

CONTENTS ENVELOPE 2344

TENEMENT: E.L. No. 87 - Low Stoney Hill.

TENEMENT HOLDER: Mines Administration Pty. Ltd. - Teton Exploration  
Drlg. Co. Pty. Ltd.

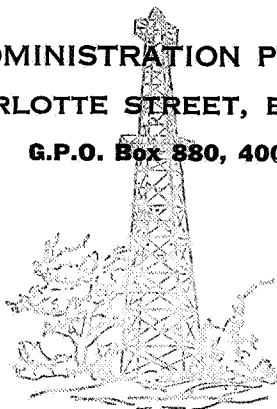
REPORT: Low Stoney Hill Report Quarter Ended 6th Nov. 1973. Pg. 3  
           "      "      "      "      "      "      6th Feb. 1974. Pgs. 4-6  
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PLANS: Profile Lines 8, 12, 13. 2344-1  
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MINES ADMINISTRATION PTY. LIMITED

31 CHARLOTTE STREET, BRISBANE

G.P.O. Box 880, 4001



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Telephone: 21 2366  
Cables, Telegrams: "MINAD" BRISBANE

Managers and Technical Advisers to  
"THE ASSOCIATED GROUP"  
ASSOCIATED AUSTRALIAN OILFIELDS N.L.  
INTERSTATE OIL LIMITED

RB/SC

11th December, 1973.

Director of Mines,  
Department of Mines,  
Box 38, Rundle St. P.O.,  
ADELAIDE, S.A. 5000.

Dear Sir,

Exploration Licence No.87 - Low Stoney Hill  
Report for Quarter Ended 6th November 1973

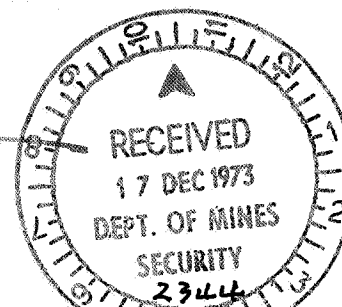
Exploration Licence No.87 was granted to Mines Administration Pty. Limited and Teton Exploration Drilling Company Pty. Ltd. from 6th August 1973, though the licence documents were not completed until 1st November 1973.

No field work was undertaken prior to 6th November 1973, but a preliminary correlation of the geology with that of adjacent areas was prepared. It is possible that E.L.87 is on the trend of a Tertiary palaeochannel which is an attractive setting for sedimentary uranium deposits. It is planned to carry out a reconnaissance resistivity survey to be followed by drilling of the Tertiary sections in the New Year as part of an integrated operation covering E.L.87, 98 and the Mundaerno Hill block.

During the first quarter, no significant amounts of expenditure have been made, and with your permission, details will be included in the next quarterly report, that will cover the first phase of the abovementioned field programme.

Yours faithfully,  
MINES ADMINISTRATION PTY. LIMITED,

  
D.M. TRAVES  
Managing Director.



# MINES ADMINISTRATION PTY. LIMITED

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31 CHARLOTTE STREET  
BRISBANE 4000

Postal Address:

BOX 880 G.P.O.  
BRISBANE 4001

Registered Office:

447 COLLINS STREET  
MELBOURNE 3000

Telephone : 21-2366  
Telegrams : MINAD, Brisbane  
Telex : AA40352

RB/SC

5th March, 1974.

Director of Mines,  
Department of Mines,  
Box 38, Rundle St. P.O.,  
ADELAIDE, S.A. 5000.

Dear Sir,

Exploration Licence No.87 (Low Stoney Hill)  
Report for Quarter Ended 6th February, 1974.

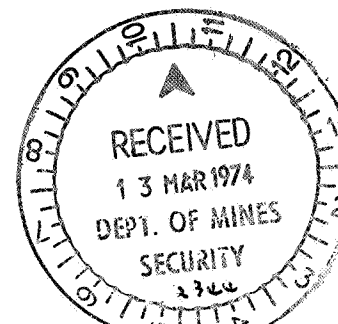
Exploration Licence No.87 was granted to Mines Administration Pty. Limited and Teton Exploration Drilling Co. Pty. Ltd. on 6th August 1973 for the exploration for deposits of sedimentary uranium.

Work during the quarter consisted of a continuing evaluation of the geology with that of adjacent areas. The eastern portion of E.L.87 is on the trend of a Tertiary palaeochannel considered to be highly prospective for sedimentary uranium deposits.

Evaluation of the regional aeromagnetic map of the area shows a marked north-south trending "low" in this area possibly indicative of a differentiation in Precambrian basement lithology or the development of a thick Cretaceous section. This geology may in turn be favourable for the localization of Tertiary palaeochannels.

No field work was undertaken during the quarter as a reconnaissance resistivity survey planned for January was postponed due to wet weather. This survey commenced on 6th February 1974 and full details of the results will be contained in the third quarterly report.

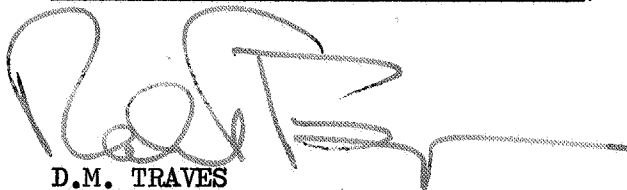
../2



Expenditure during the first two quarters on E.L.87 to 6th February 1974 amounted to \$497. An expenditure statement is attached. Substantially increased expenditure relating to the reconnaissance resistivity survey is anticipated during the current quarter.

Yours faithfully,

MINES ADMINISTRATION PTY. LIMITED,

A large, stylized handwritten signature in dark ink, appearing to read 'D.M. Traves', is written over the printed name and title.


D.M. TRAVES

Managing Director.

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MINES ADMINISTRATION PTY. LIMITED  
EXPENDITURE STATEMENT FOR  
EXPLORATION LICENCE NO. EL 87 - LOW STONEY HILL  
FROM INCEPTION TO 6TH FEBRUARY 1974.

