ENGINEERING GEOLOGICAL FACTORS AFFECTING SLOPE STABILITY IN SOFT BROWN COAL DEPOSITS - A SOUTH AUSTRALIAN EXAMPLE

(VOLUME 2)

BY

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THIS THESIS IS SUBMITTED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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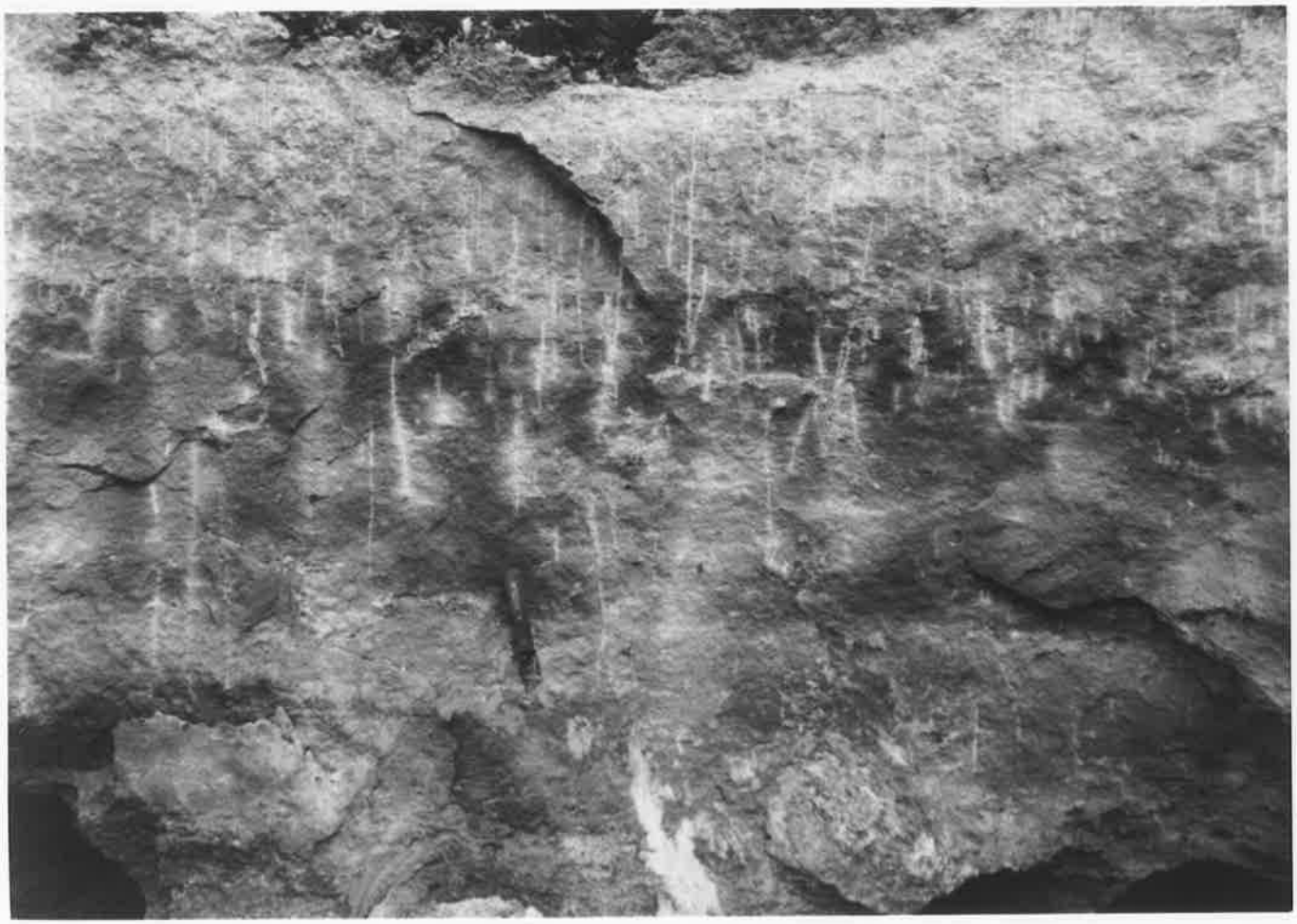

Plate 6.1 WA1 delta front facies in the Trial Pit - Sectional view exhibiting the bioturbated nature of the sand (knife is 15 centimetres).

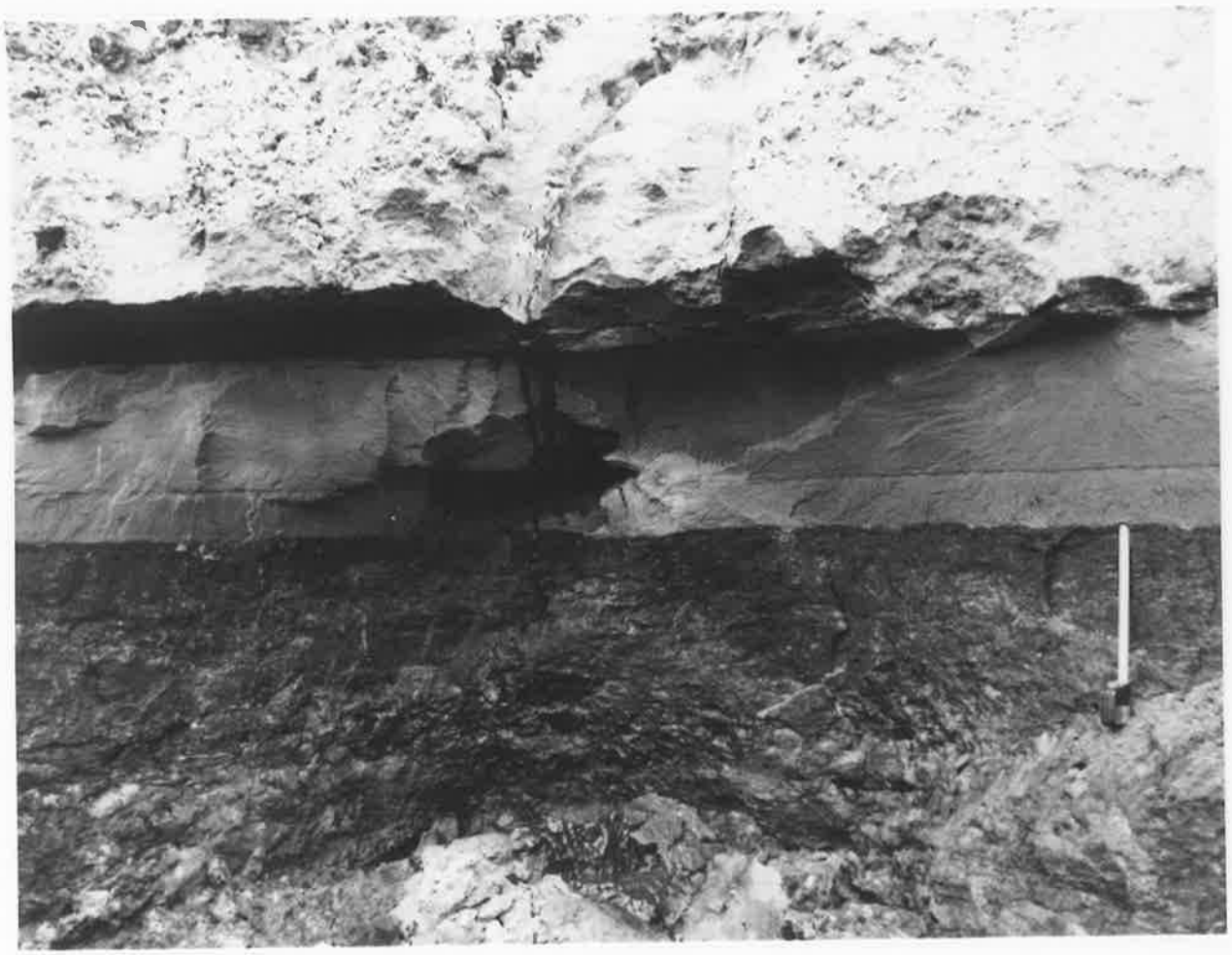

Plate 6.2 Contact between WA1 facies and the top of the F Zone in the Trial Pit. Contact is sharp and slightly irregular and is marked by a change in carbonaceous contact. Note also the thin horizontally bedded carbonaceous bed within the WA1 Member (see Plate 6.3 for enlargement). (Tape is open 0.3 metres)

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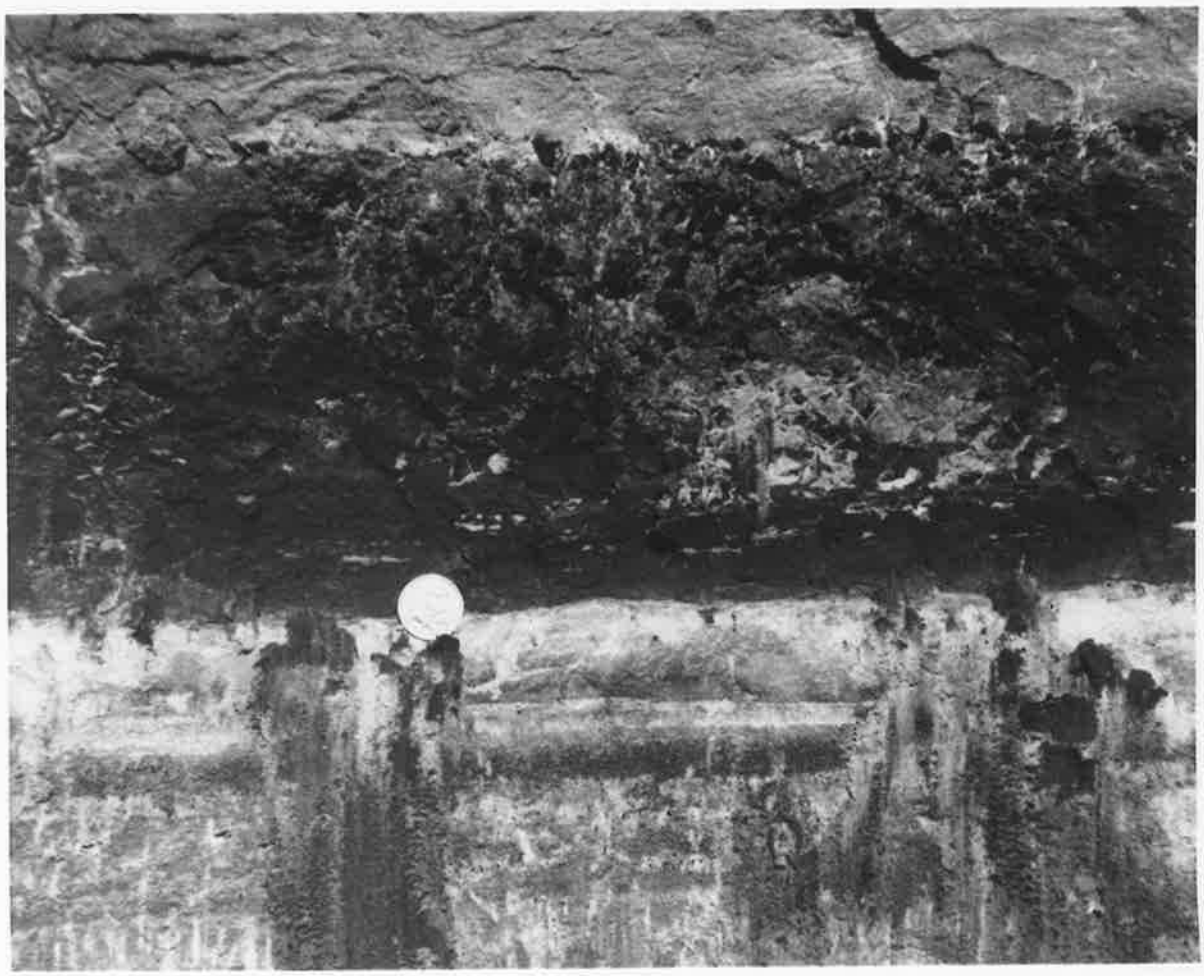
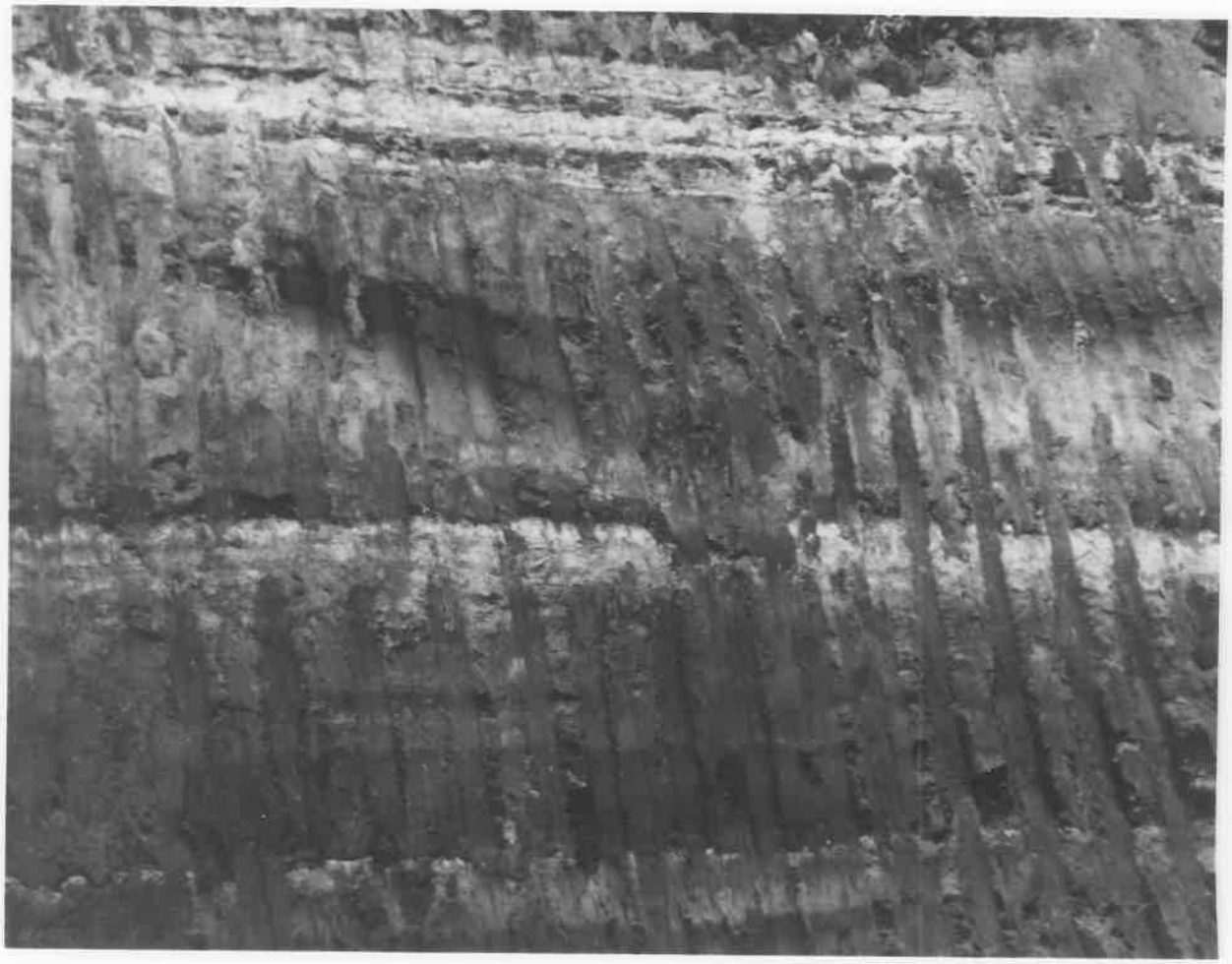


