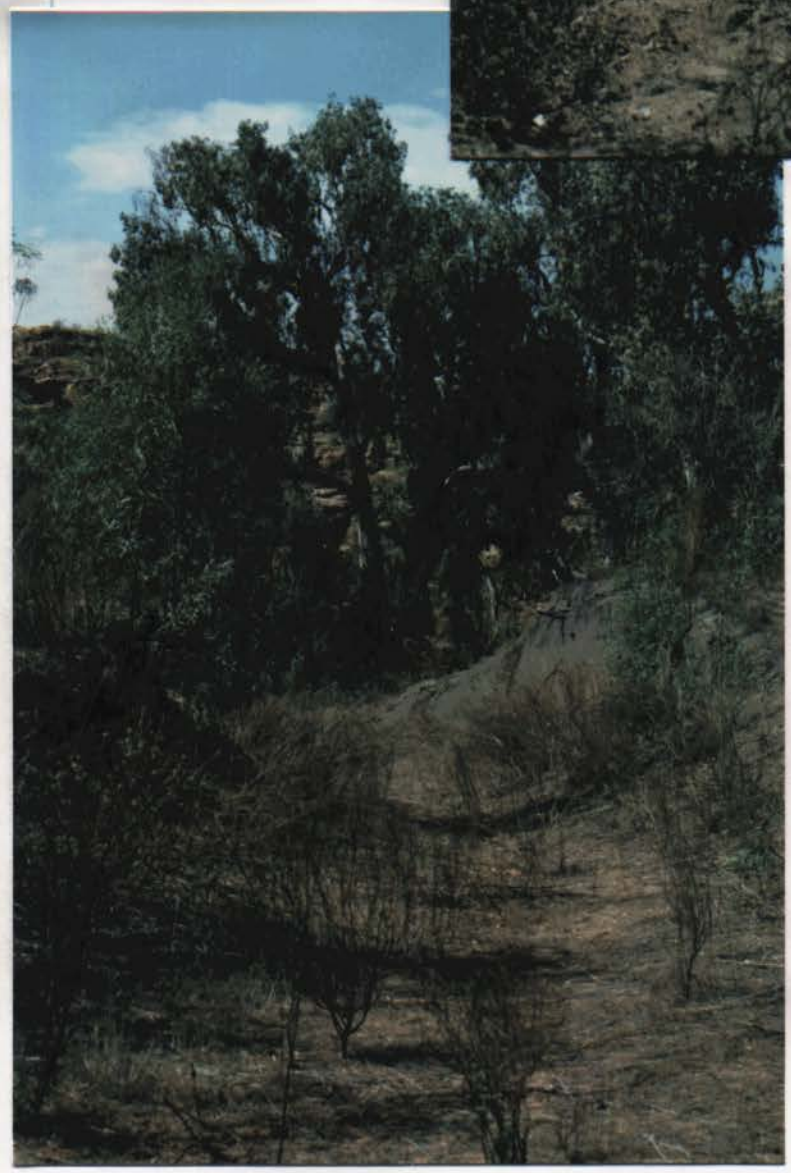


PHOTO 10

View looking at site E2A. Mullock "B" left as directed.

PHOTO 11

View looking northwest at Area A and site E2B left as directed.

PHOTO 12 View looking northeast at site E2C showing restored stream channel (centre), filled costean with spread mullock/topsoil cover.

PHOTO 13 View looking northwest across EMU-2 showing vegetation regrowth and minimised surface disturbance.