	\$
Salaries and Wages	373
Stationery, Drafting Supplies, Maps etc.	19
Communications	3
Rents on Acreage	102
	<hr/>
TOTAL	497
	<hr/>

  
.....  
C.K. CARTER  
Accountant


EXPENDITURE INVOICED TO 31.1.74

STATEMENT OF EXPENDITURE

E.L.87 (LOW STONEY HILL)

PERIOD 1.2.74 TO 20.4.74

	\$
Salaries & Wages	415
Travel & Accommodation	73
Vehicle Running	111
Communications	10
Contractors Charges - Geophysical	944
Other Technical Services	12
<u>TOTAL EXPENDITURE</u>	<u>\$1,565</u>

  
.....  
C.K. CARTER  
Accountant

QUARTERLY REPORTE.L.87 - LOW STONEY HILLQUARTER ENDED 5TH MAY, 1974

by

D.A. BRUNT

Exploration Licence No.87 was granted to Mines Administration Pty. Limited and Teton Exploration Drilling Co. Pty. Ltd. on 6th August 1973 for the exploration for deposits of sedimentary uranium.

During the quarter ended 5th May 1974, exploration consisted of reconnaissance resistivity profiling. This work was carried out by Murdoch Geology and Geophysics of Glen Innes, N.S.W. to locate areas of significant Tertiary channel development similar to that developed on the adjacent E.L.'s 98 and 132. The target horizon is the Eocene-Paleocene Eyre Formation as described by Wopfner, Callan and Harris (1974) and thought to extend westwards from the Mt. John Dam area on E.L.98 onto the Low Stoney Hill area.

The resistivity method employed consisted of rapid resistivity soundings on 500 metre centres with detailed Schlumberger Array soundings at 2 kilometre intervals. All soundings were expanded perpendicular to the traverse line on a predetermined logarithmic formulae.

Interpretation of the results from profiles 8, 12 and 13 plotted on Plates 1 and 5 (attached) reveals the absence of Tertiary palaeochannelling in this area. A Precambrian "high" striking NE-SW dominates the geology of the eastern portion of E.L.87. A possible extension of the Yarramba Channel on E.L.98 has been reported in drill holes near Mt. John Dam just east of E.L.87. The Tertiary section thickens to 98 metres at the eastern end of Line 12 suggesting the close proximity of a channel. The presence of the NE trending "high" indicates that the channel may deviate to the north of the surveyed area.

Another significant thickening of Tertiary section at the southern end of Line 13 suggests the possibility of channelling southwards on E.L.132.

A uniform depth to basement of approximately 70 to 80 metres is indicated on Line 8. The western end of Line 12 and the middle section of Line 13 are dominated by the Precambrian "high". Schists outcrop on a small hill near the western end of Line 12. Some variation in the resistivity of the Cretaceous basement occurs on the northern end of Line 13, but detailed soundings show only a thin Tertiary section.

A limited open-hole drilling programme to evaluate the areas of possible Tertiary thickening indicated by the resistivity survey was planned for late April-May. This programme has been postponed indefinitely because of recent heavy rains and flooding in the area, but will be carried out during the current quarter as soon as ground and weather conditions permit.

Expenditure during the third quarter to 5th May 1974 amounted to \$1565 bringing total expenditure on the area to \$2062. Further expenditure relating to the proposed drilling programme in the current quarter will fulfill the expenditure requirements of the Exploration Licence.

