AURALIA RESOURCES N.L.

BATTEN CREEK DIAMOND PROJECT

EL 7945

FINAL RELINQUISHMENT

AND

ANNUAL REPORT

31/3/94 TO 16/3/95

CR95/328

DME LIBRARY
14 AUG 1995
SCANNED

TABLE OF CONTENTS

1.	TENURE	3
2.	LOCATION	3
3.	ACCESS	3
4.	RATIONALE	3
5.	GEOLOGY	4
6.	MARA DOLOMITE	4
7.	STRUCTURES	5
8.	QUARTENARY COVER	5
9.	WORK CARRIED OUT IN THE PERIOD	5
10.	SAMPLING PROCEDURE	5
11.	RESULTS 11.1 Sample Collection Phase 1 11.2 Sample Collection Phase 2	6
12.	RECOMMENDATION	6
13.	CONCENTRATE RESULTS	8
14.	EXPENDITURE 31.03.94 TO 16.03.95	9

1. TENURE

EL 1945 (N.T.) AURALIA 100%

EL 7945 was granted on 01/04/93 for a period of five years over an area of 39 sub blocks.

2. LOCATION

The tenement is located 25km west of the HYC zinc deposit at McArthur River near the Queensland Border, northwest of Mt Isa.

3. ACCESS

Access is via Tennant Creek east on the Carpentaria Highway. The tenement may generally be reached by road only during the dry from April to November each year. During the wet access is via McArthur River Station or Heart Break Hotel by helicopter.

4. RATIONALE

Research by Smith, Atkinson and Tyler 1989 and other authors has shown that historic records of diamond occurrence in the McArthur River Basin are geologically supported by structures and rock types with affinities to known diamondiferous terrains.

Exploration in the Emu area by other companies, 25km to the east, discovered micaceous peridotite pipes of similar composition to kimberlite, on the Emu Fault. Prospecting activities followed and 36 commercial diamonds were recovered from the pipes.

Investigation by Auralia geologists has outlined other potential kimberlite provinces in close proximity to the Tawalla Fault, considered an analogue of the southern Emu Fault around Glyde River. The lineament represents a major crustal weakness that is believed to have facilitated emplacement of diamond bearing diatremes in clusters along the Tawalla Fault and other associated splays.

Auralia believes that a substantial diamond province is thus indicated.

ADEX has reported discovery of macro and micro diamonds in the Merlin loam anomaly and Excalibur Kimberlite pipe in the tenement lying to the southeast of Auralia's tenements on a splay of the Tawalla Fault.

Auralia's tenement EL 7945 covered a prospective section of the Tawalla Fault and considered to be located in a similar structural setting to the Emu and Merlin.

5. GEOLOGY

The regional setting for the tenements is the Middle Proterozoic McArthur Basin. McArthur Basin sediments are intracratonic in nature, deposited in shallow water environments and comprise sandstones and limestones. The tenement is dominated by the Umbolooga subgroup of siltstone, sandstone and shale.

Structurally, the tenements lie on a major rift zone - the Tawalla Fault, which truncates the sediments of the McArthur Basin at this point. The Tawalla Fault is a very deep seated structure, this zone of weakness may well have provided a feeder path for kimberlitic diatremes.

Mapping by N.T. Department of Mines' geologists suggests a very small exposure of cretaceous Siegal Volcanics along the Tawalla Fault. Siegal Volcanics are typically amygdaloidal basalts. The exposure of the volcanics in the tenement is poor and the weathering intense with the indication of origin.

6. MARA DOLOMITE

A member of The Emmerugga Dolomite a generally stramatolytic dolastone with minor siltstone and sandstone interbeds.

The unit itself has undergone alteration obliterating sedimentary structures, with variable silicification.

The Mara Dolomite is the dominating rock type in the tenement except for a very small portion of the Trena Dolomite which conformably overlies the Mara Dolomite in the southern extremity of the tenement.

7. STRUCTURES

In the tenement a splay of the Tawalla Fault system runs diagonally through the centre referred to in literature as the Hot Spring Fault.