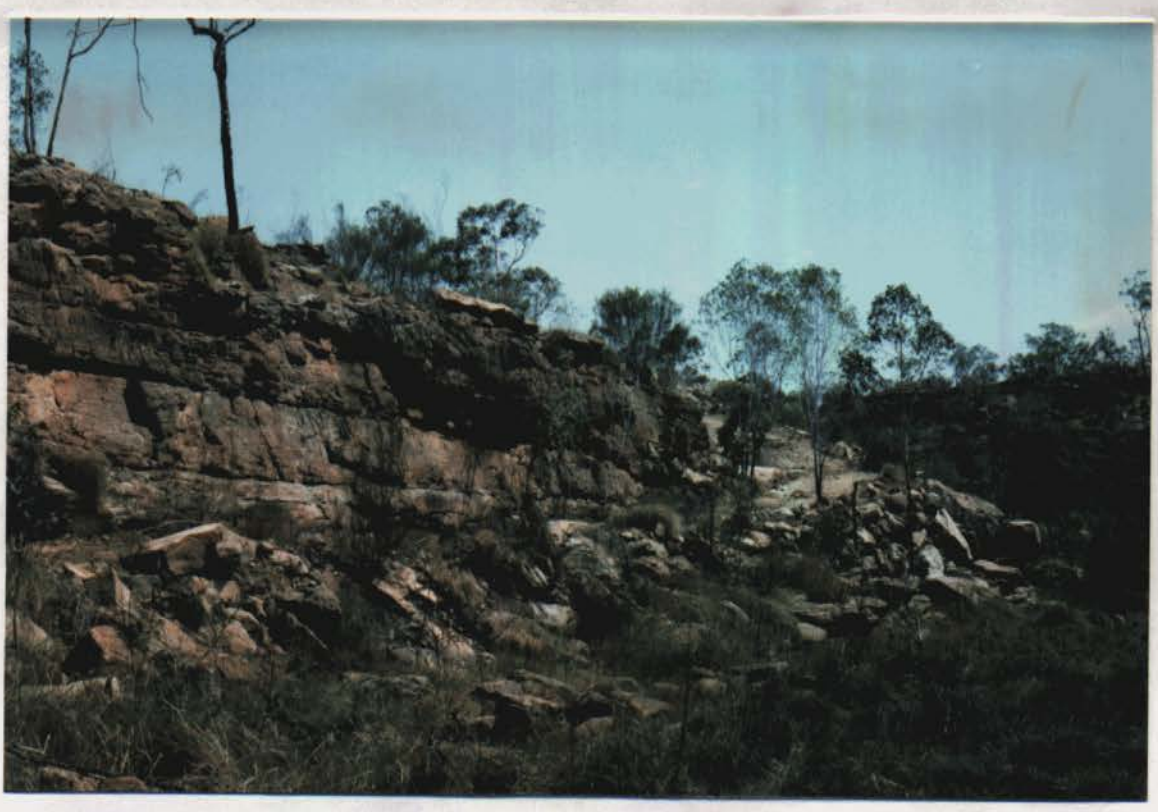


PHOTO 14 View looking north/northeast showing scarp entrance with "batters" (upper portion of road) to channel waterflow (Area C).