*D. A. Brunt*

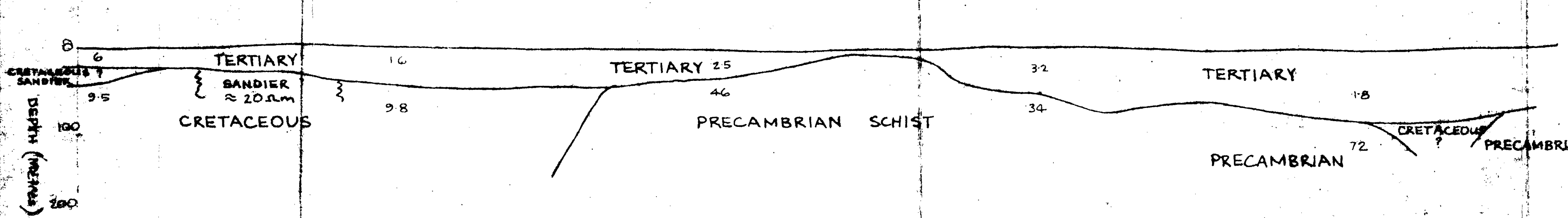
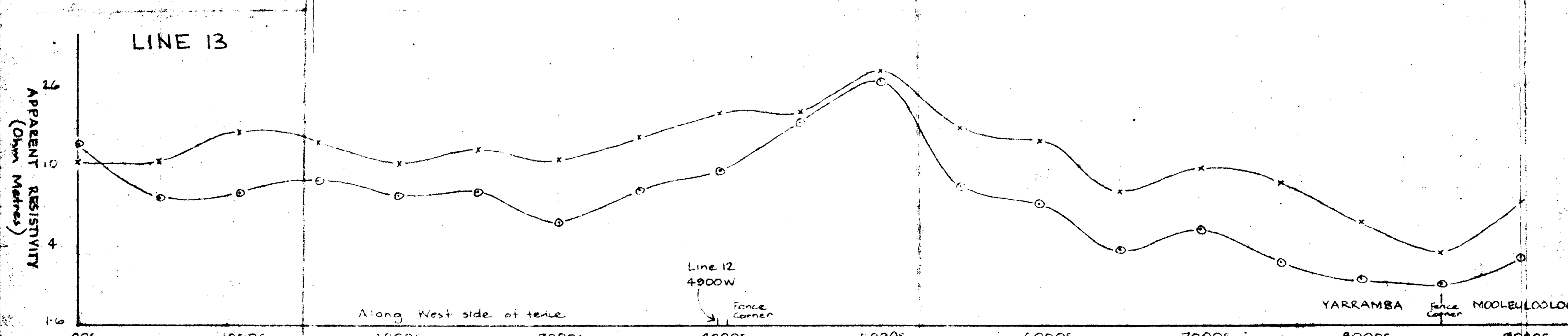
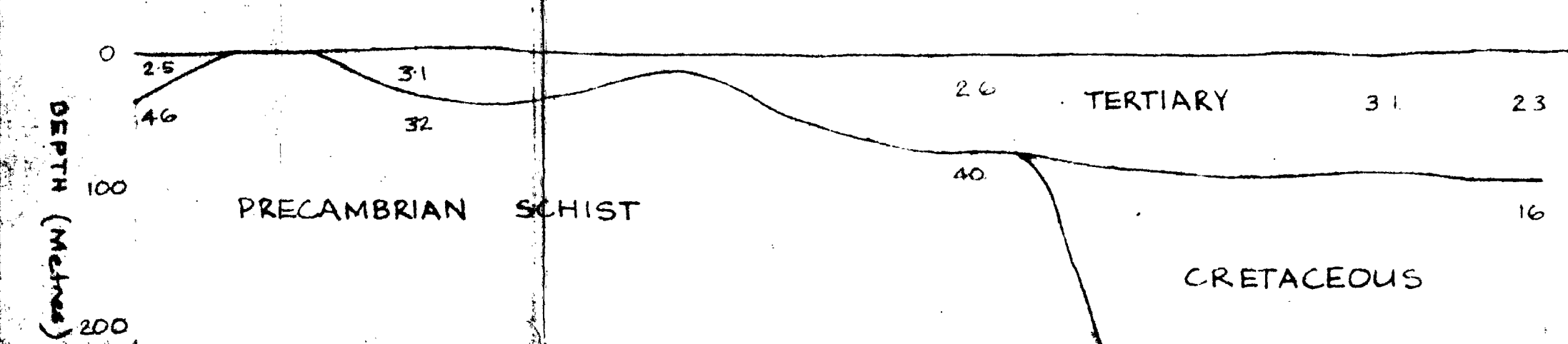
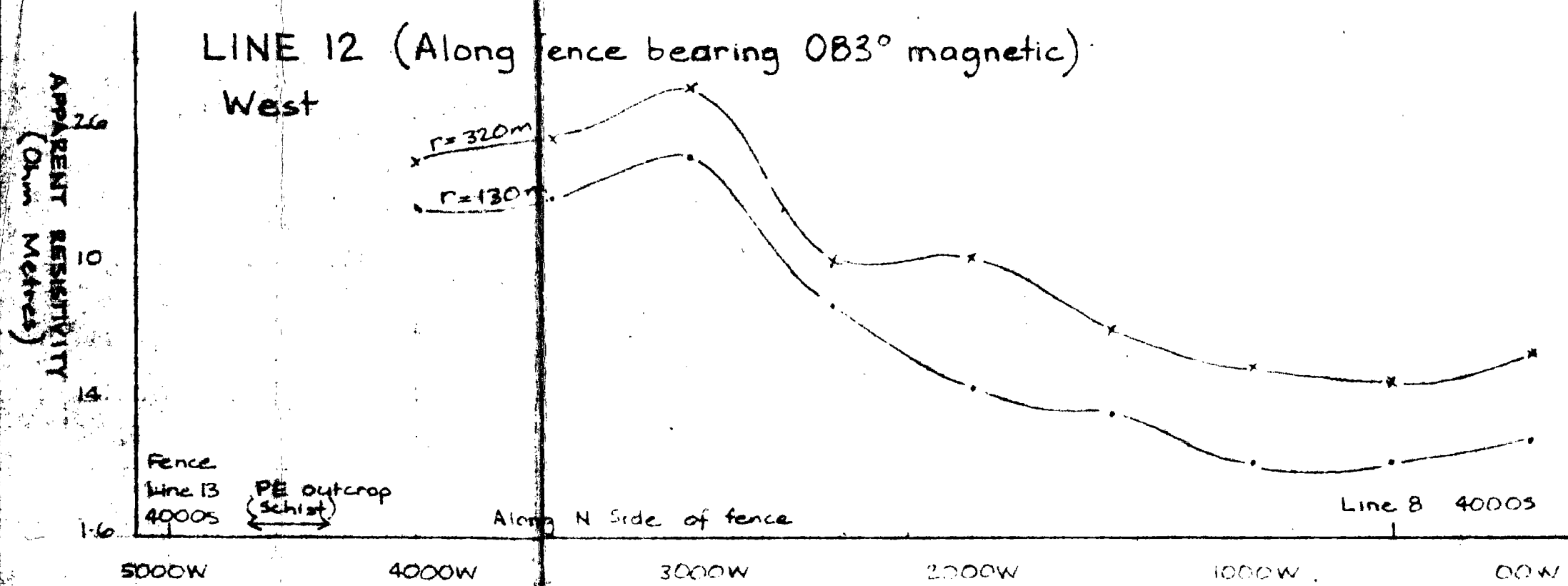
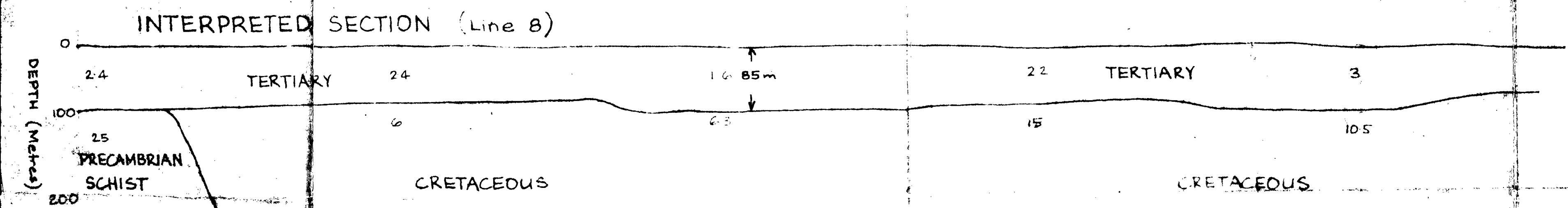
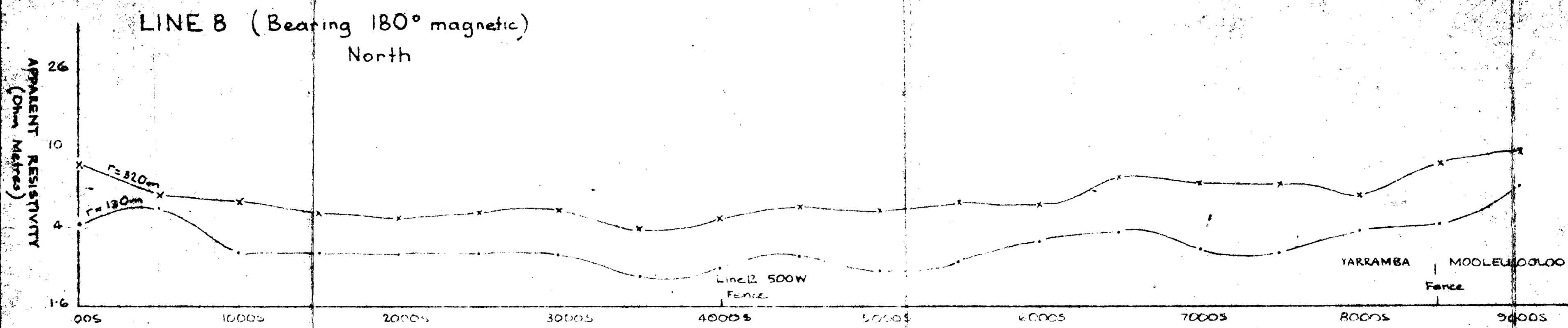
D. A. BRUNT  
20/5/74

