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# BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

## RECORD

Record 1981/22

Central Eromanga Basin  
seismic survey, Queensland, 1980:

Operational Report

by

K. Wake-Dyster and J. Pinchin

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## ABSTRACT

The Bureau of Mineral Resources conducted a seismic survey in the Central Eromanga Basin in Queensland from July to November 1980. This survey was part of a new multidisciplinary study to investigate the structure, stratigraphy, geological and tectonic evolution, and petroleum potential of the area.

The survey obtained 478 km of 6-fold CDP seismic reflection data, mostly along four long east-west traverses crossing sparsely investigated sedimentary basins between exploration wells. The basins crossed included the Warrabin Trough, Cooper Basin, and Eromanga Basin west of the Canaway Fault. Gravity observations were made at  $\frac{1}{2}$  km intervals along the seismic traverses.

The seismic data quality was fair to good, and will enable a detailed stratigraphic interpretation of the Cretaceous to Permian sedimentary rocks. Reflections from below the Permian were obtained in some areas, and are particularly good where the Permian coal measures are absent.

This report presents operational information on the survey and reduced scale copies of the seismic sections. Full scale copies may be obtained from the Copy Service, Government Printer (Production), G.P.O. Box 84, Canberra 2600. Interpretation of the data will be published at a later date.



## INTRODUCTION

The Bureau of Mineral Resources, Geology and Geophysics (BMR) conducted a seismic survey of the Eromanga, Cooper, and underlying pre-Permian Basins west of the Canaway Fault in Queensland from July to November 1980.

The seismic survey was part of the regional multi-disciplinary geoscientific research project on the "Central Eromanga Basin" (Harrison and others, 1980), the geology of which is discussed in detail by Senior & others (1978). The project aims are to gain knowledge of the structure, stratigraphy and lithology of the Eromanga and underlying sedimentary basins in order to study the geology and tectonic evolution of the area, and to generally provide basic information to assist in the exploration of the area for petroleum.

The objectives of the 1980 BMR seismic survey (Pinchin, 1980) were to use multiple-coverage CDP seismic techniques to provide high quality seismic sections along long traverses across the main structural elements in the area, to provide a suitable basis for a regional interpretation of the area, and for correlation between existing exploration wells.

Six seismic traverses totalling 478 km of mainly 6-fold CDP reflection coverage were recorded. These included Traverses 1, 3, 4, 5, 6, and 8 (Figure 1). Traverse 7 and the western half of Traverse 6 of the original proposal (Pinchin, 1980) were omitted from the survey owing to lack of sufficient survey time. Traverse 2 was omitted in an early stage of planning. Gravity measurements were made along Traverses 1, 3, 6 and 8. In addition gravity readings were also measured along a company seismic traverse extending to the east of Traverse 3. A detailed deep crustal refraction survey was also made along Traverse 1 with wide angle reflection recordings made from the largest blasts (Moss, 1980).

This report presents details of operations and

includes reduced scale copies of the processed seismic sections (Plates 1 to 5). Operational statistics, spread and recording parameters, and personnel and equipment are included in Appendices 1, 2 and 3.

Note: Copies of the sections at a scale of 10 cm/s are available from the Copy Service, Government Printer (Production), GPO Box 84, Canberra (Attention Mrs Misins).

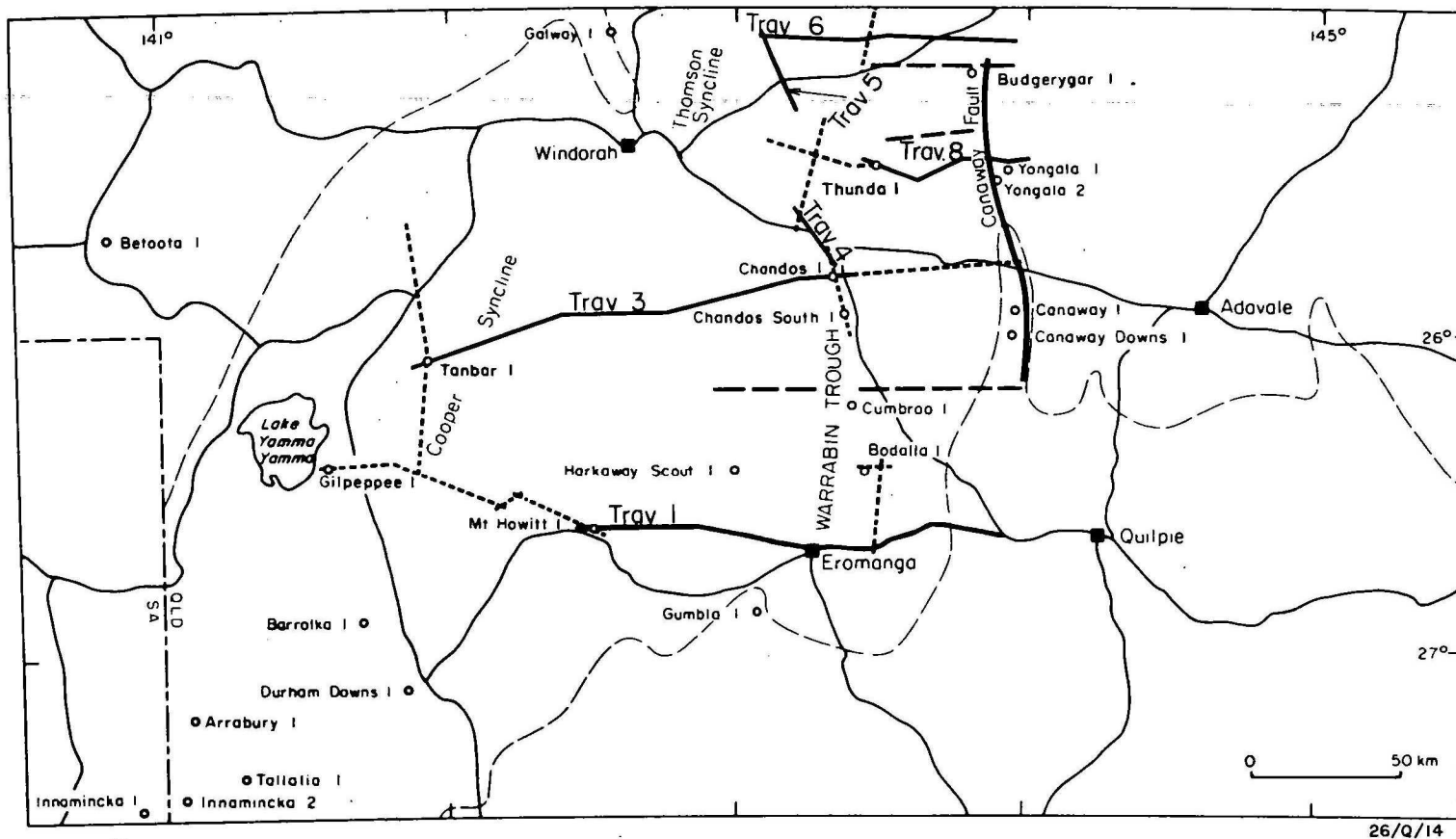
### FIELD OPERATIONS

The survey area lies in western Queensland, between Quilpie and Windorah, covering the 1:250 000 map sheets of EROMANGA, WINDORAH and part of CANTERBURY and BARROLKA. The main road between Quilpie and Windorah is sealed bitumen; other access roads are reasonably good gravel roads or tracks.

