

WESTERN MINING CORPORATION LIMITED
EXPLORATION DIVISION

ANNUAL REPORT
ON
E.L. 3643
MAY 1984 - MAY 1985

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PASADENA, S.A.

JUNE, 1985

NORTHERN TERRITORY
GEOLOGICAL SURVEY

CR 85 / 206

WESTERN MINING CORPORATION LIMITED
EXPLORATION DIVISION

ANNUAL REPORT ON EXPLORATION

PERIOD : May 26, 1984 - May 25, 1985
TENEMENT : EXPLORATION LICENCE 3643
MINERAL : GOLD
LOCATION : PINE CREEK 1:250 000 Sheet SD52-8
BACHELOR 1:100 000 Sheet 5171
AUTHOR : S.L. HANCOCK
DATE : JUNE 1985

ABSTRACT

This report summarizes exploration activities and expenditure for the second year of tenure of E.L. 3643 located in the McCallum Creek area in the central Pine Creek Geosyncline. Exploration activities during the report period included limited helicopter-borne geological reconnaissance and rock chip sampling together with continued appraisal of background data. Weakly gold-anomalous rock chip results were obtained in several areas within the licence and more evaluation is required. Proposed exploration for the third year of the licence includes completion of an aeromagnetic and helicopter-borne regional stream-sediment programme, grid establishment, traverse soil and ground magnetic surveys of selected areas and continued geological mapping, sampling and prospecting.

Exploration expenditure for the period 27th May, 1984 to 26th May, 1985 was \$3,963 and exploration was carried out by W.J. and E.E. Fisher on behalf of W.R. Grace (Aust.) Pty. Ltd.

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1.

INTRODUCTION

This report summarizes exploration carried out by W.J. and E.E. Fisher for W.R. Grace (Aust.) Pty. Ltd. on E.L. 3643 for its second year (26/5/84 to 25/5/85). The general location of the licence area, which comprises 8 blocks, is indicated on Figure 1. Previous exploration activity in the licence and the general geological environment have been described in the First Annual Report and are not reviewed here in any detail.

The lower Proterozoic succession within the licence comprises members of the middle and upper South Alligator Group dominated by Gerowie Tuff and stratabound Zamu Dolerite but including poorly outcropping or shallowly covered Koolpin Formation in the centre of the area and upper Mt. Bonnie Formation in the northern and southwestern peripheries. Figure 2 shows the geology of the licence area at 1:25 000 together with the current status of rock chip and assay results for Au and As. The area lies close to the northern margin of the Burnside Granite and the dominant structure is a faulted upright, N to NNW trending anticline cored by Zamu Dolerite and shallowly covered upper Koolpin Formation. In addition to the major NNW trending fault zone which disrupts the axial zone of the anticline which trends NNW-SSE across the licence area and which juxtaposes lower Gerowie Tuff and Zamu Dolerite on the northeast against upper Gerowie Tuff and Mt. Bonnie Formation on the southwest; the area is disrupted by smaller NE to ENE trending faults of generally minor displacement.

Available aeromagnetic data indicate two zones of stratabound magnetic response near the core of the main anticlinal structure but these have neither been accurately ground located nor evaluated by past prospecting in the area. This will be a priority task for the 1985 field season.

2. 1984 EXPLORATION : E.L. 3643

A helicopter assisted soil and rock chip geochemical sampling survey was carried out over the Zamu Dolerites and sedimentary structures within the dolerites not previously sampled.

The operation was carried out during late October in very hot and dry conditions.

The structural relationship of the intrusive dolerite was examined by geological staff, with particular reference to altered zones within the dolerite exposures.

Trending north west from the south east corner of the Exploration Licence, the dolerite intrusions reach a maximum of five kilometres in width near their limit of exposure in the northern section. The eastern side of the structure contains exposures of relatively thin folded dolerites around Gerowie Tuffs.

In the central sector on the eastern side, a brecciated sedimentary structure 10 to 30 metres in exposed thickness, forms a north trending ridge 5 to 15 metres above the valley floor on the western side, and approximately 4 kilometres on strike. Thin outcrops of weathered dolerites separate this structure from the Gerowie Tuffs. Samples 15273, 15319 to 21, 15310 to 14, all anomalous in Au or As or both, were taken over this structure.