Plate 6.7 Enlargement of the contact between WA1 and WA7.

Plate 6.8 WA8 sheet flood facies exhibiting the interbedded cycles and intense bioturbation typical of intertidal environments (knife is 15 centimetres long).



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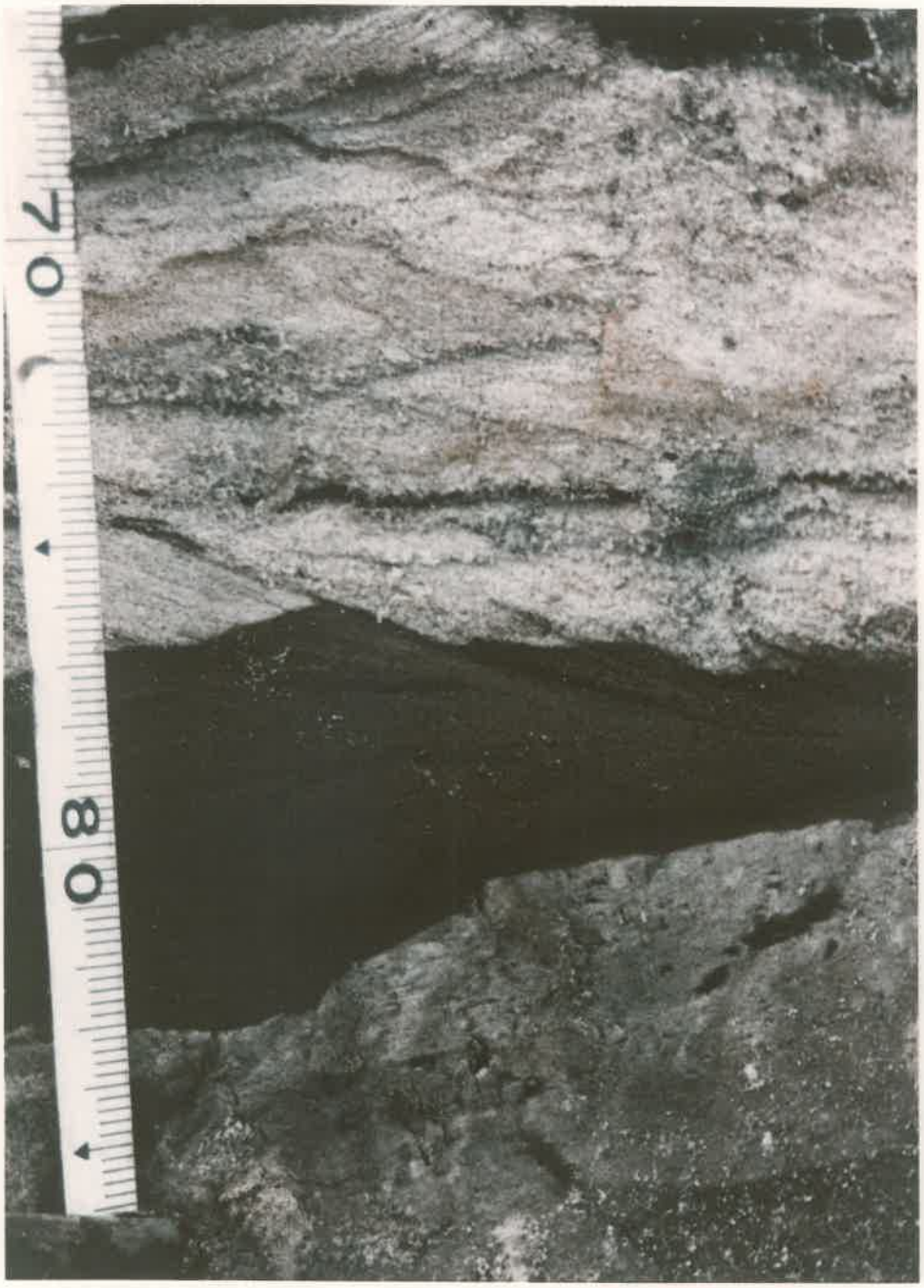

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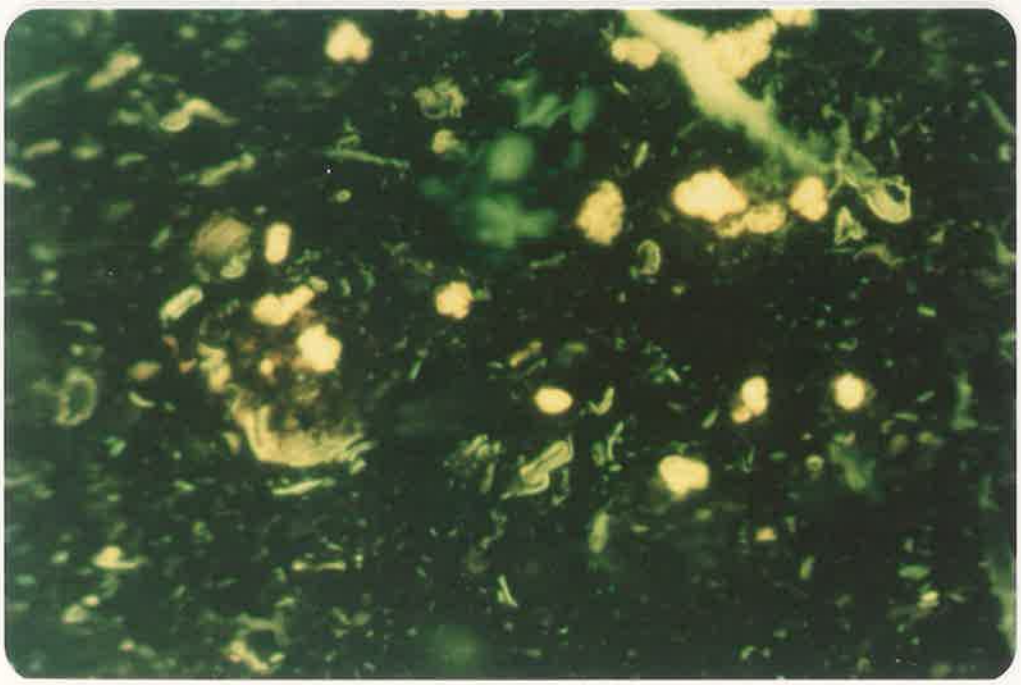


Plate 6.20b As for 6.20a but under flourescent light. The exinite macerals are more easily distinguished. Exinite macerals include telalginite, liptodetrinite, sporinite and phytoplankton.

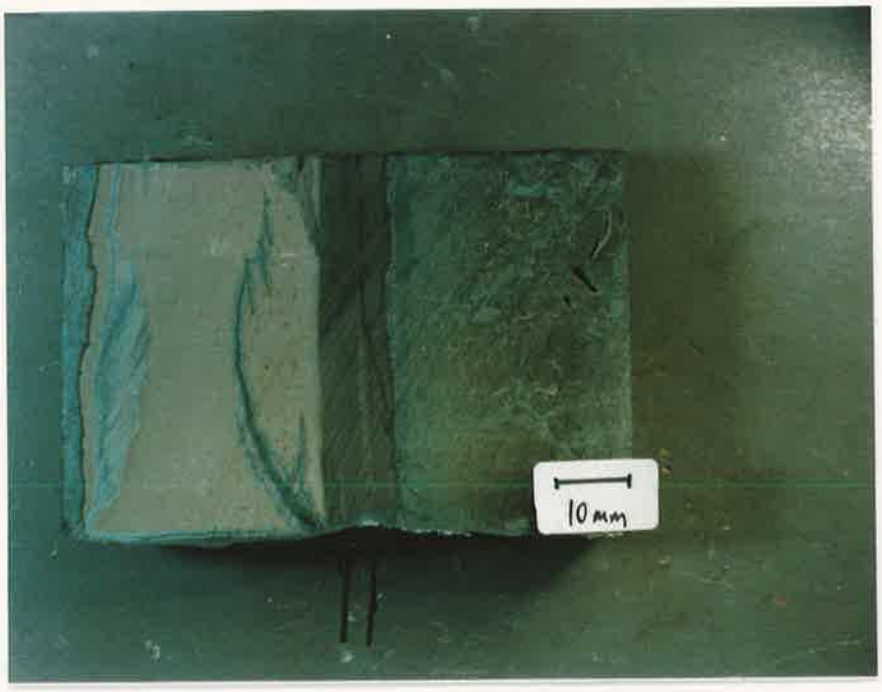
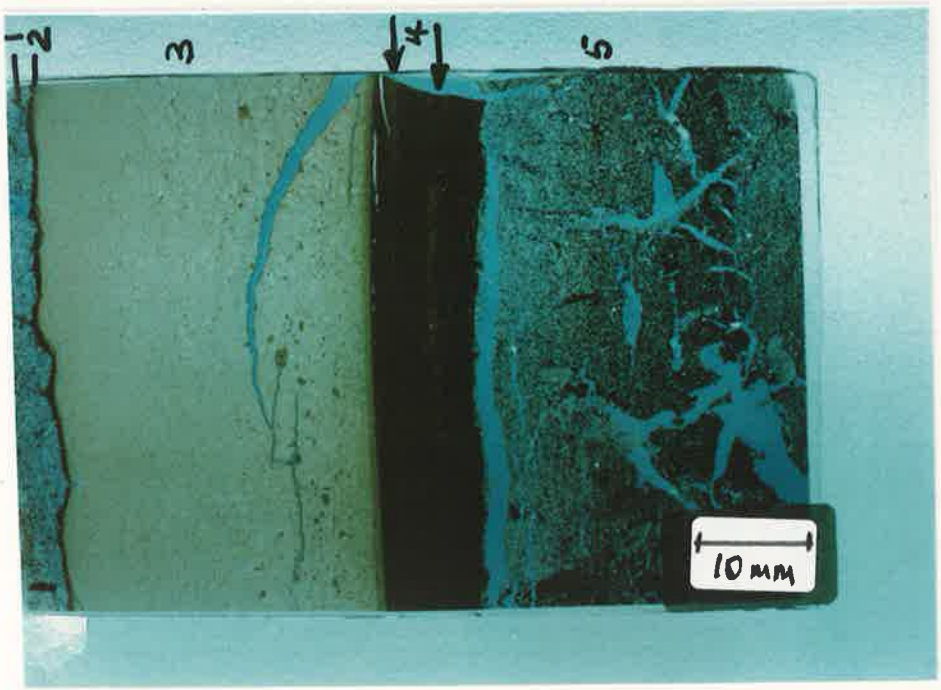


Plate 6.21a WA5 Member macrophoto of core sample.