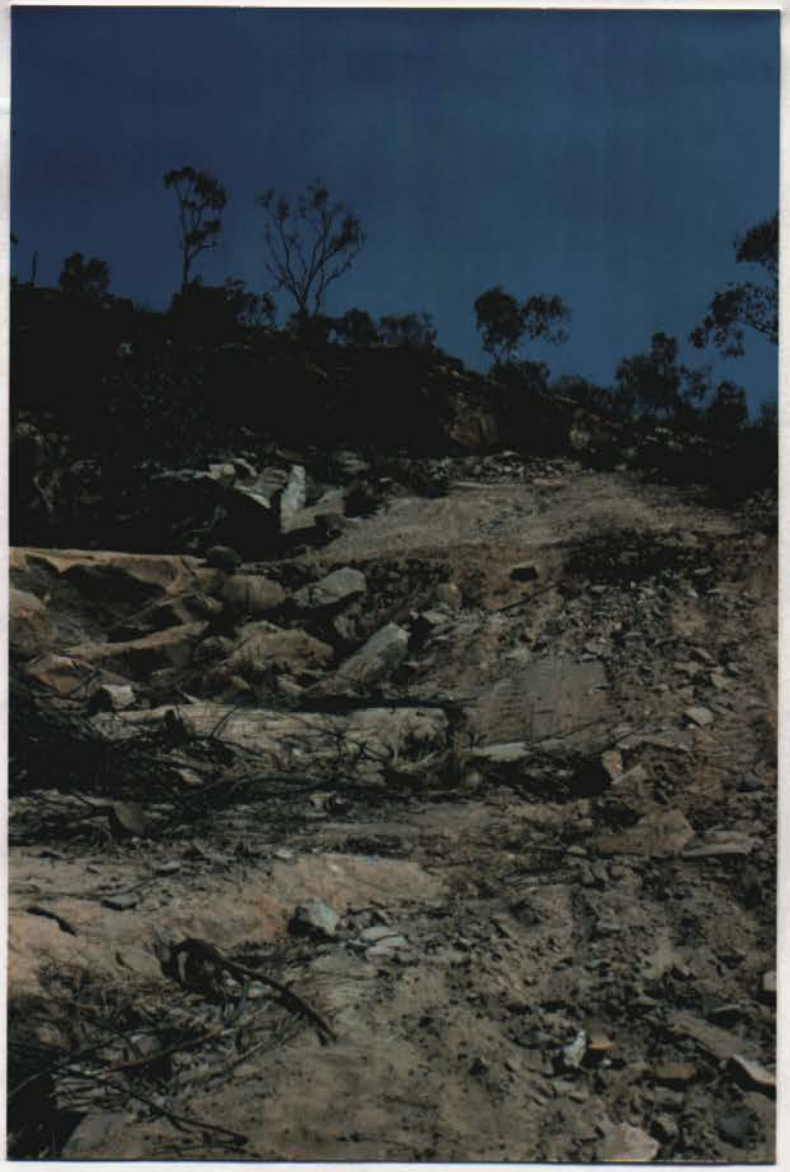


PHOTO 15

View looking north (Area C). Batters across scarp road to channel waterflow.

PHOTO 16 View looking south across EMU-1 showing vegetation regrowth amongst rehabilitated excavations.

PHOTO 17 Aerial view looking west showing filled and recontoured costeans and vegetation regrowth within EMU-1 (E1A, E1B, E1C, E1D and E1E).

PHOTO 18 Aerial view looking southwest as per photo 17.

PHOTO 19 Aerial view looking east as per photo 17.

PHOTO 20 Aerial view looking north showing EMU-1 and indistinguishable access track (LHS) on plateau surface.

PHOTO 21 Aerial view looking northeast showing filled and recontoured costeans and vegetation regrowth within EMU-2 (E2A, E2B, E2C and Area A).

PHOTO 22 Aerial view looking southeast as per photo 21.

APPENDIX V

NTDME MINERAL CLAIM CLEARANCE DOCUMENT

Department of Mines and Energy

CENTREPOINT TOWERS BUILDING, THE MALL, DARWIN N.T. 0800
G.P.O. BOX 2901, DARWIN, N.T. 0801, AUSTRALIA
TELEPHONE: (089) 89 5511 FACSIMILE: (089) 81 4806

PROMOTING GROWTH THROUGH RESOURCES

TITLES ADMINISTRATION BRANCH

Our Ref: MCN's 1720 - 1722

Mrs S Johnson
Superintendent Drafting/Tenement
CRA Exploration Pty Limited
PO Box 39598
WINNELLIE NT 0821

Dear Mrs Johnson

MINERAL CLAIMS 1720, 1721 and 1722 - CRA EXPLORATION PTY LIMITED

The above tenements were surrendered on 8 March 1993.

The tenements have been cleared by the Mining Technical Officers.

Senior Mining Technical Officer Ken Redwood states:-

Posts may not have been removed but this is of little consequence particularly as area is very remote. No further inspection required and titles are clear.

