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ANNUAL REPORT.
FOR PERIOD ENDING 16/6/1987
on
EXPLORATION LICENCE 4934
ELSEY CEMETERY
N.T.

by
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APPENDIX I. Analytical data.

ATTACHMENTS.

<u>MAP No</u>	<u>TITLE</u>	<u>SCALE</u>
FIG 1.	PLACE FIX MAP	1:2,500,000
FIG 2	PLAN OF AREA of EL 4934	1:250,000
FIG 3	EL 4934 PHOTOGEOLOGICAL MAP showing SAMPLE LOCATION SITES and HELICOPTER TRAVERSES MATARANKA N.T.	1:84,000

SUMMARY.

High grade low magnesia limestone has been found along the southern bank of Elsey Reach in the vicinity of Warlock Ponds east of the Stuart Highway.

The limestone is mainly white, chalky, friable and apparently structureless. Its extent is unknown but is known to extend for a few kilometres at least along Elsey Reach.

Elsewhere, such as along the northern bank of Elsey Reach the limestone of obvious Cambrian age is varicoloured ranging from laminated grey and khaki brown to pale grey. The magnesia content of the limestones is usually too high for use in lime manufacture.

Additional geological mapping and limited exploratory drilling is required to further evaluate this area.

INTRODUCTION.

During the period under review both ground reconnaissance and an aerial survey using a Bell helicopter were carried out over the licence area. The area to the south of Elsey Reach was reconnoitered with a HiAce 4WD utility and samples were collected from a number of sites shown on FIG 3 attached. The samples collected along the northern edge of Elsey Reach were collected during the aerial reconnaissance.

REGIONAL GEOLOGY.

The regional geology is outlined on the 1:250,000 sheet of the Geological Atlas series. The oldest rocks in the licence area are flatly dipping Lindall Limestone of Middle Cambrian age. These outcrops sporadically along the banks and their immediate environs but rarely in the plains away from the creek. Sediments of Cretaceous age identified as the Mullaman Beds unconformably overly the Lindall Limestone. The Mullaman Beds consist of quartz sandstone, siltstone and claystone. Wherever these beds were identified they were invariably dark brown ferruginous sandstones usually exposed in creek beds and banks. A high grade chalky limestone is exposed along the southern bank. This is a massive structureless deposit of unknown age. Lateritic soil and gravel is widespread masking the older sediments. The river bed and adjoining area is covered by alluvium and sandy soil and gravel.

LOCAL GEOLOGY.

The oldest sediments in the licence area are middle Cambrian limestone equated with the Lindall Limestone. These sediments are fossiliferous and represent a shallow marine shelf deposit. Fossils identified in the samples collected include phosphatised spicules of Chancelloria, calcareous remains of ecocystids, giconulites, hyolithids with triangular cross sections and rare fragments of phosphatic shelled brachiopods.

The outcrops of Cambrian limestone is poor and usually in the bed or along the banks of Elsey Reach. Where seen the rock was either laminated limonitic brown and grey or massive pale brown and grey. The magnesia content of the limestones on the northern side of Elsey Reach was very high ranging from 12.66% to 18.86% MgO and unsuitable for use in lime or cement manufacture. On the southern side of Elsey Reach a white chalky limestone of unknown age is exposed alongside the track. Samples 1 & 3 and Sickert's samples were collected from this rock type which showed a high grade limestone low in magnesia and suitable for use in cement and lime manufacture. Cretaceous sediments occur in the south western corner of the licence area. These are sandstones of no interest to the company.

Lateritic gravels of Tertiary age cover a large part of the licence and mask the underlying sediments. In the south eastern portion of the licence unconsolidated, white, unconsolidated calcareous sediments have been seen. The age of these sediments is unknown but sampling is warranted.

ECONOMIC GEOLOGY.

The only material of economic interest is the high grade limestone sampled along the southern bank of Elsey Reach. So far as the present writer is aware no other rocks or minerals of economic significance occur in the licence area.

CONCLUSIONS.

High grade limestone of unknown age outcrops along the southern side of Elsey Reach.

The extent of the limestone is unknown at this stage. It has been identified along a few kilometres of bush track between the old highway via Elsey Cemetery and Stuart Highway.

Further geological mapping and exploratory drilling is necessary to evaluate the potential of this deposit.

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RECOMMENDATIONS.

Carry out further reconnaissance geological mapping and exploratory drilling along both sides of the Stuart Highway.

ESTIMATED EXPENDITURES.