The Fault is northsouth trending and sub-parallel to the Tawalla Fault. The fault is difficult if not impossible to locate on the ground and is not indicated magnetically from high resolution magnetic studies carried out by Auralia.

8. QUARTENARY COVER

Extensive quartenary cover exists over 80% of the tenement rendering geological mapping useless. There are limited exposures of underlying Mara Dolomite in the extreme south of the tenement.

9. WORK CARRIED OUT IN THE PERIOD

Two field reconnaissance and sample collection sorties were undertaken. The first in August 1994 and again in February 1995.

During phase one 5 bulk samples were collected in drainages located proximal to the Hot Spring Fault.

The samples were approximately 1 cubic metre in size comprising active creek wash from suitable trap sites on tributaries of Barney Creek on Barney Creek proper and on Hot Spring Creek (prefix BS-1 to BS-5).

The second field program comprising 10 sample locations targeted the area directly around the Hot Spring Fault Zone where exposed through Quartenary cover (PS-1 to PS-10).

10. SAMPLING PROCEDURE

As limited access through the tenement exists a helicopter from Heli-Muster was contracted to lift personnel and equipment into trap sites with samples collected in bulk bags and sling lifted to a suitable landing/staging point on the Carpentaria Highway located at the southern extremity of the tenement. A number of flights were required to recover sufficient volume from sample sites.

Samples were not sieved on site but were raw gravel and wash. The samples were transported to Darwin by road where treatment was carried out.

Samples arriving in Darwin were wet sieved to 3 fractions, $^{+}$10mm, $^{-}$5mm, $^{-}$1.5mm.

Samples $^{-}$5mm were treated in a pletiz jig to yield a concentrate which was macroscopically examined for macro diamonds and indicator minerals. The remaining $^{-}$1.5mm samples were forwarded to a consultant diamond laboratory for heavy media separation and microscopic examination.

All $^{+}$10mm material was examined for possible ultra basic clasts with specimens collected forwarded for petrological examination and description.

Phase two was carried out during the wet to ensure adequate water supply in drainages firstly to determine advantageous concentration and to supply water for wet sieving.

Sample preparation during this period was carried out on site, with samples collected sieved to $^{+}$5mm then $^{-}$1.5mm with two samples collected from each location. Sample 1 was wet sieved to $^{-}$1.5mm then carefully panned to determine the presence of diamonds and indicators by field staff. Sample 2 was collected and approximately 10kg stored for transportation to a consultant diamond laboratory for heavy media separation.

11. RESULTS

11.1 Sample Collection Phase 1

No samples collected treated and examined during this phase returned positive results for either diamonds or indicators from the drainages tested.

11.2 Sample Collection Phase 2

No samples collected and examined in the field or in the laboratory returned positive results.

12. RECOMMENDATION

The disappointing results from this project indicate that it is unlikely that diamond bearing diatremes exist along the target zone around the Hot Springs Fault.