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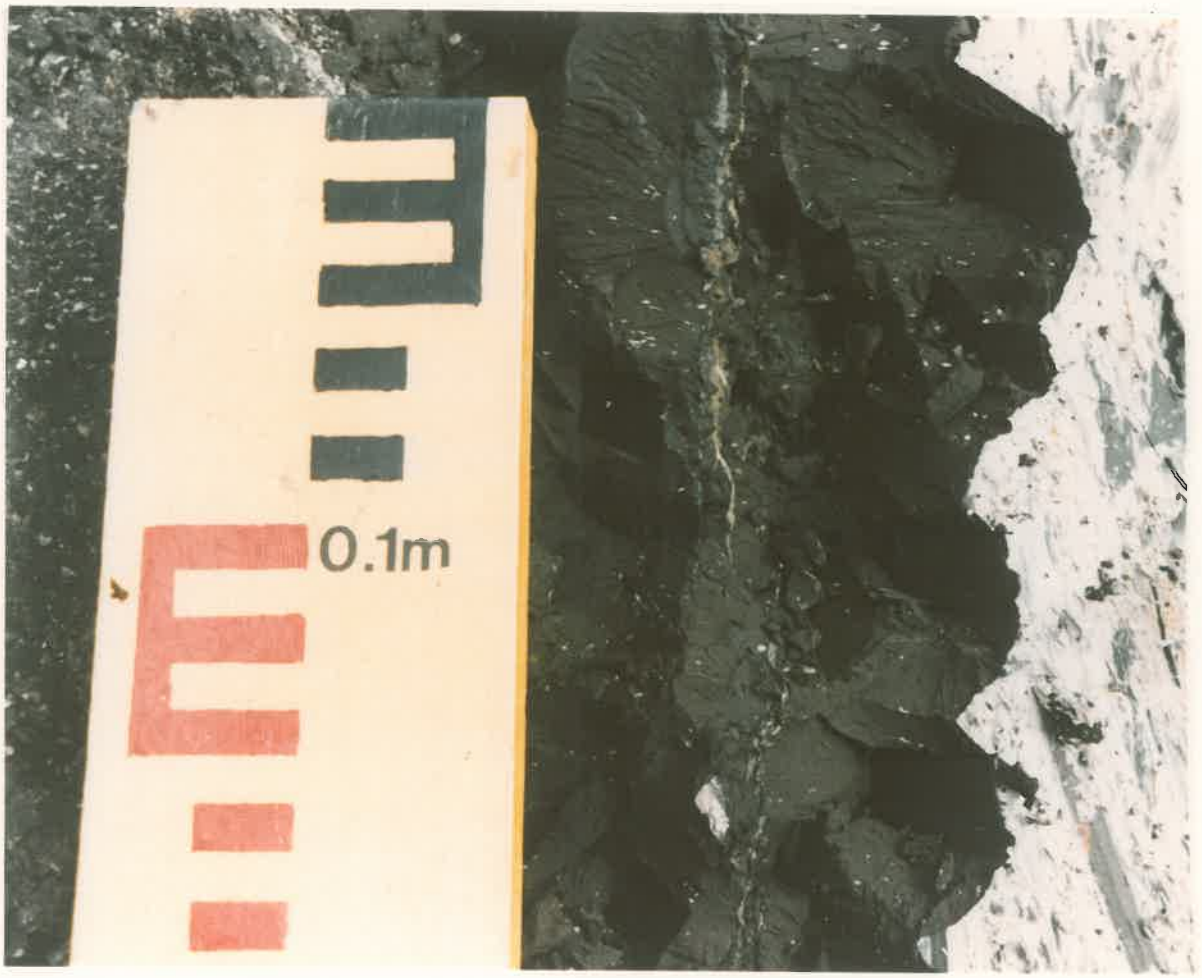

Plate 6.27 Tarella Silt Formation - Sectional view of a pyrite infilled joint exhibiting the irregular nature of the surface.

Plate 6.28 Tarella Silt Formation - Macroview of a sand infilled joint in highly carbonaceous silt.

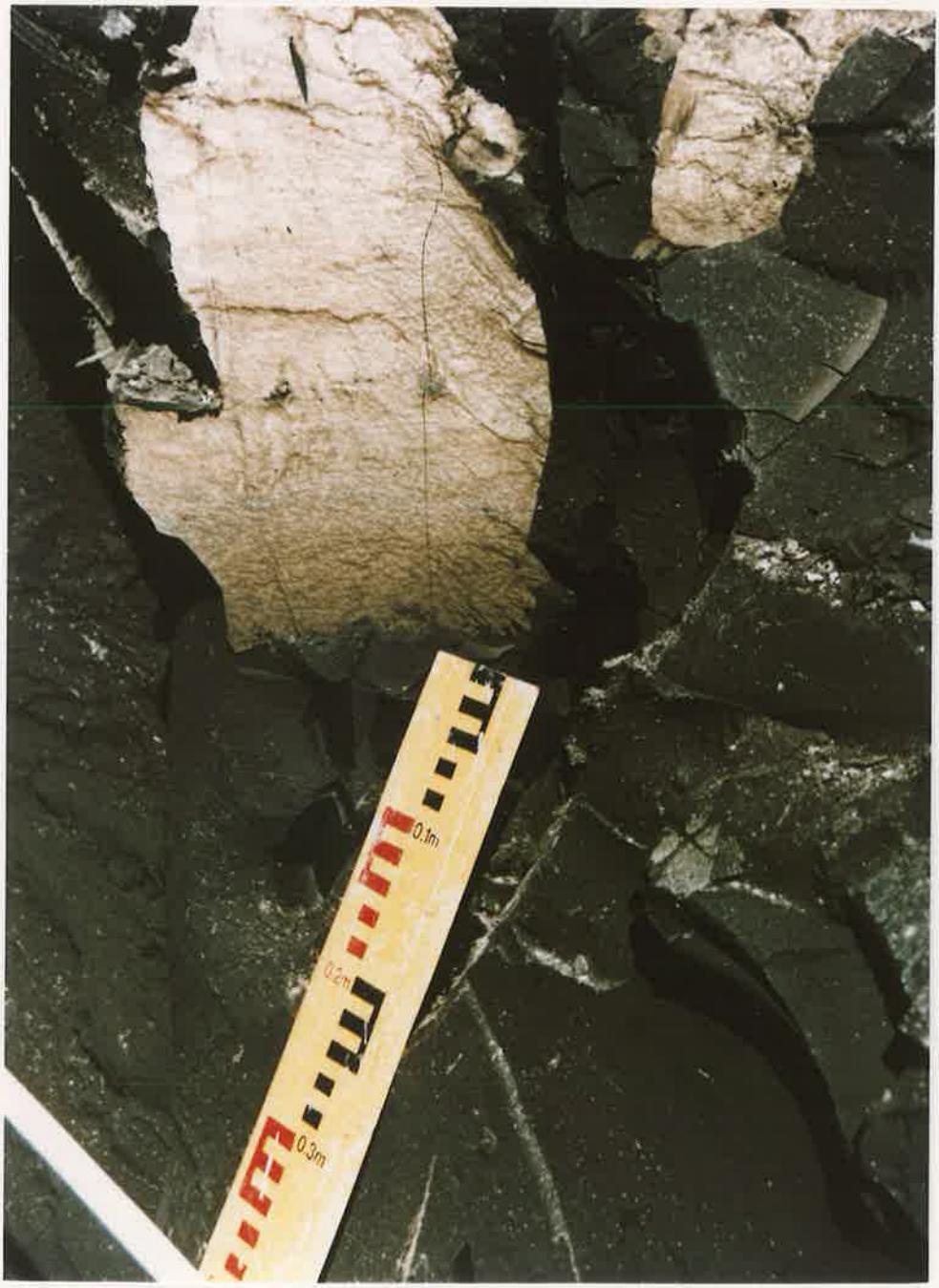

Plate 6.29 Tarella Silt Formation - Detailed view of the base of a sand infilled joint exhibiting the planar nature of the joint plane.

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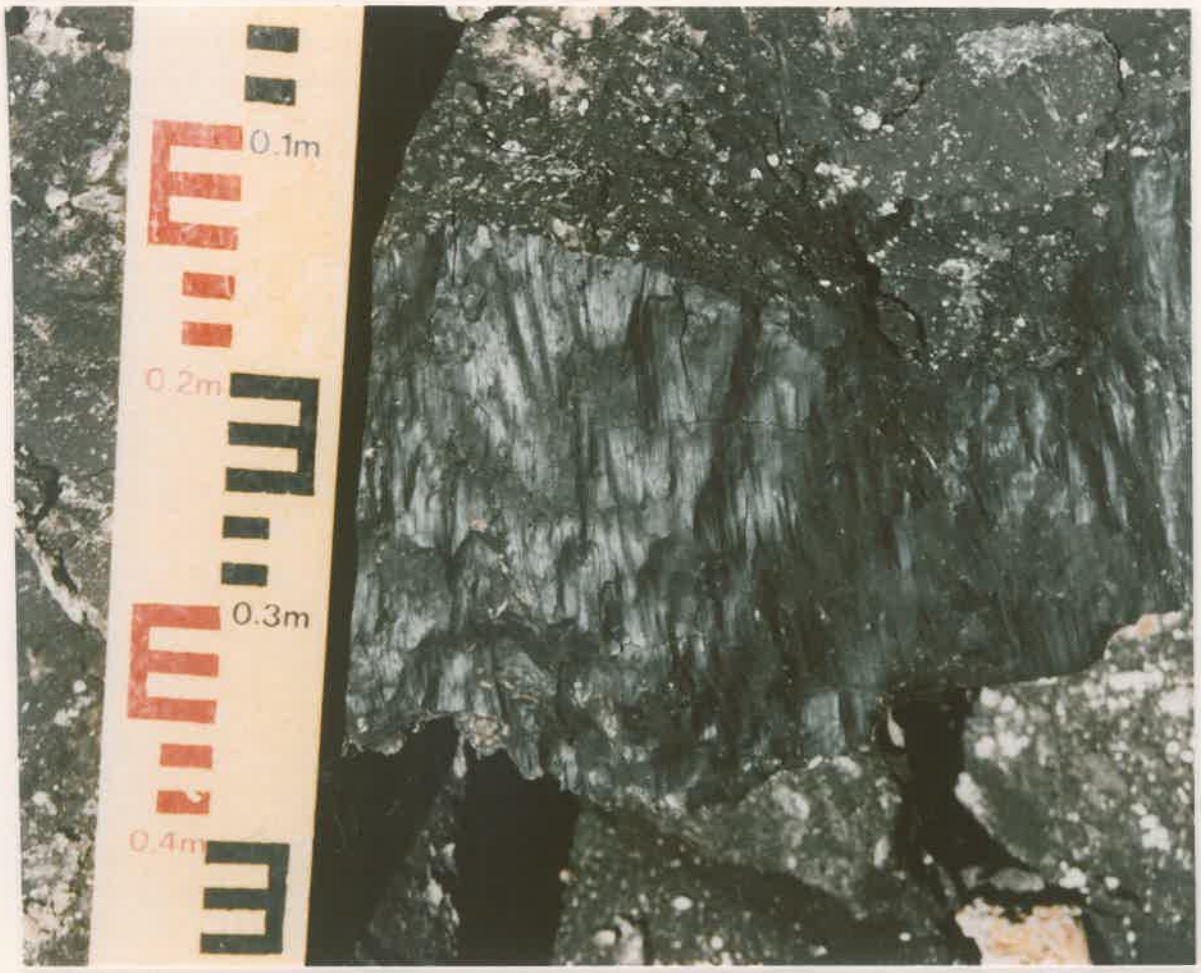


Plate 6.36 Tarella Silt Formation - Top of TL3. Slickensided and polished shear joint.

Plate 6.37 Tarella Silt Formation - Base of TL3. Polished and slickensided shear joint exhibiting rib structures. Core diameter = 10 centimetres).

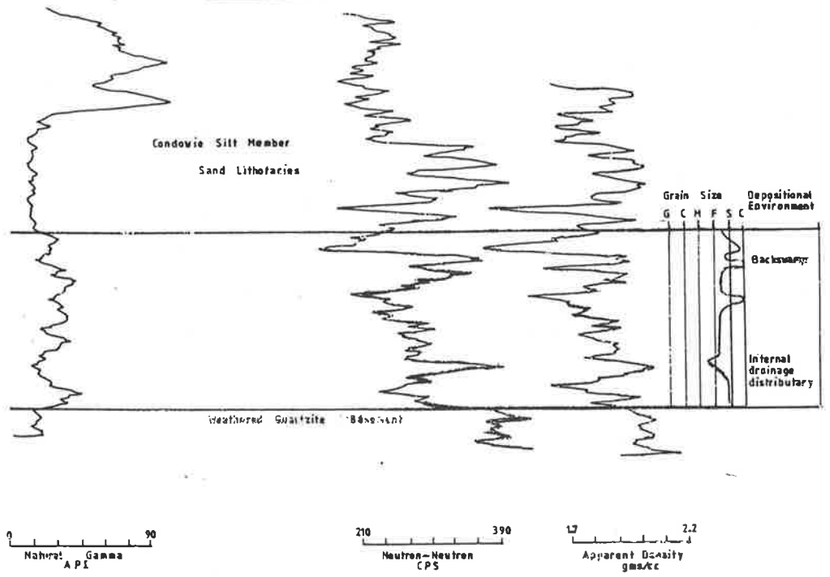
Plate 6.38 Sampling of Tarella Silt Shear Zone or shear testing.

