CONTENTS ENVELOPE 4882

TENEMENT: PEL 5; PEL 6; Lake Eyre Block

TENEMENT HOLDER: Santos Ltd

00349

SANTOS LIMITED

S.A. EXPLORATION

LAKE EYRE BLOCK

ACREAGE ASSESSMENT REPORT

JULY 1988

00350

LAKE EYRE BLOCK

ACREAGE ASSESSMENT

SANTOS Western Team
(After Delhi Petroleum SA3 Group)
April 1988

CONTENTS

CONTENTS (Cont.)

FIGURES

PROSPECT AND LEAD INVENTORY

WILDCAT WELLS

PROSPECT RESERVOIR SUMMARY - OIL,

Licence	Block	State/Country	Onshore/Offshore	Santos Share
PEL'S 5 AND 6	LAKE EYRE	SOUTH AUST	ONSHORE	40.000

Name	St	Res	Sub-res	Pool Area (ac)	Areal Fill %	Gross Column (ft)	NEP (ft)	Net/ Gross	Ave Por %	Hyd Sat %	FVF	OIP (mmbbls)	Rec Factor	Prog Rec Oil (mmbbls)
LAKE KOOL	P	NAMUR		272	8	40	17	0.80	20	70	0.91	4.65	0.33	1.53
LAKE PROMISE	P	NAMUR		891	10	40	18	0.80	20	70	0.91	15.78	0.33	5.21
	PROSPECT											20.43		6.74
LAKE SIDE	S	NAMUR		842	8	40	16	0.80	20	70	0.91	13.32	0.33	4.39
TIRARI EAST	S	NAMUR		1287	17	40	19	0.80	20	70	0.91	24.42	0.33	8.06
TIRARI WEST	S	NAMUR		2000	27	40	24	0.80	20	70	0.91	47.44	0.30	14.23
	STRONG LEAD											85.18		26.68
LAKE PEERA	W	NAMUR		1800	28	40	22	0.80	20	70	0.91	39.85	0.33	13.15
WARBURTON	W	HUTTON		2000	24	40	22	0.80	20	70	0.91	44.28	0.33	14.61
WARRANDINNA WEST	W	NAMUR		2000	22	40	19	0.80	20	70	0.91	37.95	0.33	12.52
	WEAK LEAD											122.08		40.28
	TOTAL											227.69		73.70

PROSPECT AND LEAD INVENTORY

WILDCAT WELLS

PROSPECT STATUS SUMMARY - OIL

Licence	Block	State/Country	Onshore/Offshore	Santos Share
PEL'S 5 AND 6	LAKE EYRE	SOUTH AUST	ONSHORE	40.000

Name	St	Trap Type	Res	Sub-res	Date	Pool Area (ac)	Fill %	NEP	OIP (mmbbls)	Rec Oil (mmbbls)	Expected Rec Oil (mmbbls)	Ready for Drilling	Rec Seis 1988	Add Seis Req (km)	Drilling (1988)
LAKE KOOL	P	A	NAMUR		20/07	272	0.08	17	4.65	1.53		YES		0	
LAKE PROMISE	P	A	NAMUR		20/07	891	0.10	18	15.78	5.21		YES		0	
	PROSPECT								20.43	6.74					
LAKE SIDE	S	A	NAMUR		20/07	842	0.08	16	13.32	4.39		NO		0	
TIRARI EAST	S	A	NAMUR		20/07	1287	0.17	19	24.42	8.06		NO	1988	0	
TIRARI WEST	S	A	NAMUR		20/07	2000	0.27	24	47.44	14.23		NO	1988	0	1988
	STRONG LEAD								85.18	26.68					
LAKE PEERA	W	A	NAMUR		20/07	1800	0.28	22	39.85	13.15		NO	1988	0	
WARBURTON	W	A	HUTTON		20/07	2000	0.24	22	44.28	14.61		NO		0	
WARRANDINNA WEST	W	A	NAMUR		20/07	2000	0.22	19	37.95	12.52		NO		0	
	WEAK LEAD								122.08	40.28					
	TOTAL								227.69	73.70					

1.0 BASIC FACTORS

1.1 Regional Setting and Exploration Status

The Lake Eyre Block, situated on the southwestern margin of the Eromanga Basin, contains sediments ranging in age from Ordovician to Recent. The maximum thickness of sedimentary section possibly exceeds 2.0 km in the northern depocentres of the Block. The location of the Block is shown in Figure 1.

Two wells, Poonarunna 1, drilled in 1964 and Lake View 1 in 1988, and 1881 km of seismic have been acquired in an area of 20 500 km^2. The most recent seismic carried out in the Block was a 132 km programme acquired in 1987.

Potential source rocks include the Cadna-owie Formation, the Birkhead Formation and if present the Poolowanna Formation (see Figure 2). The Algebuckina Sandstone and where present the Namur Sandstone and Hutton Sandstone present potential reservoir rocks. The Cadna-owie Formation is a potential reservoir should suitable sandstones be developed.

1.0 BASIC FACTORS (Cont.)

1.2 Physiography and Climate

The dominant morphological feature of Lake Eyre Block is the lake itself. At a maximum depression of 14 m below sea level, it is the lowest point on the Australian continent. The lake consists of two primary lakes, Lake Eyre North, approximately 145 km long and 65 km wide, and Lake Eyre South, approximately 65 km long and 20 km wide, the two being joined by the narrow Goyder channel. In addition, numerous small subsidiary lakes occur in the vicinity of the main lakes. Lake Eyre South is not within the Block but Lake Eyre North occupies approximatey 35% of the block.

Lake Eyre is a normally dry salina located in the driest part of Australia and lying entirely within the 125 mm isohyet. However, it is subject to occasional flooding, being fed by the Cooper Creek and Diamantina River from the east, the Kallakoopah Creek from the north and the Macumba and Neales rivers from the west. These rivers and creeks serve a catchment area of greater than 1.3 million km^2 including some areas of north and central Queensland which experience comparatively heavy and regular rainfall. The Lake Eyre depression which forms the focus of this large endoreic system, is asymmetrically placed in the far southwest corner of the drainage systems.

Lake Eyre also forms the 'sink' of the Great Artesian Basin groundwater system. Numerous mound springs, some of which are located within the lake itself, form natural outlets for the artesian waters. Two main intake areas exist to the east and west of Lake Eyre, a zone of mixing occurring in the vicinity of the lake itself.

The land surface around the Lake Eyre consists essentially of flat, monotonous plains broken by shallow creek beds, numerous saline playas and predominantly north-south trending low seif dunes comprised of aeolian quartz sand. Vegetation in the area is sparse, consisting principally of cane grass (Zygochloa paradoxa) on the flanks of dunes, and spinifex (Triodia basedowii).

1.0 BASIC FACTORS (Cont.)

1.3 Acreage and Terms

Location:	PELs 5 & 6 South Australia SW Eromanga Basin	
Area:	20 532 km^2	
Interest Holders:	Santos	32.5%*
	Delhi Petroleum Pty Ltd	24%
	Bridge Oil Ltd	15%
	Vamgas Ltd	8%
	S.A. Oil & Gas Corp. Pty Ltd	8%
	Adelaide Petroleum Pty Ltd	5%
	Canada-Northwest	7.5%
Voting Rights:	Exploration Approvals	63%
	Exploration Vetoes	37.5%
	Change of Operator	63% and 2 partners

Terms:

Lake Eyre Block is part of the Pedirka Sector which was originally acquired in 1956. The permit was renewed in 1976 and the first 25% relinquishment took place in Feburary, 1984. The second 25% relinquishment of the original permit area is due in February 1989, and a third 25% in 1994. Final relinquishment is due in February 1999.

The remaining 5 year commitment work programme is for 1 well in 1988. To achieve this aim the budgetted 150 km seismic programme is required.

SANTOS Ltd is the operator of the block.

* After fulfilment of CNW farmin obligations.

2.0 GEOLOGICAL CONSIDERATIONS

2.1 Data Base

2.1.1 Gravity and Aeromagnetics

The Lake Eyre Block is covered by various gravity and aeromagnetic surveys.

The Dalhousie gravity survey, carried out by Wongela Geophysical Corporation for French Petroleum Co (Australia) (now Total Exploration) in 1964, covers the entire block.

The Kallakoopah gravity survey carried out by United Geophysical Corporation for F.P.C.A. in 1964, covers the north-eastern quadrant.

The Oodnadatta Aeromagnetic Survey carried out for Delhi Petroleum Pty Ltd by Aeroservice Corporation in 1961-62 covers the entire block.

In addition, various BMR gravity and aeromagnetic surveys, carried out during the 1950's and 1960's also cover the area.

Two intepretations of depths to magnetic basement have been carried out by Aeroservice Corporation and by Compagnie General de Geophysique (C.G.G.), and these are shown in Figures 3 and 4 respectively. The Bouguer Gravity contours of the area are shown in Figure 5.

2.1.2. Seismic

YEAR	SURVEY DATES	SURVEY NAME	KM	ACTUAL $	1987 $
1964	04/64 - 06/64	Kallakoopah-LEY	477	96 350	522 761
1982	02/82 - 10/82	Christmas Creek-LEY	149	520 000	769 889
1984	10/84 - 12/85	Hogarth-LEY	498	1 394 000	1 663 411
1985	08/85 - 10/85	Morphett-LEY	422	1 309 000	1 507 084
1986	08/86 - 09/86	Fletcher-LEY	203	633 000	677 943
1987	07/87 - 08/87	Mitchell-LEY	132	317 300	339 828
Total			1881	4 269 650	5 480 916

2.1.3 Wells

YEAR	NAME	OPERATOR	CLASS	TD (ft)	STATUS	ACTUAL $	1988 $
1964	Poonarunna 1	FPC	NFW	5566	P & A	254,365	1 380 093
1988	Lake View 1	SANTOS	EW	4861	P & A	653 310	653 310*
Total							2 033 403

* expenditure incurred at end February.

Existing seismic coverage and the location of Poonarunna 1 and Lake View 1 are shown in Figure 6.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.1 Data Base (Cont.)

2.1.4 General Projects

Files 1958 to 1985.

YEAR	PROJECT NAME	TYPE	ACTUAL	1987 $
1964	64-GRAVITY, GEN-LEY	O	35 520	192 718
1982	NN-LEY-82	GG	21 243	31 451
1983	NN-LEY-83	GG	125 000	166 279
1984	NN-LEY-84	GG	35 000	42 714
1985	NN-LEY-85	GG	63 000	72 534
1986	NN-LEY-86	GG	90 000	96 390
1987	NN-LEY-87	GG	106 000	106 000
TOTAL			475 763	708 086

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.2 Geological and Geophysical Costs - 1987

Seismic (Acquisition and Processing):	\$3 500 /km
Wells:	\$ 1.0 MM (Dry hole)

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.3 Structure

2.3.1 Regional

The Lake Eyre Block is situated in the south-western part of the Eromanga Basin. The basement deepens to the north toward the Simpson Desert Sub-Basin and the Pedirka Basin to the north-west. To the west there occurs the pre-Cambrian inlier of the Peake and Denison Ranges while to the south, basement shallows gently toward the Gawler Platform. To the east the block is contiguous with the Eromanga sediments of the adjacent Mulka Block. The regional tectonic setting of the Block is detailed in Figure 7.

A structural trend informally named the Warrandinna-Lake Promise Trend is present in the north-eastern portion of the block. It extends from the Lake Promise structure NNE to the Warrandinna structure which straddles the Lake Eyre - Mulka Block boundary. The northern and southern limits of the trend are unknown, however, the trend is considered to merge with the shallowing Eromanga Basin to the south (cf. Birdsville Track Ridge). Another trend the Lakeside-Tirari-Warburton Trend parallels this structure.

The Lake Eyre Block experienced two principal phases of structuring - the first prior to Eromanga Basin sedimentation (Ordovician) and the second during the (early-mid) Tertiary Period.

Ordovician	- produced severe structural and metamorphic deformation of Warburton Basin sediments (basement), developing a structural framework of varying competency which would be exploited during subsequent tectonic and/or erosional events.
(early-mid) Tertiary	- a predominantly compressional event in the eastern Lake Eyre Block (and Mulka Block) which produced the observed structures via flexure and faulting, often involving reactivation of elements of Delamerian induced structural framework.

C (Cadna-owie Formation) and Z (Basement) Time Structure Maps of the north eastern Lake Eyre Block (Figures 8A and 10) highlight the resultant structural grain of the Block.

2.3.2 Structural Style

The structures observed in the north-eastern portion of the block are the result of three modes of genesis and are a consequence of the afore-mentioned tectonic events. Several structures, exhibit a combination of these modes.

A. The structure was created by onlap and drape of Eromanga sediments over basement highs and virtually unaffected by subsequent Tertiary Period tectonic events (Lake Promise).

B. The structure was reactivated or enhanced by flexure in response to regional tectonics during the Tertiary Period. Prior to the Tertiary Period the structures were
- onlapped basement high,
- flank of a basement high (Lake View)
- Jurassic depocentre etc.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.3 Structure (Cont.)

2.3.2 Structural Style (Cont.)

C. The structure was developed or enhanced by localized faulting induced by regional Tertiary Period tectonics (Lake Side).

Figure 11 (C-Z Time Interval) demonstrates the variable depositional setting of structures in the north eastern Lake Eyre Block.

2.3.3. Warrandinna-Lake Promise Trend

The Warrandinna-Lake Promise Trend extends NNE across the north-eastern portion of the Lake Eyre Block into the northwest Mulka Block and possibly into the southern Pedirka Block. The southern extent of the trend is unknown but probably merges with the southern margin of the Eromanga Basin (Figure 7).

Three structures are currently delineated along the crest of the trend - Warrandinna, Lake View and Lake Promise. The trend exhibits several similarities to the Birdsville Track Ridge in the Mulka Block.

- it contains A, B, C type structures similar to those observed on the Birdsville Track Ridge.
- exhibits a trend direction paralleling the Birdsville Track Ridge.
- the trend was a series of discontinuous basement highs during Jurassic sedimentation, subsequently enhanced by structuring (early-mid Tertiary) as was the Birdsville Track Ridge.

Whilst the trends exhibit a similar mode of genesis they experienced different intensities of structuring during both orogenic events (particularly the early-mid Tertiary event). The Warrandinna-Lake Promise Trend is now structurally lower than the Birdsville Track Ridge although stratigraphy indicates much of the trend was topographically higher than the Birdsville Track Ridge during Jurassic sedimentation.

2.3.4 Lakeside-Tirari-Lake Peera Trend

The trend parallels the Warrandinna-Lake Promise Trend, possibly extending into the southern Pedirka Block. The southern extent of the trend is unknown.

The trend exhibits the following features:

- A, B and C type structures.
- A high angle, en echelon, reverse fault trend
- Structures that are palaeohighs and structures that were developed only during the Tertiary structuring.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.3 Structure (Cont.)

2.3.4 Lakeside-Tirari-Lake Peera Trend (Cont.)

Lake Peera, Tirari East, Tirari West and Lakeside are the features currently delineated along the crest of this trend.

In addition a second older trend extending in a south easterly direction from Tirari to Mulapula in the Mulka Block has been mapped. This trend is interpreted from the lack of Birkhead and Hutton reflectors in this region (Figure 10) and the subsequent thin C-Z section. This trend is also paralleled in the north by a similar paleohigh extending from Miandana in the Pedirka Block in a south easterly direction to Warrandina.

2.3.5 Depocentres

Intepretation of the seismic and geological evidence has indicated a possible depocentre to the north of the block (Figure 12). Structural lows to the east and north of the Tirari Structures, and the possible depocentres to the north are in the region of deepest and possibly thickest Birkhead Formation.

In the deeps in this area the Birkhead seismic reflector shows a much stronger amplitude and can be interpreted as a thicker time section. There is also a seismically quiet zone at Lake Peera indicating the presence of a sandy Hutton section. The Birkhead zero edge (Figure 13) also indicates that a depocentre most probably exists in this northern region. Regional Algebuckina isopach maps in the Pedirka Block show a generally increasing section to the southeast with the thickest section in the northern Lake Eyre Block region.

2.3.6 Structural Control on Jurassic Sedimentation

Syndepositional structuring in northeastern Lake Eyre Block was minimal during Jurassic sedimentation. However, sedimentation was strongly influenced by

A. the tectonic framework imprinted on basement during the Delamerian Orogeny (and Silurian-Triassic structuring if present).

B. regional Tectonics e.g. downwarping, migration of depocentres etc inducing changes in the hydrological regime during Jurassic time.

A. Well data indicate severe structural and metamorphic deformation in the basement of the northeastern Lake Eyre Block. Such deformation would induce variations in strength, ability to withstand erosion etc. Accordingly, structuring would create a framework of less competent rock which fluvial systems would more readily erode under subareal exposure.

The northeastern Lake Eyre Block exhibits significant basement control on early Jurassic sedimentation. Knowledge of early Jurassic sedimentation patterns could therefore enable assessment of the basement structural framework or vice versa.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.3 Structure (Cont.)

2.3.6 Structural Control on Jurassic Sedimentation

B. During early-mid Jurassic time, downwarping of the basin northeast of the block and/or uplift of provenance areas, elevated the hydrological regime producing increased erosion of basement highs, increased carrying capacity of the fluvial systems and corresponding variations in sedimentation rates, volume and facies.

During mid-late Jurassic time (Birkhead Formation or equivalent), much of the northeastern Lake Eyre Block was within or marginal to the basin depocentre and received finer grained laterally extensive sequences.

Regional seismic sections are presented in Figures 18, 19.

2.3.7 Tectonic History

General

The Delamerian Orogeny (Ordovician) imposed the structural framework upon which Jurassic and Cretaceous sediments were deposited. Changes in the depositional regime during sedimentation were the result of regional subsidence at and beyond block boundaries with minimal syndepositional structuring in the blocks. Major structuring during Tertiary time probably via reactivation of the original Delamerian tectonic framework, produced the present structural framework.

Ordovician - severe structural deformation and metamorphic alteration (Delamerian Orogeny) of Cambro(?) - Ordovician sediments creating economic basement.

- uplift of the blocks induced by the Delamerian Orogeny - extent unknown.

Silurian-Triassic - structural history unknown, however, lack of sedimentation suggest a net structural uplift and erosion; whether continuous or cyclical is unknown.

Jurassic - regional downwarping initiating Eromanga Basin sedimentation with the Mulka and Lake Eyre Blocks on the southern margin of the basin.

(Poolowanna Formation) - a major depocentre (Poolowanna Trough) located to the north.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.3 Structure (Cont.)