Operations began on Traverse 1 which had ease of access and close proximity to Quilpie, the party's supply centre. Traverses 3, 4, 8, 6 and 5 were then recorded in that order (Figure 1). Adverse weather conditions were not a great problem except for a few days' loss of production particularly towards the end of the survey due to wind noise on the recording spread. Also towards the end of the survey, temperatures of 45°C and over caused extreme discomfort to the field crews.

A bulldozer was under contract for the entire survey for clearing heavy vegetation and construction of creek crossings where necessary. Owing to the rough nature of the western end of Traverse 3 across the channels of Coopers Creek, even after being bulldozed, a grader was hired to improve the condition of the remaining traverses to make them suitable for vehicles. The grader was used in conjunction with the bulldozer on the eastern half of Traverse 3, traverses 4, 8 and the eastern half of Traverse 6.

Surveying of the traverses was done by the Brisbane



Trav 1  
 Record 1981/22

1980 BMR seismic reflection traverse  
 Existing good quality seismic lines  
 Petroleum exploration drilling

— — — — — Seismic lines reprocessed by BMR  
 — — — — — Approximate limit of Permian

Fig. 1: BMR seismic reflection traverses, 1980

Branch of the Australian Survey Office. Ties were made to existing exploration wells and bench marks in the area. The surveyors provided Australian Map Grid (AMG) co-ordinates for traverse bends and endpoints, elevations referenced to Australian Height Datum (AHD), and latitudes and longitudes for all shotpoints.

Four shot-hole drilling rigs were used throughout the survey. One of these rigs was used during July and August to drill shot-holes for the refraction seismic survey, and for the heat-flow holes, all sited along Traverse 1 (Moss, 1980). Drilling conditions were reasonably good with mud pits being used only on Traverse 6 in the vicinity of the Barcoo River. Rock bits and a percussion hammer were used to drill through hard layers of silcrete found on parts of Traverses 1 and 3. Holes were generally drilled to 40 m depth, which in most cases was below the base of the weathered layer.

Seismic reflection recording progressed very well for most of the survey, with only minor recording delays. These included four days owing to faults with the DFS IV seismic recording system, and cable problems caused by vermin damaging spread cables and geophone strings in the area of the 'Channel Country' on the western end of Traverse 3. The spread and recording parameters are listed in Appendix 2, and the recording equipment in Appendix 3. Charge sizes for the survey ranged between 7 kg and 15 kg and averaged approximately 8 kg. All reflection shots were recorded to 20 s record length in order to record deep crustal reflections.

For the deep crustal refraction and wide angle reflection recordings along Traverse 1, 20 shots were fired, with charges of 200 kg for refraction offsets up to  $37\frac{1}{2}$  km, increasing to 2500 kg for offset distances up to 3000 km.

These refraction shots were recorded by an array of 20 remote automatic seismometers looked after by members of the Regional Geophysics Group of the BMR. The smaller refraction shots were recorded at a distance of  $37\frac{1}{2}$  km by a

wide -angle reflection spread of 48 geophone stations over a distance of 8 km. The refraction operations are not covered by this report.

Gravity measurements were read at 500 m intervals along the traverses using the Worden gravity meter and making loop closures after every ten stations. These readings were tied into the BMR network of gravity base stations using the La Coste meter.

### SEISMIC DATA PROCESSING

Processing of the seismic data was done under contract by Geophysical Service International (GSI) in Sydney.

Static corrections, including elevation and weathering corrections, were calculated in the field using the uphole method. An elevation datum of 183 m above mean sea level was used for all traverses, with a replacement velocity of  $2000 \text{ ms}^{-1}$ .

Initial stacking velocity functions to correct for move-out were calculated from the field records using the  $T^2 - X^2$  method. The processing sequence applied is shown in Table 1; further processes such as migration are being applied to some sections. All lines have been processed to 4 seconds, and most will later be processed to 16 seconds to display the deep crustal reflections.

### PRELIMINARY RESULTS

Data quality is fair to good (Plates 1 to 5); in some areas where a hole could not be drilled and the CDP coverage fell below 6-fold, the reflection quality deteriorates. Only in a few isolated areas was the weathered layer deeper than the shot depth of 40 m, resulting in poorer reflection quality. On Traverse 1, in the places where the weathering depth increased beyond 40 m, high velocity silcrete "stringers" within the weathered layer and above the explosive charges directed the energy downwards (Plate 5). Results from the

experimental wide angle reflection recordings on Traverse 1 were generally poor, possibly because the offset distance was beyond the critical angle for these reflections.

The seismic sections (Plates 1 to 5) will assist in enabling a regional interpretation of both structure and stratigraphy in this area to be undertaken. The quality of the reflections is sufficient to show details of the stratigraphy such as coal seams within the Winton Formation, shoaling and channeling within the Toolebuc Formation and Coreena Member of the Wallumbilla Formation, and sedimentary onlaps within the Permian and Triassic units of the Cooper Basin. These features will be discussed in later publications on the interpretation.

To aid interpretation, synthetic seisograms were made from sonic logs of the exploration wells to which the seismic traverses tied (Plate 7); enabling precise identification of the reflection horizons to be made. In addition, the character of the sonic logs (in a filtered form) has proved useful in correlating stratigraphic units between wells. The sections from this survey will be interpreted together with the results from previous seismic surveys, and with recently re-processed seismic sections to provide a new assessment of the stratigraphic and tectonic development, and of the area's petroleum potential.

#### REFERENCES

- HARRISON, P.L., MATHUR, S.P., MOSS, F.J., PINCHIN, J., & SENIOR, B.R., 1980 - Central Eromanga Basin Project, Program proposals, 1980-1982. Bureau of Mineral Resources, Australia, Record 1980/32 (unpublished).
- MOSS, F.J., (Coordinator), 1980 - Central Eromanga Basin Project, Progress Report, January-June 1980. Bureau of Mineral Resources, Australia, Record 1980/60 (unpublished)

PINCHIN, J., 1980 - Central Eromanga Basin Seismic Survey,  
Qld., 1980 - Preview report. Bureau of Mineral Resources,  
Australia, Record 1980/77 (unpublished).

