

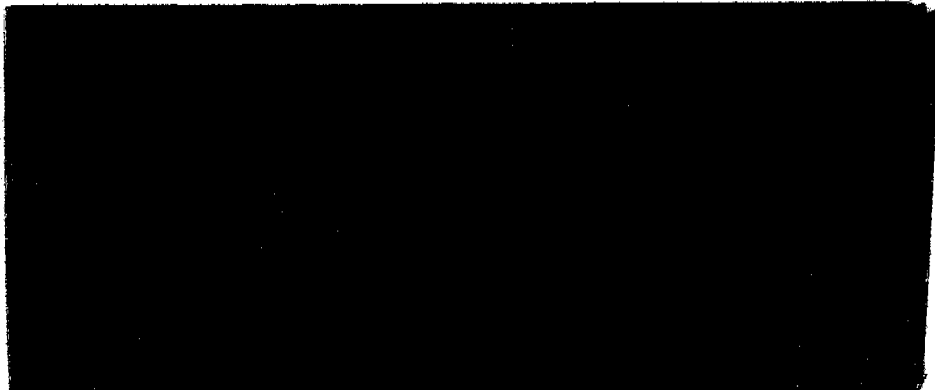
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G.E. 5/74

GROOTE EYLANDT MINING COMPANY PTY.LTD.

ANNUAL REPORT ON PROSPECTING ACTIVITIES
- E.L.42

Period From May 1973 to April 1974



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SUMMARY

Four drillholes, totaling 324 feet were drilled in E.L. 42 during the period. Three of these intersected mineable manganese. The tonnage of ore proved was 0.95 million tonnes averaging, after metallurgical treatment, 40.4% Mn.

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Figure 1: Plan of Area Drilled in E.L. 42 - 1973

1. INTRODUCTION

Four holes were drilled on an 800 feet by 800 feet grid in E.L. 42 in November 1973. The primary purpose of this drilling was to evaluate the manganese ore body in terms of expected products and grades.

In advance of the drilling, a line cleaning and drill site pegging survey was carried out.

In addition, assaying of drill samples collected in 1972 was completed.

It was initially planned to drill 66 bores in E.L.42, 32 on a 800 feet by 800 feet grid and 34 on a 400 feet by 400 feet grid. However due to excessive contamination of ore samples by overburden when drilling below the watertable, and heavy rainfall in mid November rendering gridlines boggy and impassable, only 4 holes on the 800 feet by 800 feet grid were actually drilled.

2. LOCATION

The area surveyed, cleared and drilled, in E.L.42 was located to the west and south west of S.M.L. 9 (Figure 1).

3. SURVEY

The surveying and site pegging was carried out by the GEMCO Survey Section.

The clearing and reclearing of lines was carried out by a D9 bulldozer. The lines were cleared one blade wide with overhanging timber removed and all drill sites were individually pegged on line.

A total of 6.8 miles (10.9 kilometres) of line was cleared and 4.8 miles (7.7 kilometres) recleared.

The general method used on the grid survey was to set the dozer on line and peg the drill sites behind it.

The relative levels of the drill sites were obtained from "air mosaic" contour plans drawn with contour intervals of 2 feet.

The drill sites were pegged on 800 feet (243.8 metres) and 400 feet (121.9 metres) grids.

4. GEOLOGICAL

Geological work involved a study of old bore logs in order to predict the thickness of overburden and ore in the bores which were planned to be drilled in the 1973 drilling programme.

Water table measurements in all open bores drilled in E.L. 42 in 1971 and 1972 were carried out in May & June 1973. Similar measurements of bores drilled in E.L. 42 in 1971, 1972 and 1973 between the Emerald and Angurugu Rivers was carried out in January 1974.

Logging of a water pipeline trench dug parallel to the Rowell Highway from the northern boundary of S.M.L. 5 to the northern boundary of E.L. 42 was carried out. Only laterites and soil were uncovered by the trench.

5. DRILLING

The rig, a Mayhew 1000, fitted with a high pressure compressor, was hired from W.L.Sides & Son Pty.Ltd.

Normal drilling procedure was to drill the overburden with dragbits while for the harder manganese a crossbit fitted to a halco hammer, or a rockbit was used.

The sampling procedure involved placing a T piece to a depth of 6 feet (1.83 metres) down the hole. Normally samples of the overburden were not collected. When the ore horizon was intersected a polypropalene sample bag was attached to the T piece and the sample was collected in the bag. All samples collected were wet and therefore some sample was lost when water flowed out of the top of the sample bag. Serious contamination by overburden was encountered in all samples and this was one of the prime reasons for not completing the planned programme.

The overburden intersected by drilling was logged on site by a geologist stationed on the rig, who also supervised the collection of and logged the manganese samples. Samples were normally collected over 1 foot (0.30 metre) intervals.

On the completion of the drilling programme the samples were rechecked to record the percentage of manganese oxides in the sample. All samples were then wet screened at $\frac{1}{4}$ inch (6.35 mm) and 14 mesh (1.18 mm), the $-\frac{1}{4}$ inch + 14 mesh fraction being retained. This fraction was then examined to check the manganese ore type.

Based on the dominant metallurgical ore types intersected in each hole, one quarter of the $-\frac{1}{4}$ inch + 14 mesh fraction was taken and bulked. Each bulk sample was treated by heavy media at S.G. 3.2. The sink fraction was then submitted for assay. The remaining three quarters of each sample and the portion of each bulk not used in the metallurgical testing was placed in a numbered plastic jar and will be permanently retained in the Groote Eylandt Mining Company's sample store.

The sink fraction of all bulked samples was assayed for P, Mn, Fe, Na_2O , MgO , Al_2O_3 , SiO_2 , K_2O , SrO CaO and BaO .