2.3.7 Tectonic History (Cont.)

Hutton Sandstone (or equivalent)	- initiation of widespread sedimentation in the block. - generally slow rates of sedimentation. - erosion and onlap of basement highs. - minimal local structuring.
Birkhead Formation (or equivalent)	- downwarping of the basin in the north of the Lake Eyre Block creating a new depocentre. - the northeastern Lake Eyre Block was on the margin of this depocentre and received increasingly fine grained sediments.
Birkhead Formation (or equivalent)	- progressive infill of basin depocentres within the block. - minimal local structuring.
Namur Sandstone (or equivalent)	- extensive sedimentation over the block with onlap over remaining basement highs. - minimal local structuring.
Cretaceous	- widespread sedimentation with units generally thinner than adjacent blocks which contained Cretaceous depocentres. - minimal local structuring.
Tertiary	- the block (northeastern area) experienced significant, predominantly compessional tectonic activity, possibly by reactivation of the original Delamerian structural framework. - development and enhancement of major structural trends, e.g. Warrandinna-Lake Promise Trend, Lakeside-Tirari-Lake Peera Trend via arching and minor faulting to produce trends which incorporate basement cored structures with adjacent Eromanga depocentres. - the induced or enhanced trends exhibit arching and associated faulting whilst individual structures were primarily fault controlled. - the faults are concentrated adjacent to the major structural trends and are rapidly lost upsection being defined at best by flexure in the Cretaceous section.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.4 Stratigraphy

2.4.1 General

The Lake Eyre Block contains Eromanga sediments deposited directly upon indurated basement (Ordovician-Cambrian?). As such, sedimentation patterns and facies distributions were significantly influenced by basin and localized basement topography. The duration of basement depositional control was directly proportional to palaeo-basement relief and rates of sedimentation.

Early Jurassic sedimentation (Hutton) in deeper basin areas to the east (Cooper Section SA) and the north (Pedirka Block), occurred on a depositional surface with local topographic relief considerably masked by earlier Jurassic sedimentation (Poolowanna Formation or equivalent). The Lake Eyre Block experienced a generally lower rate of sedimentation because of its location on the basin margin. As such, basement topography influenced Jurassic fluvial sedimentation to a greater extent and for a greater period of time than to the east and north. Basement topography controlled sedimentation until early Cretaceous time in the south with the Cadna-owie Formation draping the last vestiges of basement topography in the Lake Promise area.

The Jurassic sequence in the block is similar to that encountered in adjacent blocks (Mulka and southern Pedirka Block) but with no Poolowanna Formation currently interpretated. However, basement topography induced localized perturbations in the regional hydrological regime resulting in deposition of atypical facies and lithologies, particularly in the early Jurassic (Hutton Sandstone). Palludal facies and a generally higher pelitic content is postulated for the Birkhead Formation in localized depocentres and adjacent to basement highs in the blocks. The influence of basement topography decreased as Jurassic sediments progressively onlapped the highs with the resultant facies increasingly reflecting the regional hydrological regime of the Eromanga Basin.

2.4.2 Basement

2.4.2.1 Lithology

Economic basement in the block is considered to be Ordovician-Cambrian(?) metasediments. Poonarunna 1 (Figure 1 and 6) intersected approximately 226 ft of generally fine-medium grained, partly phyllitic quartzites. The sediments are steeply dipping (60^{0} - 90^{0}) with possible overturning. The rocks have been subjected to significant structural and metamorphic deformation, interpreted to be the result of the Delamerian Orogeny. An age date of core material (5556 ft) places the basement at 435+ 25 MY (late Ordovician) and represents the youngest possible age of the sediments.

A pronounced weathering profile is observed in the basement core of Poonarunna 1, with a strong sonic marker at the base of weathering, easily observed on seismic data.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.4 Stratigraphy (Cont.)

2.4.2 Basement (Cont.)

2.4.2.1 Lithology (Cont.)

Basement-Eromanga Basin Contact

The basement-Eromanga contact in Poonarunna 1 is an irregular erosion surface continuing lag gravels. Abundant organic matter is present with root traces and carbonaceous laminae extending to 0.5 m into the basement.

The presence of autochthonous organic matter indicates

- localized generation of organic matter during Birkhead (or equivalent) deposition and probably throughout Jurassic sedimentation.

- an active erosional/depositional interface.

Lake View 1 intersected approximately 131 feet of quartzite with interbedded metasiltstones. The sediments have a dip of approximately 10°. Many sedimentary features are still recognisable which suggests a low grade metamorphism. The core taken did not intersect the basement - Eromanga contact. An age for the cored material is not yet available.

Influence on Sedimentation

Basement topography effected significant control on Jurassic lithology and facies distribution in the blocks. This influence on sedimentation declined as palaeotopography progressively diminished through burial and onlap by sediment.

Basement topography impacted significantly on Hutton Sandstone lithology and lateral extent whilst the Namur (Algebuckina) experienced minor basement control.

Basement topography influenced the direction, sinuosity and carrying capacity and even provenance areas (intrablock) of fluvial systems emanating both from within and beyond the block. This was in marked contrast to the north where Jurassic lithologies and facies disributions were controlled by fluvial regimes induced by regional hydrological gradients, with minimal locally induced perturbations in the depositional environment.

2.4.3 Poolowanna Formation

The locus of sedimentary depostion was in the Pedirka Block where a thick sequence of sediments (Poolowanna Formation) was deposited in the Poolowanna Trough. The southern edge of the trough is postulated to impinge upon the northern margins of the block.

The Mulka/Lake Eyre Blocks were a minor provenance area for the Poolowanna Formation and were traversed by several fluvial systems transporting sediment to the trough from provenance areas beyond the southern block boundaries. The amount of sediment sourced within the blocks prior to the onset of Jurassic sedimentation is unknown.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.4 Stratigraphy (Cont.)

2.4.3 Poolowanna Formation (Cont).

Seismic and well data indicate that

- the mature fluvial systems operating restricted occurrence of the Poolowanna Formation (or equivalents) to the Poolowanna Trough itself and localized depocentres in the north eastern margin of the Block.

- Poolowanna sediments would be poorly developed and difficult to recognise if present, being discontinous accumulations in basement lows at the base of a conformable Jurassic sequence.

2.4.4 Hutton Sandstone (or equivalent)

General

The Hutton Sandstone represents the first major phase of Eromanga sedimentation in the block. It is observed in basement lows and progressively onlaps basement highs exhibiting upsection increases in lateral extent and development. The formation is possibly up to 200 ft in thickness and is absent over a large area of the Block (see Figure 12).

Environment of Deposition

The Hutton Sandstone (or equivalent) was deposited under fluvial regimes varying from palludal to braided fluvial with a generalized increase in fluvial regime upsection. The locii of deposition were probably to the north (Pedirka Block) and northeast Cooper Basin region. The basal Hutton section was deposited in isolated depocentres and adjacent to the major fluvial systems traversing the blocks. The environment of deposition was dominated by low energy regimes - palludal (closed drainage deposition) overbank and flood plain (open drainage depocentres) over much of the topographically low areas, with channel belt sandstones restricted to the few well developed fluvial systems. The channel belts progressively widened upsection as continuing sedimentation increasingly subdued the topography of the deposition surface.

The mid-upper Hutton Sandstone (or equivalent), was deposited under an increasing fluvial regime which produced

- progressive burial and onlap of basement topography.

- gradual elimination of localized topographic control on sedimentation.

- increase in braided fluvial facies as the environment of deposition reflected regional sedimentation patterns.

- increasing lateral continuity and vertical thickness of individual sediment packages.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.4 Stratigraphy (Cont.)

2.4.4 Hutton Sandstone (Cont.)

Lithology and Facies

The Hutton Sandstone (or equivalent) is characterized by discontinuous organic rich mudstone, siltstone, shale and coal in areas adjacent to basement highs and in palaeo-lows. In areas where regional hydrological gradients dominated, a typical Hutton Sandstone sequence of braided sandstone with minor siltstone and shale is anticipated.

A progressive decrease of finer grained units upsection is postulated as the depositional surface increasingly reflected regional gradients. Finer grained units where present, would be adjacent to remaining topographic highs and adjoining depocentres, resulting in stacked, onlapping pelitic facies adjacent to palaeo-highs.

2.4.5 Birkhead Formation (or equivalents)

General

Seismic and regional well data indicate that the Birkhead Formation thickness increases to the north away from the northeastern area of the Lake Eyre Block. The lateral extent of the formation is unknown but is well developed in the Poonarunna area. To the south and west it presumably thins and becomes sandier towards the basin margins.

Environment of Deposition

Wells in the Pedirka Block intersected a predominantly sandy Birkhead equivalent facies, whilst Poonarunna 1 intersected a well developed silty, shaly facies of upward coarsening units indicative of lacustro-deltaic deposition. Parts of the Mulka and northeastern Lake Eyre blocks during Birkhead deposition were therefore topographically lower with corresponding distal facies, than much of the Pedirka Block. The Birkhead sequence is postulated to be a predominatly fine grained unit deposited in a lacustro-deltaic environment with increased sediment thickness in localized depocentres.

Seismic evidence shows the formation onlapped basement highs in several areas of the block e.g. Lake Promise, Lake View. In Poonarunna 1 Birkhead Formation (or equivalent) sediments lie directly upon basement, and they are absent in Lake View 1.

Lithology and Facies

The Birkhead Formation is expected to increase in organic content to the north and north east with increasingly lacustrine and flood basin facies. With greater depth of burial the increased maturity anticipated will provide good quality source rock in this region (Figures 14-17).

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.4 Stratigraphy (Cont.)

2.4.6 Namur Sandstone (Mooga Formation)

General

The Namur Sandstone (Mooga Formation) is recognised throughout the north eastern Lake Eyre Block, being the most extensive and best developed Jurassic unit. The Namur Sandstone (Mooga Formation) is contiguous with the Algebuckina Sandstone in the Pedirka Block and with the Namur Sandstone to the east. The Namur Sandstone has excellent porosity and permeability as evidenced by Poonarunna 1, Lake View 1, Mulapula 1 and the many water bores in the area. Oil was recovered from the Namur at Mulapula 1.

Environment of Deposition

The unit was deposited under an increasingly active fluvial regime as the depositional surface progressively onlapped and buried the last vestiges of basement topography. The late Jurassic time (mid-upper Namur) sedimentation was dominated by regional fluvial systems which produced a braided stream lithology similar to that encountered in the Cooper Sector to the east and the Pedirka Block to the north.

Lithology and Facies

The Namur Sandstone is a fine-course grained, braided and fluviatile sandstone sequence with interbedded siltstone and minor coal and shale. Finer grained facies are probable adjacent to basement highs and exhibit onlap onto the highs (Mungeranie). The location of the block on the margin of the Eromanga Basin may have depressed the fluvial regime relative to the basin proper (e.g. Cooper Sector and Pedirka Blocks). A higher proportion of finer grained sediments and meandering fluvial sediments (i.e. fining upward sequences) could therefore be anticipated in the Mulka and northeastern Lake Eyre Blocks.

2.4.7 Algebuckina

The Algebuckina Sandstone is contiguous with the Namur and Hutton Sandstones. By definition the Namur and Hutton Sandstones become the Algebuckina Sandstone when the Birkhead Formation is absent. The Algebuckina is present over many structural (basement) highs and present throughout the western and south western areas of the Lake Eyre Block (Figure 13). It is typically a fine-coarse grained braided sandstone with minor siltstones and shales.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.4 Stratigraphy (Cont.)

2.4.8 Post Jurassic Stratigraphy

Cadna-owie Formation

The Cadna-owie Formation consists of very fine to fine grained calcareous sandstone interbedded with shale and siltstone and possible coal and carbonaceous shale, particularly towards the base. The unit represents a transgressive sequence and is typically coarsening upward. New Koppera-manna Bore intersected a lower Cadna-owie sequence of organically rich shale and lignite with some intercalated calcareous sandstone and siltstone possibly representative of an estuarine or back bar swamp depositional environment. A similar basal lithology may be present in the Lake Eyre Block.

The Cadna-owie Formation is the principal seal for the Namur Sandstone Member and available data (Poonarunna 1, Lake View 1, Mulapula 1) suggest good-excellent seal quality. The possible presence of carbonaceous shale and lignite at the base of the formation further enhances seal potential. Despite the presence of organic material, the formation is unlikely to have source potential due to its low thermal maturity (less than 0.5 Rv (max)).

Bulldog Shale

The Bulldog Shale consists of dark grey, silty, marginal marine carbon-aceous shale and siltstone. Occasional boulders, fossil wood and spherical concretions of hard, marly fossiliferous limestone occur in the lower portion. The Bulldog Shale would be an excellent source rock for hydr-carbons if it were sufficiently mature to be generative.

Coorikiana Sandstone

The Coorikiana Sandstone (designated as a member of the Oodnadatta Formation on the 1:250 000 geological sheets), is referred to as a separate formation on the latest 1:200 000 State geological map. It consists of fine to coarse-grained, kaolinitic, feldspathic, micaceous, glauconitic quartz sandstone often crossbedded or strongly bioturbated. The unit is gritty in parts, and in other areas is very fine grained, with shaly and silty interbeds. A nearshore, moderate-energy, marine environment is envisaged. The unit was observed in the Kopperamanna Bore.

Reservoir quality is generally poor, however, moderate porosity has been noted in some outcrop samples where the unit is better developed and less silty.

Oodnadatta Formation

The Oodnadatta Formation consists of grey argillaceous siltstones and shale, with minor calcareous sandstone interbeds and concretionary limestone intervals. Sandstones are typically rich in lithic fragments and glauconite and may contain plant fragments.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.4 Stratigraphy (Cont.)

2.4.8 Post Jurassic Stratigraphy (Cont.)

MacKunda Formation

The MacKunda Formation consists predominantly of calcareous siltstone, sandstone and shale. The formation is sandier than the overlying Winton Formation and coals are absent.

Winton Formation and Tertiary - Recent

The Winton Formation consists of claystone, siltstone, sandstone, minor limestone and lenticular lignite seams approximately 1 - 2 m in thickness. Tertiary - Recent sediments overlying the Winton consist of predominantly fluvial to lacustrine to wind deposited sandstones, claystone and siltstones. Many of the units crop out over the Birdsville Track Ridge. Several units exhibit extensive silicification, laterization and ferruginization.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.5 Failure (Dryhole) Analysis

Poonarunna 1, was drilled in 1964 by the French Petroleum Co. The well reached a TD of 5577' (1700 m) in steeply dipping quartzites of presumed Ordovician age. It is located off the crest of a basement high and was designed primarily as a stratigraphic test of thinning Mesozoic sediments. No hydrocarbons were encountered though some minor fluorescence was recorded.

Seismic data demonstrates the well was not a valid structural test, being outside closure at the C horizon and approximately 40 ms below the crest of the nearest structural closure.

The Cadna-owie Formation intersected in the well contained 50 ft of shale and finely interbedded sands and siltstones. The formation is a valid seal for the Namur reservoir.

The presence of potential source rock in the Block was confirmed by Poonarunna 1 with approximately 198 ft of Birkhead Formation (or equivalent) intersected at the base of the Eromanga Sequence. This unit lies unconformably upon economic basement. The Birkhead Formation is early oil mature (0.65% Rv(max)) with oil prone type II Kerogen of excellent quality. Exinite comprises 35-85% of the DOM. (see Enclosure 1).

Poonarunna 1 was completed as a water well in the Namur Sandstone attesting to its reservoir characteristics. Water yield is approximately 1500 BWDPD.

Lake View 1 was drilled in 1988, by SANTOS Ltd and reached a T.D. of 4681' (1427 m) in slightly dipping metasiltstone. It is located mid way along the Warrandinna - Lake Promise Trend and is a palaeohigh. The well was the first valid test of structural closure in the Lake Eyre Block. No hydrocarbons were encountered.

The well intersected 152 ft of Cadna-owie Formation, and approximately 800 ft of Namur Sandstone which lies unconformably upon basement at 4550 ft.

A D.S.T. in Namur Sandstone showed fair to good porosity (over 20% in places) and permeability with water to surface in 16 mins. and an Rw of 2.2 ohm (Figure 22).

Lake View 1 was plugged and abandoned.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.6 Hydrocarbon Potential

2.6.1 Source

General

The presence of and access to mature source rocks are the principal controls of hydrocarbon potential in the Lake Eyre Block. In adjacent blocks the presence of mature source rocks (Poolowanna Formation) and potentially mature source rocks (Birkhead and Westbourne Formation) has been well established. Source rock data at Poonarunna 1 indicates good-excellent generative potential within the Birkhead Formation. The source rocks are generally oil prone with moderate to good indicated oil yields. At Poonarunna 1 potential source rocks are early oil mature.

A detailed presentation of source rock data is included in Appendix 1.

Intrablock Source Rocks

Hutton Sandstone

The Hutton Sandstone (or equivalents) may contain potential source rock. Palludal facies adjacent to basement highs and within localized depocentres have the best source potential. Source rock volume and generative potential are unknown, however comparative facies observed in the eastern Eromanga Basin have potentially high hydrocarbon yields, particularly in palludal facies.

Birkhead Formation

The Birkhead Formation is present over much of the north eastern Lake Eyre Block. The formation is recognised as a lacustro-deltaic sequence with excellent source and generative potential confirmed by several discoveries (Big Lake). Poonarunna 1 (Lake Eyre Block) intersected approximately 198 ft of Birkhead Formation (or equivalent) consisting of organic rich shale, siltstone, sandstone and coal. Core and wire line log data demonstrated the coarsening upward nature of the formation confirming its lacustrine-deltaic origin. Poonarunna 1 core samples have yielded excellent TOC values (2.05 - 15.2%) with exinite the dominant maceral with good-excellent generative potential (Appendix 1).

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.6 Hydrocarbon Potential (Cont.)

2.6.1 Source (Cont.)

Intrablock Source Rocks (Cont.)

Birkhead Formation (Cont.)

The formation exhibits generalized thickening in the southern Cooper Basin region (presumed regional depocentre) although localized anomalies are observed and attributed to palaeo-depocentres. As previously discussed source rock quality and volume is anticipated to improve to the north and north east.

The structures in the northeast Lake Eyre Block which incorporate both late (Tertiary) and syndepositional structures are in close proximity to the best postulated source rocks.

Namur Sandstone (Algebuckina Sandstone)

The Namur Sandstone which is contiguous with the Algebuckina Sandstone is anticipated to contain limited source rock potential.

Potential source rocks will be best developed in the basal units of the formation associated with any remaining topographic highs which could induce a decrease in the regional fluvial regime. Source rock volume and quality is unknown, although volume is anticipated to be small and quality will probably vary significantly.

Additional Source Rocks

New Koppermanna and Mulka bores (Mulka Block) intersected intercalated carbonaceous shale, siltstone and lignite in the basal Cadna-owie Formation. Source rock analyses indicate some source potential, however, the formation is immature. It is anticipated that the Cadna-owie Formation and overlying formations are immature within the Mulka, Lake Eyre and adjacent blocks.

Ex-Block Source Rocks

The Lake Eyre Block has access to significant volumes of potential source rocks located in the adjacent Pedirka Block. Potential source rocks occur within the Poolowanna and Birkhead.

The contribution of these ex-block source rocks to the realisable hydrocarbon potential of the Lake Eyre Block is unknown. The importance and effectiveness of hydrocarbon migration, particularly long distance migration (100+ km) is a subject of continuing debate in the Eromanga Basin. However, the Lake Eyre Block contains coincident structural and lithological migration fairways (Namur/Algebuckina Sandstone, Lake Peera - Lakeside Trend) of excellent quality, connecting potential source and trap.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.6 Hydrocarbon Potential (Cont.)