SENIOR, B.R., MOND, A., & HARRISON, P.L., 1978 - Geology of  
the Eromanga Basin. Bureau of Mineral Resources,  
Australia, Bulletin, 167.

APPENDIX 1Operational statistics

Shot-hole drilling commenced	18. 7.80
Recording commenced	28. 7.80
Shot-hole drilling completed	21.11.80
Recording completed	26.11.80
Total length of traverses	478 km
Number of recordings days worked	70
Recording days lost:	14
Due to campshifts           -       5	
"   "   adverse weather       -       4	
"   "   equipment breakdowns -       4	
"   "   no recording line       -       1	
Multiplicity production shots	6-fold
Total number of shots	1520
Average number production shots/recording day	21.7
Average surface coverage/recording day	6.8 km
Maximum number production shots/recording day	48
Explosives used	11 900 kg Anzite Blue
Detonators used	1540
Average charge/shot	7.8 kg
Total number of rig days worked	238
Rig days lost:	55
Due to campshifts (8 days) 32 rig-days	
"   "   adverse weather           nil	
"   "   equipment breakdowns 11 rig-days	
"   "   no bulldozed line (3 days)       12 rig-days	



APPENDIX 2Spread and recording parametersProduction shooting spread

Spread length and type	2000-0-1916
Number of channels	48
Geophone station interval	83 1/3 m
Multiplicity	6-fold CDP
Number of geophones/trace	16
Geophone pattern	in-line
Geophone spacing in line	5 1/2 m

DFS IV instrument settings

Recording mode	Digital
Format	Seg-B
Number of input channels	48 data, 4 auxiliary
Tape	9 track, 1600 bpi PE, 1/2 in
Record length	20 s
Sample rate	2 ms
Gain constant	42 dB
Input filters, production	lo cut : 12 Hz, 36 dB/oct; hi cut : 124 Hz, 72 dB/oct
Notch filter	out
Reproduce nodule settings, production	
Defloat mode : galvo level	15
high-cut	90 Hz
lo-cut	12 Hz
AGC mode : galvo level	15
hi-cut	90 Hz
lo-cut	12 Hz
Trip sensitivity	36 dB
Trip delay	1.0 s

APPENDIX 3Personnel and equipment, 1980 surveyPersonnelGeophysical Branch

Party Leader	J. Pinchin (26/7 - 13/9)
	J.A. Bauer (6/9 - 18/10)
	F.J. Taylor (11/10 - 28/11)
Party Manager	J.A. Somerville
Geophysicists	K.D. Wake-Dyster (2/8 - 26/10)
	M.J. Sexton (26/7 - 28/11)
	F.M. Brassil (8/11 - 28/11)
	W. Anfiloff (gravity, 1/9 - 3/10)
	O. Dixon (GSQ)
Technical Officers (Engineering)	J.K.C. Grace (26/7 - 9/8)
	D. Gardner (2/8 - 28/11)
Technical Officers (Science)	D. Pfister (26/7 - 7/9)
	G. Price (2/8 - 18/10)
Field Assistants	R.D.E. Cherry
	L.O. Rickardsson
	A.C. Takken
Mechanic	D.K. McIntyre
Wages hands	13

Petroleum Exploration Branch

Toolpusher	E.H. Cherry
Drillers	T. Shanahan
	J. Henry
	K. Huth
	L. Keast
Assistant Drillers	R. Clark
	D. Eaton
Wages mechanics	T. Johnston (18/7 - 6/10)
	A. Crawford (5/11 - 28/11)

Australian Survey Office, Brisbane

1 Surveyor, 2 Technical Officers and 4 Chainmen.

Equipment

Recording system	TI DFS IV	
Camera	SIE ERC-10C; SIE TRO-6	
Switch gear	I/O Rota-long	
Radio firing unit	I/O RFV	
Cables	539 m, 48 ch.	- 18
Geophones	GSC 20D, 8 Hz	- 1280
Transceivers	Codan 6924	- 6
	Phillips FM 828	- 8
Gravity meter	Worden W169	
	La Coste C101	

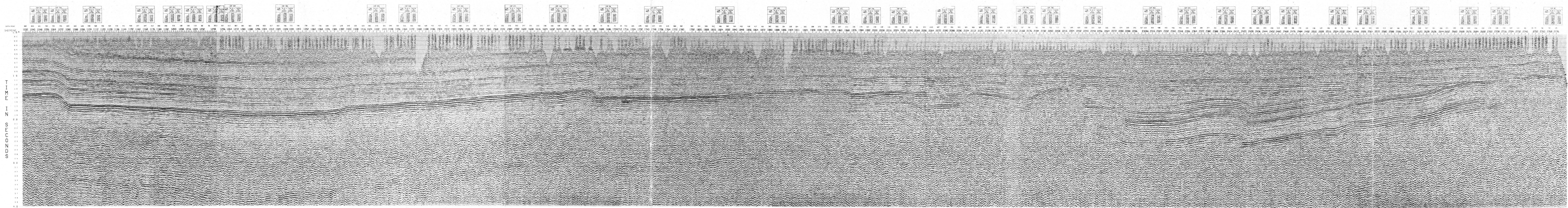
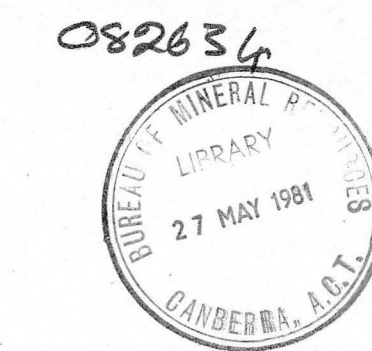
Vehicles

Recording truck	1 x International D1610 3 ton 4 x 4
Workshop truck	1 x " " " "
Flat-top trucks	2 x " " " "
Water tankers	2 x " " " "
Drilling rigs	4 x Mayhew 1000/Mack 6 x 8 trucks
Drill water tankers	4 x Mack R875, 6 x 6, 1900 gallon
Shooting truck	1 x Landrover LWB, 4 x 4, Tray-top
Personnel carriers	3 x Landrover LWB, 4 x 4, S/W
Geophone carriers	3 x International D1310, 30 cwt, 4 x 4
Stores truck	1 x " " " "
Pre-loading truck	1 x Landrover LWB, 4 x 4, Tray-top
Office caravan	1 x 4 wheel
Kitchen van	2 x 4 wheel
Ablutions van	2 x 4 wheel
Stores trailers	3 x 4 wheel
Generator trailer	1 x 4 wheel
Drill trailer	1 x 4 wheel, 6 tonne
Drill mechanics trailer	1 x 4 wheel