Reference: Wopfner, H., Callen, R., and Harris, Wayne K., 1974:  
The Lower Tertiary Eyre Formation of the Southwestern  
Great Artesian Basin. J. Geol. Soc. Aust., Vol.21, Pt.1,  
pp.17-51.

Attachments: Expenditure Statement  
Plate 1 - Resistivity Survey Location Map - E.L.87.  
Plate 5 - Resistivity Profiles - E.L.87.







**MINES ADMINISTRATION**  
**LOW STONY HILL PROSPECT**  
**SOUTH AUSTRALIA**  
**RESISTIVITY PROFILE LINES**  
**8, 12 & 13**

Horizontal Scale: 1 inch = 500 metres  
 Vertical Scale: Standard log.  
 Vertical Scale (Section): 1 inch = 100 metres

Plate 5 Report 79

Prepared By:-  
 Murdoch Geology & Geophysics P/L  
 Grey St. Glen Innes, N.S.W.  
 Feb. 1974  
**ENV 3314-1**

STATEMENT OF EXPENDITURE

E.L.87 (LOW STONEY HILL)

FROM INCEPTION TO 30TH SEPTEMBER, 1974.

	\$
Salaries & Wages	1,446
Travel & Accommodation	95
Vehicle Running	163
Drafting Supplies Etc.	25
Repairs & Maintenance	5
Communications	19
Contractors Charges - Geophysical	1,397
Contractors Charges - Drilling	933
Other Technical Services	13
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<u>TOTAL EXPENDITURE</u>	\$ 4,096
	<hr/> <hr/>

*Per M Egert.*  
.....  
C.K. CARTER  
Accountant

FINAL REPORTE.L.87 (LOW STONEY HILL)

by

G.K. ELLISLEASE DETAILS

E.L.87 was granted to Mines Administration Pty. Limited on the 5th August 1973. It was held continuously by that company until relinquishment on the 5th October 1974, following a two month extension to enable completion of the planned exploration programme delayed by unseasonal rainfall. E.L.87 covered an area of 148 square kilometres in the vicinity of Low Stoney Hill, approximately 80 kilometres north of Olary, South Australia. The location of the area is shown on the attached portion of the Curnamona 1:250,000 sheet (Fig.1).

The lease covered exploration for all minerals, however sedimentary uranium was the prime target. In this project Mines Administration Pty. Limited was acting for a Joint Venture with Teton Exploration Drilling Co. of Wyoming, U.S.A. (50:50).

GEOLOGY

E.L.87 is located on the eastern edge of Precambrian Benagerie High, which extends from the Olary Ranges northwards into the Frome Embayment.

Proterozoic

Outcropping Proterozoic metasediments within E.L.87 provide surface expression of the Benagerie High. The main outcrops occur in the west of the area at Low Stoney Hill and about two kilometres east and south east of Croziers Dam (Fig.2). These rocks are dark grey metasiltstones as are the Proterozoic rocks intersected in drill holes LSH 3 and 4 along the southern margin of the area.

Cretaceous

Cretaceous sediments intersected in drill holes LSH 1 and 2 on the eastern margin of the area, consist of medium-dark bluish grey clay which is in part weathered to red and yellow-brown clay.

Tertiary and Quaternary

A thin Tertiary and Quaternary section rests unconformably on Cretaceous or Proterozoic rocks. It consists of red-brown sandy clays near the surface and light-medium grey clay with red mottling in part. The clays probably form part of the Upper Tertiary Etadunna Formation.



## EXPLORATION

Exploration over E.L.87 fell into two categories:

- : Resistivity survey.
- : Rotary drilling programme.

### Resistivity Survey

Within E.L.87 a resistivity survey was carried out over the eastern portion of the area. The aim of the survey was to locate Tertiary palaeochannels similar to that occurring on the adjacent E.L.98 and to delineate areas of possible Tertiary section.

The survey was carried out by Murdoch Geology and Geophysics Pty. Ltd. of Glen Innes, N.S.W. The resistivity readings consisted of detailed Schlumberger Array soundings at intervals of 2 km along each line with rapid 2 point Schlumberger soundings at intervals of  $\frac{1}{2}$  km. All soundings were expanded parallel to the traverse line. For the detailed soundings, 14 different electrode spacings were used ranging from 6.5 m. to 320 m. Rapid sounding readings were taken at electrode spacings of 130 m. and 320 m.

The 3 resistivity lines (see Fig.2) only delineated areas of Tertiary thickening marginally prospective for sedimentary uranium. No channel sections were indicated. The areas of possible Tertiary thickening were located at the eastern end of Line 12, the northern end of Line 8 and the southern end of Line 13. In addition, resistivity surveys to the south on E.L.132 indicated a possible Tertiary palaeochannel extending northwards to a point 7 km west of the southern end of Line 13.

### Drilling Programme

The areas of possible Tertiary thickening delineated by the resistivity survey were the targets of the drilling programme. A total of 4 holes were drilled for an aggregate depth of 231.5 metres.