2.6.2 Maturity

Intra Block Source Rocks

Vitrinite reflectance data from Poonarunna 1 demonstrates that the Birkhead Formation (or equivalent) is early oil mature (0.5-0.65 Rv (max)). As Poolowanna 1 was drilled on the upper flank of a structure, increased thermal maturities could be anticipated in deeper areas of the block.

The well also reported a geothermal gradient in excess of $3.0^{o}C/100$ m, somewhat higher than observed in the Pedirka Block and may be related to the Tertiary structuring.

However, reflectance data from Poonarunna 1 is consistent with maturation levels postulated for the observed geothermal gradient suggesting cause (geothermal input) and effect (maturation) are in equilibrium.

The best potential source rocks occur

A. At or near the basement-sediment interface because of the high thermal conductivity of the basement.

B. In depocentres particularly in the Hutton and Birkhead because of greater depth of burial and proximity to basement.

C. On or adjacent to structures affected by Tertiary tectonics through heat conversion of mechanical stress.

Ex-Block Maturity

The generative potential in adjacent blocks was confirmed by Poolowanna 1 (DST recovering oil from the Poolowanna Formation). Limited data indicate that maturation levels are variable, however, mature source rocks are known for the Poolowanna Formation in the Pedirka Block and the Birkhead Formation in the Mulka Block. Tertiary structuring may have also elevated maturity levels in several areas of the blocks.

2.6.3 Seal

Birkhead Formation

The Birkhead Formation is the seal for the Hutton Sandstone reservoir. Seismic data and analyses of Poonarunna 1 and Mulapula 1 core samples indicate seal quality is good-excellent. Seal quality is anticipated to improve as the formation increases in thickness.

The formation is absent over a wide area of the Block and onlaps many of the highs, as observed at Poonarunna 1. The Birkhead Formation (or equivalent) as observed in Poonarunna 1 is considered a more than adequate seal.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.6 Hydrocarbon Potential (Cont.)

2.6.3 Seal (Cont.)

The possibility exists for Hutton stratigraphic traps around the major highs. These traps are most difficult to map due to the complexity of the Birkhead, thin Hutton and basement signatures on seismic.

Cadna-owie Formation

The Cadna-owie Formation is a potential seal for the Namur and Algebuckina reservoirs. Water bore, well and seismic data indicate the pelitic content and the corresponding seal quality of the formation decreases to the south and south west across the block. Seal quality is considered good-excellent over the delineated structures within the north eastern Lake Eyre Block.

2.6.4 Reservoir

Hutton Sandstone

Reservoirs within the Hutton Sandstone are anticipated to be massive sandstone of good porosity. Upper flank areas of Type A structures and Type B (Section 1.0) Structures where they correspond to a depositional channel belt, are considered to contain the best potential reservoirs. Reservoir porosity and permeabilities are unknown however minimal diagenetic alteration is anticipated in the Hutton reservoirs. Mulapula 1 (Mulka Block) data indicates porosities of 20% + in the upper Hutton Sandstone.

Namur Sandstone (Algebuckina Sandstone)

Good to excellent reservoir quality is anticipated in the Namur Sandstone. The Namur contains thick, laterally extensive sandstone with excellent porosity and permeability as attested by the numerous water bores within this area of the Eromanga Basin. Log analyses of Poonarunna 1 and Mulapula 1 (Mulka Block) and Lake View 1 indicate in excess of 20% porosity in the upper Namur.

Other Reservoirs

Reservoir sandstones may exist in the Cadna-owie Formation or within the Birkhead Formation. The quality and occurrence of these reservoirs are unknown.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.6 Hydrocarbon Potential (Cont.)

2.6.5 Timing of Structuring and Migration

The timing of oil generation has a significant impact on trap potential. Data suggest the ex-block source rocks are currently at or near their peak phase of oil generation. All potential source rocks and intrablock source rocks are at or near the early oil generation phase.

Should significant pre-Tertiary migration have occurred, numerous basement cored structures (palaeo-highs) were present within the blocks and able to receive hydrocarbons. Most of these palaeo-highs were then incorporated within the structural trends created by Tertiary tectonics (e.g. Birdsville Track Ridge).

Tertiary structuring enhanced migration potential from source rocks in the Pedirka Block.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.7 Prospects and Leads

2.7.1 Prospects

Two prospects, Lake Kool and Lake Promise are seismically mature. The prospects are defined on the C Horizon mapping and are large structures - Lake Kool (3,300 acres) and Lake Promise (9,050 acres). The Namur Sandstone constitutes the potential reservoir and the Birkhead Formation the potential source rocks. These features are along the crest of the Warrandinna - Lake Promise Trend and are considered to be downgraded after the drilling of Lake View 1 which was drilled in February 1988 and encountered no hydrocarbon shows.

2.7.2 Strong Leads

A total of three strong leads are currently delineated within the block in the northeastern portion of the block. The leads are currently defined on the C Horizon and range in size from 7,000 acres to 10,000 acres:

Tirari West (7,300 acres)	-	palaeohigh/flank enhanced by Tertiary structuring.
Tirari East (7,390 acres)	-	palaeohigh enhanced by Tertiary structuring.
Lakeside (9,900 acres)	-	developed by Tertiary structuring.

These strong leads are all along the Lake Peera - Lakeside Trend. The Namur Sandstone constitutes the major target with the Hutton Sandstone a possible secondary target.

2.7.3 Weak Leads

Approximately 30 weak leads consisting of one or two line rollovers exist within the blocks. Only three are considered here.

Lake Peera (6,401 acres)	-	palaeohigh in the northern portion of block in the zone of deepest Birkhead Formation.
Warburton (8,500 acres)	-	subdued palaeoflank enhanced by Tertiary structuring.
Warrandinna West (9,300 acres)	-	palaeohigh in the northeastern corner of the block.

The Hutton Sandstone is a major target at both Lake Peera and Warburton with the Birkhead prognosed to be both organically rich and mature for hydrocarbon generation in this vicinity.

2.0 GEOLOGICAL CONSIDERATIONS (Cont.)

2.8 Regional Play Concepts

The primary plays in the Lake Eyre Block are structural and stratigraphic traps containing Jurassic sandstone reservoirs. Namur Sandstone and Hutton Sandstone reservoirs within four-way dip closed structures in the northeastern portion of the block are the most highly rated.

Source rock potential, maturity and access are the principal controls upon hydrocarbon potential of the Lake Eyre Block as seal, reservoir and structures have been demonstrated to be present and more than adequate for hydrocarbon entrapment.

The growth of all structures (irrespective of their mode of genesis, Type A, B, C) predates the postulated oil generation and migration of both intrablock (Birkhead) and exblock (Poolowanna and Birkhead) source rocks.

All available Jurassic source rocks (both intrablock and exblock) are at the early-peak (at best) oil generation phase and structural plays must be selected on their

- proximity to the most mature source rocks (deepest).
- proximity to the best quality source rocks (palaeo-depocentres).
- access to the largest volume of source rocks (ie access to a thick source rock pile and/or access to the largest possible source rock drainage area).

Structures on the Lake Peera - Lakeside Trend or further north have the best access to source rocks on all the above criteria and as such the northern part of the trend is considered the most prospective region in the Lake Eyre Block.

Individual structures considered to be closest to possible Birkhead depocentres are Tirari West, Lake Peera, Warburton and Warrandina.

Jurassic stratigraphic plays are present in the Hutton Sandstone where Birkhead onlaps the flanks of palaeohighs.

At Poonarunna 1 the Birkhead Formation is 198' thick and lying on basement. Downdip the Hutton is expected to onlap basement, sealed by a thick shaley Birkhead. If maturity levels increase downdip then the Hutton pinchout traps about the major highs may be an important play type. However due to the thin Hutton anticipated and the strong Birkhead and Basement reflectors in this region this play is most difficult to map. Improved processing and interpretation techniques may provide a target however.

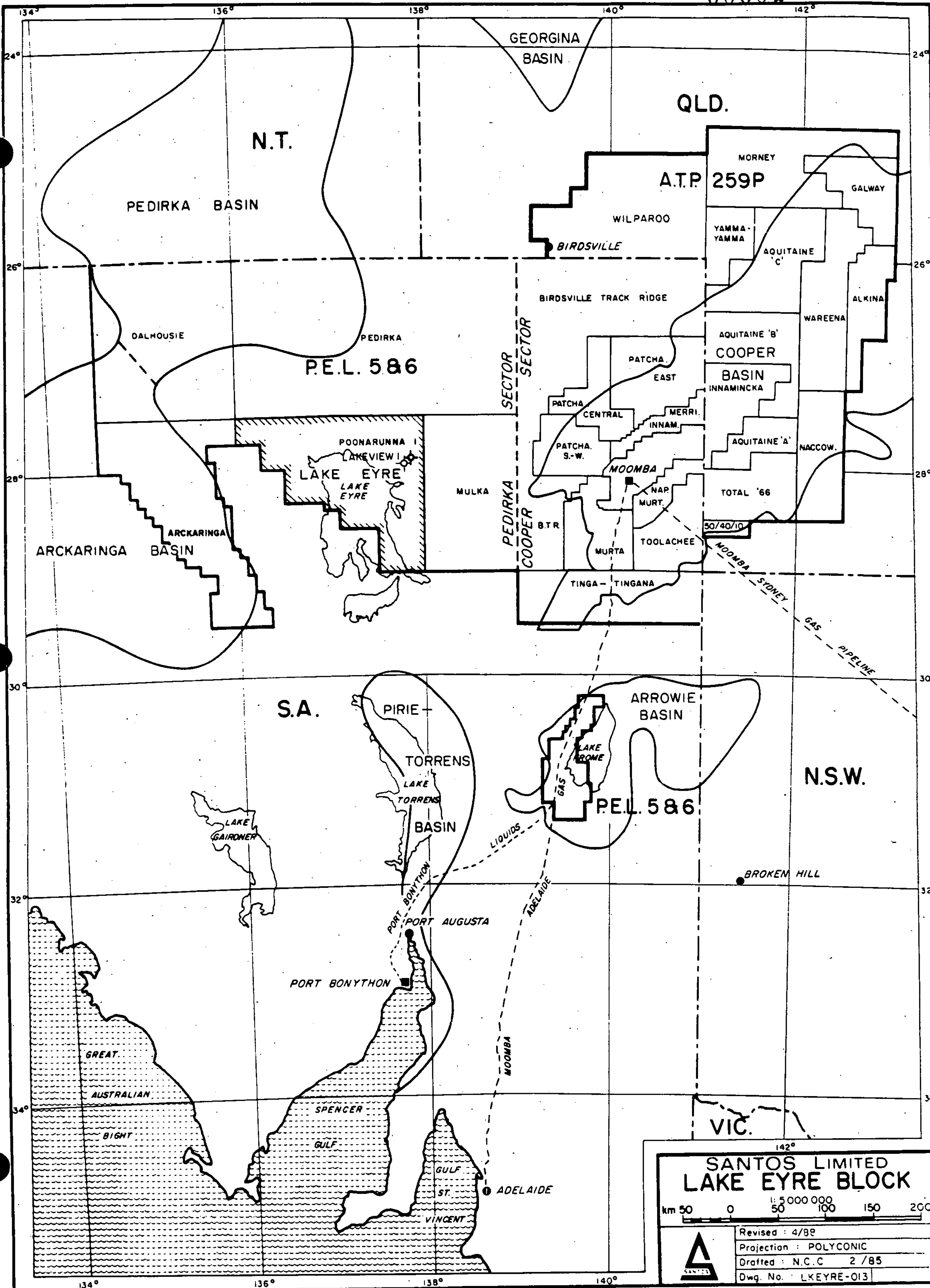

GEORGINA BASIN
QLD.
N.T.
PEDIRKA BASIN
A.T.P. 259P
MORNEY
GALWAY
WILPAROO
YAMMA-YAMMA
AQUITAINE 'C'
BIRDSVILLE
BIRDSVILLE TRACK RIDGE
ALKINA
WAREENA
DALHOUSIE
PEDIRKA
P.E.L. 5&6
SECTOR SECTOR
PEDIRKA COOPER
AQUITAINE 'B'
COOPER BASIN
INNAMINCKA
PATCHA
EAST
PATCHA
CENTRAL
MERRI.
INNAM.
PATCHA S.-W.
AQUITAINE 'A'
NACCOW.
POONARUNNA 1
LAKEVIEW 1
LAKE EYRE
LAKE EYRE
MULKA
MOOMBA
NAP.
MURT.
TOTAL '66
50/40/10
ARCKARINGA
ARCKARINGA BASIN
B.T.R.
MURTA
TOOLACHEE
TINGA-TINGANA
MOOMBA SYDNEY GAS PIPELINE
S.A.
PIRIE-TORRENS BASIN
LAKE TORRENS
ARROWIE BASIN
LAKE FROME
GAS
P.E.L. 5&6
N.S.W.
LAKE GAIRDNER
LIQUIDS
BROKEN HILL
PORT BONYTHON
ADELAIDE
PORT AUGUSTA
PORT BONYTHON
MOOMBA
GREAT AUSTRALIAN BIGHT
SPENCER GULF
GULF ST. VINCENT
ADELAIDE
VIC.
134° 136° 138° 140° 142°
24° 26° 28° 30° 32° 34°
SANTOS LIMITED
LAKE EYRE BLOCK
1: 5 000 000
km 50 0 50 100 150 200
Revised : 4/89
Projection : POLYCONIC
Drafted : N.C.C 2/85
Dwg. No. LKEYRE-013