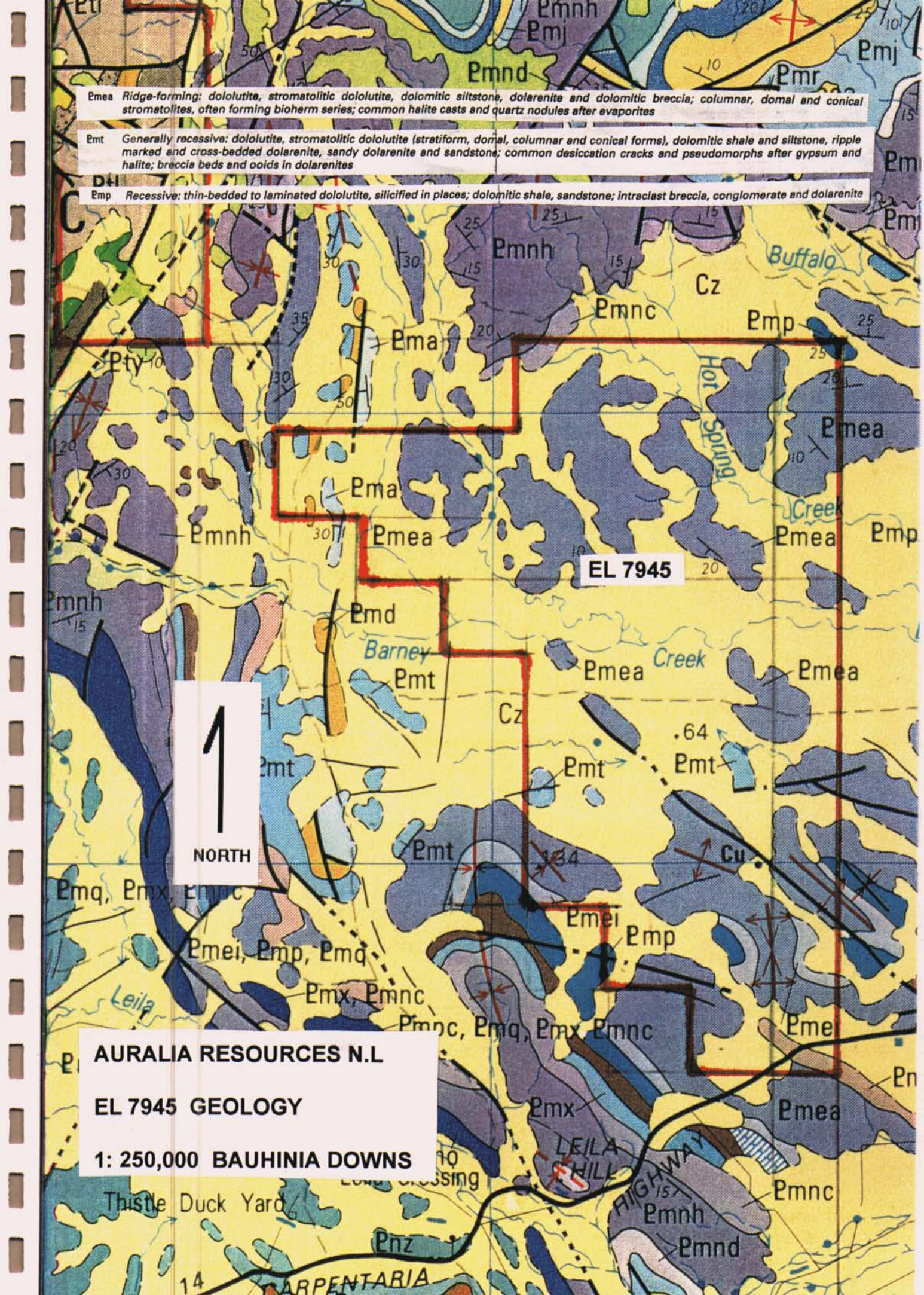
The company has decided to relinquish the tenement and concentrate exploration efforts around the Tawalla Fault where positive results have been recorded during exploration carried out in conjunction with reconnaissance programs outlined in this report.