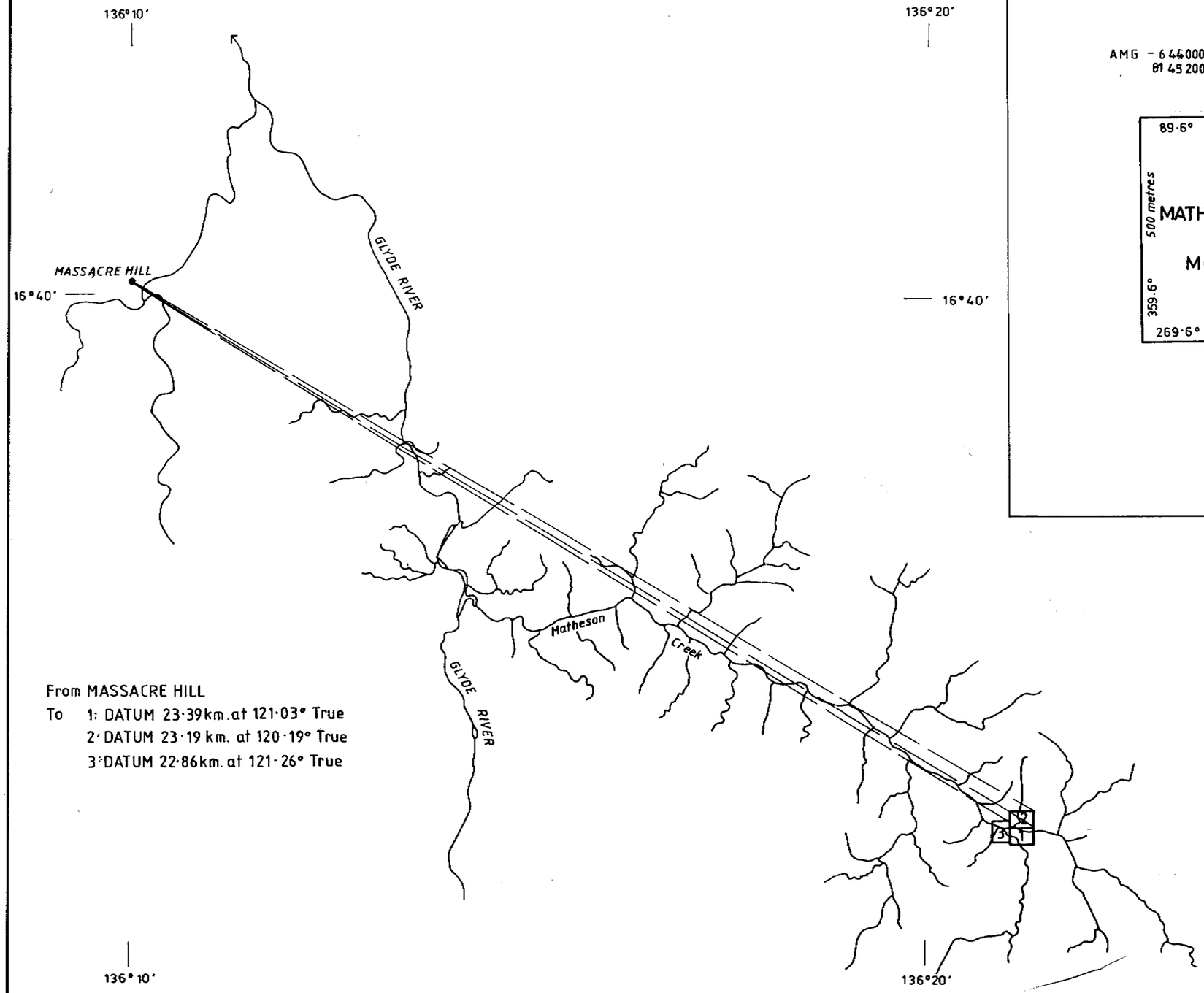
RECEIVED
10 MAY 1993

Yours sincerely

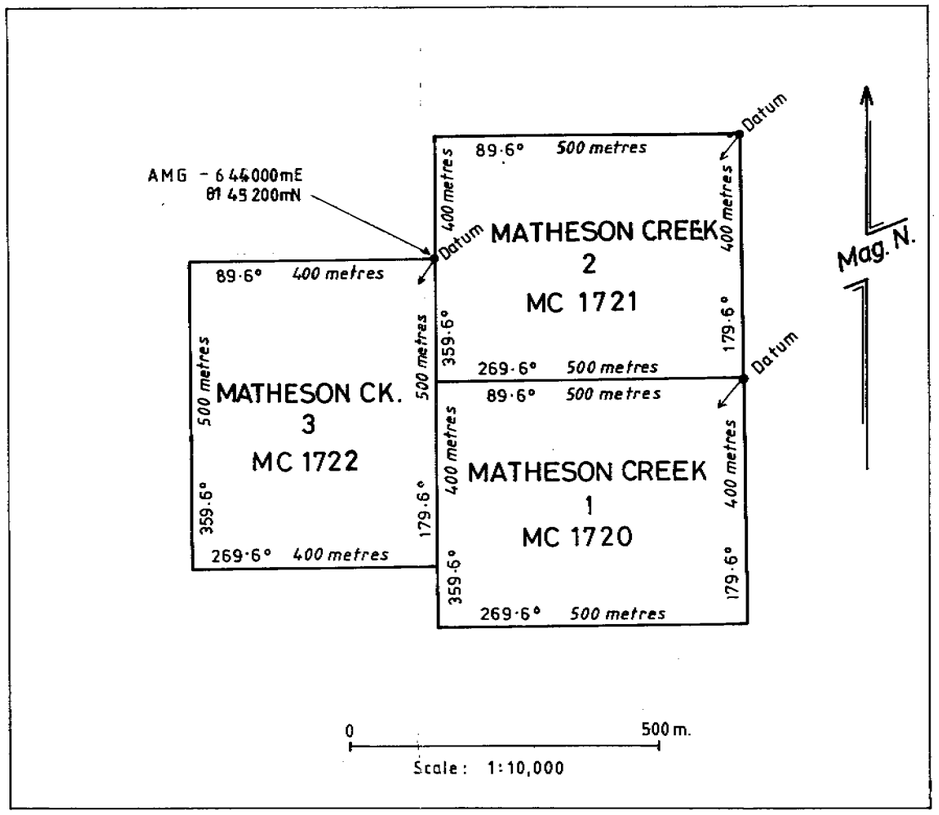
Vivienne King

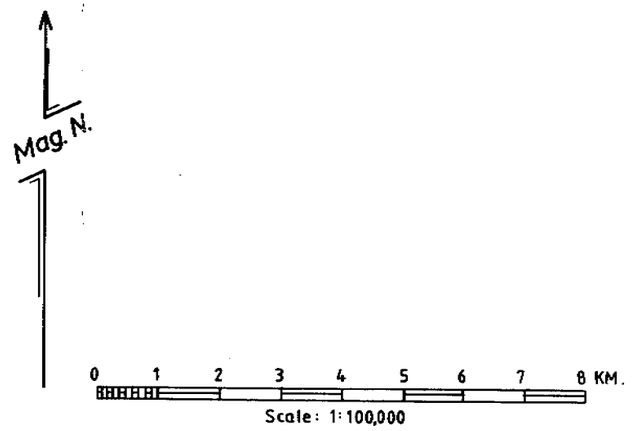
VIVIENNE KING
Mining Registrar

7.5.93



From MASSACRE HILL
To 1: DATUM 23·39km.at 121·03° True
2: DATUM 23·19 km. at 120·19° True
3: DATUM 22·86km. at 121·26° True