Fig 1

STRATIGRAPHY- CENTRAL AND EASTERN PEDIRKA SECTOR

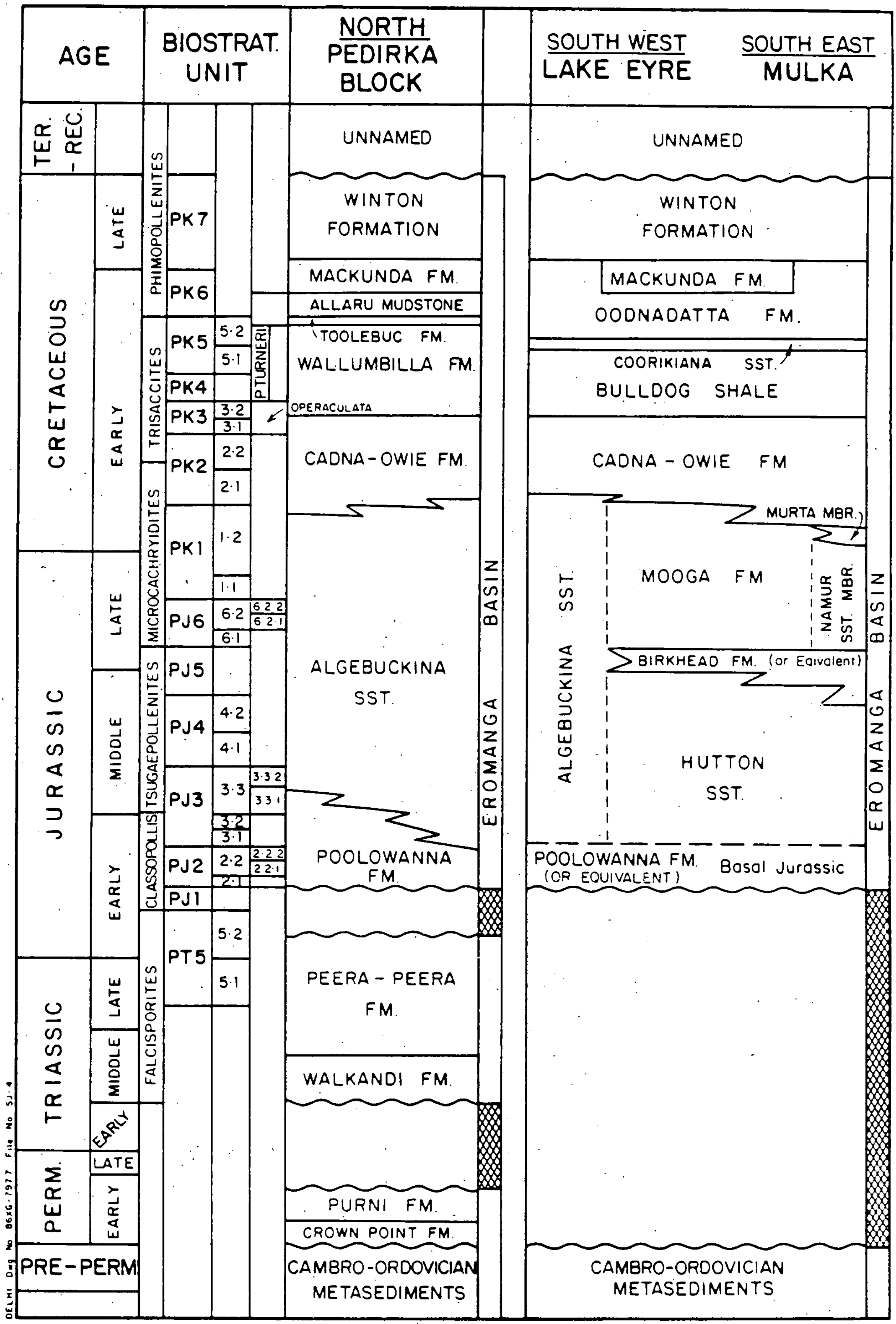
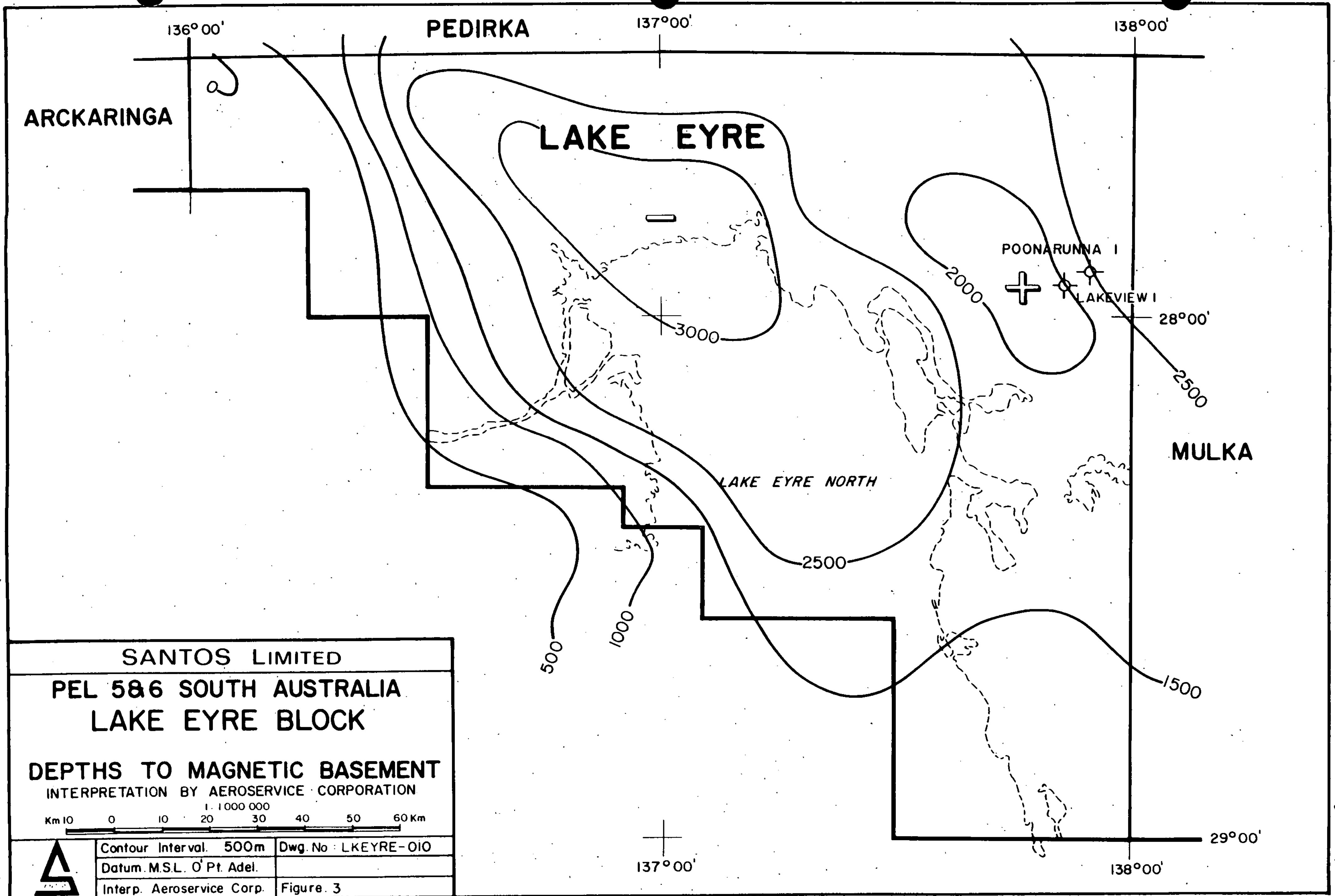
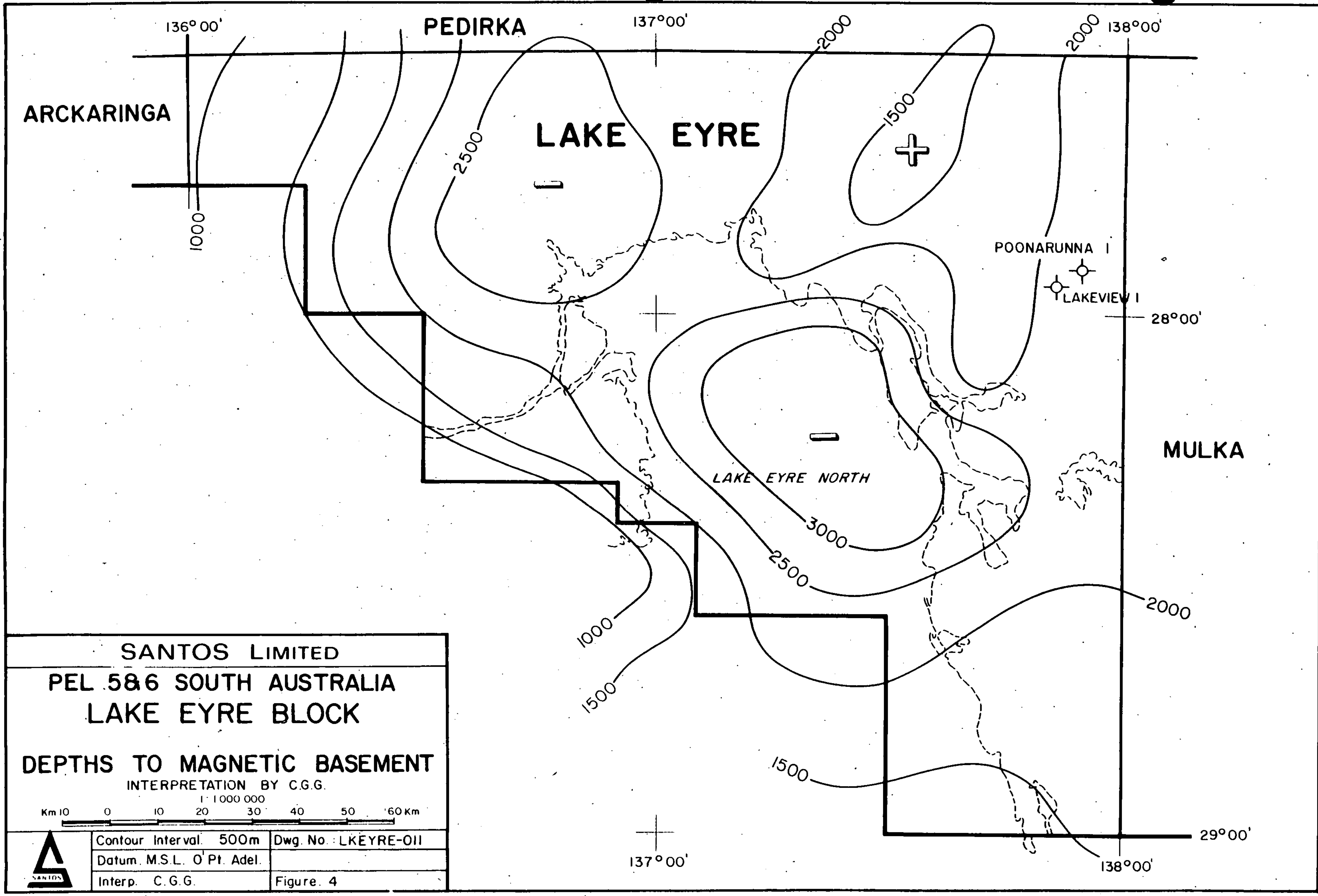


Figure 2

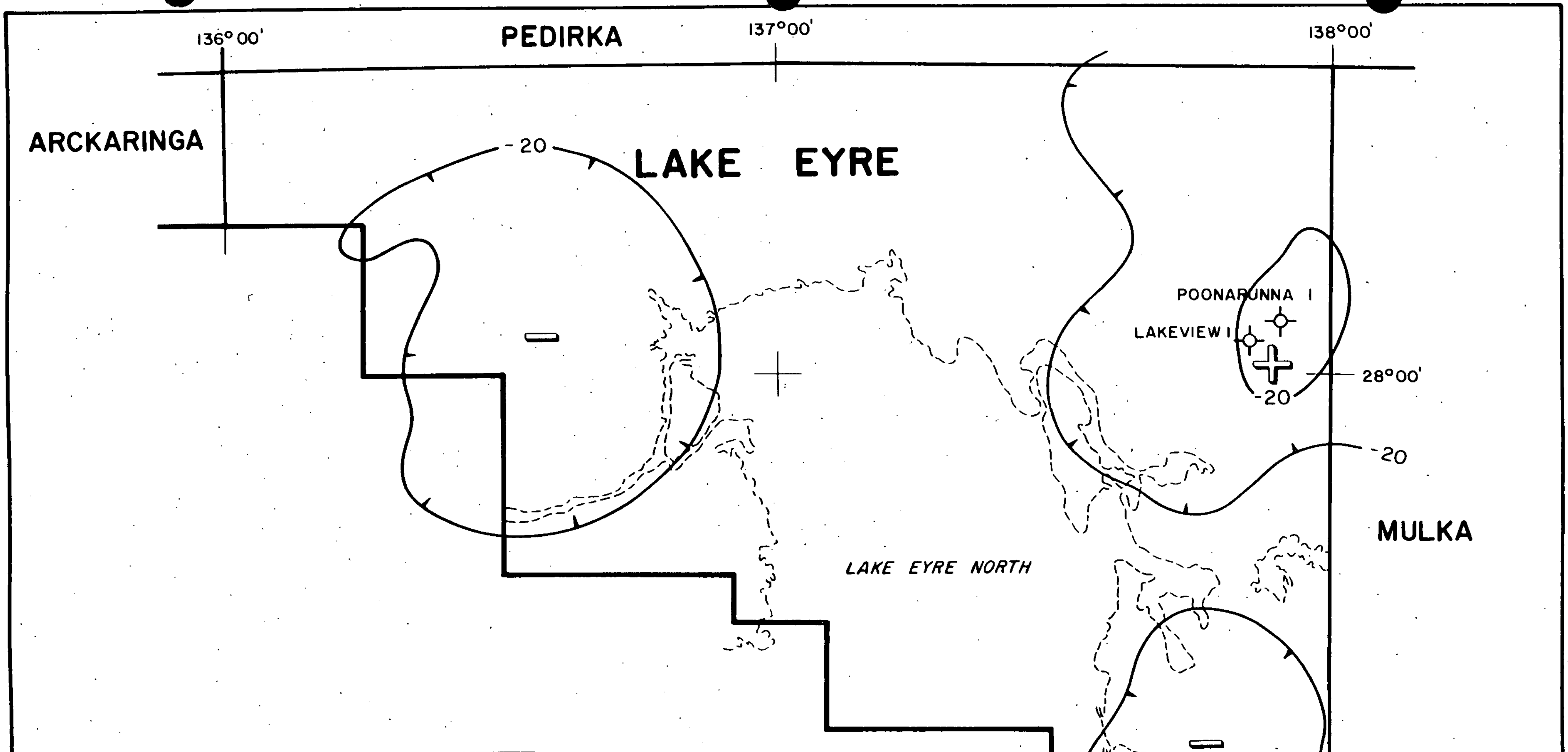
00384


PEDIRKA
136° 00'
137° 00'
138° 00'
ARCKARINGA
LAKE EYRE
POONARUNNA 1
LAKEVIEW 1
2000
3000
28° 00'
2500
MULKA
LAKE EYRE NORTH
2500
500
1000
1500
29° 00'
137° 00'
138° 00'
SANTOS LIMITED
PEL 5&6 SOUTH AUSTRALIA
LAKE EYRE BLOCK
DEPTHS TO MAGNETIC BASEMENT
INTERPRETATION BY AEROSERVICE CORPORATION
1: 1 000 000
Km 10 0 10 20 30 40 50 60 Km
Contour Interval. 500m
Dwg. No: LKEYRE-010
Datum. M.S.L. 0' Pt. Adel.
Interp. Aeroservice Corp.
Figure. 3

00384



PEDIRKA
ARCKARINGA
LAKE EYRE
MULKA
LAKE EYRE NORTH
POONARUNNA 1
LAKEVIEW 1
136° 00'
137° 00'
138° 00'
28° 00'
29° 00'
1000
1500
2000
2500
3000
SANTOS LIMITED
PEL 5&6 SOUTH AUSTRALIA
LAKE EYRE BLOCK
DEPTHS TO MAGNETIC BASEMENT
INTERPRETATION BY C.G.G.
1 : 1 000 000
Km 10 0 10 20 30 40 50 60 Km
SANTOS
Contour Interval 500m
Dwg. No. : LKEYRE-011
Datum M.S.L. O' Pt. Adel.
Interp. C.G.G.
Figure. 4



SANTOS LIMITED

PEL 5&6 SOUTH AUSTRALIA

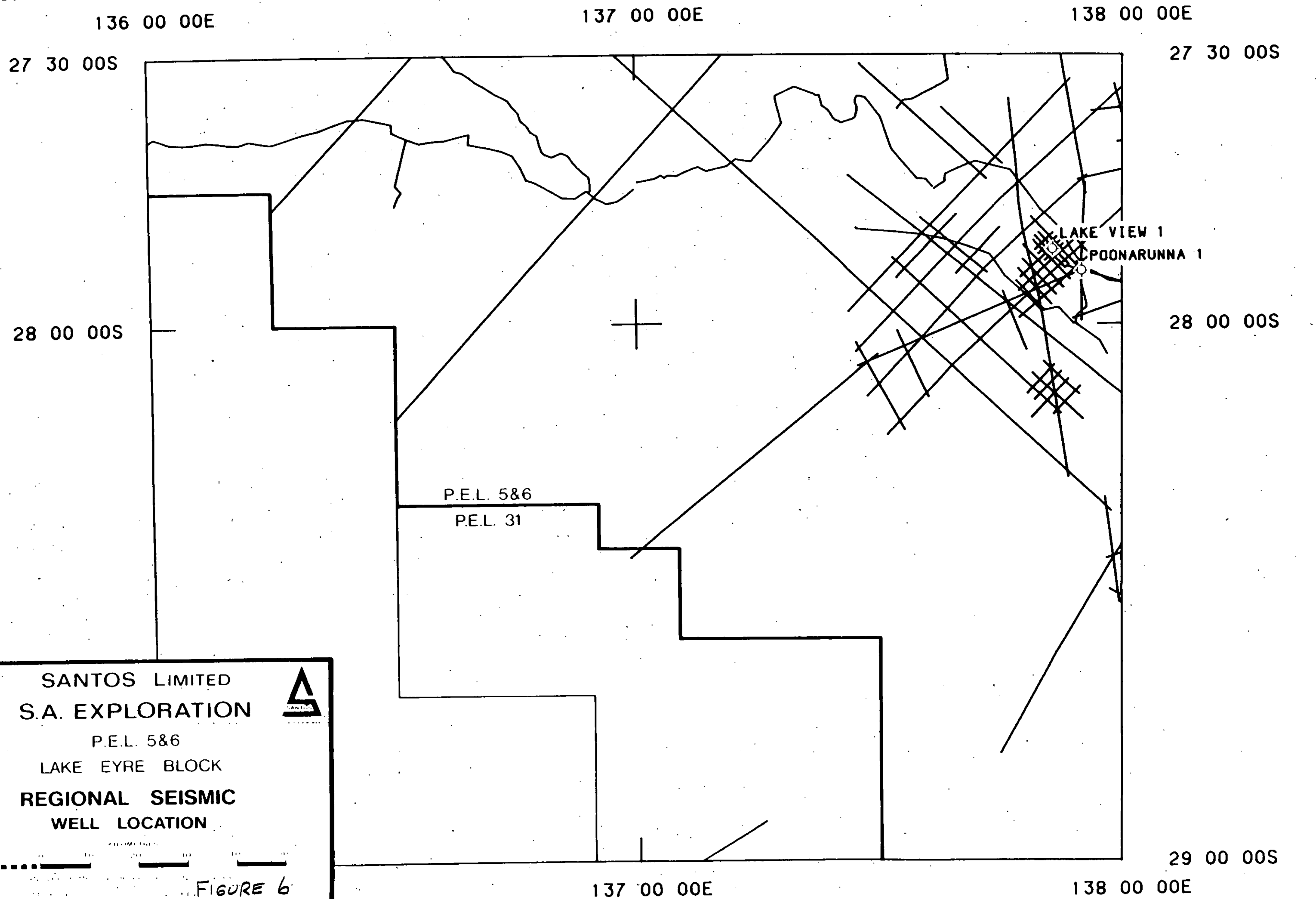
LAKE EYRE BLOCK

BOUGUER GRAVITY CONTOURS

1: 1 000 000

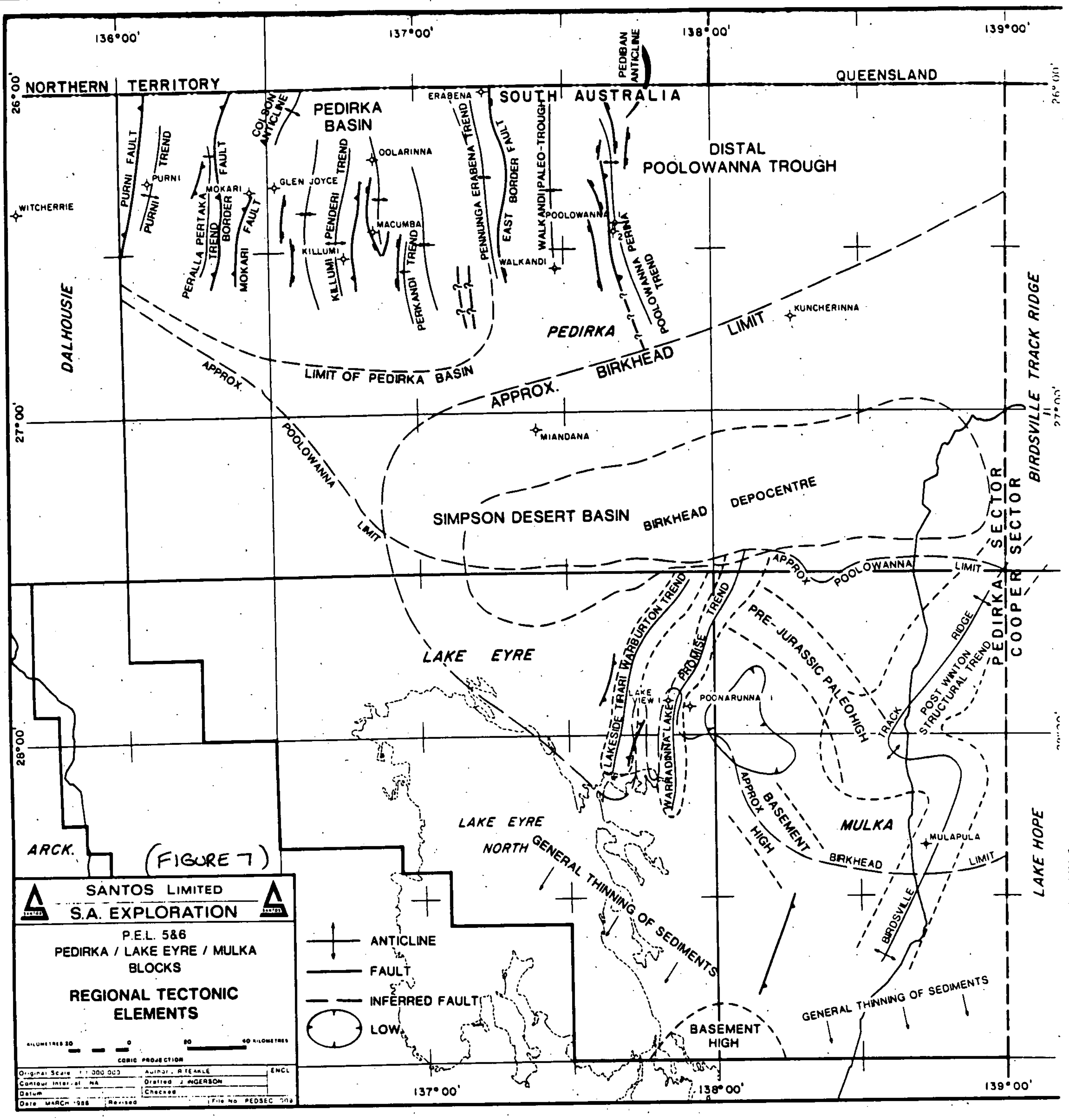
Km 10 0 10 20 30 40 50 60 Km

	Contour Interval. 20mgl.	Dwg. No.: LKEYRE-012
	Datum. M.S.L. 0' Pt. Adel.	
	Interp.	Figure. 5



