W.R. GRACE AUSTRALIA LTD

ANNUAL REPORT

ON

1983/84 EXPLORATION PROGRAM

EL 3643

YEAR 1

YEAR ENDING 25 MAY 1984

by

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Geologist
EL 3643

CONTENTS

SUMMARY 1

INTRODUCTION 2

HISTORY 3

LOCATION, ACCESS, WATER & TOPOGRAPHY 4

REGIONAL GEOLOGY 5

1983 EXPLORATION PROGRAM 7

EXPLORATION PROGRAM FOR YEAR 2 8

AIR PHOTO INTERPRETATION 9

OPERATING EXPENSES 1983 10
ENCLOSURES

FIGURES 1
1:100,000 MAP REFERENCE

2
LOCALITY MAP N.T.

3
LOCALITY MAP ADELAIDE RIVER

APPENDIX 1
EXTRACT FROM ANALABS REPORTS

PLATE 1
GEOLOGICAL & GROUND CONTROL MAP SHOWING SAMPLE LOCATIONS
SUMMARY

A photo geological interpretation program failed to locate any significant structures within the EL. A fairly extensive sampling program also gave no significant anomalies. The south-western area was the only part which showed any promise and was hence sampled the most intensely. Airborne reconnaissance failed to recognize any areas worthy of sampling in the east.
INTRODUCTION

This report covers the exploration carried out by W.R. Grace Australia Ltd for the first year of operation of EL 3643.

The EL was sampled at a grass root level early in the 1983 field season. Work was done with the aid of a Bell 47 Soloy helicopter working from a field camp set up to the south-west of the EL on the track between Mt Ringwood and Ban Ban Springs Stations. In all 32 samples were taken mainly from the southern and western parts of the EL. The sampling program was backed up by geological interpretation of the area both from air photo interpretation and from information gained in studying other licences in the area.
With the substantial work being carried out in other ELs and the known old gold and base metal mines to the north and south, it was planned to explore as much prospective ground as possible.

The EL was granted to W.R. Grace Australia Limited on 25 May 1983. The EL covers an area of 26 square kilometres, or 8 blocks, and carries a covenant of $5,000 in the first year of exploration.
LOCATION, ACCESS, WATER & TOPOGRAPHY

The EL is located approximately 45 kilometres to the east of Adelaide River township and within 120 kilometres radius of Darwin. It is situated on Ban Ban Springs Pastoral Lease with the EL’s northern boundary coinciding with the northern boundary of the Pastoral Lease. Access is limited to a dry season track, which passes the south-west corner of the EL, between Mt Ringwood and Ban Ban Springs Station. A fenceline track lies along the northern side of the EL.

Numerous small creeks, tributaries of McCallums Creek in the west and the Margaret River in the east, drain the area. These flow during the wet season but dry out quickly in the dry and are reduced to small pools.

The area consists of low hills of moderate relief, steepening slightly to the south-west, with the highest sections being about 100 metres above sea level. The numerous small river flats and the lower hills become covered with long grass after the wet, making driving difficult.
The EL is located geologically within the central trough of the Pine Creek Geosyncline, with sediments derived from the east of the trough.

Rocks are dominantly of the Lower Proterozoic South Alligator Group, the Finniess River Group, and the Zamu Dolerite. The South Alligator Group consists of, from oldest to youngest - the Koolpin Formation, Gerowie Tuff and Mt Bonnie Formation.

The south-western and north-eastern sections are dominated by the Mt Bonnie Formation with older Gerowie Tuff occupying the central section, hence forming a broad anticline. Running from the south-east to the north-west corners of the EL is a band of Zamu Dolerite. The situation has been complicated by secondary folding and numerous small faults which cut the area, associated with the emplacement of the Margaret and Burnside Granites.

The Koolpin Formation may or may not outcrop. It has been interpreted by air photo interpretation as outcropping in the south-eastern and central-eastern part of the area.

The Koolpin Formation consists of shales and siltstones which are commonly carbonaceous and pyritic. The Gerowie Tuff is dominantly tuffaceous shales and siltstones, with minor thin banded iron formations. The Mt Bonnie Formation is mainly red-brown siltstones and shales, with thin Banded Irons and rare cherts.

The Burrell Creek Formation of the Finniess River Group is confined to a small outcrop in the north-east corner. The Burrell Creek Formation is mainly siltstones and shales with greywacke.
The Zamu Dolerite is, as implied, a basic dolerite intrusive.

To the east of the area are small outcrops of the Margaret Granite.

Low lands of the area are covered with Quaternary alluviums and silt and sand.

There is extensive quartz veining, mainly confined to the south-western corner and was a major target for mineral exploration.
1983 EXPLORATION PROGRAM

Work was carried out from a field camp situated to the south-west of the area on the Ban Ban to Mt Ringwood road. Samples were taken from quartz reefs and any stockworks encountered. In all a total of 33 samples were taken from the area and sent to Analabs for assaying. Assays were by fire assay for gold, and atomic absorption for lead and arsenic. Results are contained in Appendix 1. A Bell 47 Soloy helicopter was used for reconnaissance work and colour 1:25,000 aerial photos were used to mark sample locations. These locations were later transferred to a 1:25,000 Geological and Ground Control Map (see Plate 1).
EXPLORATION PROGRAM FOR YEAR 2

Geological sampling.

Assaying of collected samples.

Geological mapping of selected areas.

Correlation of information.

Drafting of maps.

Expected expenditure $6,000.
After the useful information gained from air photo interpretation in EL 2362, a major study was carried out over EL 3643 and other ELs by Miss L. Smith of L.G. Smith & Co, Perth. The results of this survey are contained in a separate report.
EXPLORATION OPERATING EXPENSES

PERIOD: 27 MAY 1983 - 26 MAY 1984

$9,315

ACCESS GRADING
AMORTIZATION OPTIONS
ASSAYS
AUDITORS REMUNERATION
CAMP SUPPLIES
CONTRACT MAP PREPARATION
DATA PROCESSING
DRILLING: DIAMOND
PERCUSSION
AUGER
DOZER
EL TENEMENT FEES
FIELD ASSISTANTS
FIELD CONSUMABLES
FIELD CAMPING & AMENITIES
FREIGHT, POSTAGE, BANK CHARGES
FUEL & OIL
GEOLOGISTS + CONTRACT GEOLOGISTS
GEOLOGICAL CONSULTANT + STAFF
GEOPHYSICAL SURVEYS
GRIDDING
HELICOPTER
INSURANCE - WORKERS COMPENSATION
MINING CONSULTANT SUPERVISOR
OFFICE SUPPLIES
OPTION PAYMENTS
OVERSEAS CONSULTANTS
PETROLOGY & MINERALOGY
PHOTOGEOLGY
RENT
SECRETARIAL & BOOKKEEPING
SITE PREPARATION DRILLING
SUNDRIES
TRENCHING
TRAVEL, ACCOMMODATION, MEALS
VEHICLE & CAMP HIRE

DEPRECIATION

$9,175

$9,315
APPENDIX 1

ASSAY REPORTS
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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
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Results in ppm unless otherwise specified

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AUTHORISED OFFICER