TABLE 1. PROCESSING SEQUENCE FOR THE SEISMIC SECTIONS

1. Line file map computation
2. Crooked line file production
3. 6 fold CDP gather
4. True Amplitude Recovery
5. Time variant scaling
6. Brute stack with field statics and field NMO
7. Velscans - pass 1
8. Residual static computations
9. Velscans - pass 2
10. NMO and static corrections
11. 6 fold CDP stack
12. Time variant deconvolution
13. Time variant filter
14. Time variant scaling
15. Display





GEOPHYSICAL SERVICE INTERNATIONAL

DIGITAL PROCESSING CENTRE  
SYDNEY, N.S.W., AUSTRALIA  
FOR

**BUREAU OF MINERAL RESOURCES**  
SURVEY: EROMANGA, QLD.

TRAVERSE 1  
SHOTPOINTS: 2776-1028

FIELD RECORDING DATA:

RECORDING DATE: JULY/AUGUST 1980  
FORM: 1000  
RECORDS: 8  
FILM: 1000  
FILM FILTER: 12-20KHZ  
SUBJECT: 1000  
LOCATION: 1000  
NO. OF GROUPS: 1000

PROCESSING SEQUENCE:

1. PROCESSOR AT GROUND LINE  
2. LINE EDIT AND CORRECTION  
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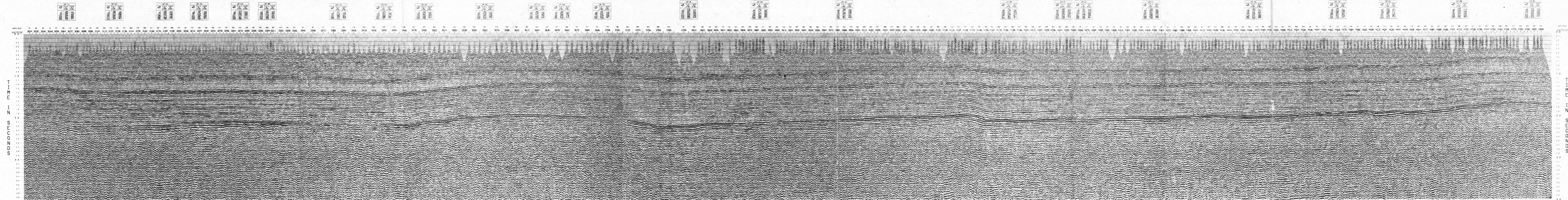
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Record 1981/22

GEOPHYSICAL SERVICE INTERNATIONAL

DIGITAL PROCESSING CENTRE  
SYDNEY, N.S.W., AUSTRALIA  
FOR

**BUREAU OF MINERAL RESOURCES**  
SURVEY: EROMANGA, QLD.

TRAVERSE 3  
SHOTPOINTS : 3024-4808

FIELD RECORDING DATA

RECORDING DATE	28 FEB 1980	SHOT LOCATION	TRAPVILLE
SHOT LENGTH	1024-3840	SHOT INTERVAL	3600 FT
DATE	28 FEB 1980	SHOT DEPTH	100 FT
DATE	28 FEB 1980	FIELD FILTER	16 CHANNELS

PROCESSING SEQUENCE

1. DATA INPUT
2. PROCESS AS CROOKED LINE
3. HORIZONTAL CORRECTION
4. TIME CORRECTION
5. FREQUENCY CORRECTION
6. GROUND ROLL REMOVAL
7. GROUND ROLL REMOVAL
8. GROUND ROLL REMOVAL
9. GROUND ROLL REMOVAL
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13. GROUND ROLL REMOVAL
14. GROUND ROLL REMOVAL
15. FILM DISPLAY