SANTOS LIMITED
S.A. EXPLORATION
P.E.L. 5&6
LAKE EYRE BLOCK
REGIONAL SEISMIC
WELL LOCATION

FIGURE 6



136°00'
137°00'
138°00'
139°00'
26°00'
27°00'
28°00'
NORTHERN TERRITORY
QUEENSLAND
SOUTH AUSTRALIA
PEDIRKA BASIN
DISTAL POOLOWANNA TROUGH
PEDIBAN ANTICLINE
ERABENA
COLSON ANTICLINE
OOLARINNA
GLEN JOYCE
PURNI
PURNI FAULT
PURNI TREND
MOKARI
MOKARI FAULT
BORDER FAULT
PERALLA PERTAKA TREND
KILLUMI
KILLUMI PENDERI TREND
MACUMBA
PERKANDI TREND
PENNUNGA ERABENA TREND
EAST BORDER FAULT
WALKANDI PALEO-TROUGH
WALKANDI
POOLOWANNA
POOLOWANNA PERNA TREND
WITCHERRIE
DALHOUSIE
KUNCHERINNA
PEDIRKA
LIMIT OF PEDIRKA BASIN
APPROX. BIRKHEAD LIMIT
APPROX. POOLOWANNA LIMIT
MIANDANA
SIMPSON DESERT BASIN
BIRKHEAD DEPOCENTRE
BIRDSVILLE TRACK RIDGE
PEDIRKA SECTOR
COOPER SECTOR
LAKE EYRE
TIRRARI WARBURTON TREND
PROMISE TREND
LAKE VIEW 1
POONARUNNA 1
LAKESIDE
WARRADINNA LAKE
PRE-JURASSIC PALEOHIGH
POST WINTON STRUCTURAL TREND
RIDGE
TRACK
APPROX BASEMENT HIGH
MULKA
MULAPULA
BIRKHEAD LIMIT
BIRDSVILLE
LAKE HOPE
LAKE EYRE NORTH
GENERAL THINNING OF SEDIMENTS
BASEMENT HIGH
ARCK.
(FIGURE 7)
SANTOS LIMITED
S.A. EXPLORATION
P.E.L. 5&6
PEDIRKA / LAKE EYRE / MULKA BLOCKS
REGIONAL TECTONIC ELEMENTS
CONIC PROJECTION
ANTICLINE
FAULT
INFERRED FAULT
LOW

00389

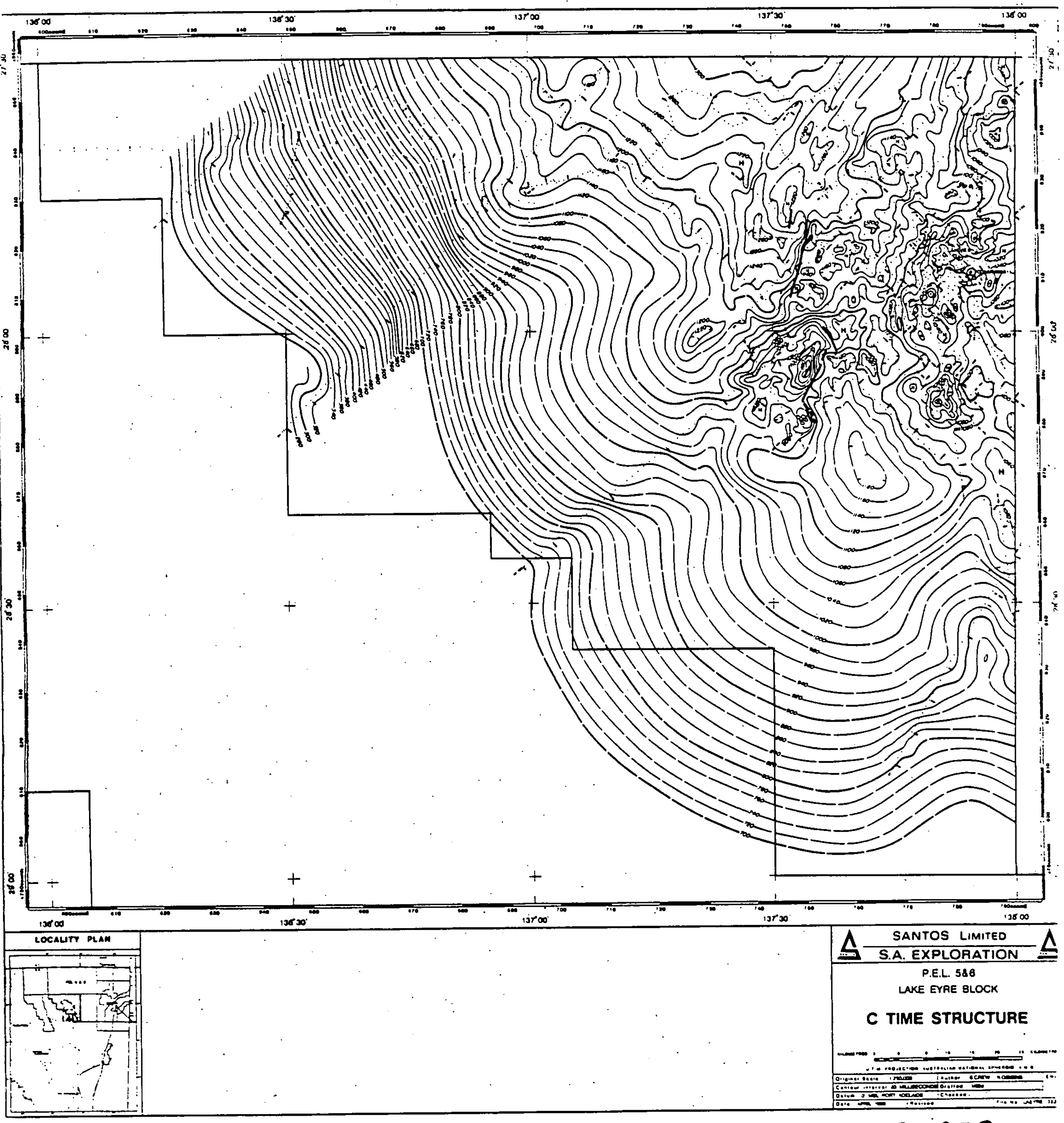


FIGURE 8

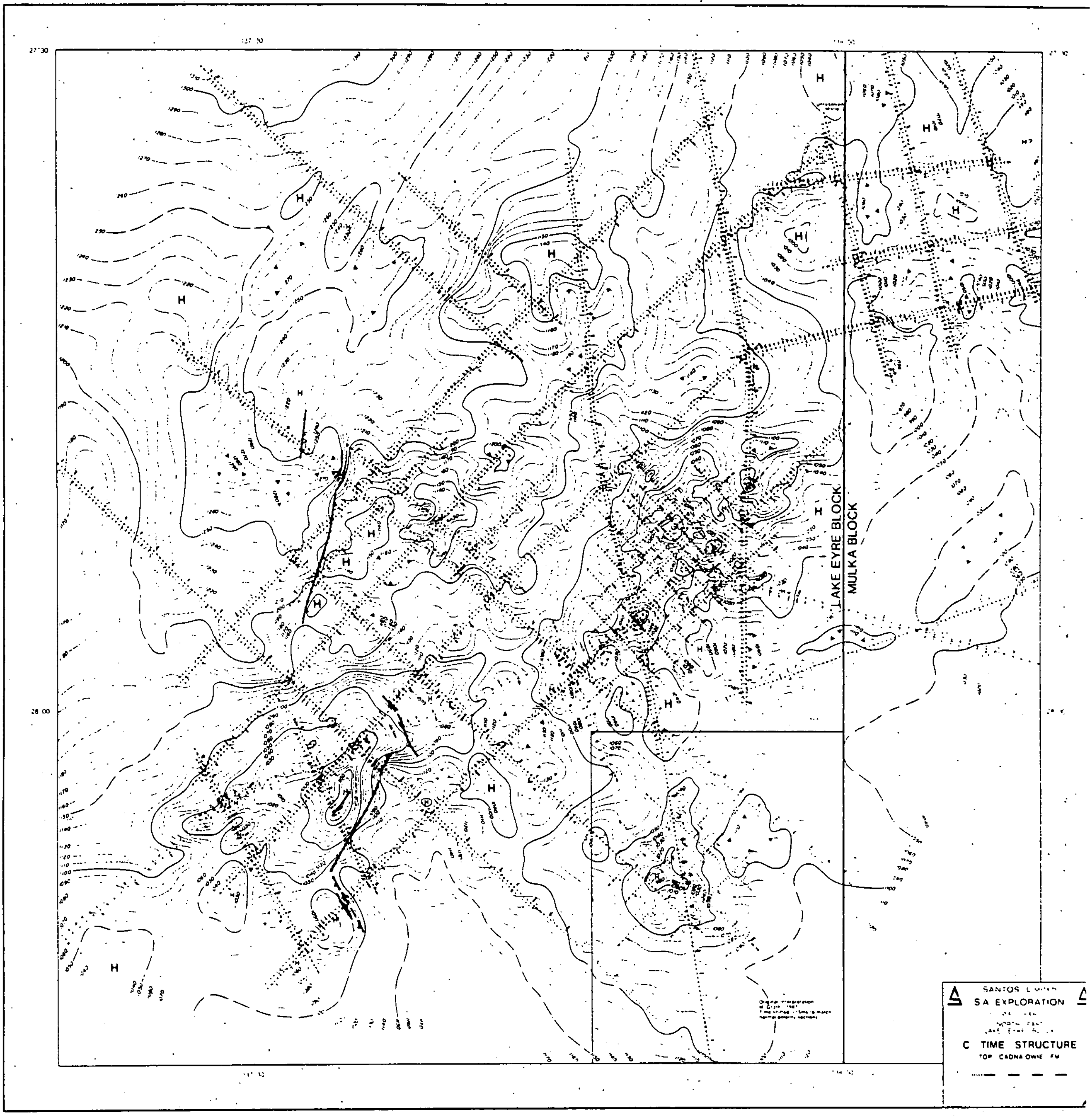

LAKE EYRE BLOCK
MULKA BLOCK
SANTOS
S A EXPLORATION
C TIME STRUCTURE
TOP CADNA OWIE FM

FIGURE 8A

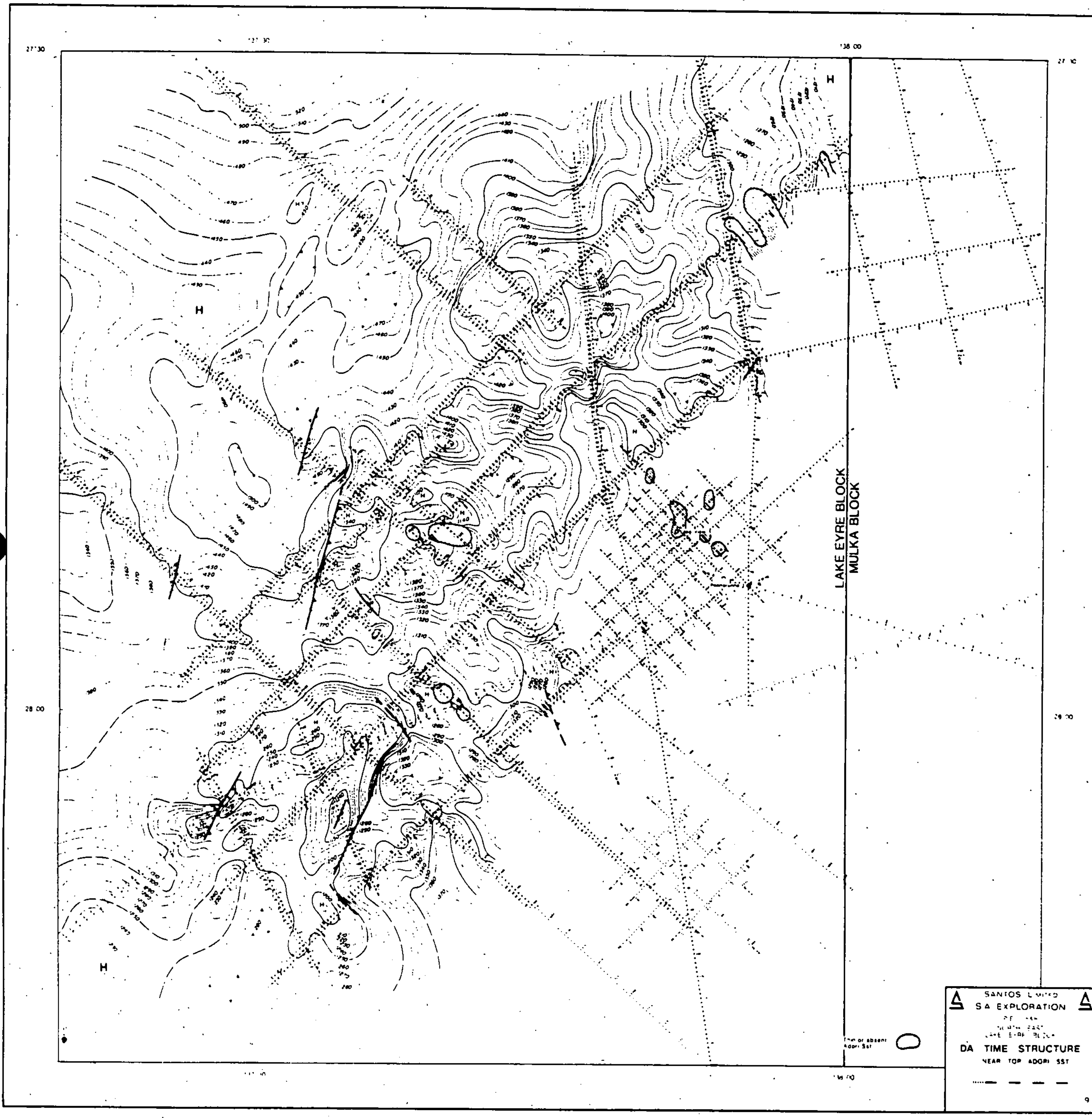

LAKE EYRE BLOCK
MULKA BLOCK
Thin or absent Adori Sst
SANTOS
S A EXPLORATION
DA TIME STRUCTURE
NEAR TOP ADORI SST
9

FIGURE 9

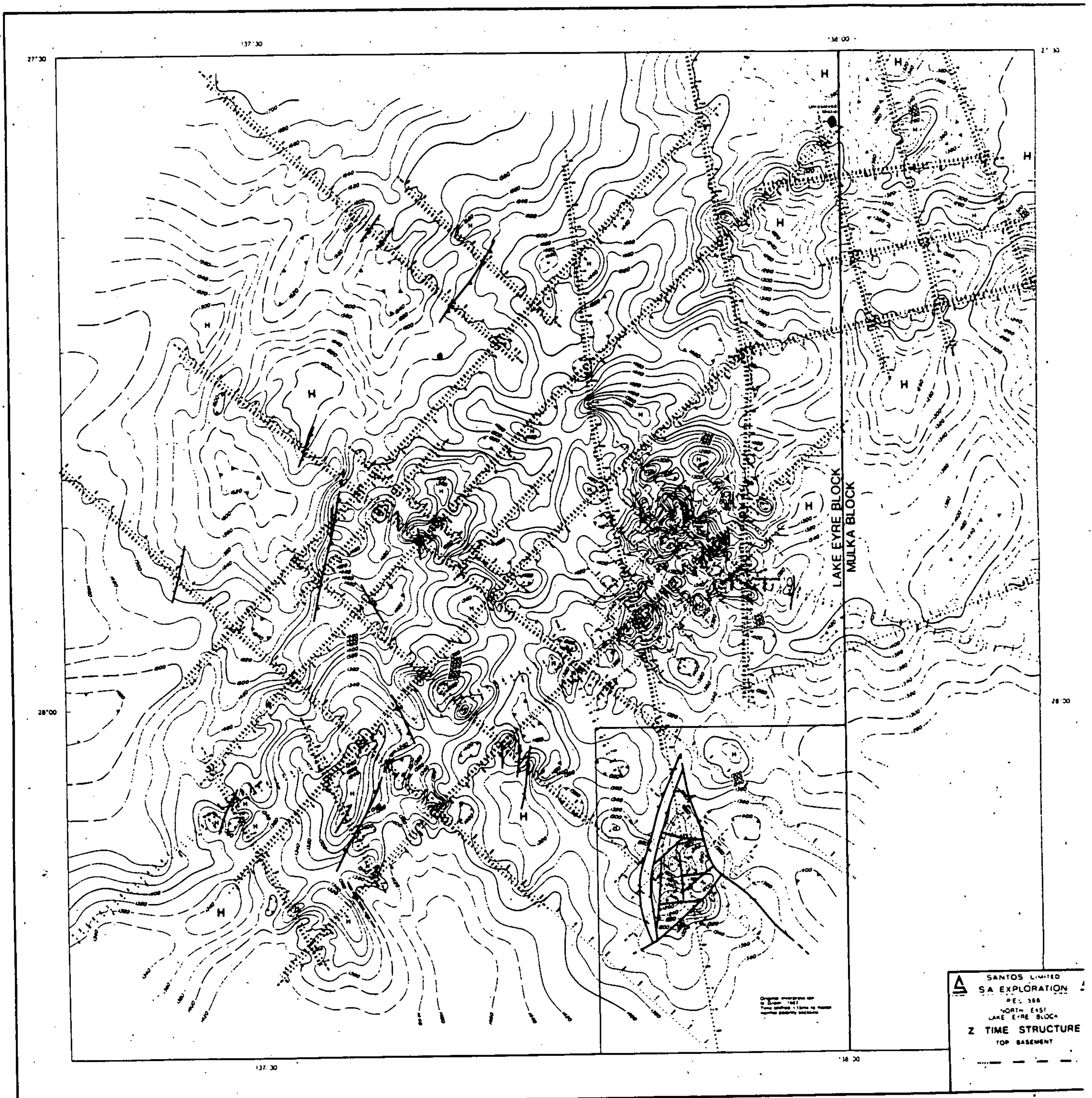

137°30
138°00
27°30
28°00
LAKE EYRE BLOCK
MULKA BLOCK
SANTOS LIMITED
SA EXPLORATION
NORTH EAST
LAKE EYRE BLOCK
Z TIME STRUCTURE
TOP BASEMENT