Approximately 140 bulk samples from the 1972 drilling programme were also analysed during the period.

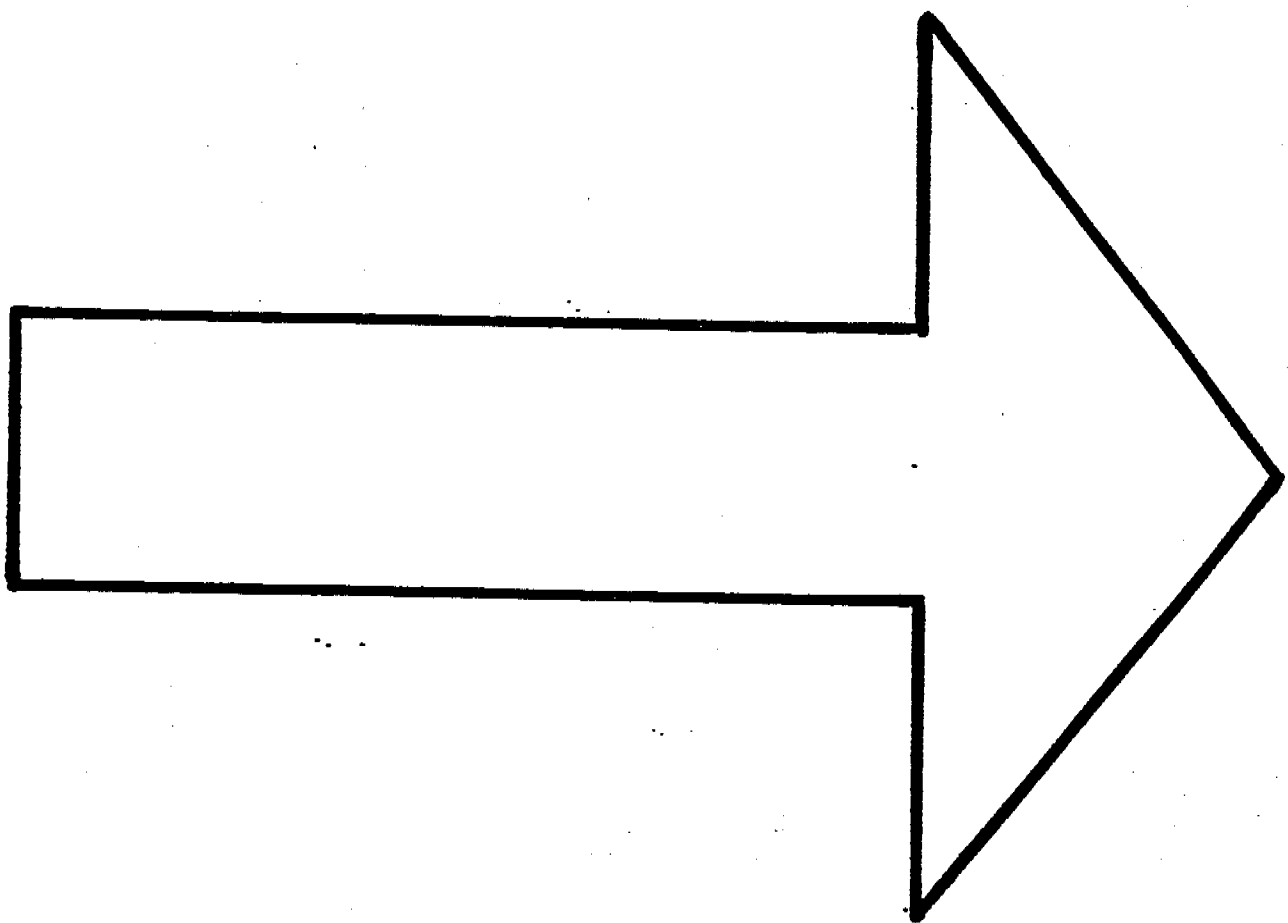
6. RESULTS OF 1973 DRILLING PROGRAMME

Number of bores completed	=	4
Total footage drilled	=	324 feet (98.76 metres)
Number of bores which intersected mineable ore	=	3
Range in thickness of overburden	=	60.5 feet (18.44 metres) to 63.5 feet (19.35 metres)
Range in thickness of ore intersected	=	14.5 feet (4.42 metres) to 2 feet (0.61 metres)
Tonnage of ore intersected	=	947,000 tonnes
Average grade of ore intersected	=	40.4% Mn.

7. EXPENDITURE

The expenditure on E.L. 42 incurred during the period was :-

May to July, 1973	=	\$9,056
August to October, 1973	=	\$9,217
November, 1973 to January, 1974	=	\$1,430
February to April 1974	=	\$ 477
TOTAL		\$20,180





LEGEND

--- LEASE BOUNDARY

--- MAJOR ROAD

--- MINOR ROAD, TRACK

○ RE 1028 DRILLING SITE - 1971.

○ RE 1035 MINE EVALUATION - 1972.

● QUALITY CONTROL DRILLING SITE - 1972.

○ PROPOSED DRILLING SITE - 1973.

□ SILICEOUS ORE

□ METALLURGICAL ORE

□ PREMIUM GRADE ORE

□ RESERVE EVALUATION DRILLING

ACTUAL AREAS DRILLED - 1973.

AREAS DRILLED WITHIN EL 42 - 1973

QUARRY BOUNDARIES REVISED TO : 30-11-72

GROOTE EYLANDT MINING COMPANY
GEOLOGICAL DEPARTMENT

RESERVE EVALUATION PROGRAM

LOCATION OF DRILLING SITES - 1973.

S.M.L. 9-15 SHEET - 1

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Date: 11-29-72	1:3600

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