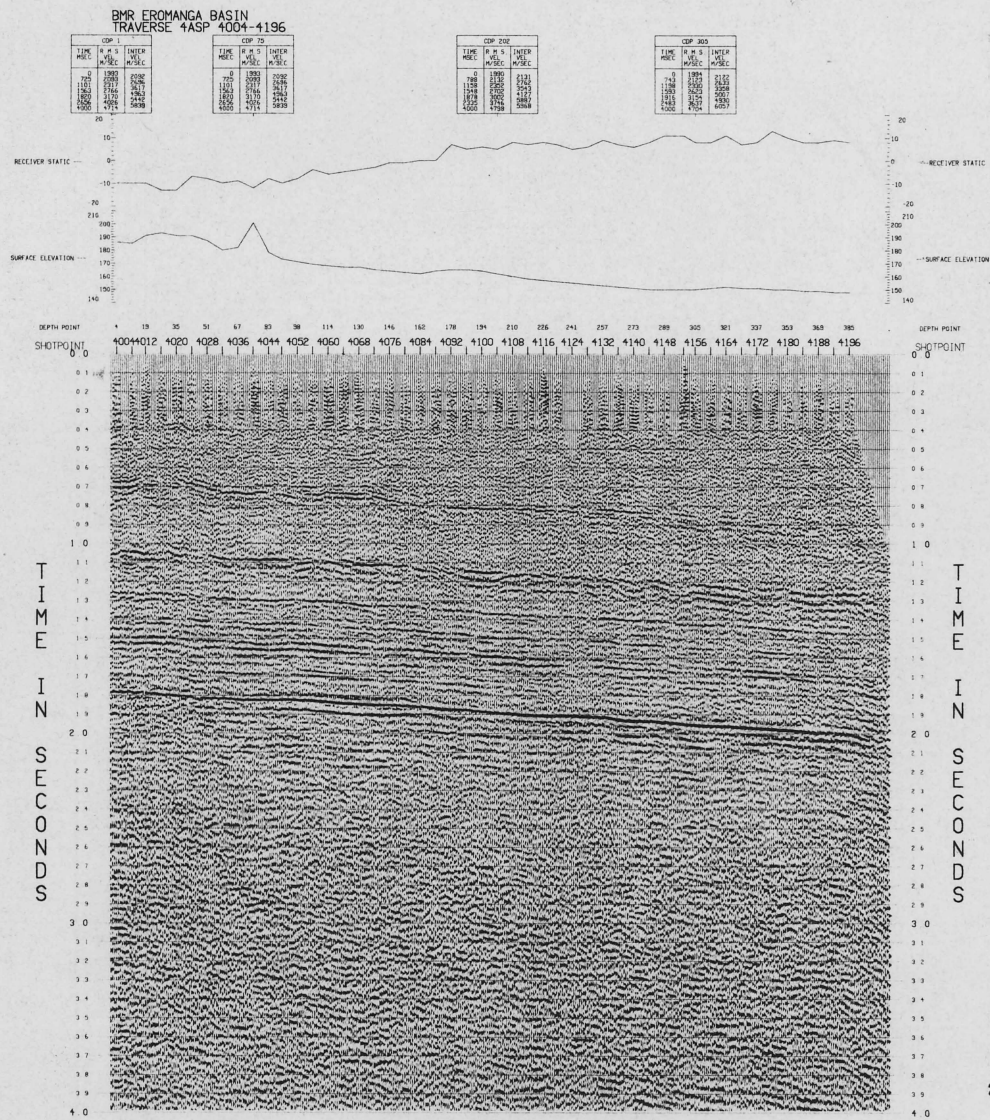
DISPLAY

HORIZONTAL : 100 FT  
VERTICAL : 100 FT

DATE : 28 FEB 1980

BY : G.C. BY





Record 1981/22

GEOPHYSICAL SERVICE INTERNATIONAL



DIGITAL PROCESSING CENTRE  
SYDNEY, N.S.W., AUSTRALIA  
FOR

BUREAU OF  
MINERAL RESOURCES  
SURVEY: EROMANGA, QLD.

TRAVERSE 4  
SHOTPOINTS 4004-4196

FIELD RECORDING DATA :

RECORDING DATE : NOV 1980 SOURCE : DYNAMITE  
INSTRUMENTS : DES IV SHOT LOCATION : VANCE 25  
RECORD LENGTH : 20 SEC (NO CENTRE GAP)  
COVER : 5000 SHOT INTERVAL : 300 M  
SAMPLE RATE : 5000 GROUP INTERVAL : 80 M  
FORMAT : 5 TRACK SEG B NO. OF CHANLS : 48  
48 CHANNELS FIELD FILTER : 12-124HZ

PROCESSING SEQUENCE :

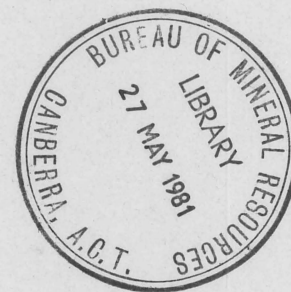
DATUM : 1834 MSL  
VE : 2000M/SEC  
1. LINE FILE MAP COMPUTATION  
2. CHECKED THE FILE PRODUCTION  
3. 5.0 M/SEC GATES  
4. AS (ALPHA) 4.000 SEC 12.0 SEC 3  
5. 5.0 M/SEC GATE REGULAR SCALERS  
6. BRITISH ROCK  
7. BRITISH ROCK  
8. RESIDUAL STATIC CORRECTION  
9. RESIDUAL STATIC CORRECTION  
10. 5.0 M/SEC GATES  
11. 5.0 M/SEC GATES  
12. 5.0 M/SEC GATES  
13. 5.0 M/SEC GATES  
14. TVS 2X1000MS 1X400MS 1X600MS 2X1000MS GATES  
15. FILM DISPLAY

DISPLAY :

HORIZONTAL : 55 IP1  
VERTICAL : 20 X 5

G.S.I.  
PARTY 1850  
MARCH 1981

Q.C. BY 42



082634

Plate 3

26/Q/17



A circular library stamp from the Bureau of Mineral Resources, Canberra, A.C.T. The text "BUREAU OF MINERAL RESOURCES" is curved along the top inner edge, and "CANBERRA, A.C.T." is curved along the bottom inner edge. In the center, the word "LIBRARY" is printed horizontally, and the date "27 MAY 1981" is printed diagonally below it.

CDP 1503		
TIME MSEC	R M S VEL M/SEC	INTER VEL M/SEC
0	2000	2111
710	2115	2111
1340	2450	3600
1580	2680	4200
2280	3200	2500
2540	3580	3400
4000	4375	

CSP 1375		
TIME MSEC	R M S VEL M/SEC	INT VEL M/SEC
0	2092	211
915	2185	211
1360	2460	272
1950	2785	305
2180	3102	439
2480	3547	598
4000	4475	598

CSP 1087			
TIME MSEC	R M S VEL M/SEC	INTE VEL M/SEC	
0	2090		
830	2210	211	
1280	2425	295	
1720	2690	330	
2050	3095	464	
2440	3475	471	

COP 898			
TIME MSEC	R M S VEL M/SEC	INT VEL M/S	
0	1800	20	
700	2025	27	
1270	2370	33	
1570	2590	43	
1780	2850	53	

CDP 748		
TIME MSEC	R M S VEL M/SEC	INT VEL M/SEC
0	2080	216
800	2170	288
1200	2400	348
1300	2680	408

CDP 442		
TIME MSEC	R M S VEL M/SEC	INT VE M/SEC
0	2000	21
500	2115	34
1000	2290	

CDP 263		
TIME MSEC	RMS V/L M/SEC	IN V M
0	2015	
510	7100	
200		

CDP 144		
TIME MSEC	RMS VEL M/SEC	INT VEL M/SEC
0	2015	211
600	2110	

CDP 535		
TIME MSEC	RMS VEL M/SEC	INT VE M/SEC
0	2040	

COP 393		
TIME MSEC	RMS VEL M/SEC	INT VE M/SEC
0	350.0	

CDP 762		
TIME MSEC	R M S. VEL M/SEC	D M

CONF 70		
TIME MSEC	RMS VEL M/SEC	INT VEL M/SEC

COP-1		
TIME MSEC	RMS VEL M/SEC	INT VEL M/SEC



DIGITAL PROCESSING CENTRE  
SYDNEY, N. S. W., AUSTRALIA  
FOR

BUREAU OF  
MINERAL RESOURCES

SURVEY: EROMANGA, QLD.