APPENDIX 2

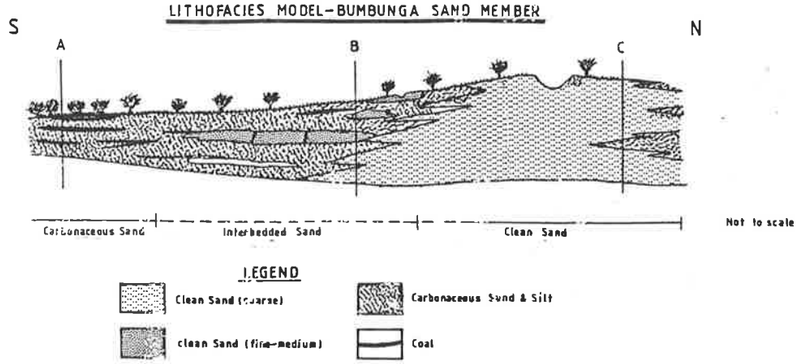
Geophysical log response models for the Bumbunga Sand Formation.

A

GEOPHYSICAL LOG RESPONSE



LITHOFACIES MODEL–BUMBUNGA SAND MEMBER



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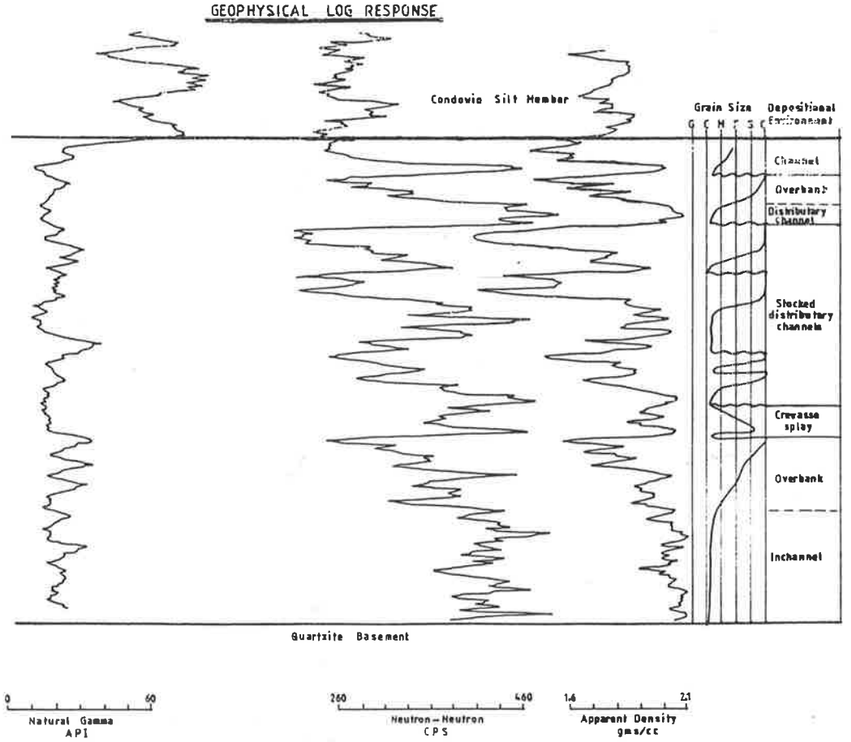
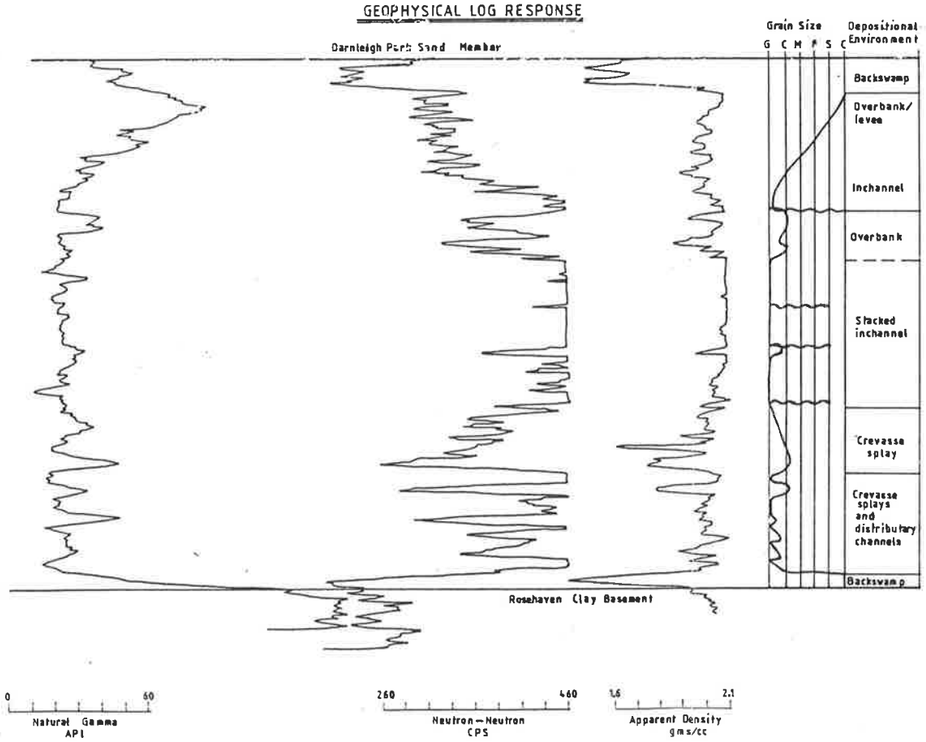
GEOPHYSICAL LOG RESPONSE



C

GEOPHYSICAL LOG RESPONSE



REFERENCE DRAWINGS

REV.	DETAILS OF REVISION	RVD	CKD	APD	DATE

DRN.	K Schmidt	Oct 85
CKD.		
INSP.		
AUTH.		

THE ELECTRICITY TRUST OF SOUTH AUSTRALIA

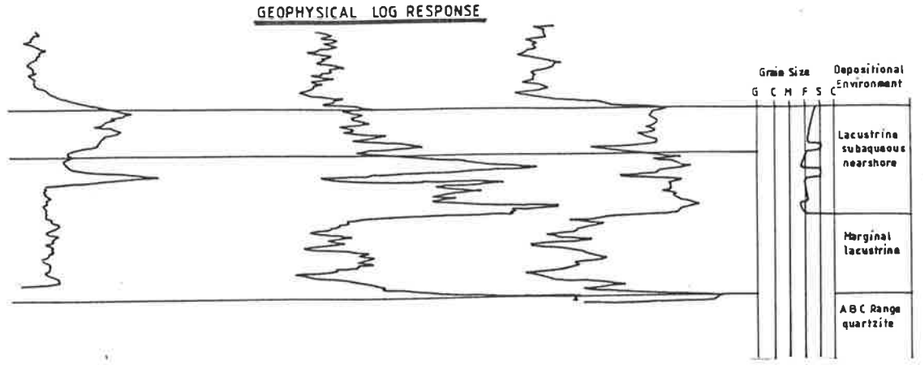
SCALE

Nantawarra Sand MEMBER

LITHOFACIES AND GEOPHYSICAL LOG RESPONSE MODELS

GEOPHYSICAL LOG RESPONSE

A



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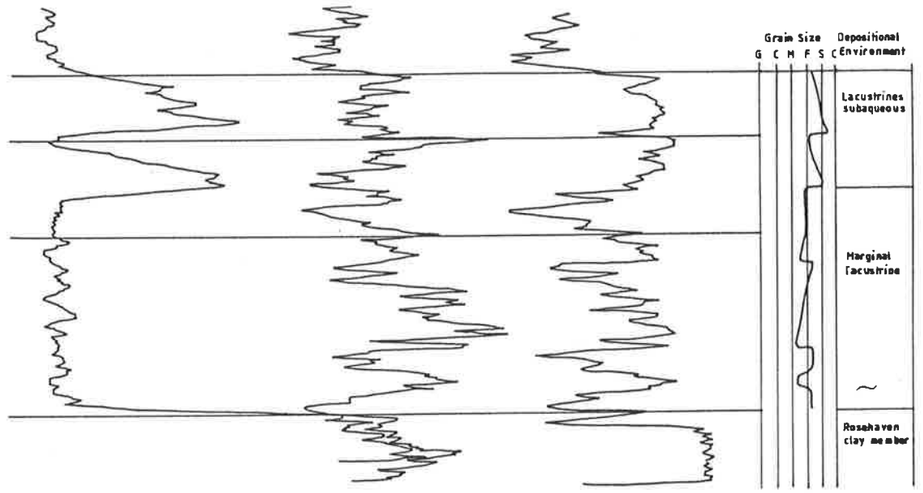
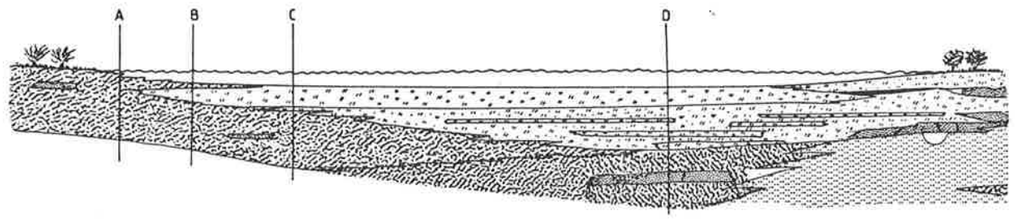


LITHOFACIES MODEL — CONDOWIE SILT MEMBER

S N

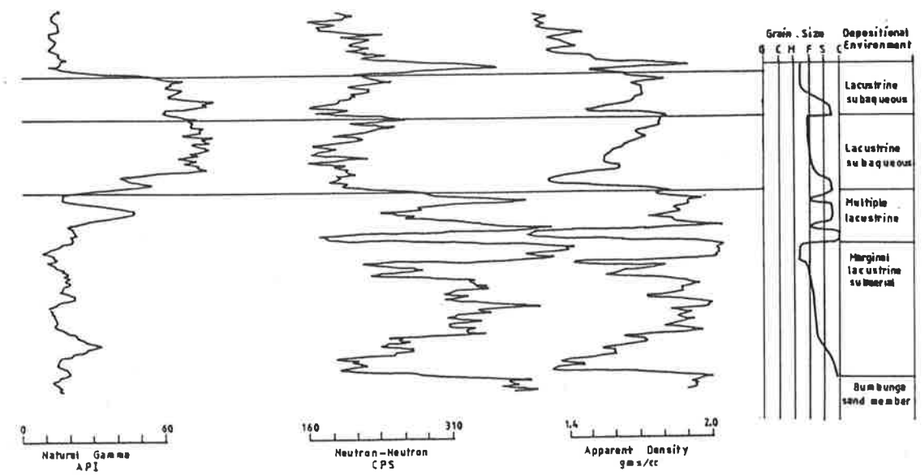


Not to scale

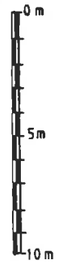
- Bumbunga Sand Clean Sand Facies, BU1
- Bumbunga Sand Interbedded Facies, BU2 Carbonaceous Facies, BU3
- Condowie Silt, carbonaceous Sand Facies CN12, CN22, CN32
- Condowie Silt Silt Facies CN11, CN21
- Condowie Silt, CN31

GEOPHYSICAL LOG RESPONSE

C



Vertical Scale in metres



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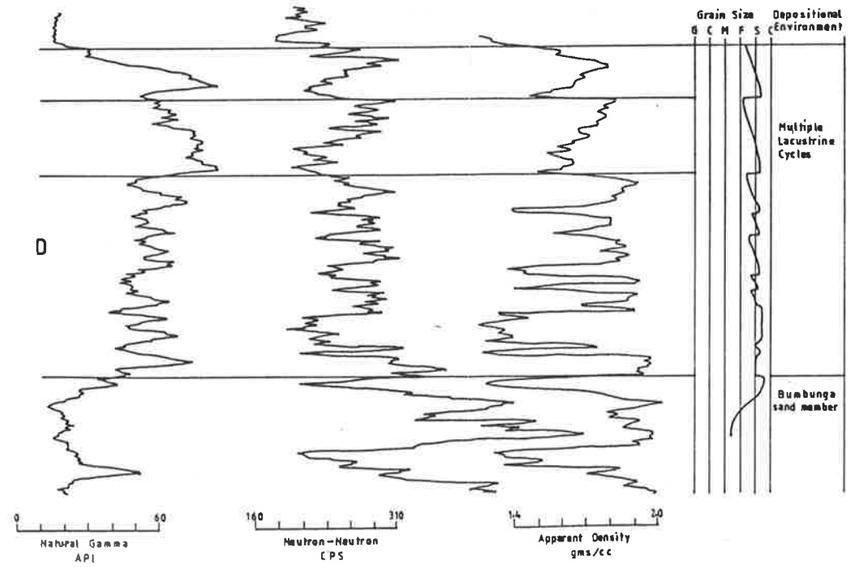

- REFERENCE DRAWINGS

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DRN. K. Hunt Oct 85
CKD.
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AUTH.