CRA EXPLORATION PTY. LIMITED

MATHESON CREEK

MATHESON CREEK MINERAL CLAIMS MC's 1720,1721,1722 LOCATION PLAN

Ref. SE53-3 BAUHINIA DOWNS (GLYDE 6164)	
Scale 1:100,000 & 1:10,000	Drawn SRJ
Author HJR	Report No. 18843
Date SEPTEMBER 1987	Plan No. NTd 4621

1250 mN
1200 mN
1150 mN
1100 mN
1050 mN
1000 mN
950 mN
900 mN
850 mN
800 mN

GRID NORTH

LEGEND

PHOTO No's	NEGATIVE No's
1	10
2	11
3	12
4	13
5	14
6	15
7	16
8	17
9	18
10	19
11	20
12	21
13	22
14	23
15	24
16	25

COSTEAN

ESCARPMENT

0 20 40 60 80 100 110metres
1:1,000

700 E
750 E
800 E
850 E
900 E
950 E
1000 E
1050 E
1100 E
1150 E
1200 E
1250 E
1300 E
1350 E

1250 N
1200 N
1150 N
1100 N
1050 N
1000 N
950 N
900 N
850 N
800 N

LOCAL GRID ORIGIN
1000 mE 1000 mN
AMG
644000 mE 8145700 mN

ALIGNMENT OF ACCESS TRACK

Area A
Area B
Area C

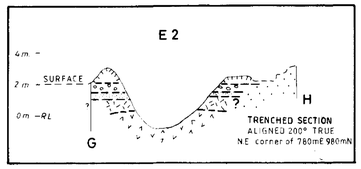
E2A (2.4m)
E2B (1m)
E2C (1m)
E1A (2.5m)
E1B (1.6m)
E1C (1.8m)
E1D (1.5m)
E1E (2m)