FIGURE 10

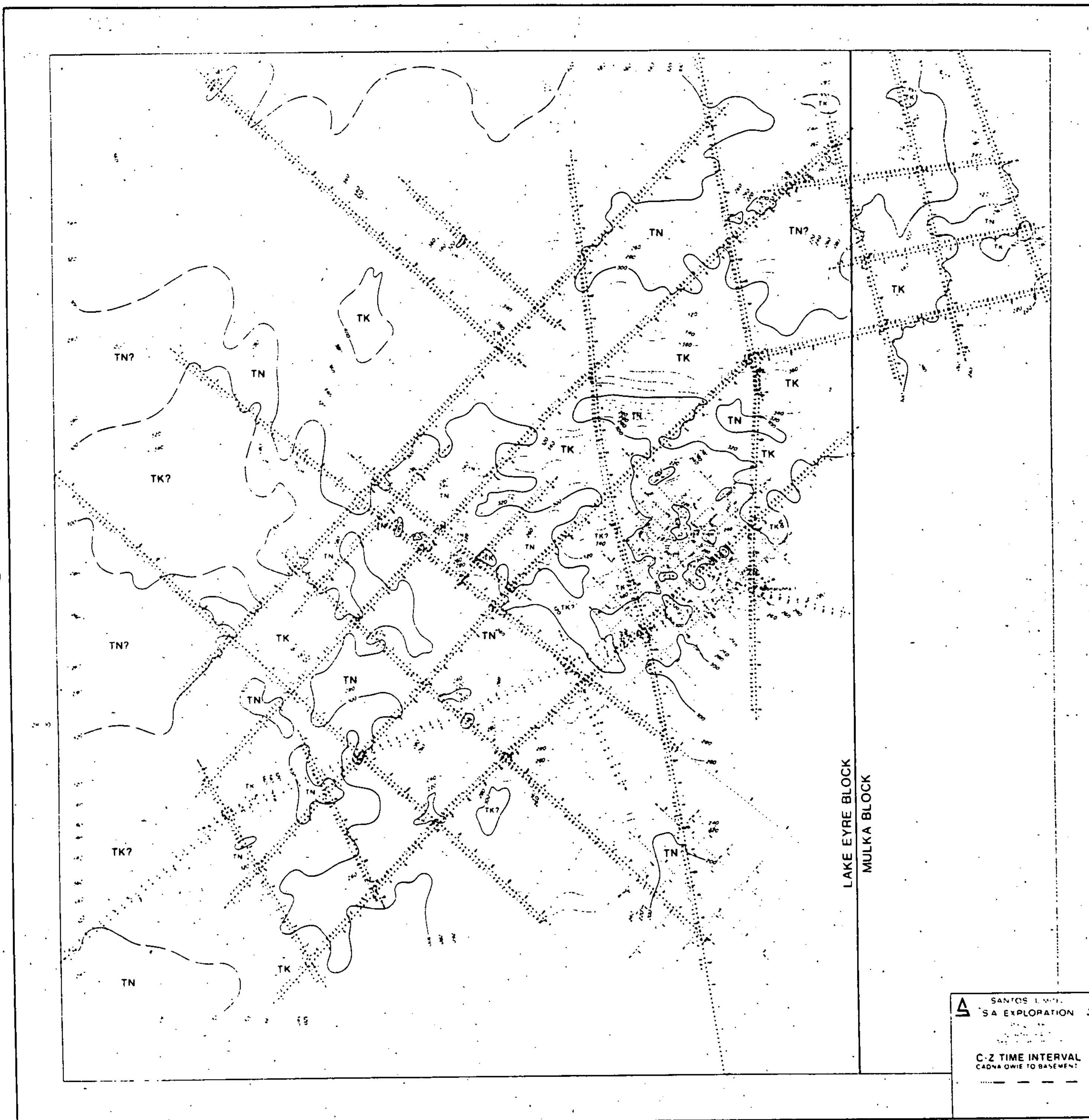

TN
TN?
TK
TK?
LAKE EYRE BLOCK
MULKA BLOCK
SA EXPLORATION
C-Z TIME INTERVAL
CADNA OWIE TO BASEMENT

FIGURE 11

00394

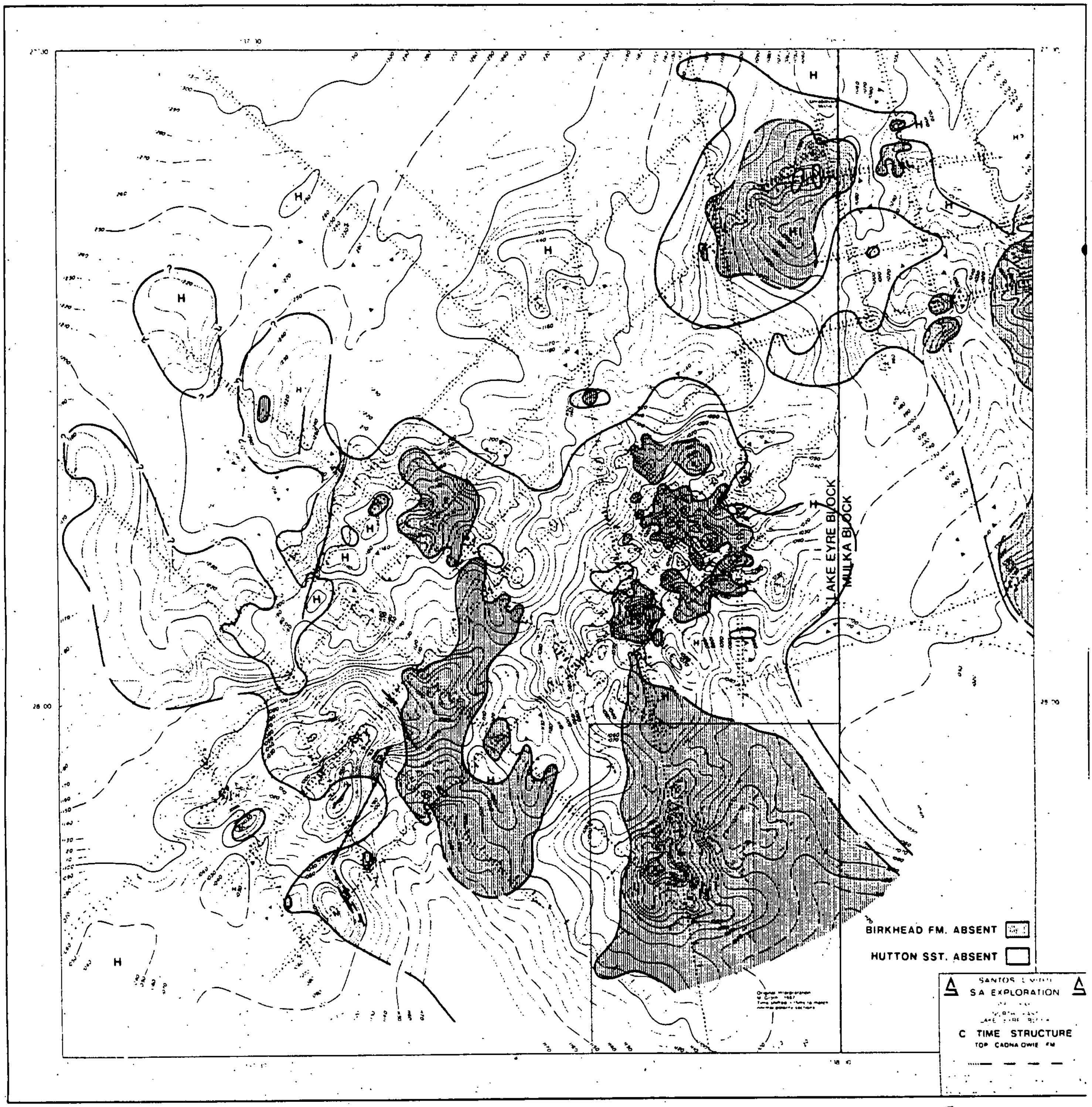
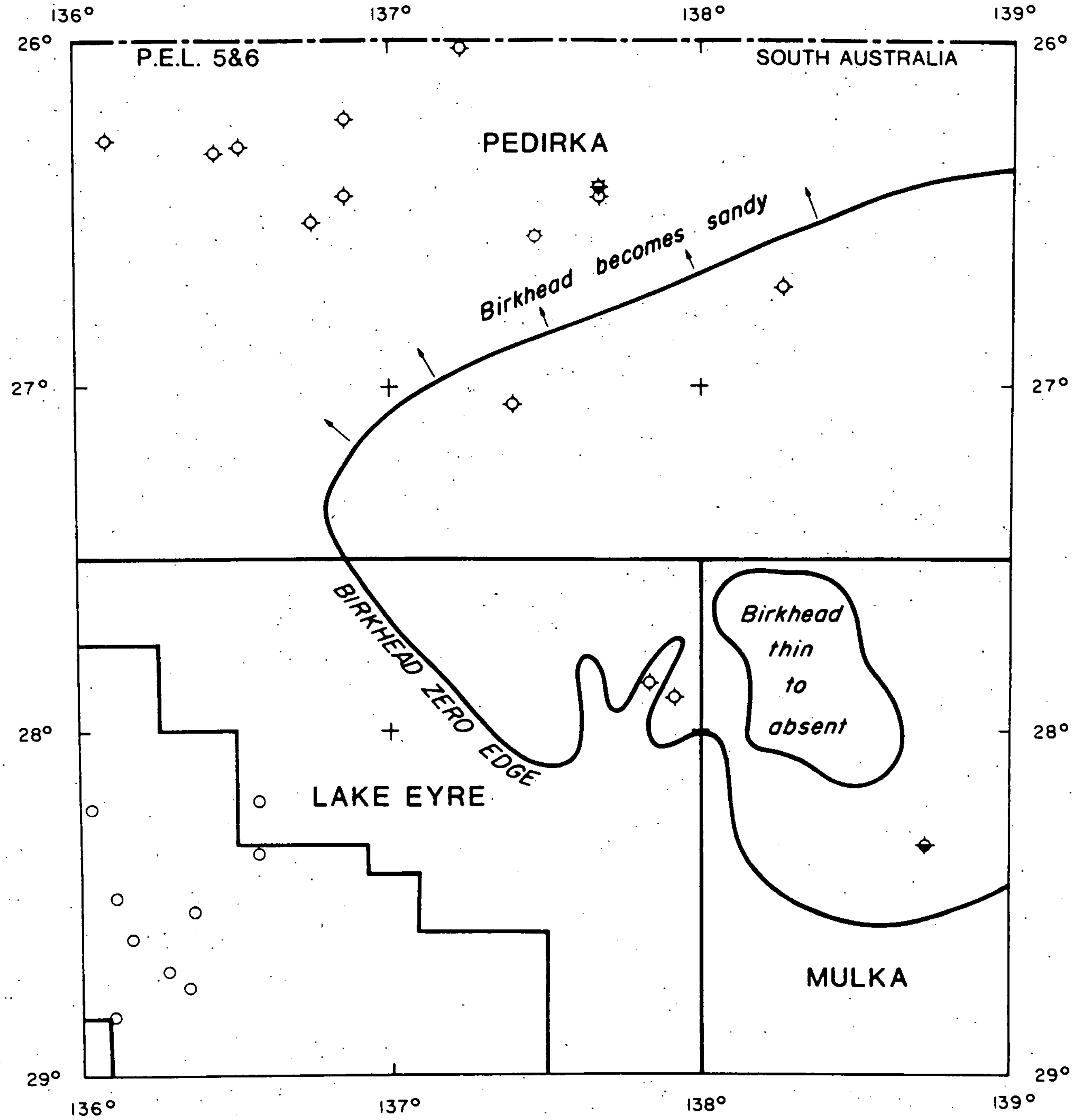