TRAVERSE 6  
SHOTPOINTS 7732-6648

FIELD RECORDING DATA :

RECORDING DATE	- NOV 1980	SOURCE	- DYNAMITE
INSTRUMENTS	- D'S IV	SHOT LOCATION	- TRACE 25
RECORD LENGTH	- 20 SEC		(NO CENTRE GAP)
COVERAGE	- 600'	SHOT INTERVAL	- 333.3 M.
SAMPLE RATE	- 2500 C	GROUP INTERVAL	- 83.3M
FORMAT	- 9 TRACK, SEG B	NO. OF GROUPS	- 48
	- 48 CHANNELS	FIELD FILTER	- 12-124HZ

PROCESSING SEQUENCE :

```

PROCESSING SEQUENCE :
  DATE= 2000M01
  V= 2000M01
  PROCESSED AS CROOKED LINE

1  LINE FILE MAP COMPUTATION
2  SPECTROGRAPHIC PRODUCTION
3  FOLD OF DATA
4  TAB (ALPHA=0.003 SEC TO 0.003 SEC)
5  16000MS CROOKED REGULAR SCALERS
6  PROFILE STACK
7  VERSIONS WITHOUT RESIDUAL STATICS
8  VERSIONS WITH RESIDUAL STATICS
9  VERSIONS WITH RESIDUAL STATICS
10  FOLD STACK DIRECTIONS
11  FOLD STACK
12  TO 12 POINTS FILTER (WHITENING)
13  TVS 16000MS 1600MS 1600MS 2X1600MS
14  TVS 2X1600MS 1600MS 1600MS 2X1600MS
15  FILM DIRECTIONAL SCALERS

```

DISPLAY :

HORIZONTAL - 25 TPI  
VERTICAL - 10 CPS  
BIAS - 20 X

G.S.I. PARTY 1855  
MARCH 1981

Plate 4



CDP 1		
TIME WSEC	R M S VEL M/SEC	INTER VEL M/SEC
0	1904	2182
724	2183	2309
1204	2498	4192
1511	2923	4545
1739	3184	5290
2266	3780	5622
4000	4669	

COP 157		
TIME MSEC	R M S VEL M/SEC	INTER VEL M/SEC
0	2003	2080
787	1581	2786
1213	2757	3573
394	2549	3573
1810	3009	4197
2308	3835	5937
4000	1725	5719

CDP 268		
TIME MSEC	R M S VEL M/SEC	INTER VEL M/SEC
0	2000	2170
748	2171	2592
1146	2326	4012
1670	2792	3444
1806	2980	2661
2451	3870	5812
4000	4718	

COP 485		
TIME MSEC	R M S VEL M/SEC	INTER VEL M/SEC
0	2503	2173
599	2174	2696
1110	2381	3424
1392	2624	4418
1571	2887	5017
2100	3736	5659
4000	1706	

COP 584		
TIME MSEC	R M S VEL M/SEC	INTER VEL M/SEC
0	1913	2104
773	2105	2928
1074	2385	4100
1203	2407	3686
1501	2354	3296
2005	3754	3255
4000	4699	

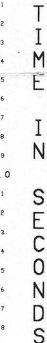
CDP 100		
TIME MSEC	R M S VEL. M/SEC	INTER VEL. M/SEC
0	2070	2219
580	2220	3140
1030	2600	3112
1315	2760	4174
1795	3200	4788
2420	3680	5337
4000	4410	

CDP 172		
TIME MSEC	R M S VEL M/SEC	INTER VEL M/SEC
0	2020	2149
520	2150	3082
845	2550	2888
1090	2630	3389
1480	2850	4634
2340	3610	5307
4000	4395	

CDP 250		
TIME WSEL	R M S VEL M/SEC	INTER VEL M/SEC
0	2010	2179
480	2180	2736
760	2400	2857
980	2410	3198
1360	2720	3308
2100	3380	3386
1000	4390	

COP 412		
TIME M/SEC	R.M.S. VOLT M/SEC	INTER VOLT M/SEC
0	1960	2054
500	2005	2988
880	2450	2161
1210	2663	4079
1505	2994	4151
2140	3379	5391
4000	4430	

CDP 485		
TIME MSEC	R M S VEL M/SEC	INTER VEL M/SEC
0	2080	218
510	2200	267
951	2381	341
1261	2671	400
1557	2570	449
2190	3180	535
4000	4430	



26/Q/19

BUREAU OF  
MINERAL RESOURCES  
SURVEY: EROMANGA, QLD.

FIELD RECORDING DATA :

RECORDING DATE - OCT 1980	SOURCE - DYNAMITE
INSTRUMENTS - DFS 1V	SHOT LOCATION - TRACE 25
RECORD LENGTH - 20 SEC	(NO CENTRE GAP)
CUTTERAGE - 600Z	SHOT INTERVAL - 233.3 M.
SAMPLE RATE - 2MS/C	GROUP INTERVAL - 83.3 CM
FORMAT - 9 TRACK, SEG B	NO OF GROUPS - 48
48 CHANNELS	FIELD FILTER - 12-124HZ.

PROCESSING SEQUENCE :  
 DATUM = +192M MSI

```

01  DRPG = 2000H/SEC
02  PROCESSED AS CROOKED LINE
03
04  LINE FILE MAP COMPUTATION
05  PROXIMITY CORRECTION
06  GATE CHOP GATED SEC T2-3.0SEC
07  TVS 1X1000MS GATE REGULAR STATICS
08  BPS SCANS
09  BPS SCANS WITHOUT RESIDUAL STATICS
10  RESIDUAL STAT COMPUTATION
11  MUX & STATIC CORRECTIONS
12  MD 12 POINTS FILTER (WHITENING)
13  TMF - 20.0HZ AT 2.0SEC
14  TVS 2X1000MS 1X400MS 1X600MS 2X1000MS GATES
15  FILM DISPLAY


```

DISPLAY :

HORIZONTAL - 25 TPI  
VERTICAL - 10 CPS  
BIAS - 20 %

G.S.I.  
PARTY 4855  
MARCH 1981

Q.C. BY





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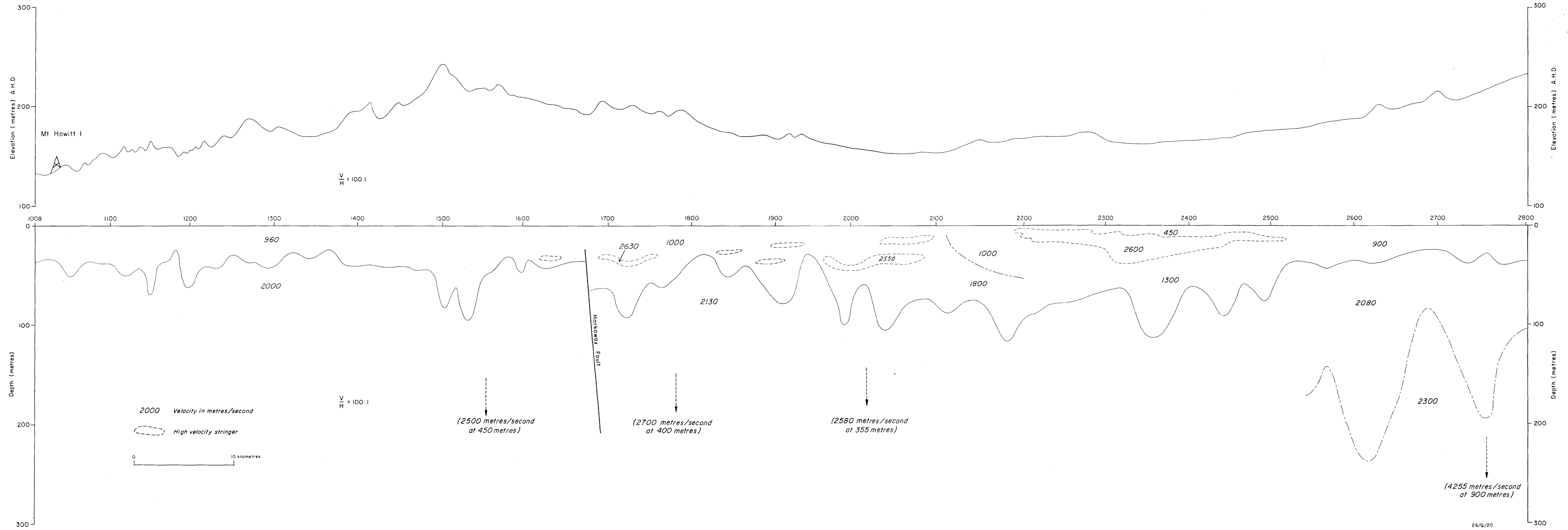
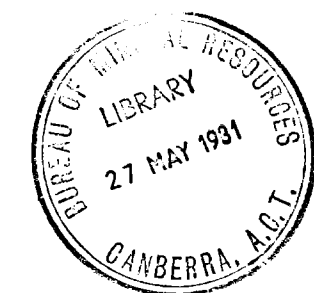