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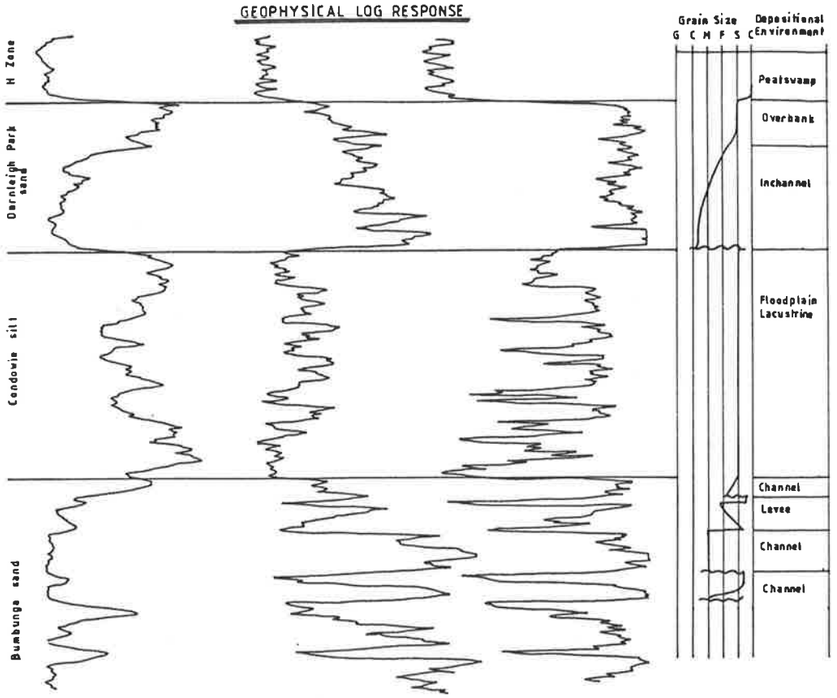
CONDOWIE SILT MEMBER

LITHOFACIES AND GEOPHYSICAL LOG RESPONSE MODELS

SCALE

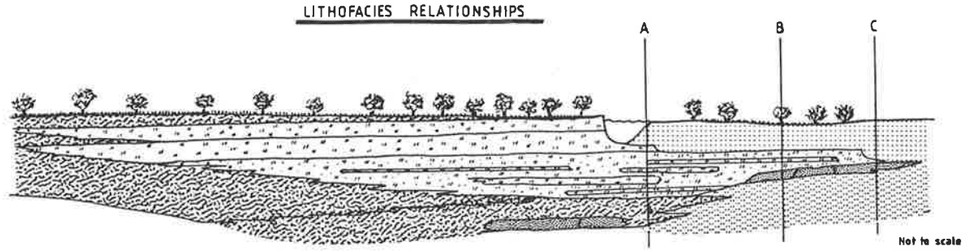
A

GEOPHYSICAL LOG RESPONSE



S. N.

LITHOFACIES RELATIONSHIPS

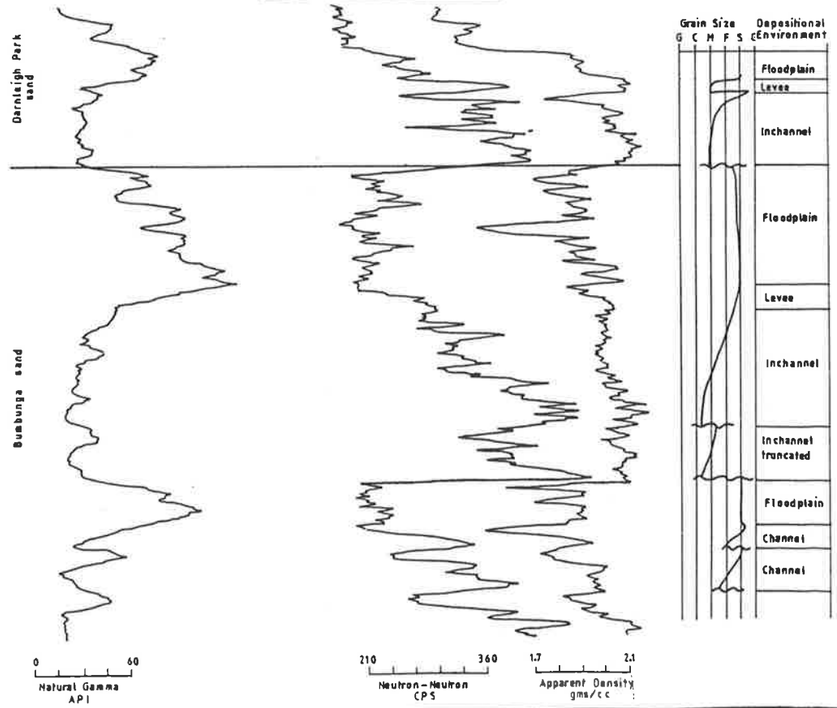


LEGEND

- Darnleigh Park Sand
- Bumbunga Sand clean Sand, BU1
- Bumbunga Sand interbedded and carbonaceous Sand, BU2, BU3 Condowie Silt, CN12, CN22, CN32
- Condowie Silt, CN11, CN21,
- Condowie Silt, CN31

B

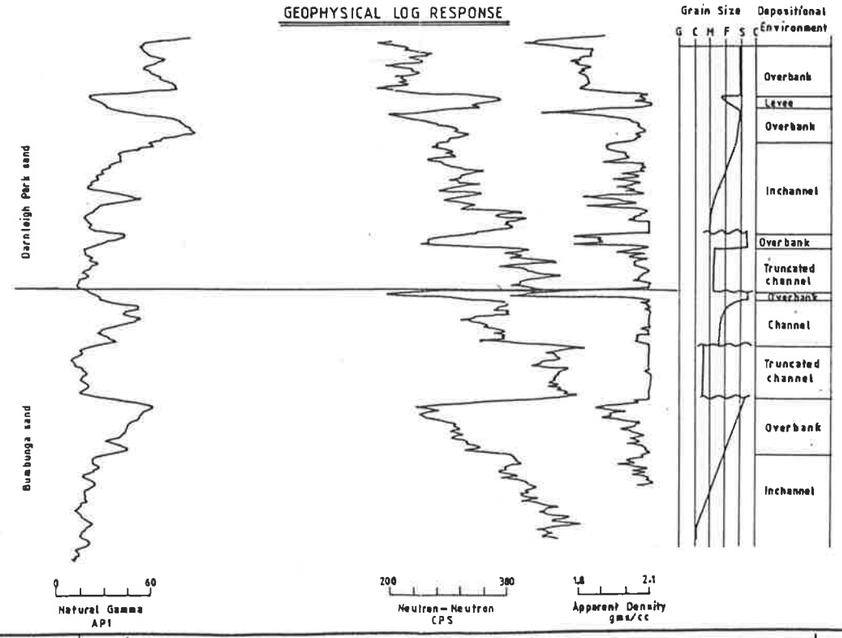
GEOPHYSICAL LOG RESPONSE



Vertical scale in metres

C

GEOPHYSICAL LOG RESPONSE



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AUTH.

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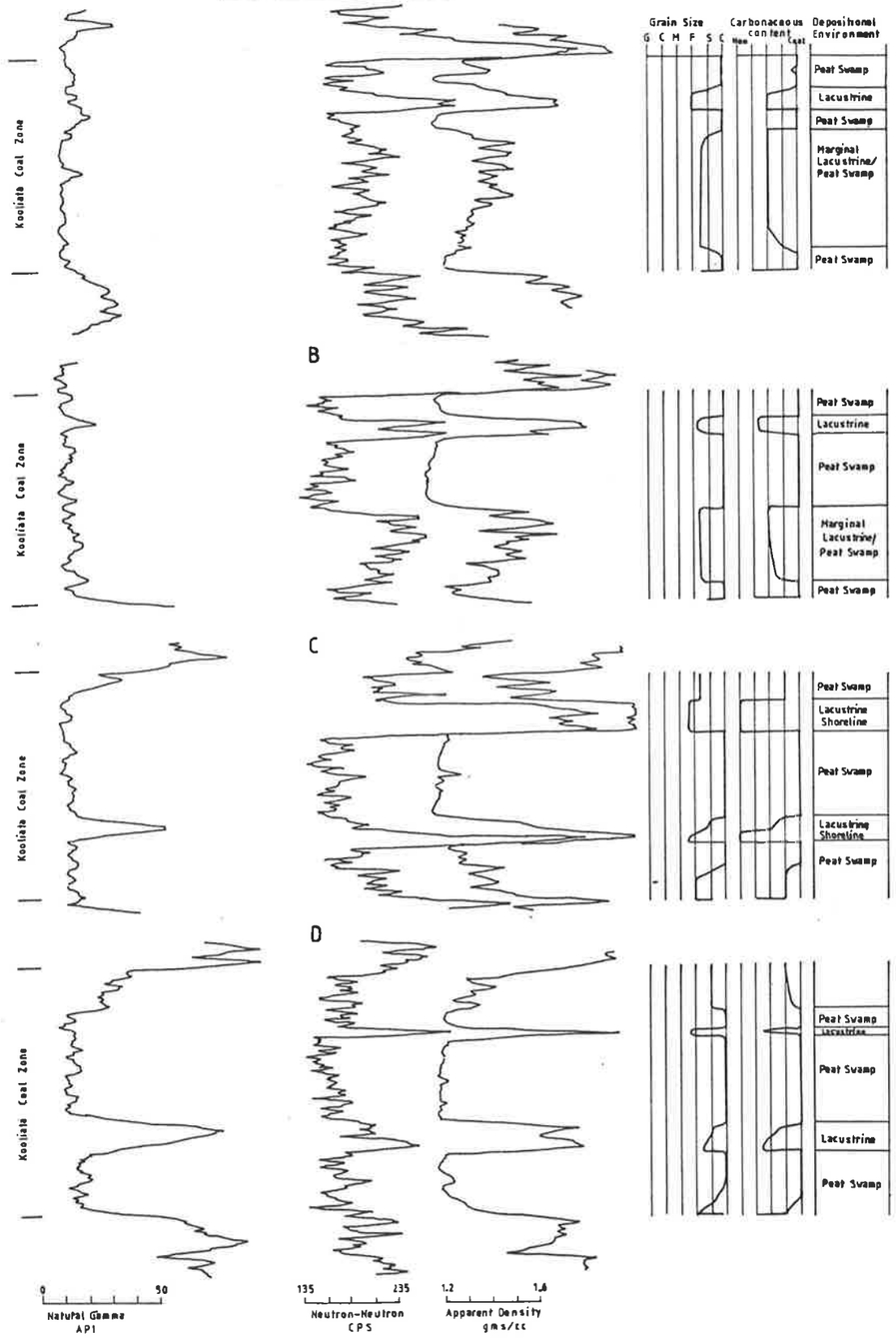
SCALE

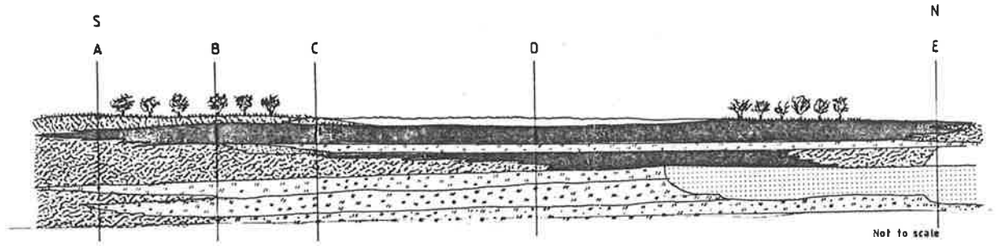
DARNLEIGH PARK SAND MEMBER
LITHOFACIES AND GEOPHYSICAL LOG RESPONSE MODELS

A

GEOPHYSICAL LOG RESPONSE



LITHOFACIES RELATIONSHIPS

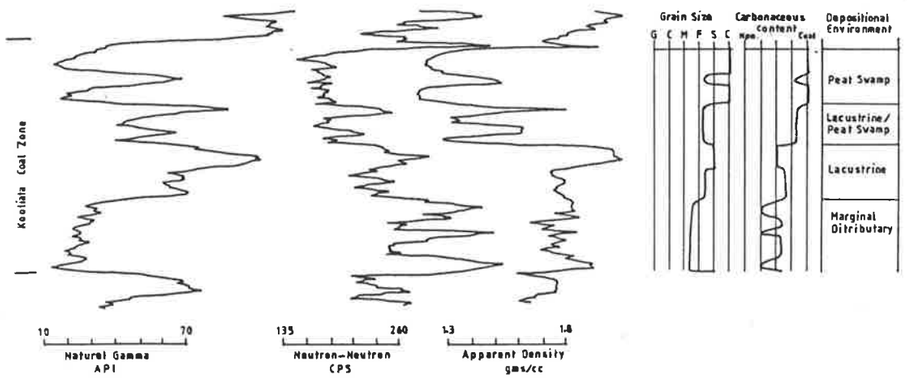


LEGEND

- Coal
- Carbonaceous Sand CN 12, CN 22, CN 32, H2, G2
- Clean Sand, GH, FG
- Condowie Silt, CN 11, CN 21 GH Interburden
- Darnleigh Park Sand

E

GEOPHYSICAL LOG RESPONSE



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AUTH.

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KOOLIATA COAL ZONE

LITHOFACIES AND GEOPHYSICAL LOG RESPONSE MODELS

SCALE

APPENDIX 3.

Geophysical and lithological correlation sections for the Bumbunga Sand Formation.