FIGURE 12



SANTOS LIMITED

S.A. EXPLORATION

P.E.L. 5&6

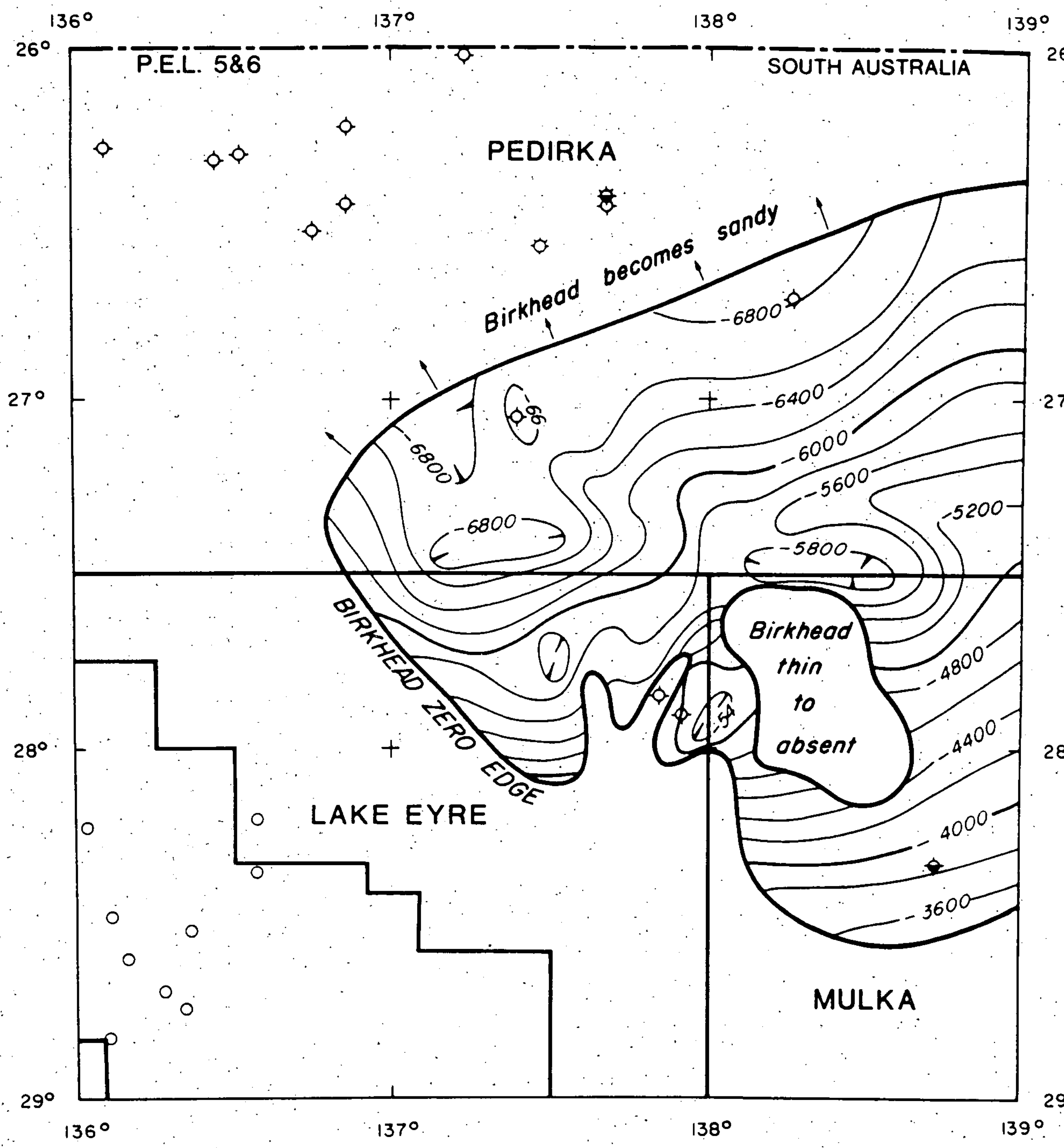
BIRKHEAD FORMATION

ZERO EDGE

1: 2000000

20 0 20 40 60 80 100

Fig. 13
PEDSEC 004



SANTOS LIMITED

S.A. EXPLORATION

P.E.L. 5&6

BIRKHEAD FORMATION

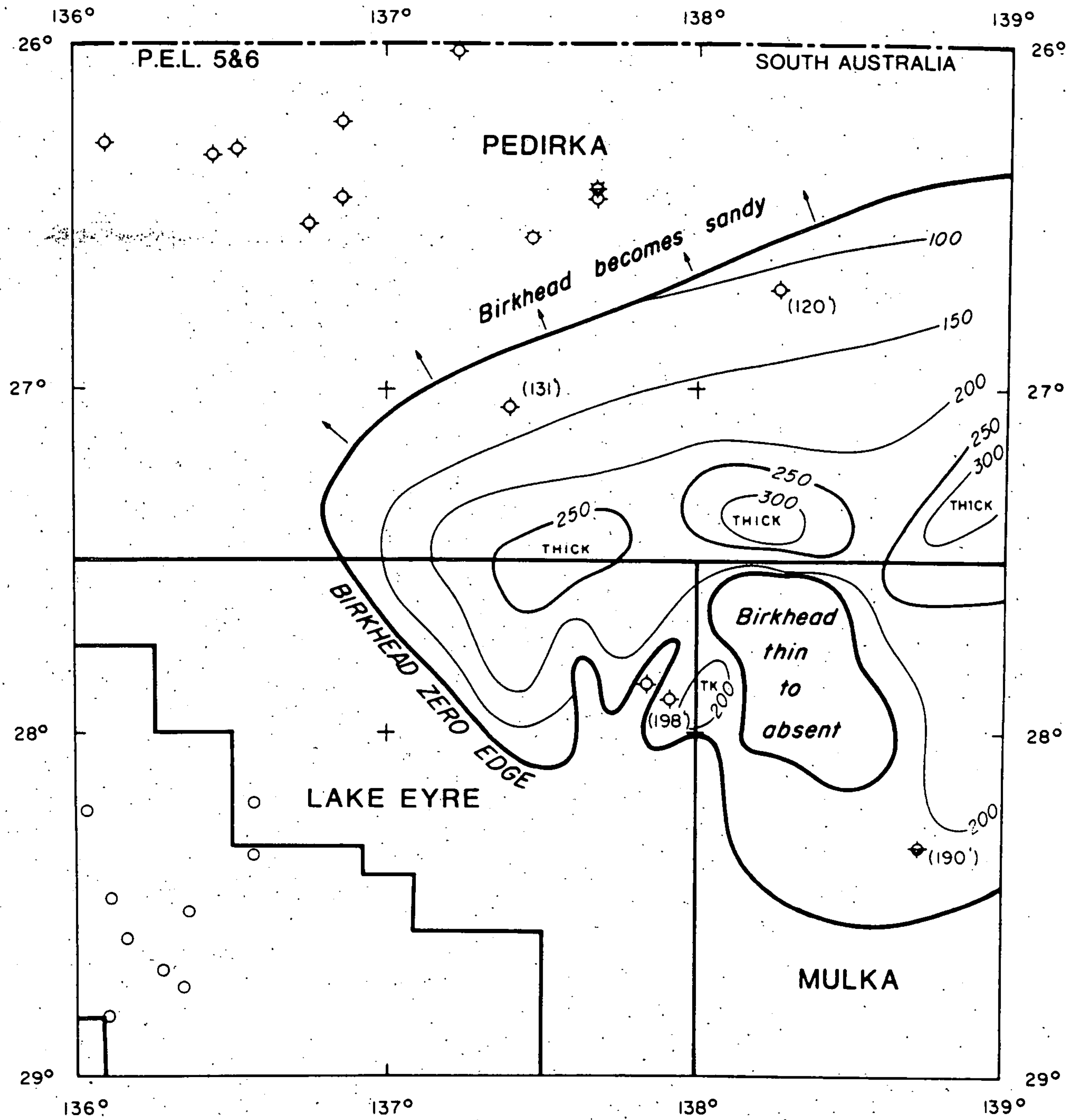
DEPTH STRUCTURE

1: 2000000

20 0 20 40 60 80 100

Fig. 14

PEDSEC 005



SANTOS LIMITED

S.A. EXPLORATION

P.E.L. 5&6

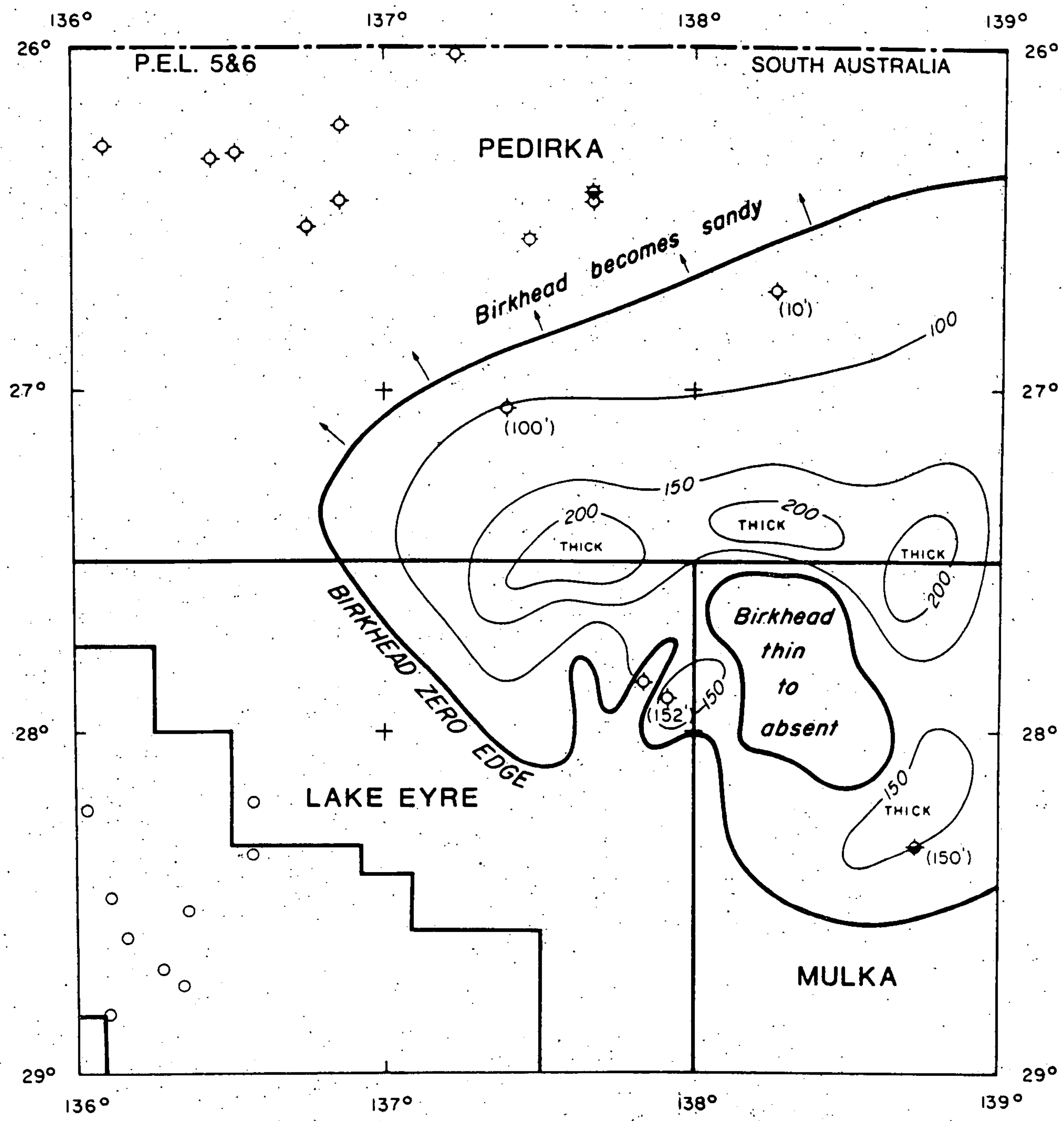
BIRKHEAD FORMATION

ISOPACH

1: 2000000

20 0 20 40 60 80 100

Fig. 16
PEDSEC 007



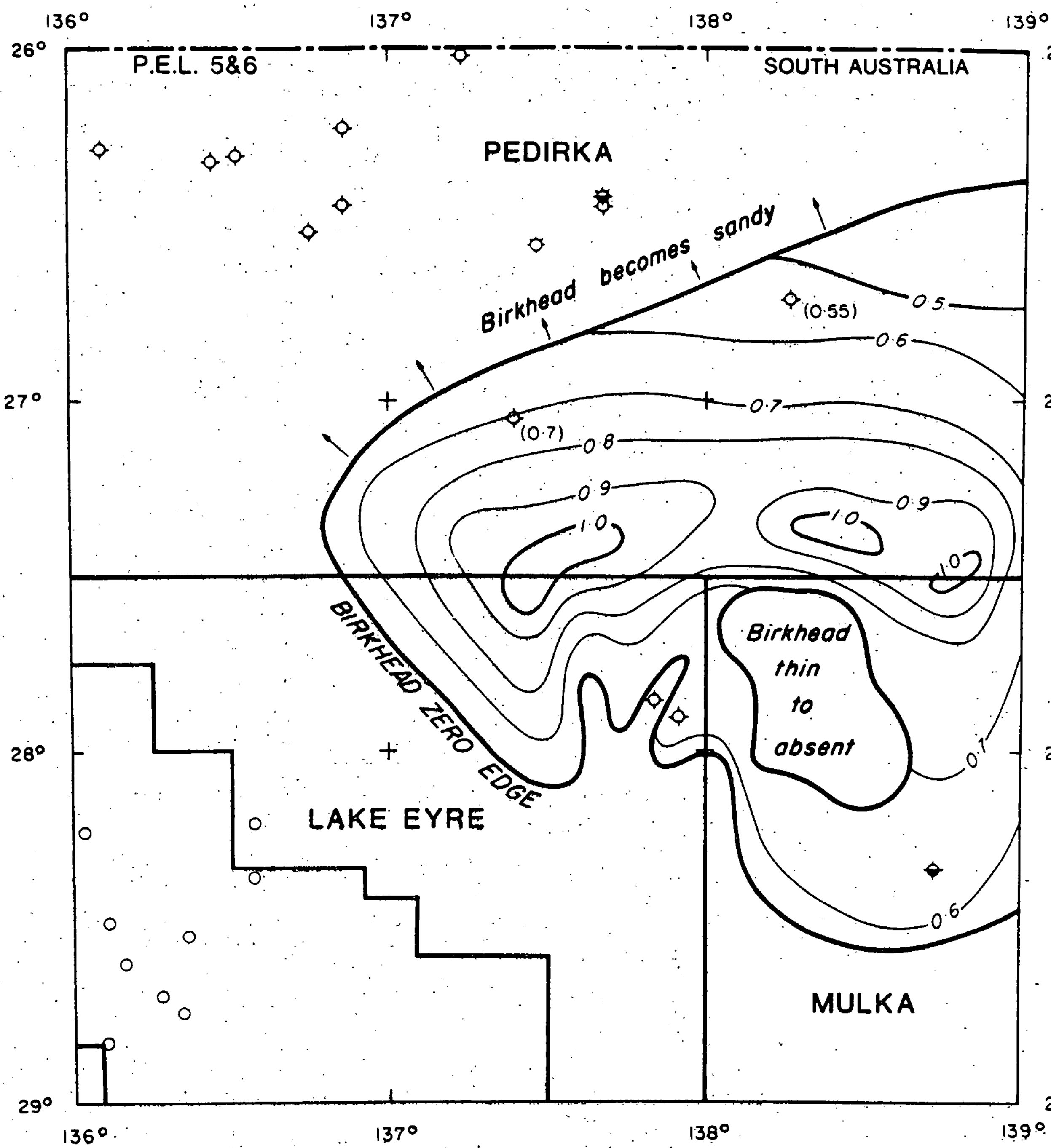
SANTOS LIMITED
S.A. EXPLORATION
P.E.L. 5&6

BIRKHEAD FORMATION

NET SHALE ISOPACH

1: 2000000
20 0 20 40 60 80 100

Fig. 16
PEDSEC 008



SANTOS LIMITED

S.A. EXPLORATION

P.E.L. 5&6

BIRKHEAD FORMATION

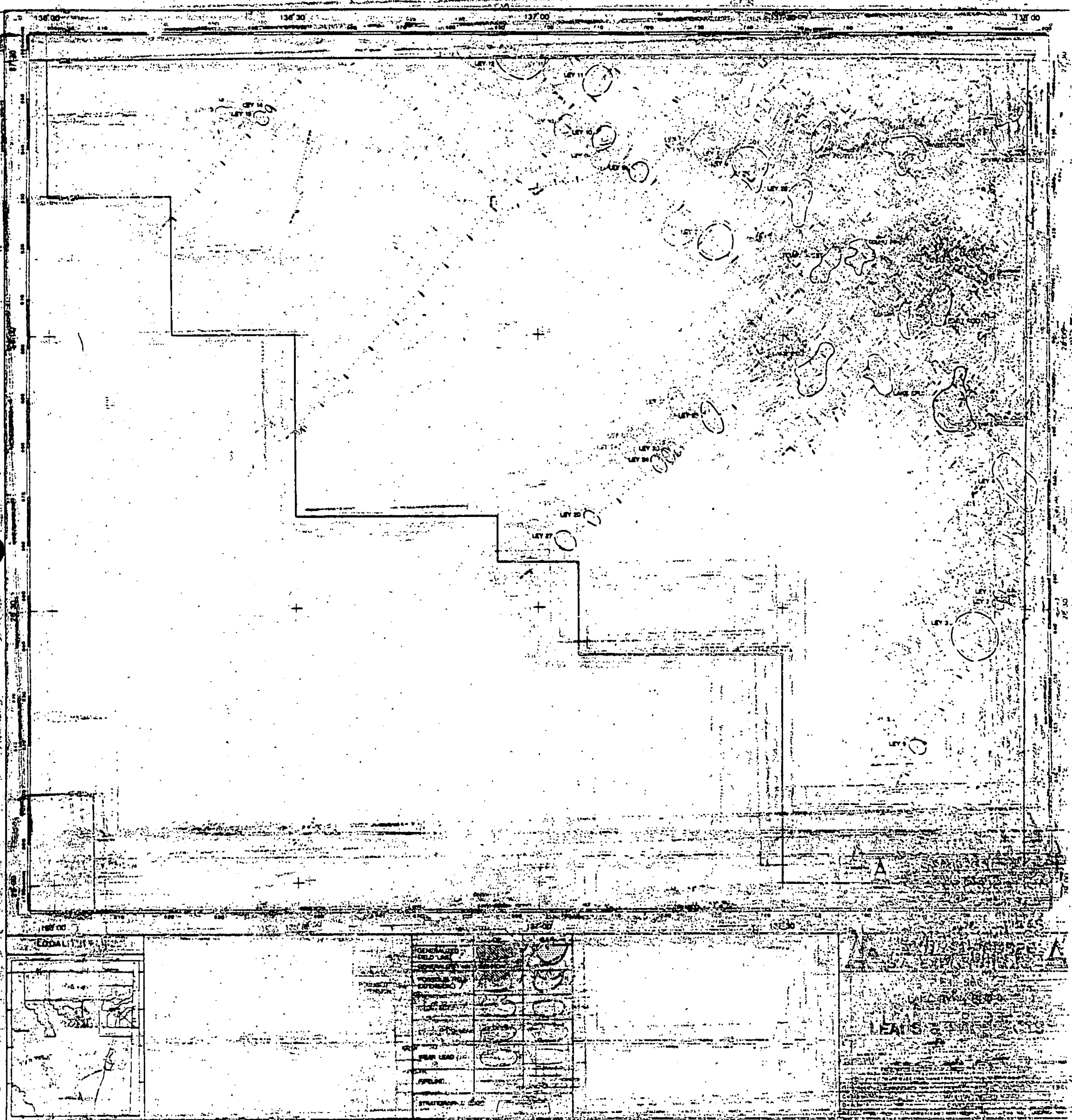
VITRINITE REFLECTANCE
(% Reflectance Rv (max))

1: 2000000

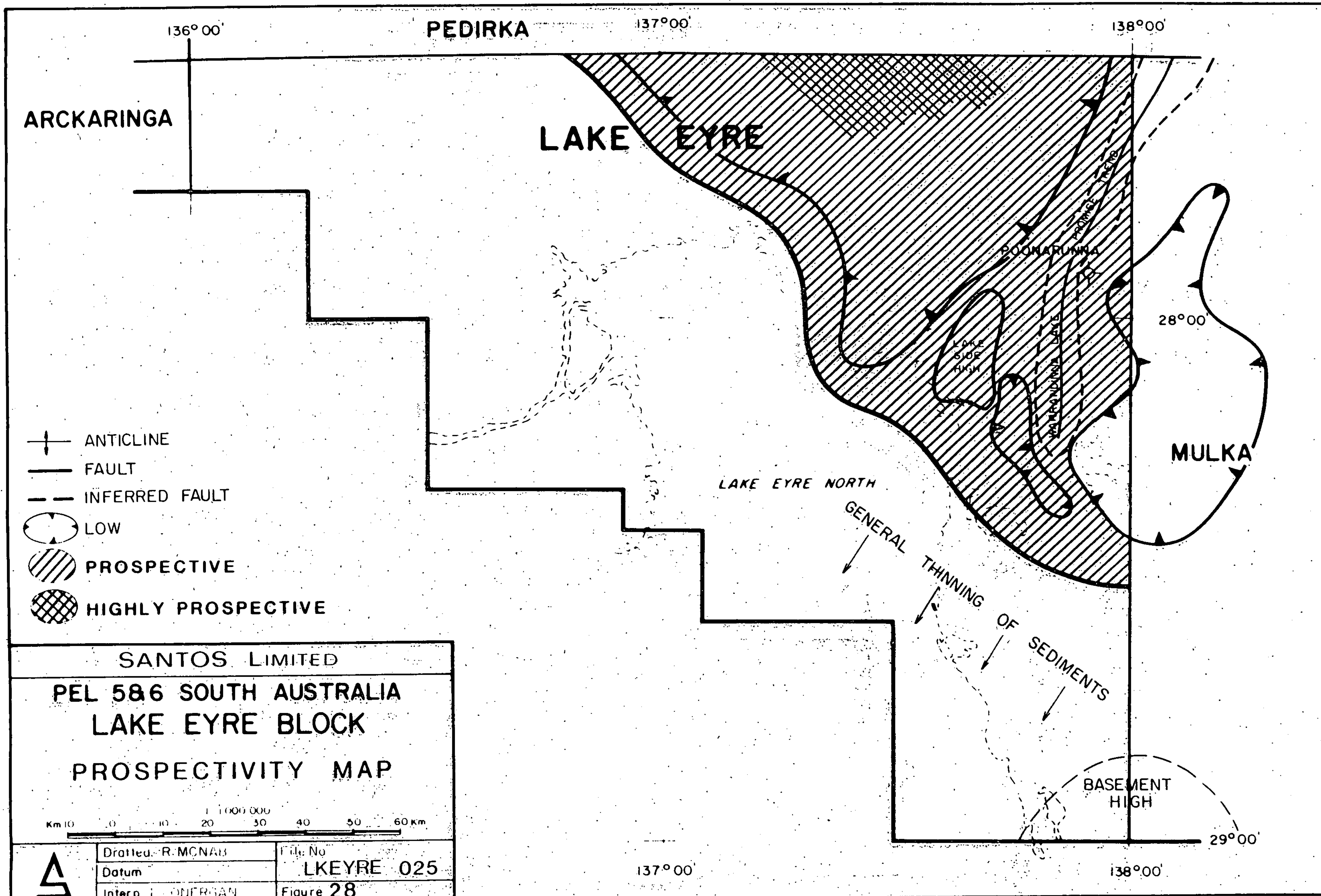
20 0 20 40 60 80 100

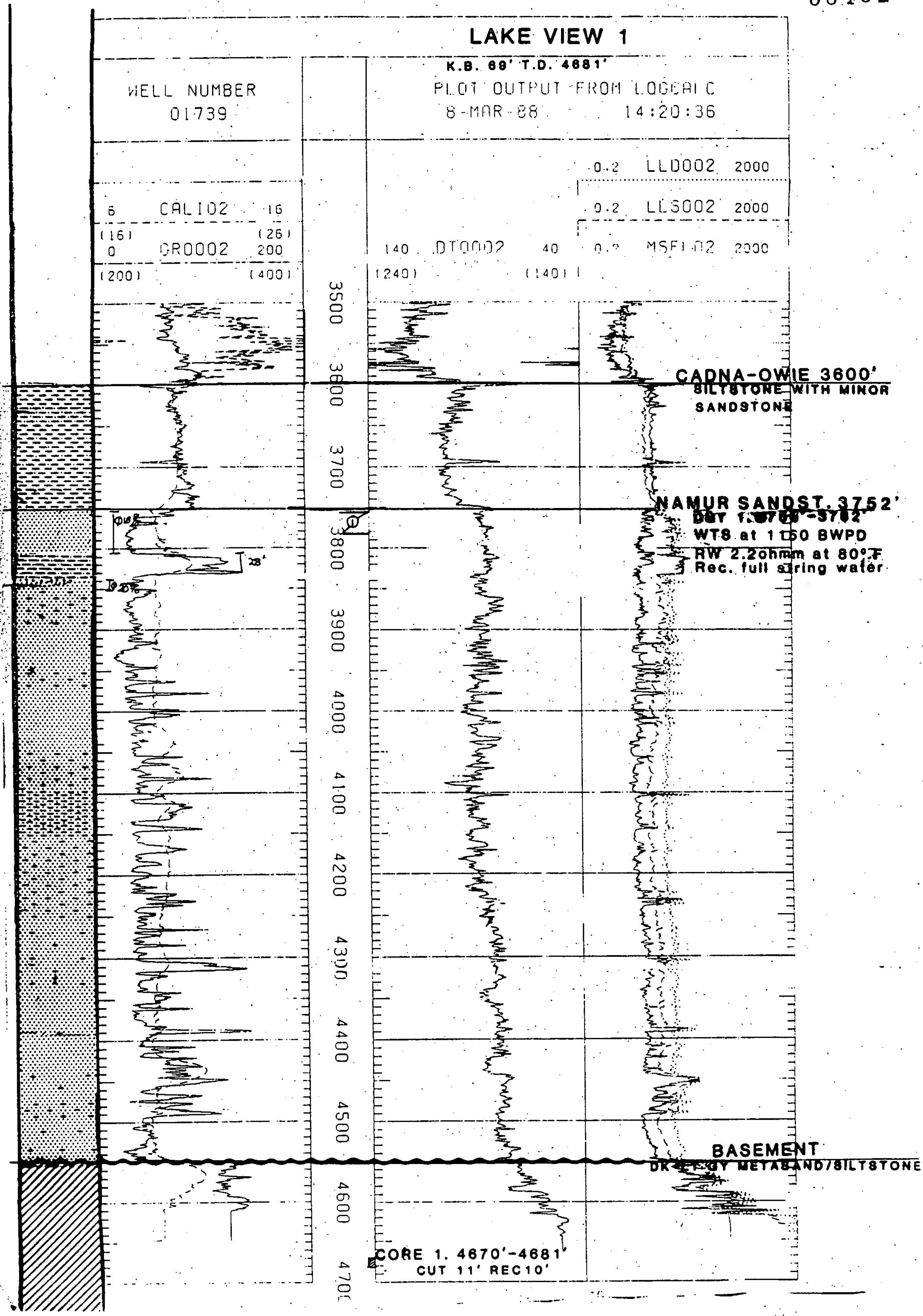
Fig. **17**

PEDSEC 006



00401


PEDIRKA
136° 00'
137°00'
138°00'
ARCKARINGA
LAKE EYRE
POONARUNNA
LAKE SIDE HIGH
28°00'
MULKA
LAKE EYRE NORTH
GENERAL THINNING OF SEDIMENTS
BASEMENT HIGH
29°00'
137°00'
138°00'
ANTICLINE
FAULT
INFERRED FAULT
LOW
PROSPECTIVE
HIGHLY PROSPECTIVE
SANTOS LIMITED
PEL 5&6 SOUTH AUSTRALIA
LAKE EYRE BLOCK
PROSPECTIVITY MAP
1 : 1 000 000
Km 10 0 10 20 30 40 50 60 Km
Drafted R. MCNAB
Datum
File No
LKEYRE 025
Figure 28