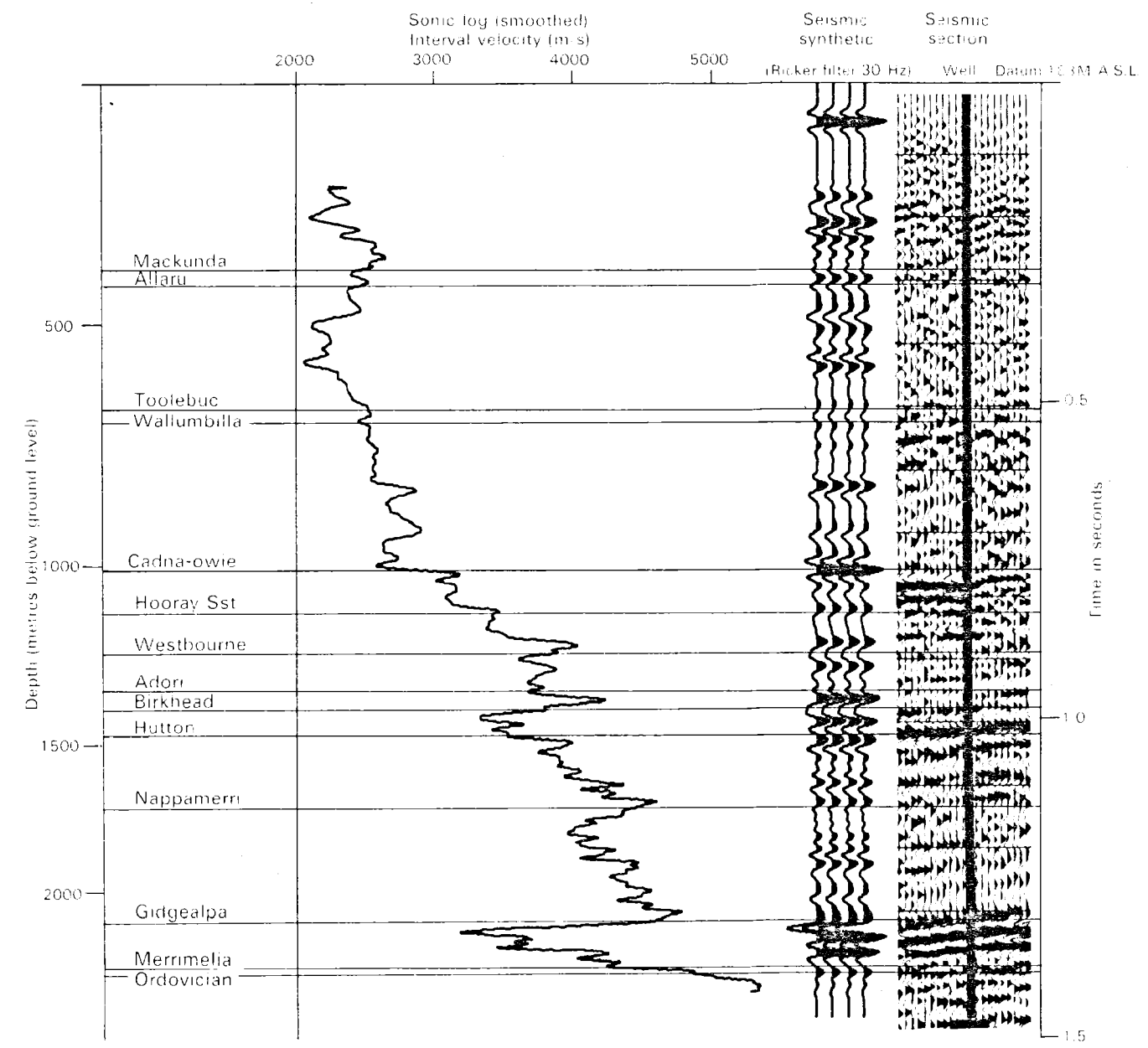
Plate 6: Plot of weathering and near-surface profile, Traverse 1