The work was carried out by W.L. Sides and Sons of Clayton, Victoria, using a Mayhew 1000 rotary drilling rig. Cuttings samples were collected and described at 1.5 metre intervals from the surface to total depth. All holes were logged for gamma ray, resistivity and spontaneous potential by Geoscience Associates (Australia) Pty. Ltd. of Kilkenny, South Australia.

The results revealed shallow Proterozoic or Cretaceous basement in all areas examined, with only a thin Tertiary and Quaternary section devoid of channel type sand. No anomalous radioactivity was recorded. Composite logs of the 4 drill holes accompany this report.

CONCLUSIONS

The uranium prospects on E.L.87 appear to be poor. A thick Tertiary channel section favourable for the accumulation of sedimentary uranium deposits is absent. No anomalous radioactivity was encountered in drilling. Despite the comparatively small number of holes drilled it is felt that the results are probably representative of the bulk of the area. No additional exploration expenditure is justified.

*GKE*

G. K. ELLIS

Attachments:

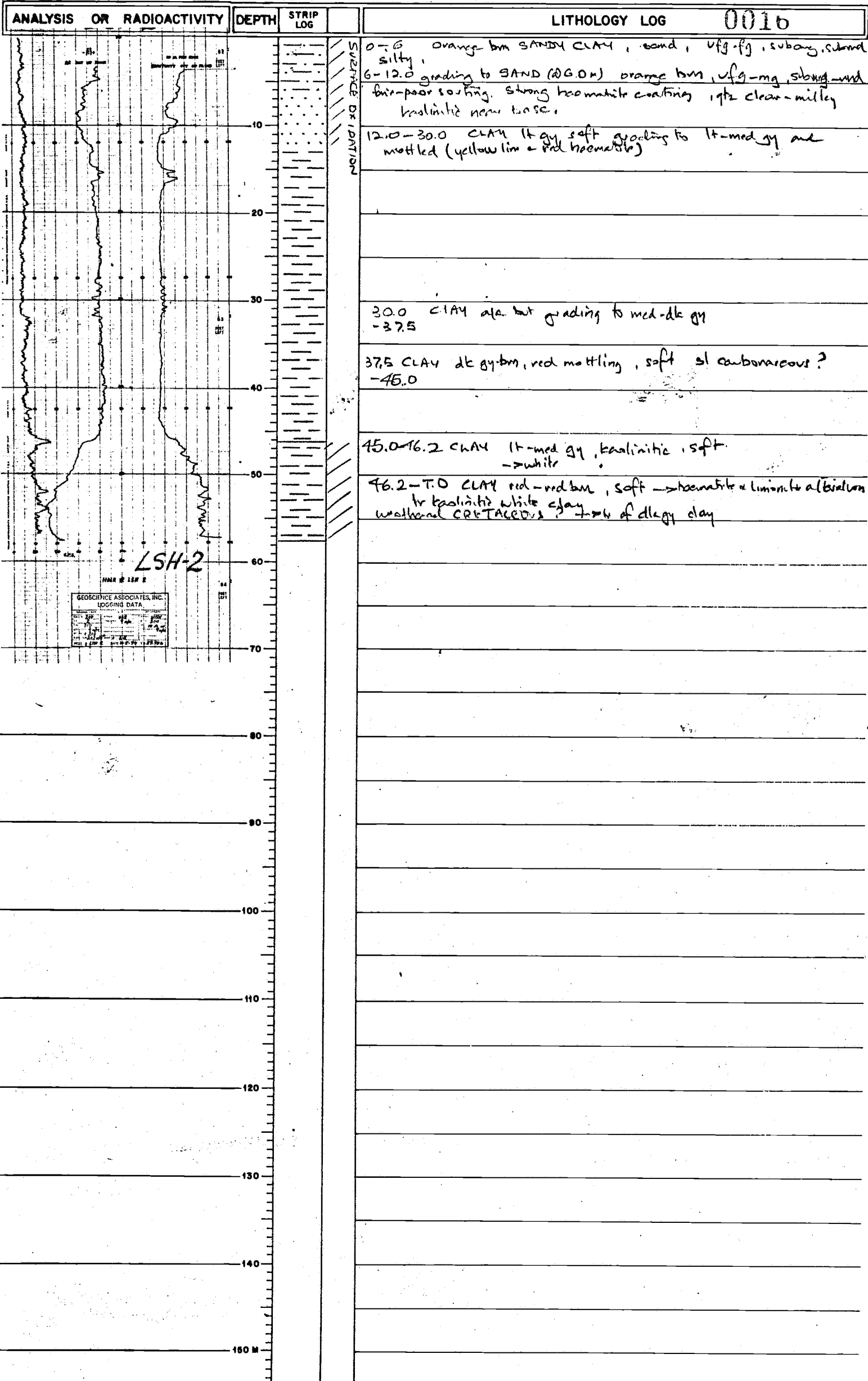
- Fig. 1 - Location Map (1:250,000)
- Fig. 2 - Map showing location of drill holes  
and resistivity lines (1:50,000)
- Composite logs of drill holes.



**GEOSCIENCE ASSOCIATES, INC.**  
**LOGGING DATA**

# MINAD TETON — AUSTRALIA

PROJECT LOW STONEY HILL HOLE SIZE 4 3/4" (12cm) ☒ AIR ☒ WATER HOLE NO. LSH-2  
 ELEVATION \_\_\_\_\_ LOCATION: Res. line 8 new OOS LOGGED BY G.K. Ellis. DATE 11-8-74  
 MAP \_\_\_\_\_ SCALE \_\_\_\_\_ T.D. 57.7m P.D. 56.8m