Consultants field charges	\$3400.00
Consultants office charges	\$3400.00
Air fares	\$1120.00
taxi	\$40.00
Field assistants wages	\$560.00
Helicopter hire	\$1680.00
Acommodation and meals	\$431.80
Field living allowance	\$700.00
Air photographs	\$2045.00
Legal fees	\$350.00
Chemical analyses	\$630.00
Miscellaneous purchases	\$137.75
Communications	\$120.00
J.Sickerts costs & charges	\$2219.65
Management & overheads 20%	\$3366.68
	=====
TOTAL	\$20,200.08

PROPOSED PROGRAMME & EXPENDITURES for 1987/88

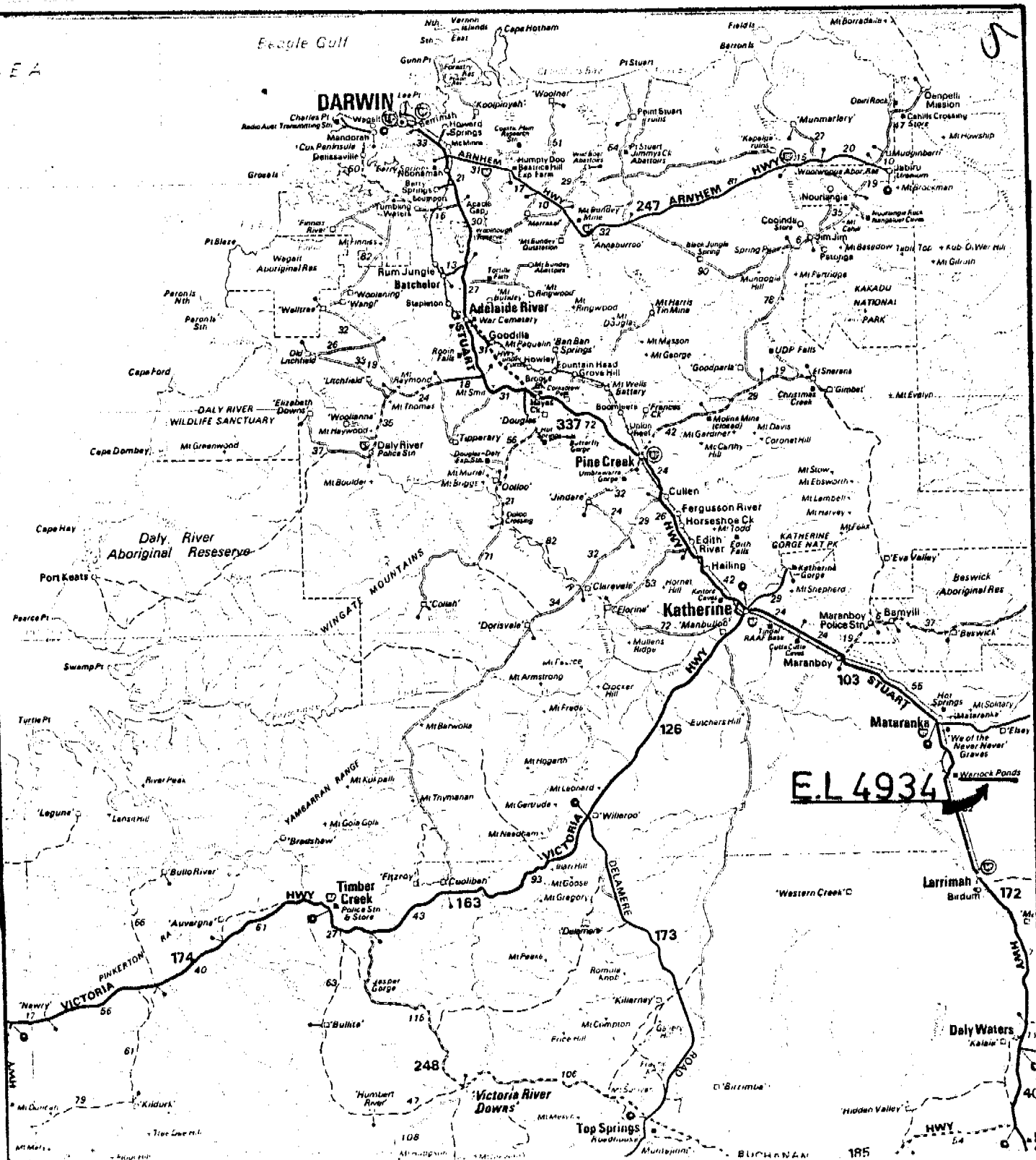
The exploration programme proposed for 1987/88 consists of further geological reconnaissance for chalky limestone and exploratory drilling along the south bank of Elsey Reach. The objectives of this programme are to outline the extent of the chalky limestone, drill the deposit to determine its depth and grade and attempt to outline reserves for future exploitation.