LATERAL GEOPHYSICAL LOG RESPONSE CORRELATIONS

V632 | V464 | V571 | V603 | V525

S — BASE OF H ZONE — N

EROSIVE SURFACE

DARNLEIGH PARK SANDS

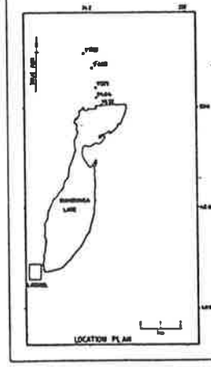
30 — 70 GAMMA API; 1.5 — 1.9 APPARENT DENSITY gm/cc; 260 — 364 NEUTRON cps

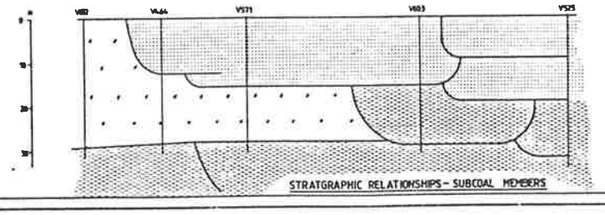
45 — 105 GAMMA API; 1.6 — 1.9 APPARENT DENSITY gm/cc; 180 — 300 NEUTRON cps

15 — 60 GAMMA API; 1.6 — 2.2 APPARENT DENSITY gm/cc; 240 — 360 NEUTRON cps

40 — 90 GAMMA API; 2.0 — 2.4 APPARENT DENSITY gm/cc; 395 — 460 NEUTRON cps

15 — 75 GAMMA API; 1.5 — 1.9 APPARENT DENSITY gm/cc; 300 — 450 NEUTRON cps





LEGEND

- DARNLEIGH PARK SAND
- CONDOWIE SILT
- BUMBUNGA SAND
- EROSIVE FLUVIAL BODIES

REVISION DATE	INITIAL	REVISION DATE	INITIAL

THE ELECTRICITY TRUST OF SOUTH AUSTRALIA
COAL RESOURCES DEPARTMENT

NORTHERN STRUCTURE MAIN LEVEL
DARNLEIGH PARK SAND
LATERAL GEOPHYSICAL LOG RESPONSE CORRELATIONS & STRATIGRAPHIC RELATIONSHIPS OF SUBCOAL MEMBERS

DRAWN | INSPECTED | APPROVED | DATE | SCALE | SHEET OF

V493 V453 V458 V594 V636 V462 V456 V498

S N

0 160 GAMMA API
1.2 2.3 APPARENT DENSITY gm/cc

0 200 GAMMA API
1.3 2.3 APPERENT DENSITY gm/cc

0 160 GAMMA API
1.4 2.2 APPARENT DENSITY gm/cc

0 160 GAMMA API
1.3 2.1 APPARENT DENSITY gm/cc

0 160 GAMMA API
1.2 1.9 APPARENT DENSITY gm/cc

0 160 GAMMA API
1.3 2.2 APPARENT DENSITY gm/cc

0 240 GAMMA API
1.3 2.1 APPARENT DENSITY gm/cc

0 160 GAMMA API
1.2 2.2 APPARENT DENSITY gm/cc

LOCATION PLAN

V493 V453 V458 V594 V636 V462 V456 BASE OF H-ZONE
S N
CH 1
CH 2
CH 3
BUMBUNGA SAND MEMBER

LITHOFACIES RELATIONSHIPS — CONDOWIE SILT

LEGEND
SAND LITHOFACIES (CH 31, CH 32, CH 33)
SILT LITHOFACIES (CH 71, CH 72, CH 73)

REVISION DATE	INITIAL	REVISION DATE	INITIAL

THE ELECTRICITY TRUST OF SOUTH AUSTRALIA
COAL RESOURCES DEPARTMENT

BUMBUNGA SAND-CONDOWIE SILT

GEOPHYSICAL LOG RESPONSE & CORRELATION SECTION.

DRAWN
INSPECTED
APPROVED
DATE 24/10/87
SCALE
SHEET OF

V538 V458 V594 V634 V597 V561 V467

S N

F ZONE

G ZONE

H ZONE

FG

F SEAM

G SEAM

FG

H

0 80 14 2.2
GAMMA API APPARENT DENSITY gm/cc

0 120 1.5 2.2
GAMMA API APPERENT DENSITY gm/cc

0 80 14 2.0
GAMMA API APPARENT DENSITY gm/cc

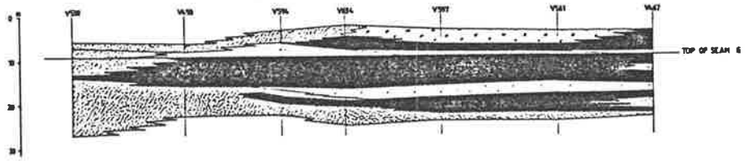
0 80 1.3 1.9
GAMMA API APPARENT DENSITY gm/cc

0 80 14 1.9
GAMMA API APPARENT DENSITY gm/cc

0 120 1.5 2.2
GAMMA API APPARENT DENSITY gm/cc

0 120 1.3 2.0
GAMMA API APPARENT DENSITY gm/cc

LOCATION PLAN



FACIES RELATIONSHIPS F-G & G-H INTERBURDENS

LEGEND

- COAL
- CARBONACEOUS SAND (SAS)
- CLEAN SAND FG/GH
- INTERBEDDED CLEAN SAND & CARBONACEOUS SAND
- SANDY SILT
- CARBONACEOUS SILT

REVISION		REVISION	
DATE	INITIAL	DATE	INITIAL

THE ELECTRICITY TRUST OF SOUTH AUSTRALIA
COAL RESOURCES DEPARTMENT

KOOLIATA COAL ZONE
GEOPHYSICAL LOG RESPONSE & CORRELATION SECTION.

DRAWN
INSPECTED
APPROVED
DATE 3/3/76
SCALE
SHEET OF

V483 V438 V634 V608 V443 V468 V603 V568

G

GH

H

S N

1.3 2.1 APPARENT DENSITY gm/cc

1.2 2.0 APPARENT DENSITY gm/cc

1.2 1.9 APPARENT DENSITY gm/cc

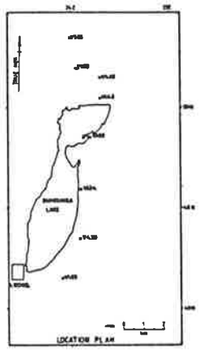
1.3 1.9 APPARENT DENSITY gm/cc

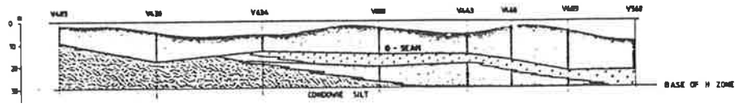
1.3 2.2 APPARENT DENSITY gm/cc

1.3 2.0 APPARENT DENSITY gm/cc

1.4 2.0 APPARENT DENSITY gm/cc

6000 0 S.D.U. cps. (BPB LOG)





LITHOFACIES RELATIONSHIP

SCALE (ft)

LEGEND

COAL

SA S

SILT

CLEAN SAND

REVISION		REVISION	
DATE	INITIAL	DATE	INITIAL

THE ELECTRICITY TRUST OF SOUTH AUSTRALIA

COAL RESOURCES DEPARTMENT

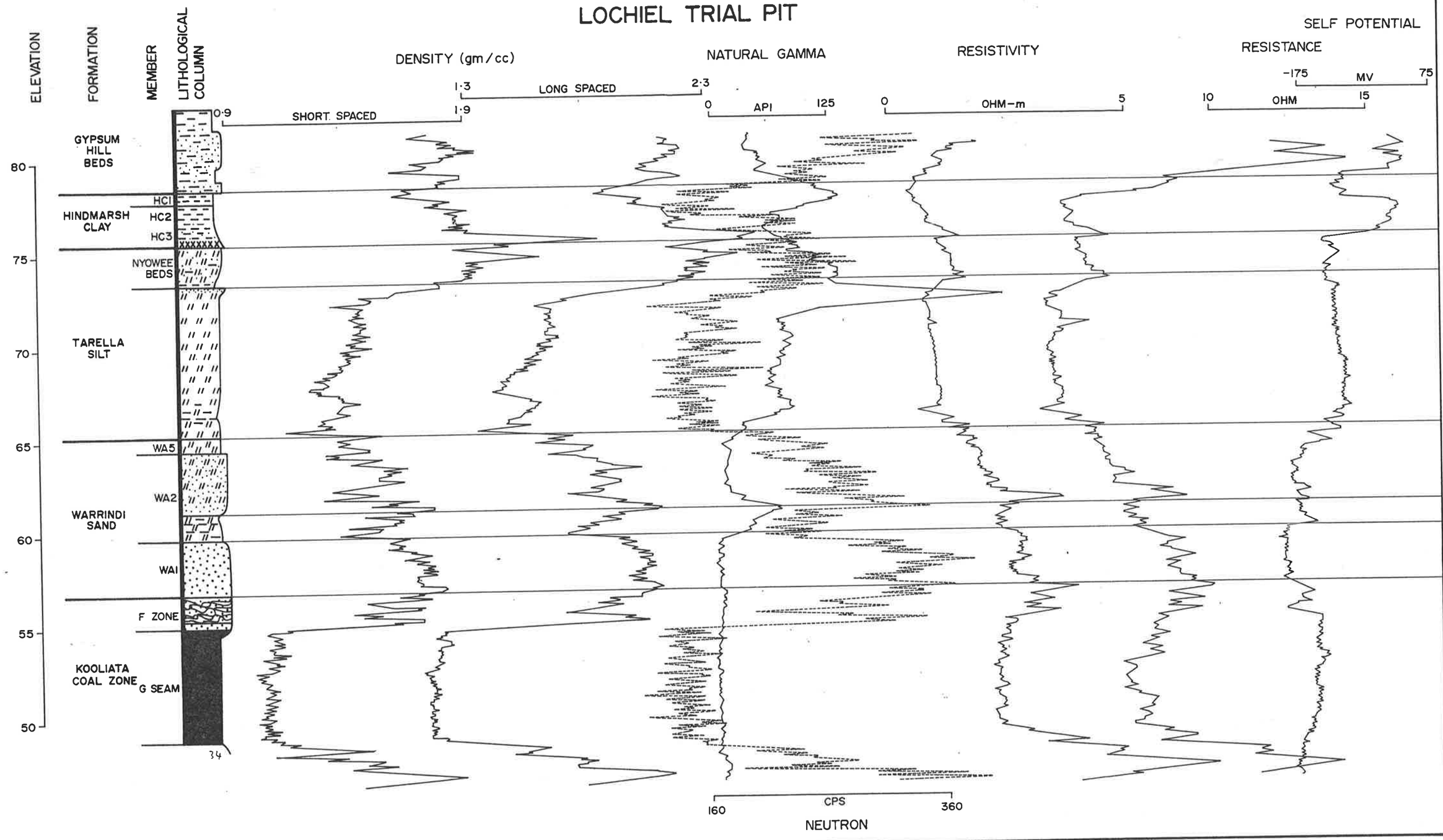
H ZONE & G-H INTERBURDEN CORRELATION OF DENSITY RESPONSE & FACIES RELATIONSHIPS

DRAWN
INSPECTED
APPROVED
DATE
SCALE
SHEET

APPENDIX 4.

Geophysical and lithological correlation sections for the Tarella and Warrindi Silts

GEOPHYSIAL LOG RESPONSES
LOCHIEL TRIAL PIT



DRN.	EAC		THE ELECTRICITY TRUST OF SOUTH AUSTRALIA COAL RESOURCES DEPARTMENT
CKD.			STRATIGRAPHY AND GEOPHYSICAL LOG RESPONSE.
INSP.			
AUTH.			SCALE :

CRD 602

GEOPHYSICAL LOG RESPONSE CORRELATIONS

V540 V458 V438 V594 V437 V597 V529 V519 V525

S N

WA8 WA4 FG G TL1 TL2 TL3 TL4 WA5 WA3 WA4 G+1

0 120 GAMMA API 1.4 2.0 APPARENT DENSITY gm/cc

0 80 GAMMA API 1.5 2.2 APPARENT DENSITY gm/cc

0 120 GAMMA API 1.4 2.0 APPARENT DENSITY gm/cc

0 120 GAMMA API 1.4 2.0 APPARENT DENSITY gm/cc

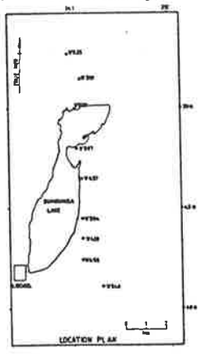
0 80 GAMMA API 1.4 2.0 APPARENT DENSITY gm/cc

0 80 GAMMA API 1.3 2.0 APPARENT DENSITY gm/cc

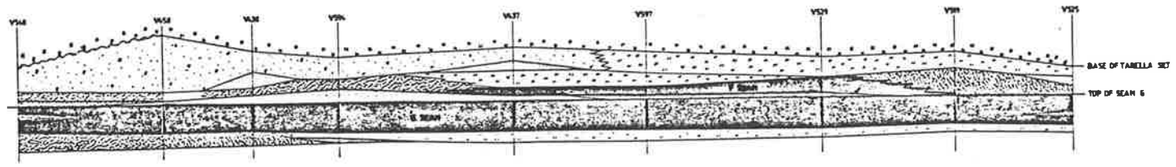
0 80 GAMMA API 1.3 2.1 APPARENT DENSITY gm/cc