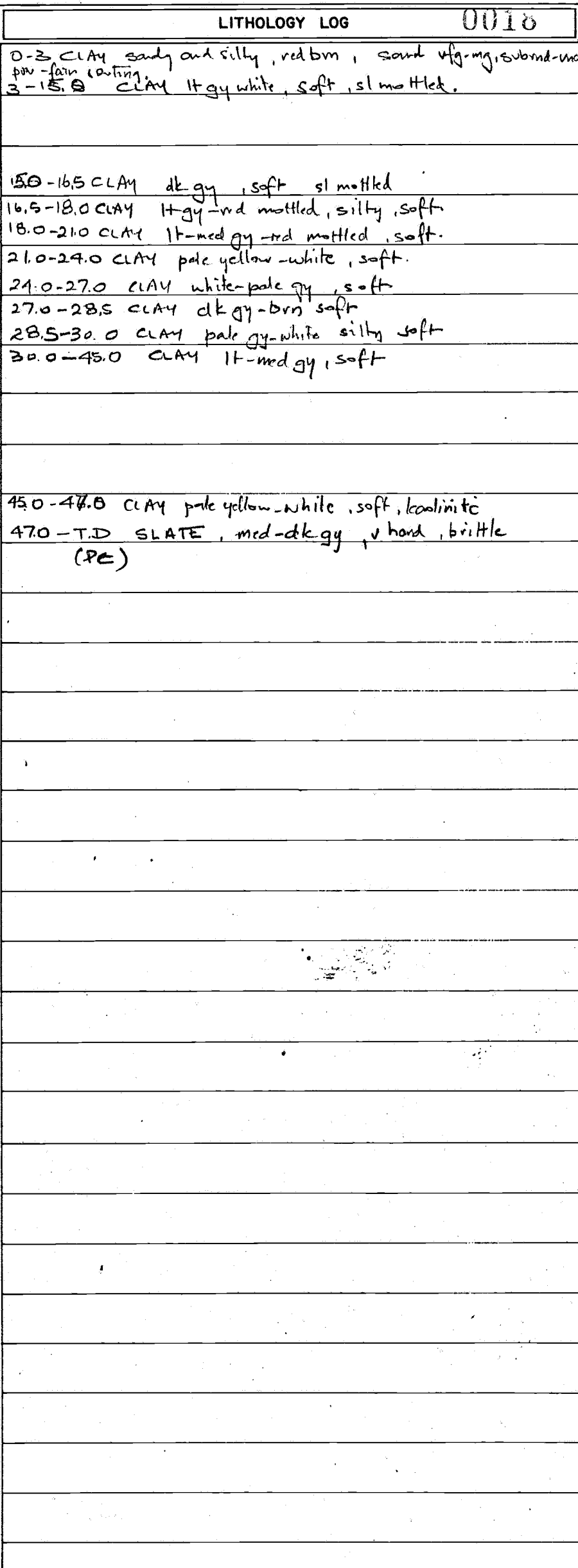


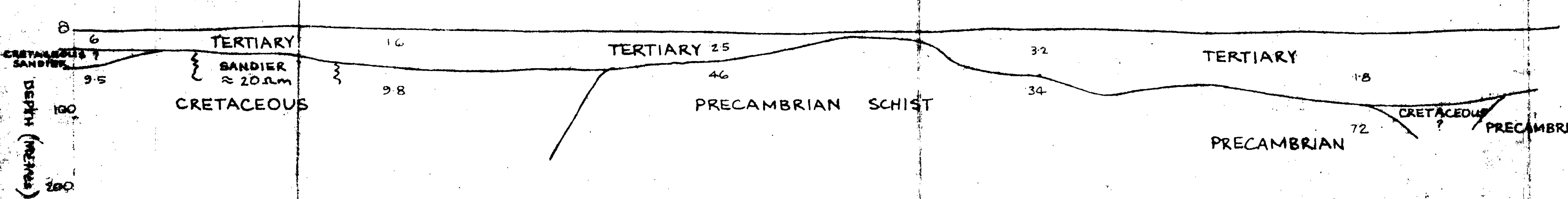
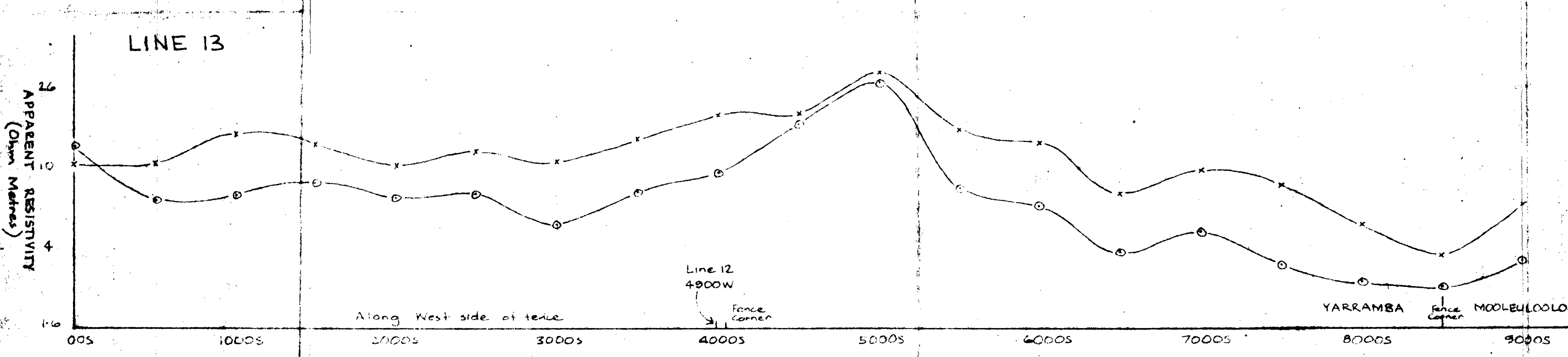
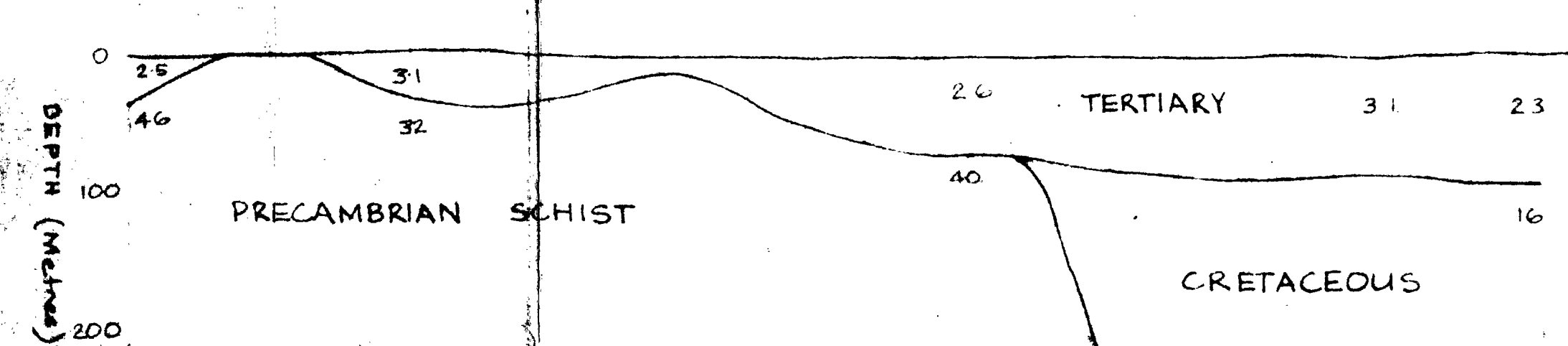
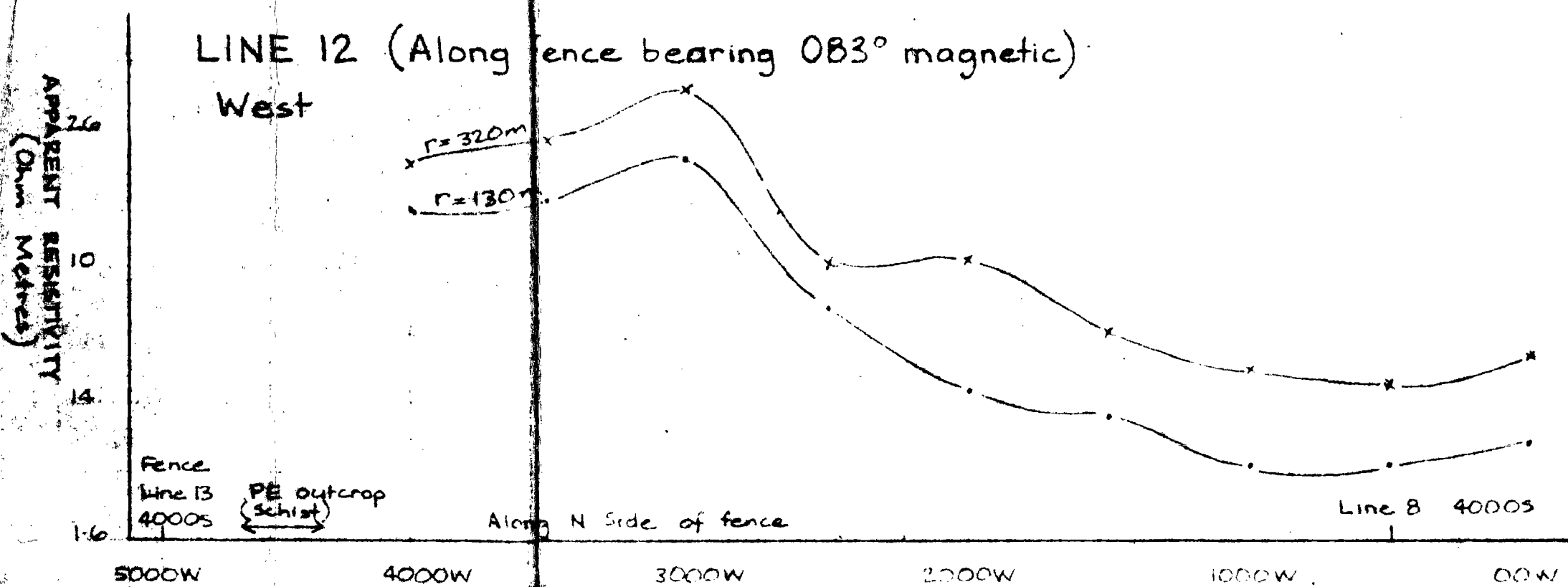
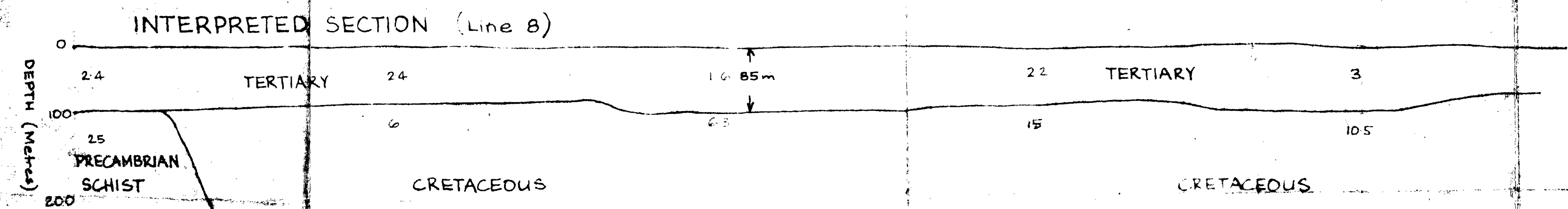