Estimated expenditure for this programme is \$10,000.00

Signed.....

L.G.Nixon.
3/6/1987.

EL 4934



NORTHERN CEMENT PTY. LTD.

SCALE
1: 2,500,000

0 50 100 150
Kilometres

Orn LGN
Trd

PLACE FIX MAP
E.L. 4934
ELSEY REACH
N.T

FIG.1.

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SECOND SCHEDULE
(Plan of Area)

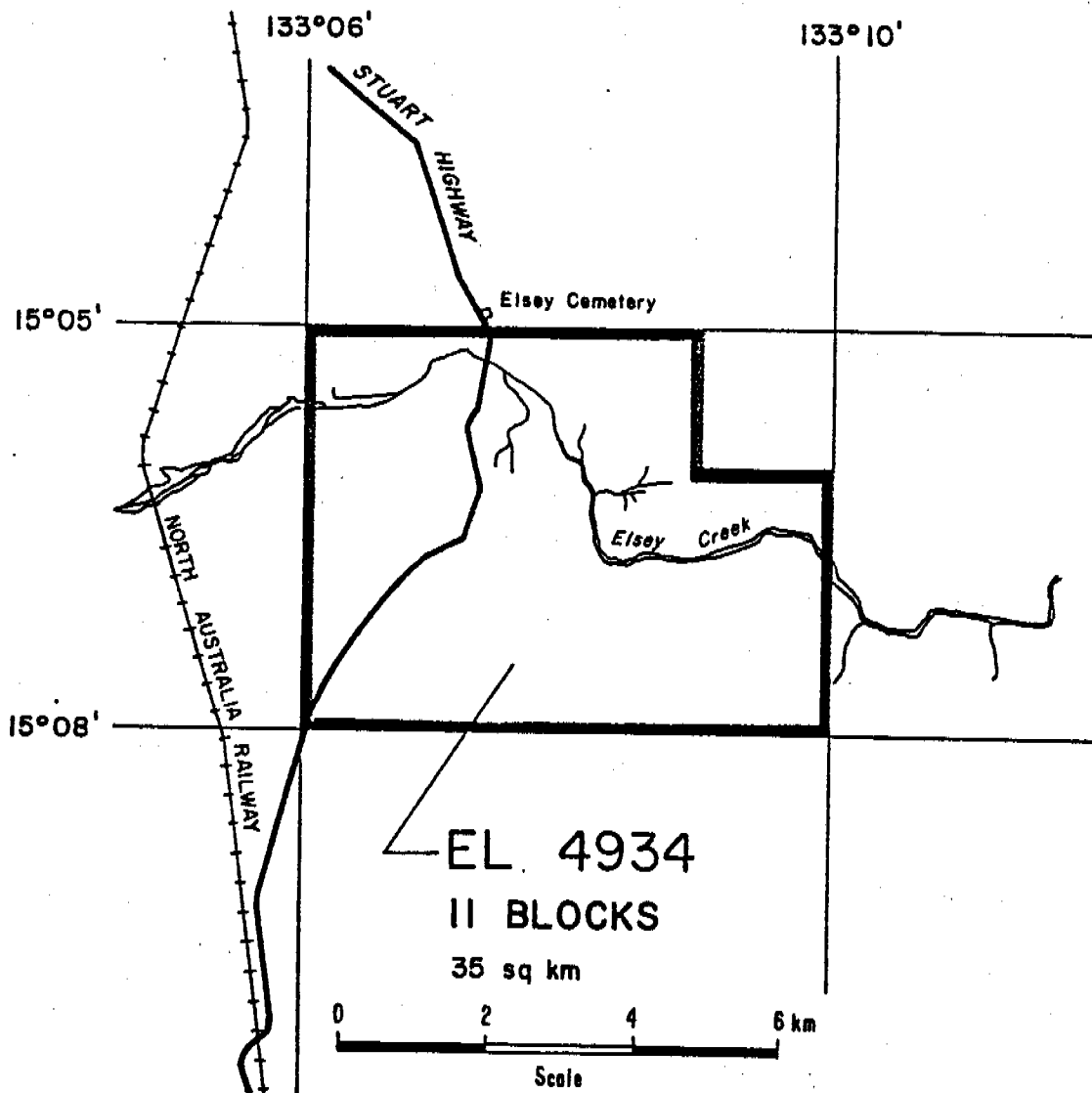
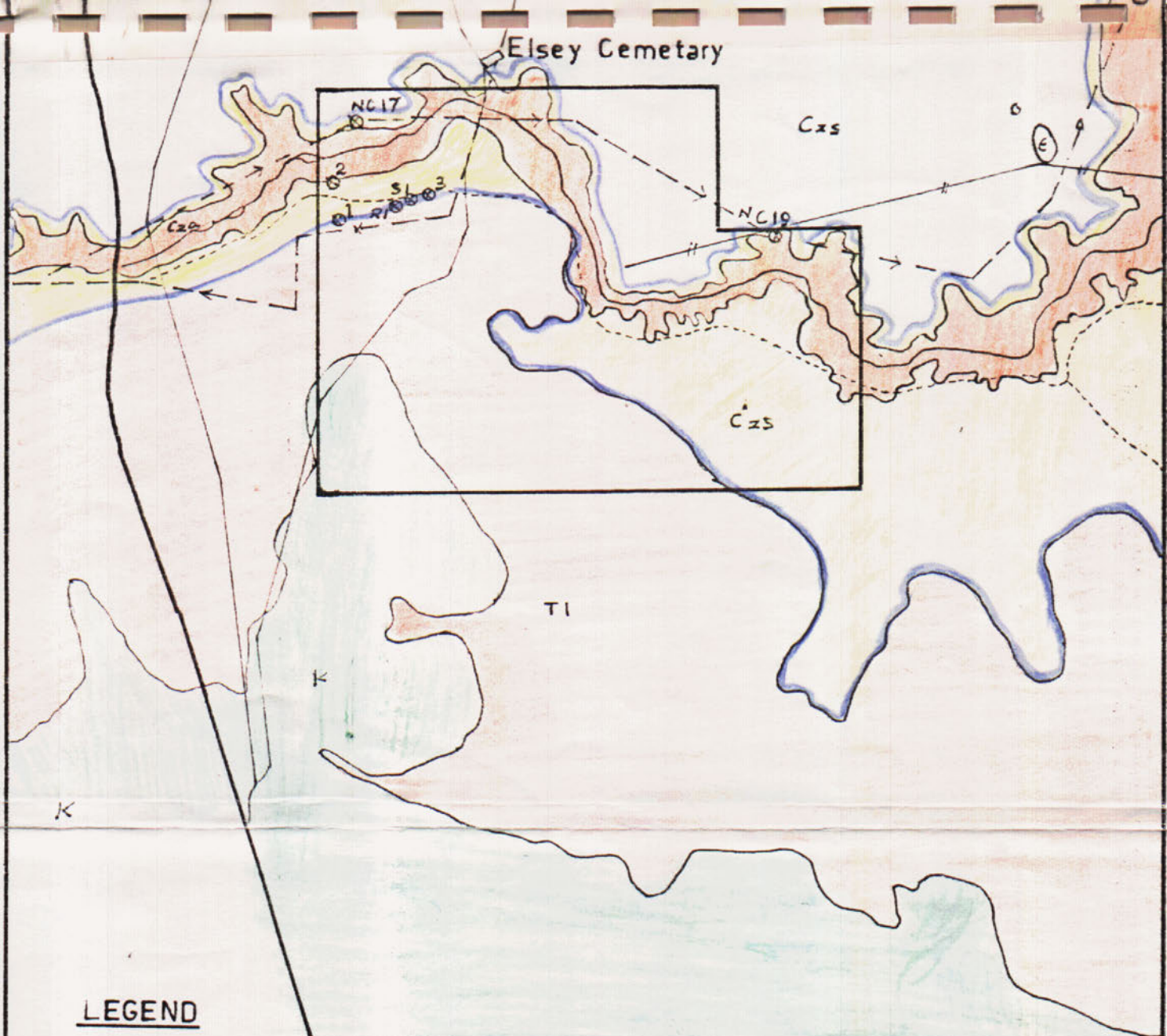


FIG.2



LEGEND

Alluvium	Cxs
Sand & gravel	Cxs
Lateritic soils	TI
Chalky limestone	E
Mullaman Beds	K
Tindall Limestone	E
Sample site	x
EL Boundary	L
Stuart Highway	/
Old highway	- - -
Track	- - -
Fence	- - -
Helicopter track	- - -

Scale 1:84000

NORTHERN CEMENT PTY. LTD.

Drawn L.G.N

Traced

Checked

Revised

Date 2/6/1987

EL 4934

PHOTOGEOLOGICAL MAP
showing
SAMPLE LOCATION SITES
and
HELICOPTER TRAVERSES
MATARANKA, NT.

LGB Nixon & Associates