0 80 GAMMA API 1.5 2.2 APPARENT DENSITY gm/cc

0 120 GAMMA API 1.4 2.1 APPARENT DENSITY gm/cc



LITHOFACIES RELATIONSHIPS



LEGEND

- COAL
- CARBONACEOUS SAND
- CARBONACEOUS SILT (TARELLA SILT)
- SILT (WA3)
- INTERBEDDED CLEAN SAND, CARBONACEOUS SAND (PG)
- CLEAN SAND PG/GH
- CLEAN SAND (WA4)
- CLEAN SAND AND SILT (WA2/WA5)

REVISION DATE	INITIAL	REVISION DATE	INITIAL

THE ELECTRICITY TRUST OF SOUTH AUSTRALIA
COAL RESOURCES DEPARTMENT

KOOLIATA COAL ZONE - WARINDI SILT, GEOPHYSICAL LOG RESPONSE CORRELATION AND LITHOFACIES RELATIONSHIPS.
SOUTH - NORTH SECTION

DRAWN
INSPECTED
APPROVED
DATE 2/12/80
SCALE
SHEET OF

GEOPHYSICAL LOG RESPONSE CORRELATIONS

V482 V582 V437 V361 V616 V512

TL3

WA4

WA3

F

G

H

E

W

TOP OF G SEAM

0 120 1.5 2.2
GAMMA API APPARENT DENSITY gm/cc

0 120 1.3 2.0
GAMMA API APPARENT DENSITY gm/cc

0 80 1.5 2.1
GAMMA API APPARENT DENSITY gm/cc

0 120 1.5 2.1
GAMMA API APPARENT DENSITY gm/cc

0 120 1.5 2.0
GAMMA API APPARENT DENSITY gm/cc

0 120 1.5 2.2
GAMMA API APPARENT DENSITY gm/cc

LEGEND

- COAL
- CARBONACEOUS SAND
- CARBONACEOUS SILT (TARELLA SILT)
- SILT (WA 3)
- INTERBEDDED CLEAN SAND, CARBONACEOUS SAND (PG)
- CLEAN SAND PG/SN
- CLEAN SAND (WA4)
- CLEAN SAND AND SILT (WA4)

LOCATION PLAN

LITHOFACIES RELATIONSHIPS

V482 V582 V437 V361 V616 V512

BASE OF TARELLA SILT

F SEAM

G SEAM

TOP OF G SEAM

Scale of metres 0 10 20

REVISION DATE	INITIAL	REVISION DATE	INITIAL

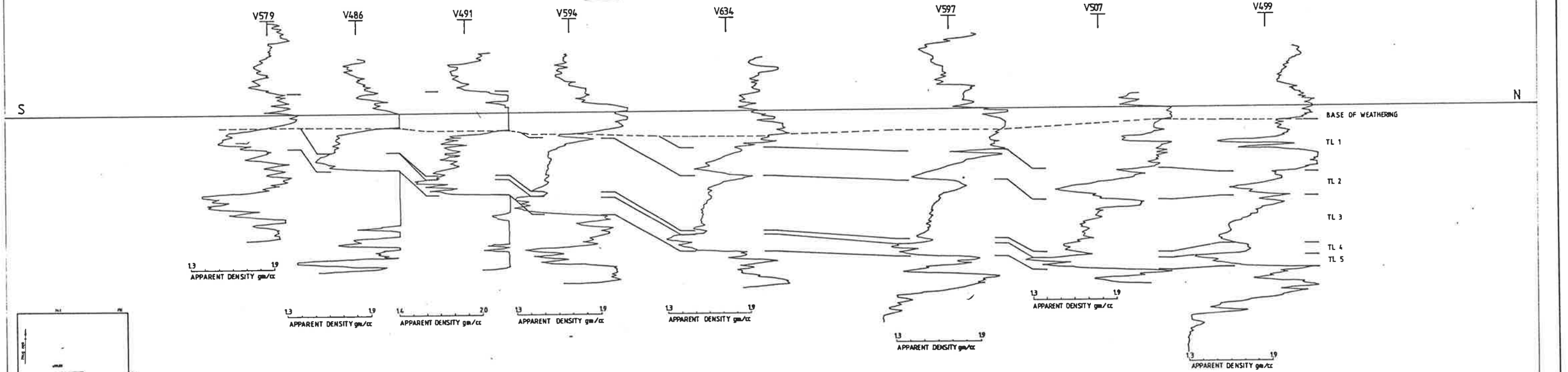
THE ELECTRICITY TRUST OF SOUTH AUSTRALIA
COAL RESOURCES DEPARTMENT

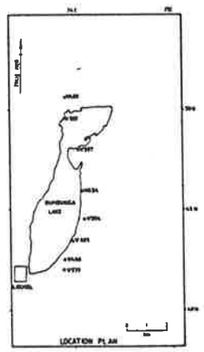
KOOLIATA COAL ZONE-WARRINDI SILT GEOPHYSICAL LOG RESPONSE CORRELATION AND LITHOFACIES RELATIONSHIPS

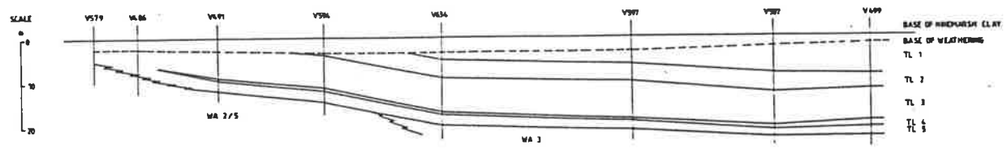
EAST-WEST SECTION

DRAWN
INSPECTED
APPROVED
DATE Nov 75
SCALE
SHEET OF

GEOPHYSICAL LOG RESPONSE & CORRELATION







TARELLA SILT / WARRINDI SILT RELATIONSHIP & CORRELATIONSHIP

REVISION DATE	INITIAL	REVISION DATE	INITIAL

THE ELECTRICITY TRUST OF SOUTH AUSTRALIA
COAL RESOURCES DEPARTMENT

TARELLA SILT
GEOPHYSICAL LOG RESPONSE & CORRELATION SECTION.

DRAWN
INSPECTED
APPROVED
DATE
SCALE
SHEET OF

APPENDIX 5.

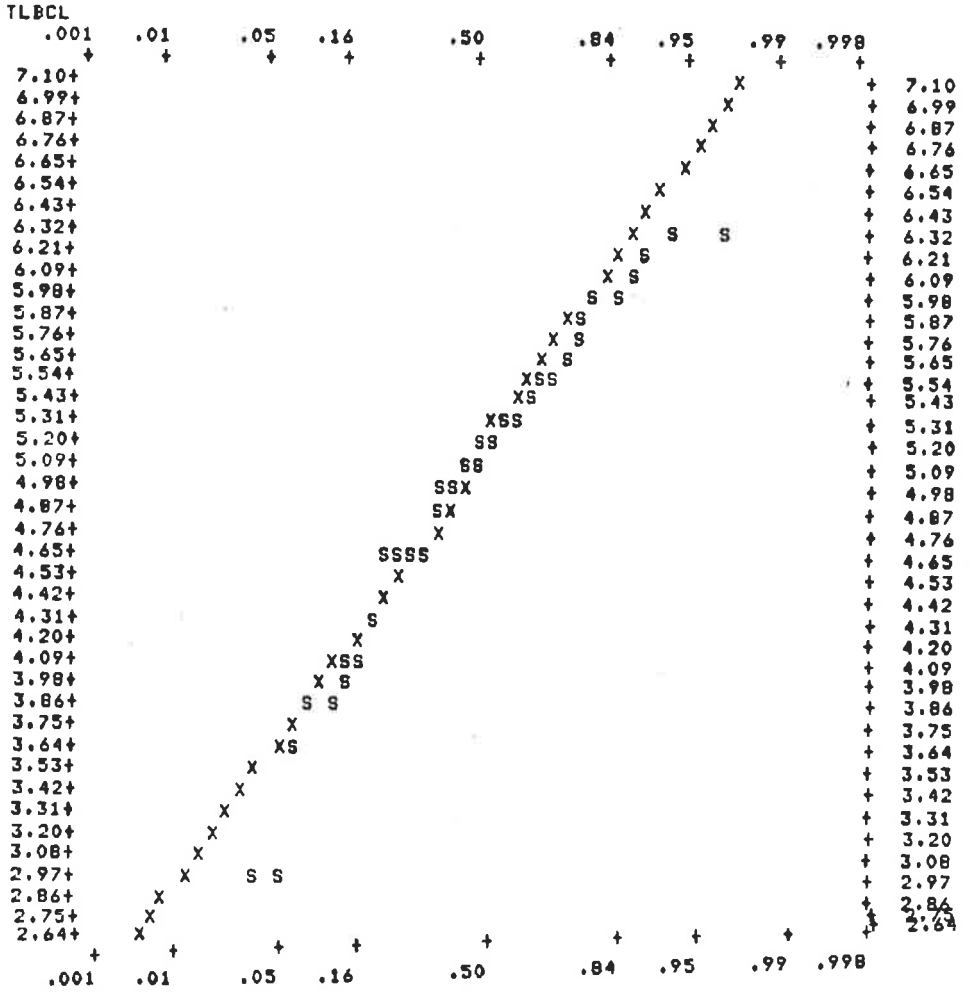
Structural analyses for the Tarella Silt

HISTO STATISTICAL ANALYSIS FOR F21

TLBCL

HISTOGRAM

OBSV FREQ	RELA FREQ	CUML FREQ	UPPER CELL LIMIT	
1	0.023	0.023	0.2936E+01	+******
2	0.045	0.068	0.3233E+01	+**********
0	0.000	0.068	0.3531E+01	+
1	0.023	0.091	0.3828E+01	+******
3	0.068	0.159	0.4125E+01	+**********
3	0.068	0.227	0.4422E+01	+**********
4	0.091	0.318	0.4719E+01	+**********
5	0.114	0.432	0.5016E+01	+**********
8	0.182	0.614	0.5314E+01	+**********
6	0.136	0.750	0.5611E+01	+**********
3	0.068	0.818	0.5908E+01	+**********
4	0.091	0.909	0.6205E+01	+**********
3	0.068	0.977	0.6502E+01	+**********
0	0.000	0.977	0.6800E+01	+
1	0.023	1.000	INF	+******
44				0 5 10 15 20



Log probability and Histogram of transformed spacing data for open extension joints.

HISTO STATISTICAL ANALYSIS FOR F21

TLBCL

(2

HISTOGRAM

OBSV FREQ	RELA FREQ	CUML FREQ	UPPER CELL LIMIT	0
10	0.227	0.227	0.9360E+02	+************************
11	0.250	0.477	0.1732E+03	+**************************
10	0.227	0.705	0.2528E+03	+************************
5	0.114	0.818	0.3324E+03	+************
3	0.068	0.886	0.4120E+03	+*******
1	0.023	0.909	0.4916E+03	+**
1	0.023	0.932	0.5712E+03	+**
2	0.045	0.977	0.6508E+03	+*****
0	0.000	0.977	0.7304E+03	+
0	0.000	0.977	0.8100E+03	+
0	0.000	0.977	0.8896E+03	+
0	0.000	0.977	0.9692E+03	+
0	0.000	0.977	0.1049E+04	+
0	0.000	0.977	0.1128E+04	+
1	0.023	1.000	INF	+**
-----				+ + + + + + + + + +
44				0 10 20 30 40

HISTO STATISTICAL ANALYSIS FOR F21

SUMMARY STATISTICS FOR UNTRANSFORMED DATA

MEAN	=	0.22495454E+03
VARIANCE	=	0.45246836E+05
STD.DEV.	=	0.21271304E+03
SKEWNESS	=	0.25440242E+01
KURTOSIS	=	0.11617458E+02

FIVE NUMBER SUMMARY

MEDIAN	=	0.1765E+03
25 PERCENT HINGE	=	0.1070E+03
75 PERCENT HINGE	=	0.2780E+03
LOW EXTREME VALUE	=	0.1400E+02
HIGH EXTREME VALUE	=	0.1208E+04