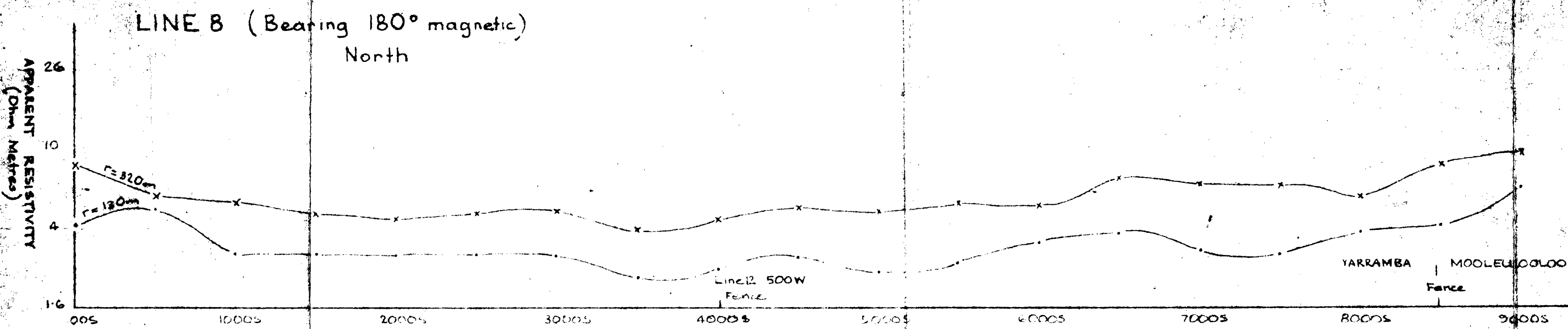


PROJECT LOW STONEY HILL HOLE SIZE 12cm ☐ AIR ☒ WATER HOLE NO. LSH-3  
 ELEVATION \_\_\_\_\_ LOCATION: Res line 13 8500S LOGGED BY D. BRUNT DATE 11-8-74  
 MAP \_\_\_\_\_ SCALE \_\_\_\_\_ T.D. 30.0m. R.D. 29.2m.