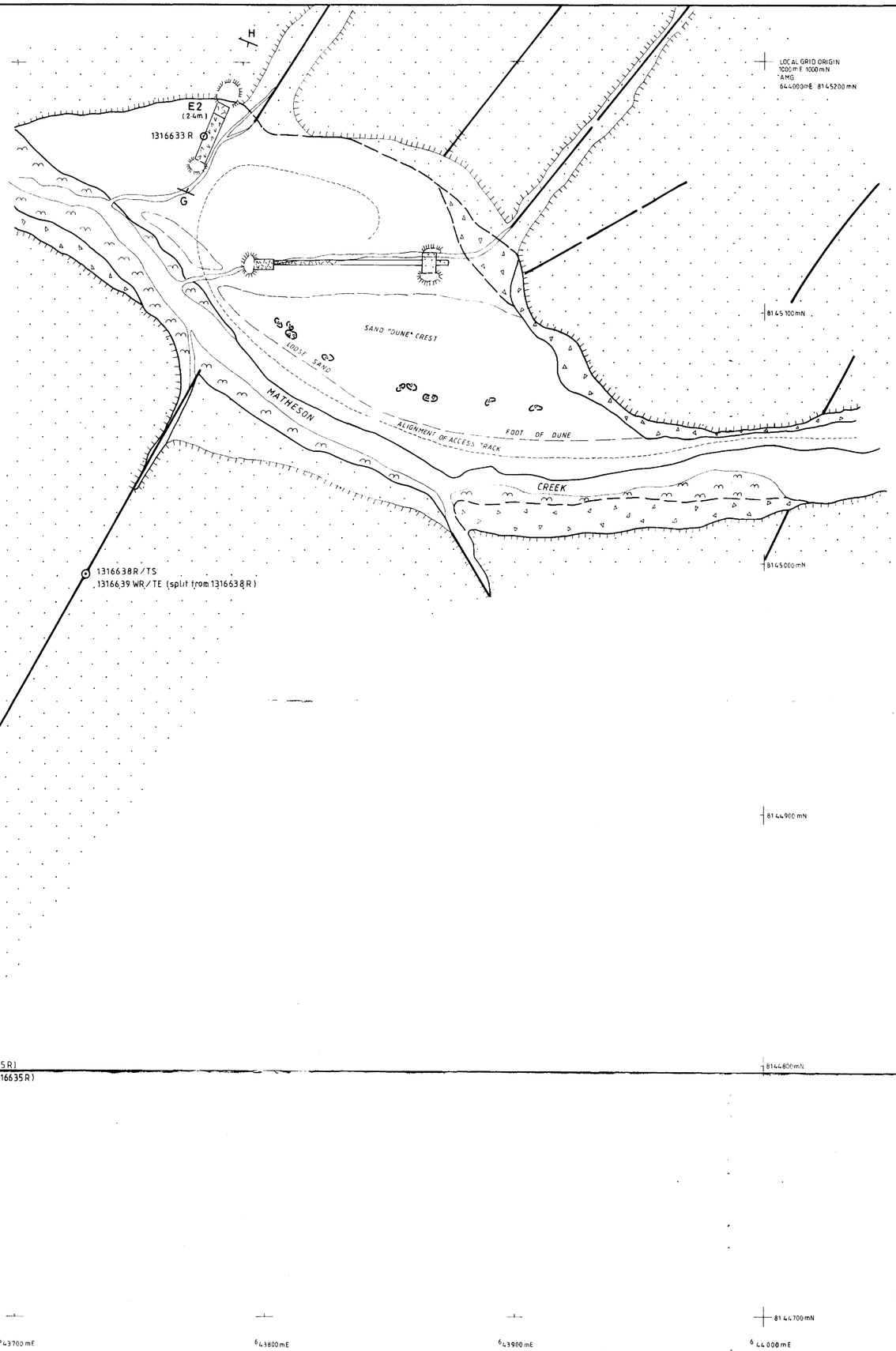
SAND "DUNE"
CREST
SAND CLIFF 4.5m HIGH
(COSTEAN BACK FILLED)
(ATYPICAL WHITE QUARTZ SAND)
"GULLY"
TRACK (LITTINGID 4m)
CHANNEL INCISED TO 3m)
MATHESON CREEK

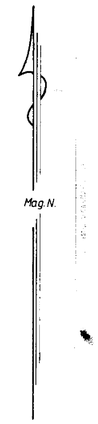
CRA EXPLORATION PTY LIMITED

MCNs 1720-1722
MATHESON CREEK
REHABILITATION BASE PLAN

REFERENCE SE53-3 BAUHINIA DOWNS	
SCALE 1:1000	DATE 3.9.1992
AUTHOR H.J.R.	REPORT 18843
DRAWN	PLAN No FIG 1







LEGEND

- Alluvium
- Grey sand
- Colluvial sand and clay with exotic pebble clasts
- Bukalara sandstone scree blocks
- Black clayey soil with magnesite nodules and exotic clasts
- Indurated clayey quartzose sand (decomposed kimberlite)
- Weathered kimberlite tuff-breccia
- Bukalara sandstone (arkosic)
- Geology exposed by ripper tyne to 1m.
- E2 (2.4m) Costean. Maximum depth 2·5 m.
- Primary joints
- Secondary joints
- Escarpment
- 1316636R Rock chip sample
- TS Thin section
- WR / TE Whole rock/trace element geochemistry

0 10 20 30 40 50 60 70 80 90 100 110 120 130 metres

1 : 1,000

CRA EXPLORATION PTY LIMITED

MATHESON CREEK MCs 1720-1722

GEOLOGY AND SAMPLE LOCATION PLAN

REFERENCE SE53-3 BAUHINIA DOWNS	
SCALE 1:1,000	DATE MARCH 1990
AUTHOR HJR	REPORT 18863
DRAWN SRJ	PLAN No NTd 4904