In the north western sector, close to highly altered quartz vein rich dolerites, a substantial outcrop of tourmalised quartz, possibly ferruginous siliceous mudstone, forms a prominent feature. A costean had been excavated at some unknown period in the altered dolerite. Samples 15276 - 81 from this locality were anomalous in Au or As, or mostly both.

These results indicate a greater degree of anomalous mineralization in Au and As than the 1982 sampling program confined to quartz rich structures in the Gerowie Tuffs. A total of 35 samples were collected.

The mineral potential of the intrusive dolerites is upgraded with these results, and a close study of the geophysical anomalies, combined with more detailed geological mapping and geochemical sampling to locate defined targets, is recommended for the next field season.

3. RESULTS OF THE 1984 PROGRAMME

As indicated on Figure 2, two areas of clustered gold anomalous rock chip samples spatially related to an area which has been heavily intruded by Zamu Dolerite are defined by current sampling. In view of our experience in other areas we regard these data as promising and worthy of more detailed follow-up geophysics and geochemical sampling and we propose that this should commence in the 1985 field season.

4. PROPOSED PROGRAMME FOR THE THIRD YEAR OF THE LICENCE

Basic exploration activities on E.L. 3643 during the third year of the licence will be aimed at further defining and evaluating indications of gold mineralization in the area reported above. Although our programme will not be totally host-specific, we will focus considerable attention to evaluating Zamu Dolerite sheets present within the core of the main fold structure as hosts for epigenetic gold mineralization. Our proposed programme will include :

- a) Aeromagnetic survey : whole area.
- b) Helicopter-borne stream sediment survey : whole area.
- c) Grid establishment.
- d) Traverse ground magnetics and soil sampling of selected target areas.
- e) Continued geological mapping, sampling and prospecting.

Our anticipated exploration expenditure for the third year of E.L. 3643 is shown on Table 1.

TABLE 1 : PROPOSED EXPLORATION EXPENDITURE - E.L. 3643

Geological	\$10,000
Geochemical	\$ 4,000
Analytical	\$10,000
Geophysical	\$10,000
Total	<u>\$34,000</u>

5. EXPLORATION OPERATING EXPENDITURE : E.L. 3643

E.L. 3643

EXPLORATION OPERATING EXPENSES

PERIOD: 27 MAY, 1984 - 26 MAY, 1985

(a) ADMINISTRATION

Auditors Remuneration	23
Consultants, Financial & Tax	21
Data Processing (Accounting)	39
Electrical Power & Light	19
Financial Controller	31
Insurance, General Workmens Compensation	80
Legal Fees	131
Mining Engineering Supervision	286
Payroll Tax	27
Postage, Courier, Bank Charges	26
Printing & Stationery	44
Rent & Storage	110
Secretarial & Bookkeeping	152
Staff Recruitment	26
Telephone, Radio, Telex	38
Travelling	97
Office Miscellaneous	-
Promotional & Representation Costs	3