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
	0		0-5 sandy clay, rd. red, soft, silty, sandy
	5		
	10		5-15 clay, lt. red brown to white, soft, slightly silty, kaolinitic
	15		
	20	44-45 pt	15-30 clay, dk red, kaolinitic, with hard fragments of metasediments, (siltstone) PRECAMBRIAN
	25	44-45	
	30	44-45	
	35		
	40		
	45		
	50		
	55		
	60		
	65		
	70		
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125			
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135			
140			
145			
150			

49.3 m



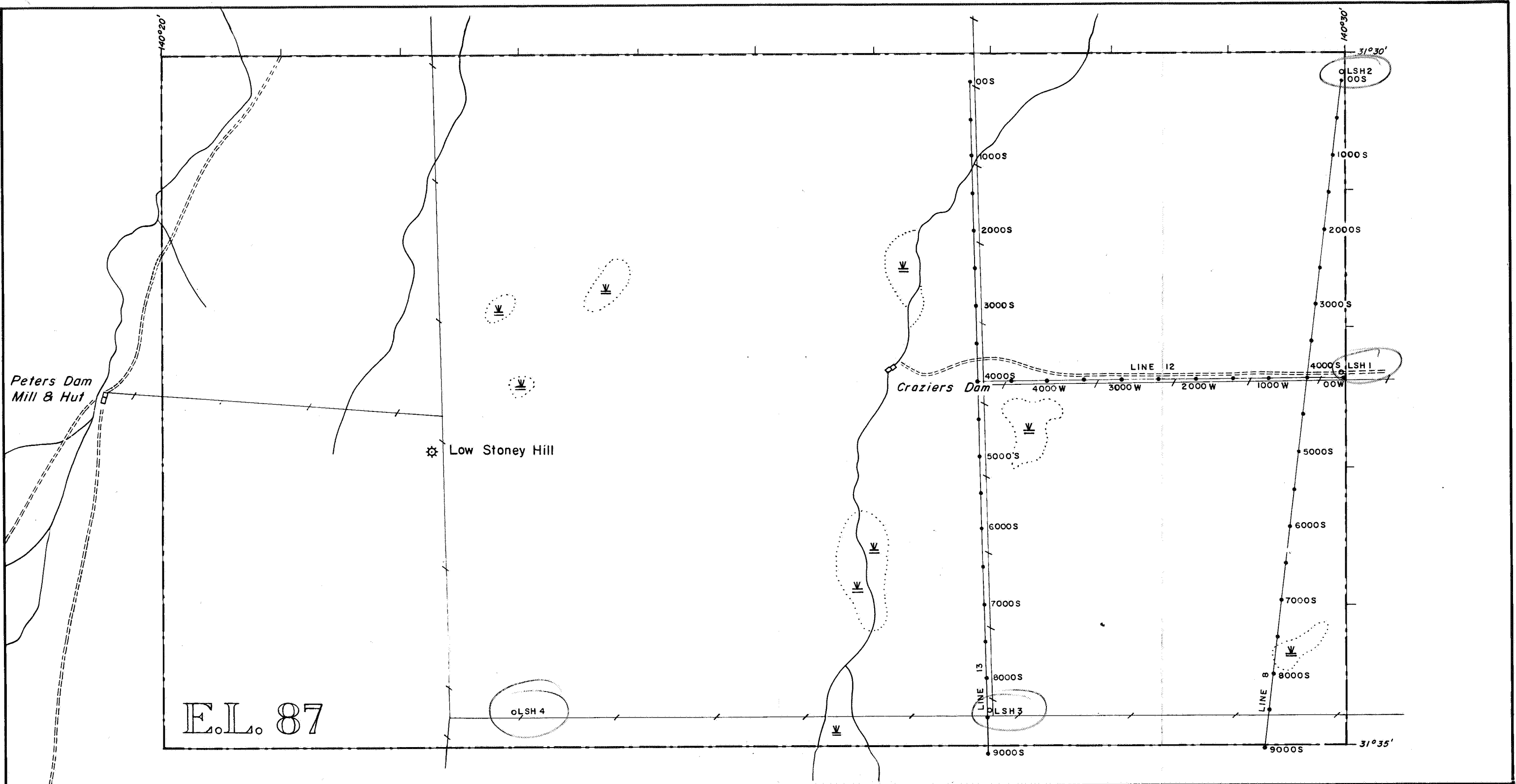


**MINES ADMINISTRATION**  
**LOW STONY HILL PROSPECT**  
**SOUTH AUSTRALIA**  
**RESISTIVITY PROFILE LINES**  
**8, 12 & 13**

Horizontal Scale: 1 inch = 500 metres  
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Plate 5 Report 79

Prepared By:-  
 Murdoch Geology & Geophysics P/L  
 Grey St. Glen Innes, N.S.W.  
 Feb. 1974  
 ENV 3344-1



E.L. 87

LEGEND

- Boundary of exploration licence
- LINE 13 --- Resistivity profile with location of soundings
- ===== Tracks, ungraded
- Fence
- ~ Drainage system
- ⌵ Swamp

LSH 1  
o Minad- Teton drillholes



REVISIONS

Date	By

MINAD · TETON · AUSTRALIA

Low Stoney Hill  
E.L. 87 - South Australia  
DRILL HOLE AND RESISTIVITY LINE  
LOCATION MAP

Author  
Date

Scale 1 : 50,000  
File No.

Map No. Fig. 2

ENV 2344-2