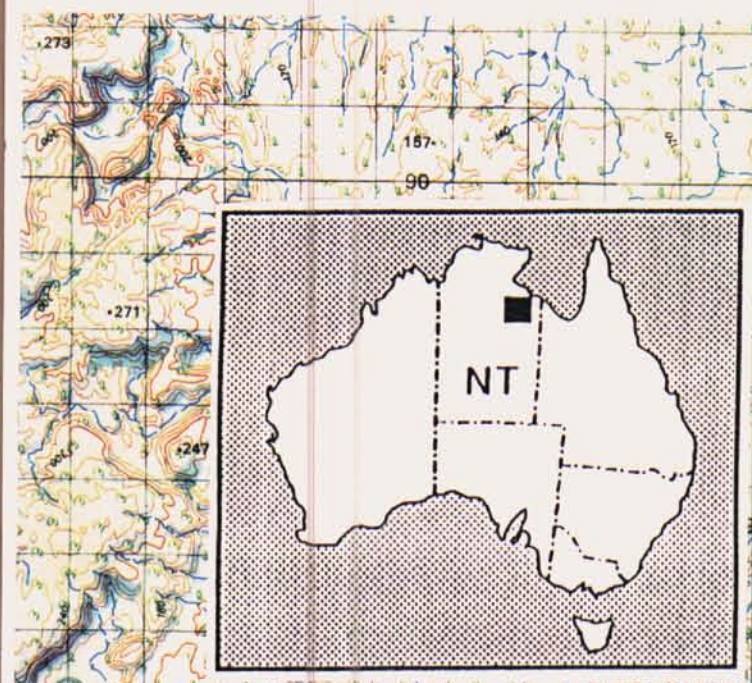
CONCENTRATE RESULTS

Sample #	Type	Results Concentrate in order of abundance
BS-1	Bulk	Qtz, Zircon, Magnetite, Limonite
BS-2	Bulk	Qtz, Hematite, Magnetite, Limonite
BS-3	Bulk	Tormaline, Zircon, Magnetite, Corundum(?)
BS-4	Bulk	Qtz, Zircon, Magnetite, Tormaline
BS-5	Bulk	Qtz, Rutite(?), Magnetite, Tormaline
PS-1	Panned/sieved	Rock frags, Limonite, Magnetite, Qtz, Zircon
PS-2	Panned/sieved	Rock frags, Limonite, Qtz, Magnetite
PS-3	Panned/sieved	Rock frags, Limonite, Magnetite, Qtz
PS-4	Panned/sieved	Rock frags, Limonite, Magnetite, Tormaline
PS-5	Panned/sieved	Rock frags, Limonite, Qtz, Magnetite, Illmenite
PS-6	Panned/sieved	Rock frags, Limonite, Qtz, Illmenite
PS-7	Panned/sieved	Rock frags, Limonite, Qtz, Magnetite
PS-8	Panned/sieved	Rock frags, Limonite, Magnetite, Tormaline
PS-9	Panned/sieved	Rock frags, Limonite, Qtz, Rutile, Magnetite, Tormaline
PS-10	Panned/sieved	Rock frags, Limonite, Qtz, Magnetite, Tormaline

14. EXPENDITURE 31.03.94 TO 16.03.95

Geologists	16,000
Field Assistants	10,720
Sample Plant Hire	5,000
Heavy Media Separation	2,400
Helicopter Hire	7,125
Vehicles	4,200
Accommodation	3,790
Airfares	7,920
Field Consumables/fuel	2,646
Administration/Reporting	8,997
Total Expenditure	**68,978**


Pmea Ridge-forming: dololutite, stromatolitic dololutite, dolomitic siltstone, dolarenite and dolomitic breccia; columnar, domal and conical stromatolites, often forming bioherm series; common halite casts and quartz nodules after evaporites
Pmt Generally recessive: dololutite, stromatolitic dololutite (stratiform, domal, columnar and conical forms), dolomitic shale and siltstone, ripple marked and cross-bedded dolarenite, sandy dolarenite and sandstone; common desiccation cracks and pseudomorphs after gypsum and halite; breccia beds and ooids in dolarenites
Pmp Recessive: thin-bedded to laminated dololutite, silicified in places; dolomitic shale, sandstone; intraclast breccia, conglomerate and dolarenite
Pmnh
Pmj
Pmnd
Pmr
Buffalo
Cz
Pmnc
Pmp
Pty
Pma
Hot Spring
Creek
Pmea
EL 7945
Pmd
Barney
Pmt
Cu
Pmei
Pmq, Pmx, Pmnc
Pmei, Pmp, Pmq
Pmx, Pmnc
Leila
Pmnc, Pmq, Pmx, Pmnc
LEILA HILL
HIGHWAY
Thistle Duck Yard
Pnz
CARPENTARIA
1
NORTH
AURALIA RESOURCES N.L
EL 7945 GEOLOGY
1: 250,000 BAUHINIA DOWNS



EL 7945

1

NORTH

AURALIA RESOURCES N.L

EL 7945 SAMPLE LOCATION

1:100,000 MALLAPUNYA / BATTEN

BCRROLOOLA HS 74 km