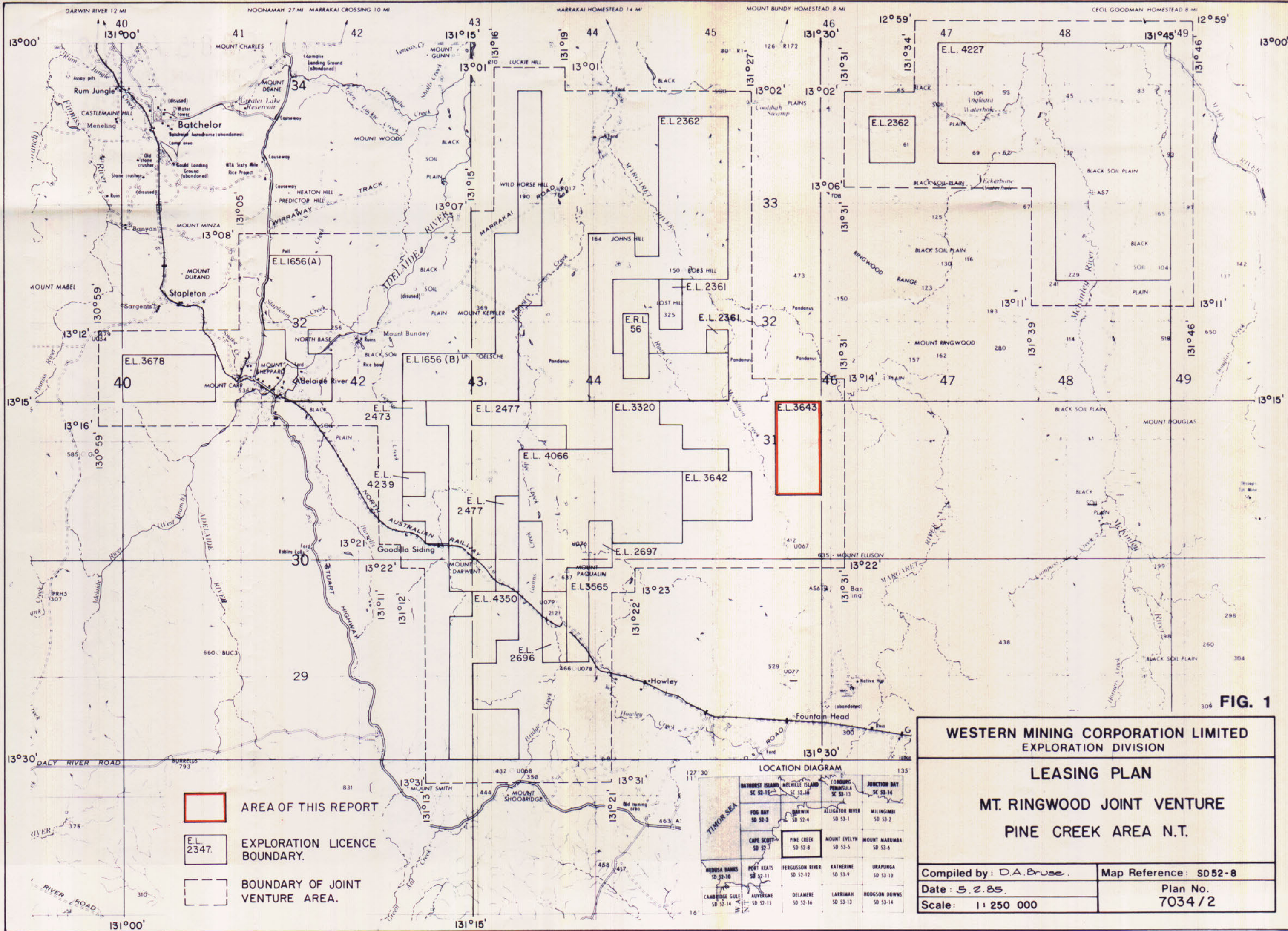
(b) DRILLING, TRENCHING & ASSAYING

Assaying	406
Contract Grading	-
Contract Drafting	20
Contract Gridding & Surveying	-
Core Cutting & Storage Contractor	24
Core & Sample Storage	2
Costean Trenching	-
Drilling - Diamond, Percussion, Etc.	-

(c)	<u>FIELD & CAMP EXPENDITURE</u>	
	Camp Cook/Contractor	-
	Camp Construction	-
	Field Rations & Supplies	-
	Field Camp Equipment Amenities	3
	Fuel & Oil	69
	Helicopter Hire Aerial Survey	901
	Hire Plant & Equipment	29
	Motor Vehicle Expense	93
	Operating Supplies, Consumables	43
	Repairs & Maintenance	76
	Site Preparation, Bulldozing & Clearing	-
	Motor Vehicle Lease	33
(d)	<u>METALLURGICAL INVESTIGATIONS & CONSULTANTS</u>	
	Metallurgical Consultants	-
	Metallurgy	-
	Mineralogy & Petrology	-
(e)	<u>GEOLOGICAL SERVICES</u>	
	Consulting Geologist	10
	Geological Contractors	675
	Geophysical Surveys	-
	Consulting Geologist- Staff	-
	Field Assistants (Contractors)	-
	Photogeological Interpretation	-
	Contract Geologists	-
	Data Processing (Geological)	-
	Technical Assistant (Contractor)	-
(f)	<u>EXPLORATION LICENCE FEES & LEASES</u>	
	EL Fees	-
	Option Payments	-
	Rental Exploration Leases	80
(g)	<u>ENVIRONMENTAL/SACRED SITE STUDIES</u>	
(h)	<u>DEPRECIATION</u>	75
(i)	<u>NEW YORK CHARGES</u>	
	Overseas Mining Consultants	487
(j)	<u>CONTINGENCIES</u>	
(k)	<u>FLUOR STUDY</u>	
(l)	<u>FOREIGN EXCHANGE LOSS</u>	9
(m)	<u>CAPITAL EXPENDITURE</u>	

Total:

\$4188



7033 H.J./1.