082633

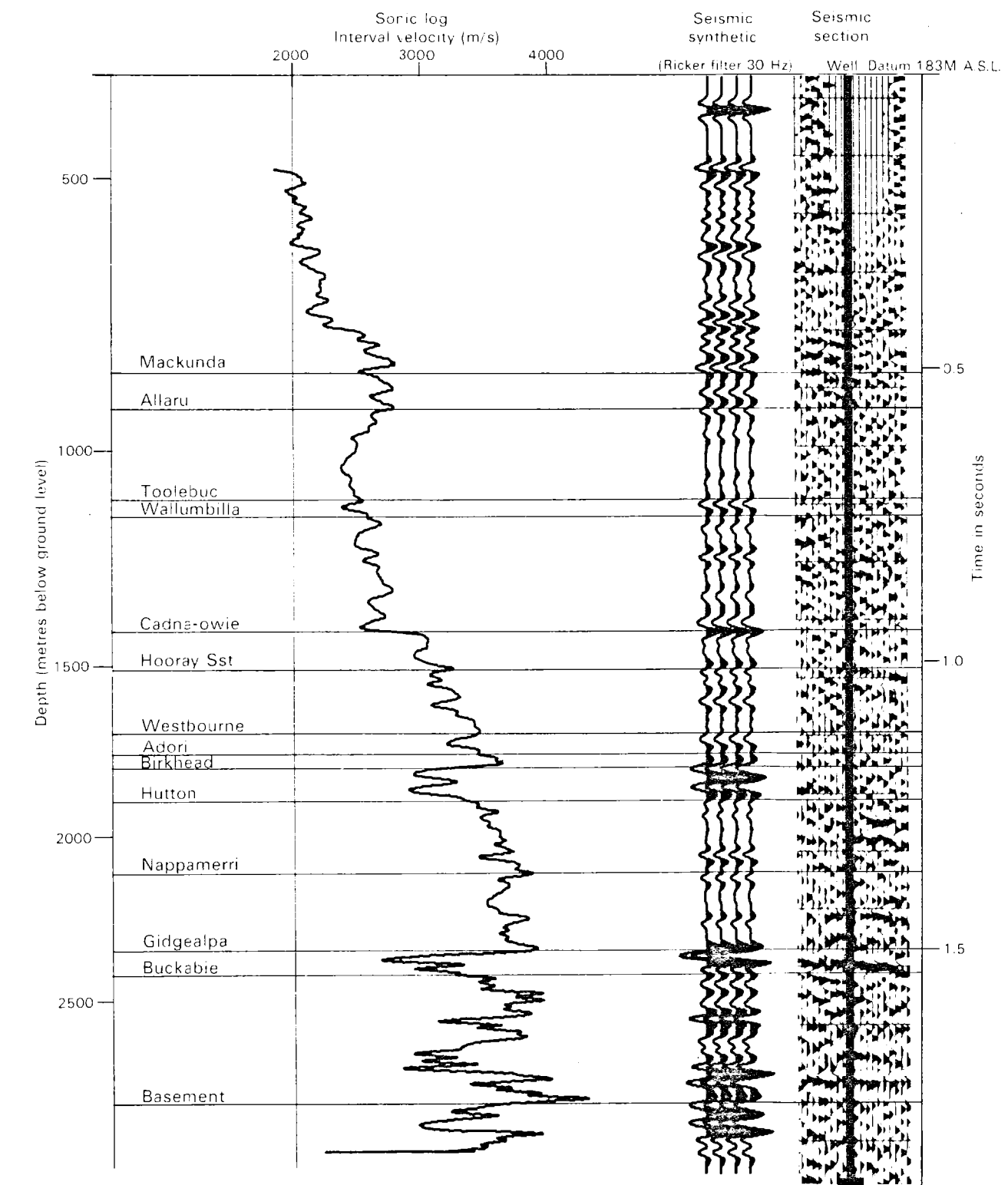


SYNTHETIC SEISMOGRAMS AND SECTIONS AT WELL LOCATION

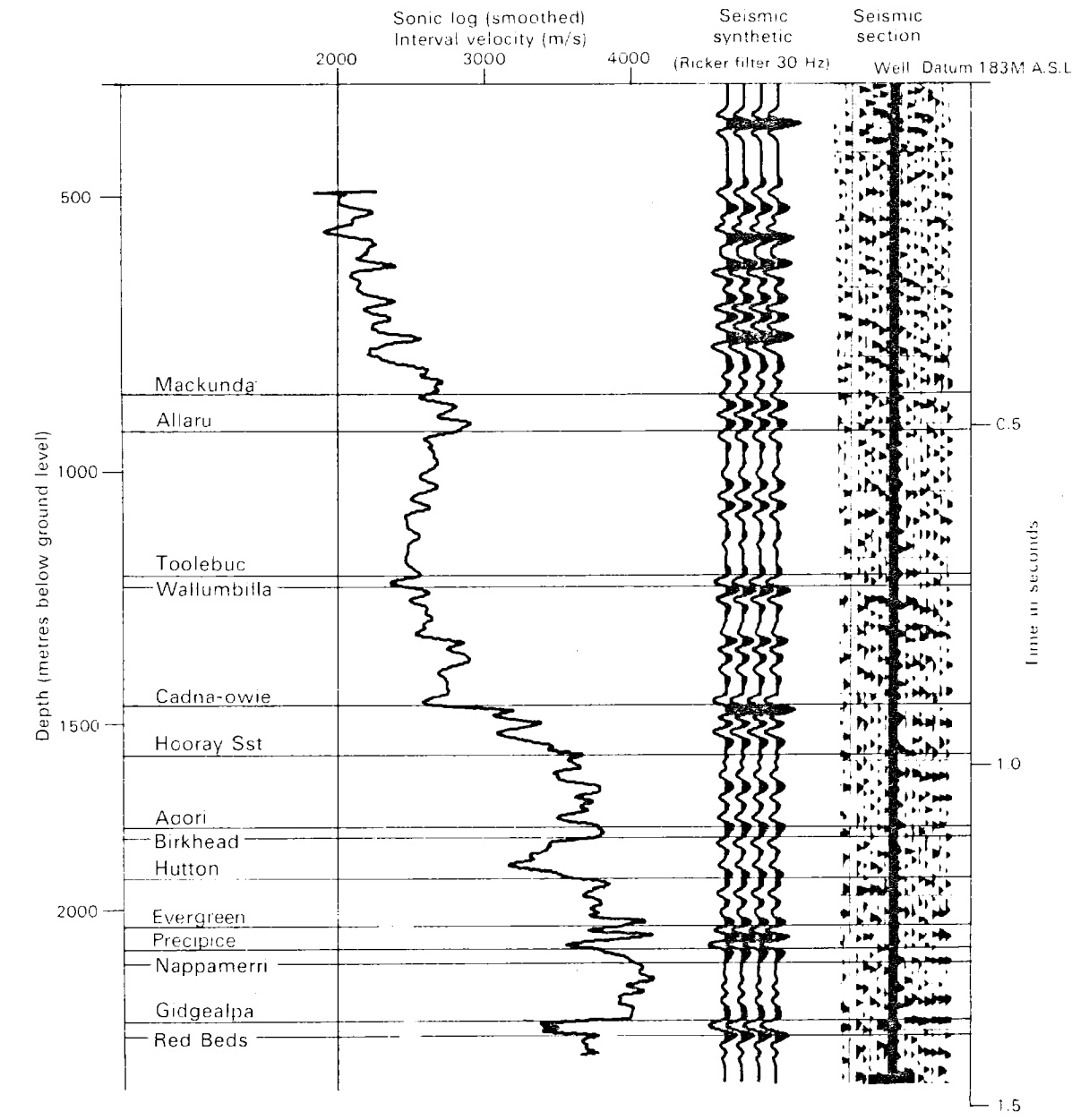
MT HOWITT 1



CHANDOS 1



THUNDA 1



YONGALA 1