ROBUST ESTIMATORS

BIWEIGHT	=	0.1715E+03
TRIMEAN	=	0.1845E+03
MAD	=	0.8650E+02
HSPREAD	=	0.1710E+03

SUMMARY STATISTICS FOR TRANSFORMED DATA

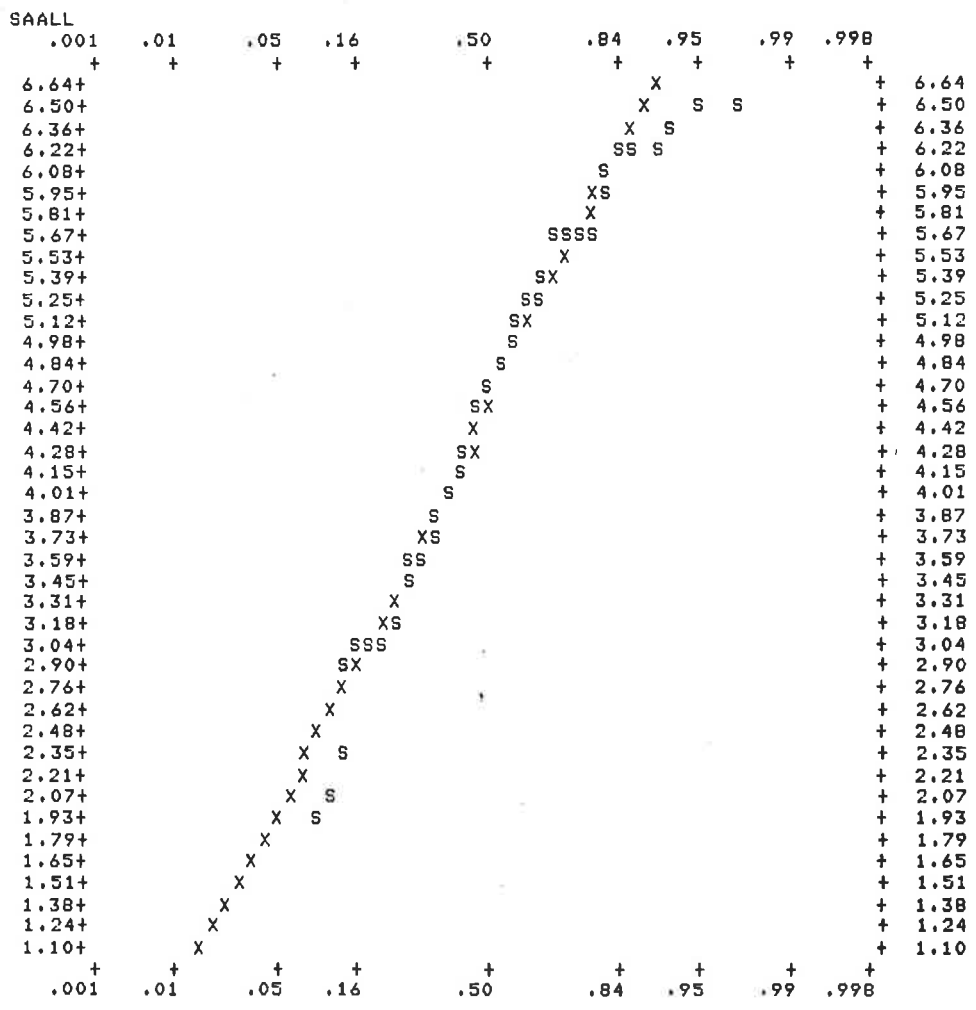
MEAN	=	0.50380650E+01	
VARIANCE	=	0.88318413E+00	
STD.DEV.	=	0.93977875E+00	
SKEWNESS	=	-0.49711621E+00	
KURTOSIS	=	0.32668967E+01	
MAX VALUE	=	0.70967212E+01	0.12079998E+04
MIN VALUE	=	0.26390574E+01	0.14000001E+02
ALFA	=	0.00000000E+00	
SICHEL-T	=	0.23875275E+03	
16TH PER	=	0.60236961E+02	
50TH PER	=	0.15417140E+03	
84TH PER	=	0.39458862E+03	

Histogram and statistical summary for spacing of open extension joints.

HISTOGRAM

OBSV FREQ	RELA FREQ	CUML FREQ	UPPER CELL LIMIT	0
4	0.078	0.078	0.1468E+01	+******************
0	0.000	0.078	0.1837E+01	+
2	0.039	0.118	0.2207E+01	+********
1	0.020	0.137	0.2576E+01	+*****
1	0.020	0.157	0.2945E+01	+*****
5	0.098	0.255	0.3315E+01	+**********************
4	0.078	0.333	0.3684E+01	+******************
3	0.059	0.392	0.4053E+01	+**************
3	0.059	0.451	0.4423E+01	+**************
6	0.118	0.569	0.4792E+01	+**************************
4	0.078	0.647	0.5161E+01	+******************
4	0.078	0.725	0.5531E+01	+******************
5	0.098	0.824	0.5900E+01	+**********************
2	0.039	0.863	0.6269E+01	+********
7	0.137	1.000	INF	+******************************
51				+ + + + + + + + + + + 0 5 10 15 20

HISTO STATISTICAL ANALYSIS FOR ALLSA PAGE : 4



Log probability and Histogram of transformed spacing data for sand infilled joints.

HISTOGRAM

OBSV FREQ	RELA FREQ	CUML FREQ	UPPER CELL LIMIT	0
19	0.373	0.373	0.5373E+02	+**********+
8	0.157	0.529	0.1045E+03	+**********
5	0.098	0.627	0.1552E+03	+**********
1	0.020	0.647	0.2059E+03	+**
4	0.078	0.725	0.2567E+03	+********
1	0.020	0.745	0.3074E+03	+**
4	0.078	0.824	0.3581E+03	+********
1	0.020	0.843	0.4089E+03	+**
0	0.000	0.843	0.4596E+03	+
1	0.020	0.863	0.5103E+03	+**
1	0.020	0.882	0.5611E+03	+**
3	0.059	0.941	0.6118E+03	+*******
0	0.000	0.941	0.6625E+03	+
0	0.000	0.941	0.7133E+03	+
3	0.059	1.000	INF	+*******
51				0 10 20 30 40 50

SUMMARY STATISTICS FOR UNTRANSFORMED DATA

MEAN	=	0.19129411E+03
VARIANCE	=	0.47245734E+05
STD.DEV.	=	0.21736084E+03
SKEWNESS	=	0.12910855E+01
KURTOSIS	=	0.35261827E+01

FIVE NUMBER SUMMARY

MEDIAN	=	0.1020E+03
25 PERCENT HINGE	=	0.3500E+02
75 PERCENT HINGE	=	0.3200E+03
LOW EXTREME VALUE	=	0.3000E+01
HIGH EXTREME VALUE	=	0.7640E+03

ROBUST ESTIMATORS

BIWEIGHT	=	0.1503E+03
TRIMEAN	=	0.1398E+03
MAD	=	0.1273E+03
HSPREAD	=	0.2850E+03

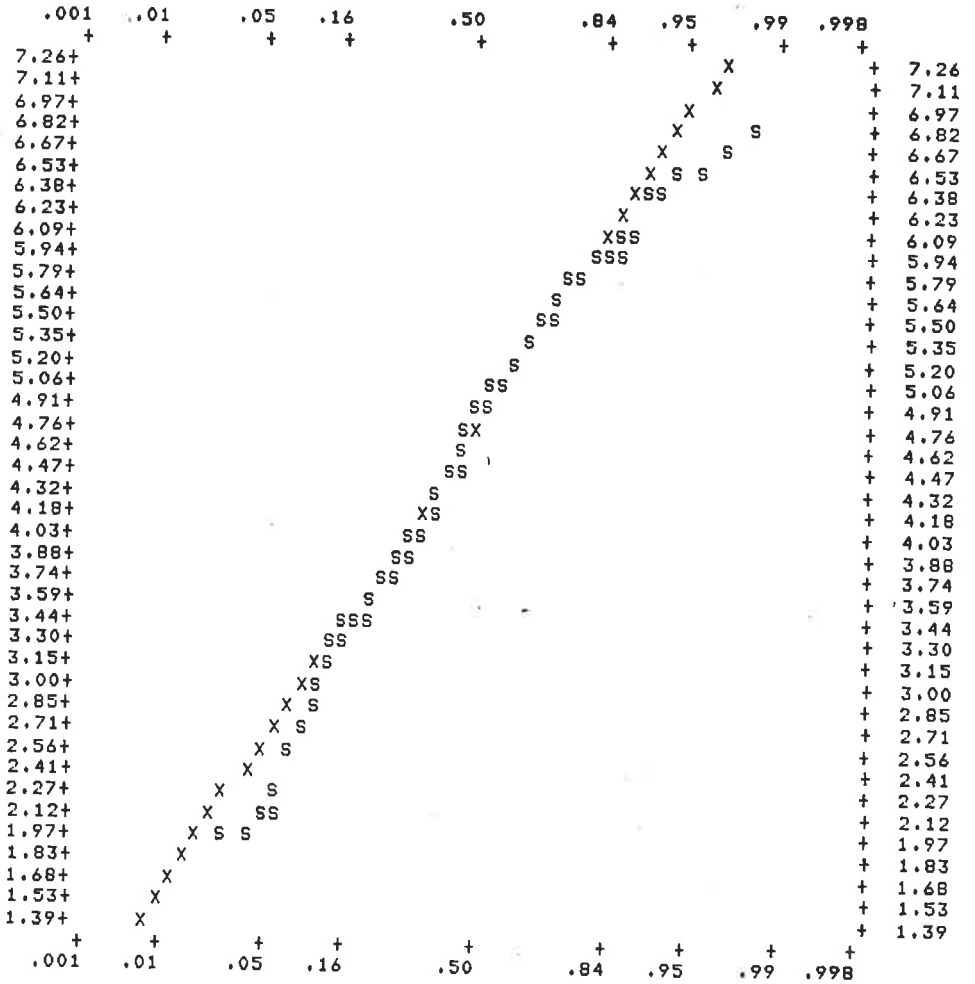
SUMMARY STATISTICS FOR TRANSFORMED DATA

MEAN	=	0.43926249E+01	
VARIANCE	=	0.24562883E+01	
STD.DEV.	=	0.15672550E+01	
SKEWNESS	=	-0.54021710E+00	
KURTOSIS	=	0.24993751E+01	
MAX VALUE	=	0.66385679E+01	0.76400012E+03
MIN VALUE	=	0.10986123E+01	0.30000000E+01
ALFA	=	0.00000000E+00	
SICHEL-T	=	0.26864438E+03	
16TH PER	=	0.16867182E+02	
50TH PER	=	0.80852364E+02	
84TH PER	=	0.38756357E+03	

Histogram and statistical summary for spacing of sand infilled joints.

HISTOGRAM

OBSV FREQ	RELA FREQ	CUML FREQ	UPPER CELL LIMIT	0
2	0.022	0.022	0.1778E+01	+**********
2	0.022	0.045	0.2169E+01	+**********
3	0.034	0.079	0.2561E+01	+***************
3	0.034	0.112	0.2953E+01	+***************
5	0.056	0.169	0.3344E+01	+************************
6	0.067	0.236	0.3736E+01	+*****************************
9	0.101	0.337	0.4127E+01	+**
8	0.090	0.427	0.4519E+01	+*************************************
10	0.112	0.539	0.4910E+01	+**
10	0.112	0.652	0.5302E+01	+**
10	0.112	0.764	0.5694E+01	+**
11	0.124	0.888	0.6085E+01	+***
5	0.056	0.944	0.6477E+01	+************************
4	0.045	0.989	0.6868E+01	+*******************
1	0.011	1.000	INF	+*****
89				0 2 5 7 10 12



Log probability and Histogram of transformed spacing

HISTOGRAM

OBSV FREQ	RELA FREQ	CUML FREQ	UPPER CELL LIMIT	
40	0.449	0.449	0.9853E+02	0 +**********
18	0.202	0.652	0.1931E+03	+**********
10	0.112	0.764	0.2876E+03	+*******
7	0.079	0.843	0.3821E+03	+****
4	0.045	0.888	0.4767E+03	+**
2	0.022	0.910	0.5712E+03	+*
3	0.034	0.944	0.6657E+03	+**
1	0.011	0.955	0.7603E+03	+*
1	0.011	0.966	0.8548E+03	+*
2	0.022	0.989	0.9493E+03	+*
0	0.000	0.989	0.1044E+04	+
0	0.000	0.989	0.1138E+04	+
0	0.000	0.989	0.1233E+04	+
0	0.000	0.989	0.1327E+04	+
1	0.011	1.000	INF	+*
89				+ + + + + + + + + + +
				0 20 40 60 80 100

HISTO STATISTICAL ANALYSIS FOR TLPYL

SUMMARY STATISTICS FOR UNTRANSFORMED DATA

MEAN	=	0.20298877E+03
VARIANCE	=	0.58959828E+05
STD.DEV.	=	0.24281645E+03
SKEWNESS	=	0.23445780E+01
KURTOSIS	=	0.99294729E+01

FIVE NUMBER SUMMARY

MEDIAN	=	0.1140E+03
25 PERCENT HINGE	=	0.4400E+02
75 PERCENT HINGE	=	0.2610E+03
LOW EXTREME VALUE	=	0.4000E+01
HIGH EXTREME VALUE	=	0.1422E+04

ROBUST ESTIMATORS

BIWEIGHT	=	0.1356E+03
TRIMEAN	=	0.1333E+03
MAD	=	0.9860E+02
HSPREAD	=	0.2170E+03

SUMMARY STATISTICS FOR TRANSFORMED DATA

MEAN	=	0.46241288E+01	
VARIANCE	=	0.17112687E+01	
STD.DEV.	=	0.13081547E+01	
SKEWNESS	=	-0.40491268E+00	
KURTOSIS	=	0.26625760E+01	
MAX VALUE	=	0.72598195E+01	0.14219999E+04
MIN VALUE	=	0.13862944E+01	0.40000000E+01
ALFA	=	0.00000000E+00	
SICHEL-T	=	0.23789359E+03	
16TH PER	=	0.27549221E+02	
50TH PER	=	0.10191395E+03	
84TH PER	=	0.37701440E+03	

Histogram and statistical summary for spacing of Pyrite infilled extenson joints.

APPENDIX 6.

Borehole Location Plan

235000

240000

245000

6255000

6250000

6245000

6240000

METRES

1000 500 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000