LAKE VIEW 1
K.B. 69' T.D. 4681'
WELL NUMBER
01739
PLOT OUTPUT FROM LOGCALC
8-MAR-88 14:20:36
0.2 LLD002 2000
0.2 LLS002 2000
6 CALI02 16
(16) (26)
0 GR0002 200
(200) (400)
140 DT0002 40
(240) (140)
0.2 MSFL02 2000
3500
3600
3700
3800
3900
4000
4100
4200
4300
4400
4500
4600
4700
CADNA-OWIE 3600'
SILTSTONE WITH MINOR
SANDSTONE
NAMUR SANDST. 3752'
WTS at 1150 BWPD
RW 2.2ohmm at 80°F
Rec. full string water
BASEMENT
METASAND/SILTSTONE
CORE 1. 4670'-4681'
CUT 11' REC10'

PROSPECT AND LEAD INVENTORY

00403

WILDCAT WELLS

SUMMARY SHEET

Date : 29/07/88

Prospect : LAKE KOOL
Status : PROSPECT
Licence : PEL'S 5 AND 6 Block : LAKE EYRE
Trap type : ANTICLINE
Ref. Seismic Line : 85-YRW S.P. : 1350
Proposed T.D. : 5900
Dist. to Facility (km) : 280 (oil), (gas)

Latitude : 27 55
Longitude : 137 50
G.L. : 33

Geological Summary : A PALAEOHIGH ENHANCED AND INCORPORATED IN THE WARRANDINNA-LAKE PROMISE TREND BY POST WINTON STRUCTURING. SEPARATED FROM THE BEST DEVELOPED AND MOST MATURE SOURCE ROCKS BY STRUCTURES TO THE NORTH AND WEST. DIRECT ACCESS TO INTERPRETED JURASSIC DEPOCENTRE TO EAST. SOURCE MATURITY AND QUANTITY ARE THE PRIMARY CONTROLS ON HYDROCARBON POTENTIAL NEAR THIS DEPOCENTRE.

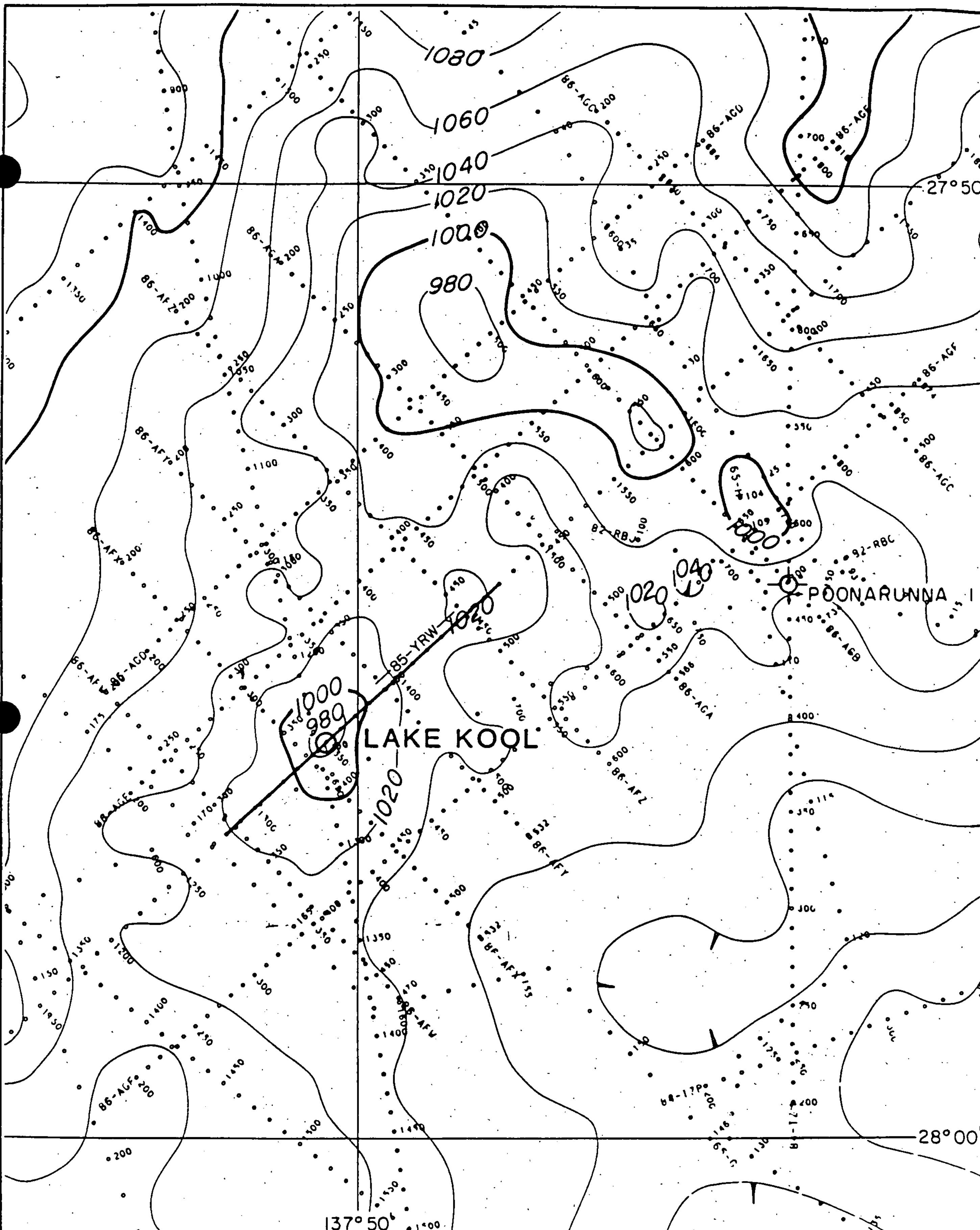
		RESERVOIR PARAMETERS											POTENTIAL RESERVES						
Formation	Reservoir	Subsea Depth ft	Struct Area LCC Acres	Max Rel ft	Pot Pool Area Acres	% Area Fill	Gross Hyd Col ft	Ave NEP ft	Por %	Sh %	BO/BG Oil	BO/BG Gas	Pot OIP MMSTB	Pot GIP BCF	Rec Fac %	Pot Rec Oil MMSTB	Pot Sales Gas BCF	Pot LPG (C3C4) MMSTB	Pot Cond (C5) MMSTB
NAMUR -		5000	3300	140	272	8	40	17	20	70	0.91		4.65		33	1.53			
TOTAL													4.65			1.53			

Reference Field or Well : POONARUNNA 1

Risk : LOCAL SOURCE ROCKS MAY BE IMMATURE OR MARGINALLY MATURE. LIMITED MIGRATION PATHWAYS BETWEEN MAJOR DEPOCENTRES TO THE NORTH AND NORTHWEST OF THE STRUCTURE (SEVERAL INTERVENING STRUCTURES, LAKE VIEW, TIRARI ETC).

Dry Hole Cost ($mm) :

Case and Suspend Cost ($mm) :



SANTOS LIMITED

S.A. EXPLORATION

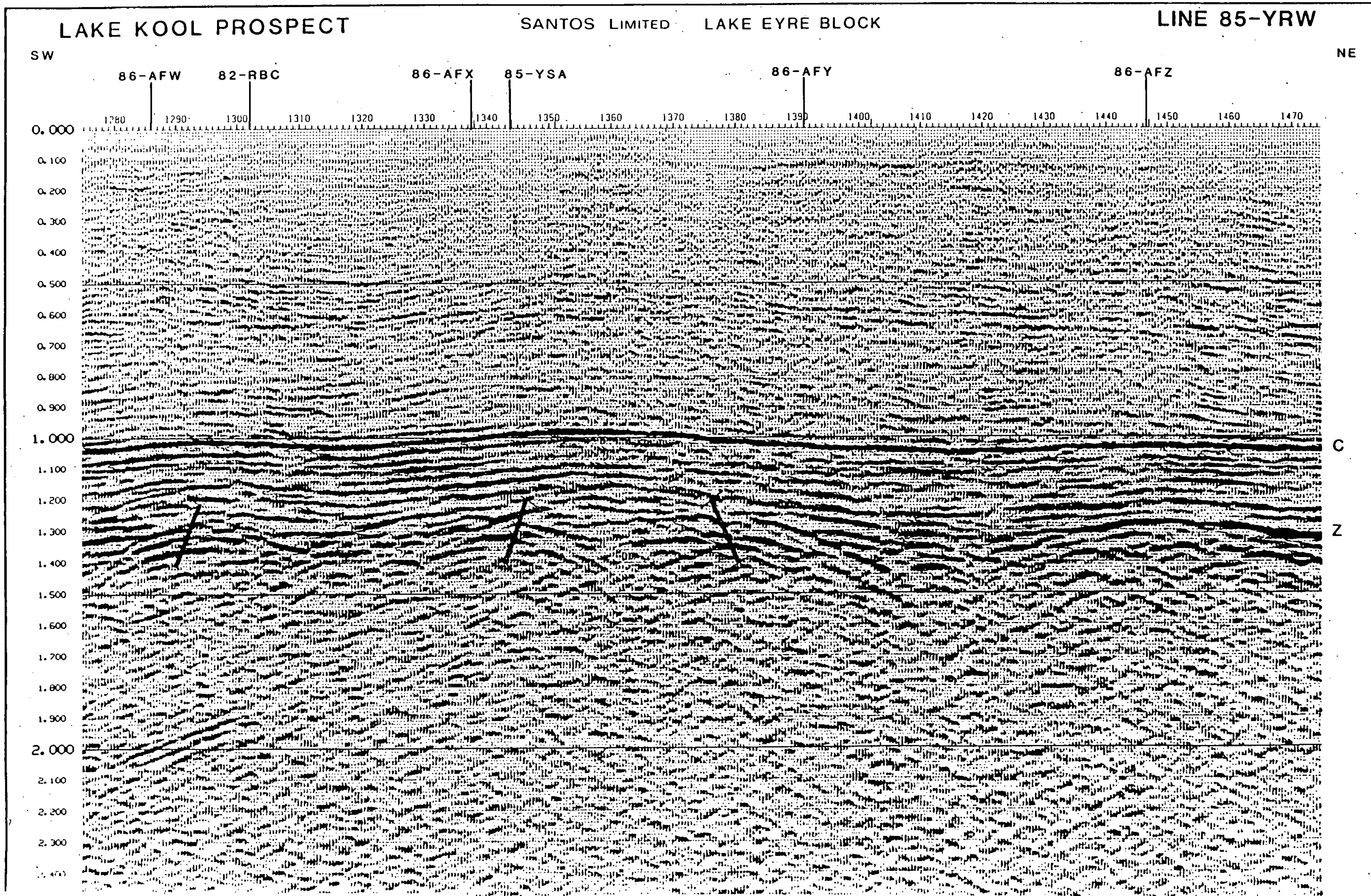
LAKE EYRE BLOCK

LAKE KOOL

C TIME STRUCTURE

1:100 000

KILOMETRES 1 0 1 2 3 KILOMETRES


LAKE KOOL PROSPECT
SANTOS LIMITED
LAKE EYRE BLOCK
LINE 85-YRW
SW
NE
86-AFW
82-RBC
86-AFX
85-YSA
86-AFY
86-AFZ
1280
1290
1300
1310
1320
1330
1340
1350
1360
1370
1380
1390
1400
1410
1420
1430
1440
1450
1460
1470
0.000
0.100
0.200
0.300
0.400
0.500
0.600
0.700
0.800
0.900
1.000
1.100
1.200
1.300
1.400
1.500
1.600
1.700
1.800
1.900
2.000
2.100
2.200
2.300
C
Z

00406

PROSPECT AND LEAD INVENTORY

WILDCAT WELLS

SUMMARY SHEET

Date : 29/07/88

Prospect : LAKE PROMISE
Status : PROSPECT
Licence : PEL'S 5 AND 6 Block : LAKE EYRE
Trap type : ANTICLINE
Ref. Seismic Line : 85-YRY S.P. : 1300
Proposed T.D. : 5500
Dist. to Facility (km) : 280 (oil), (gas)

Latitude : 28 10
Longitude : 137 50
G.L. : 26

Geological Summary : A PALAEOHIGH WITH CLOSURE SUBSTANTIALLY ENHANCED BY POST WINTON STRUCTURING IDEALLY SITUATED TO RECEIVE HYDROCARBONS SHOULD GENERATION AND MIGRATION HAVE OCCURRED IN ADJACENT SOURCE ROCKS AND A DEPOCENTRE TO THE NE (MULKA)

		RESERVOIR PARAMETERS											POTENTIAL RESERVES						
Formation	Reservoir	Subsea Depth ft	Struct Area LCC Acres	Max Rel ft	Pot Pool Area Acres	% Area Fill	Gross Hyd Col ft	Ave NEP ft	Por %	Sh %	BO/BG Oil	BO/BG Gas	Pot OIP MMSTB	Pot GIP BCF	Rec Fac %	Pot Rec Oil MMSTB	Pot Sales Gas BCF	Pot LPG (C3C4) MMSTB	Pot Cond (C5) MMSTB
NAMUR		5000	9050	200	891	10	40	18	20	70	0.91		15.78		.33	5.21			
TOTAL													15.78			5.21			

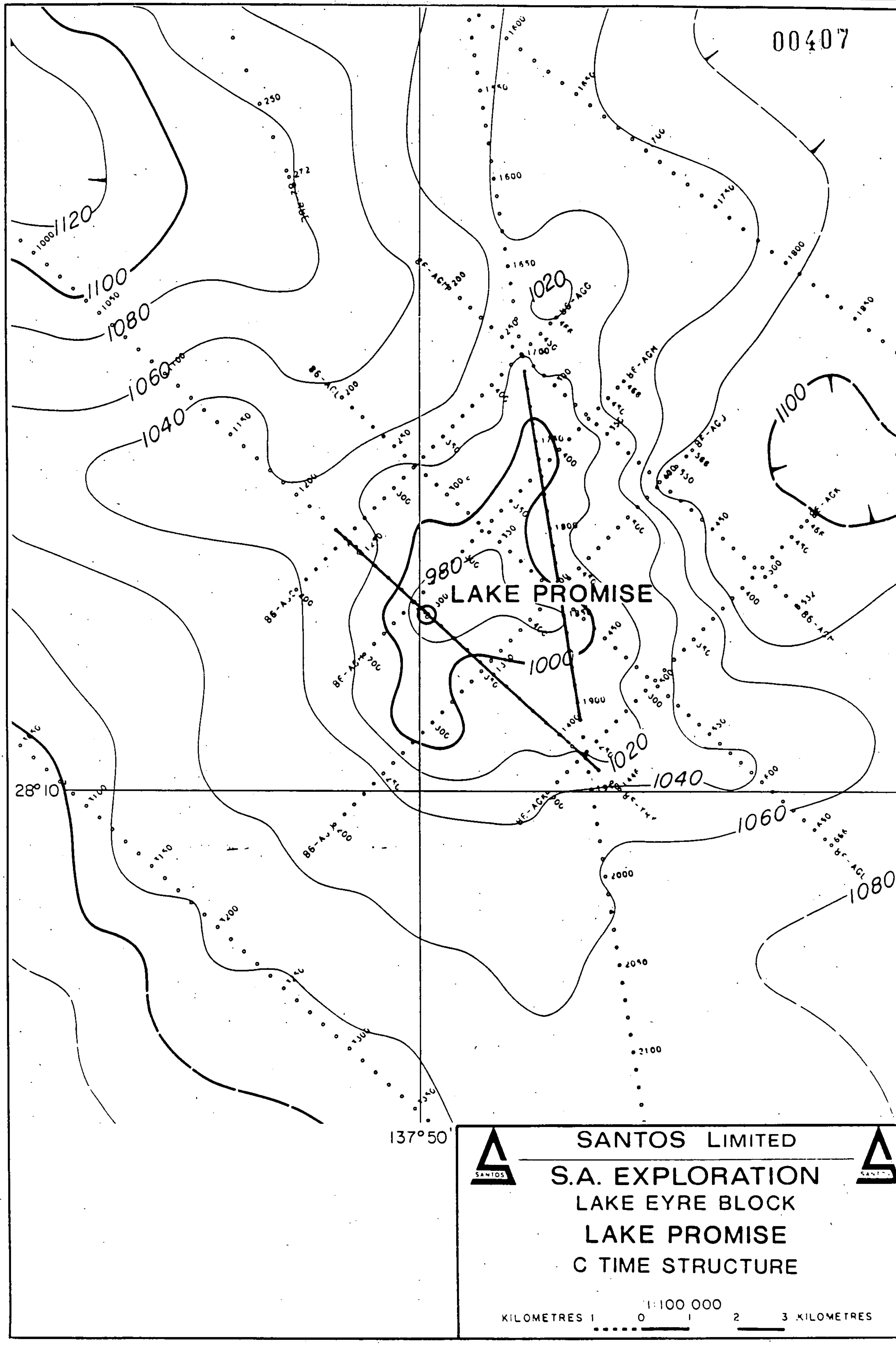
Reference Field or Well : POONARUNNA 1

Risk : PROSPECTS HAS ACCESS TO LIMITED ADJACENT SOURCE ROCKS. BETTER DEVELOPED, MORE MATURE SOURCE ROCKS TO THE WEST AND NORTHWEST HAVE ADJACENT STRUCTURES WHICH MAY LIMIT HYDROCARBON ACCESS TO LAKE PROMISE.

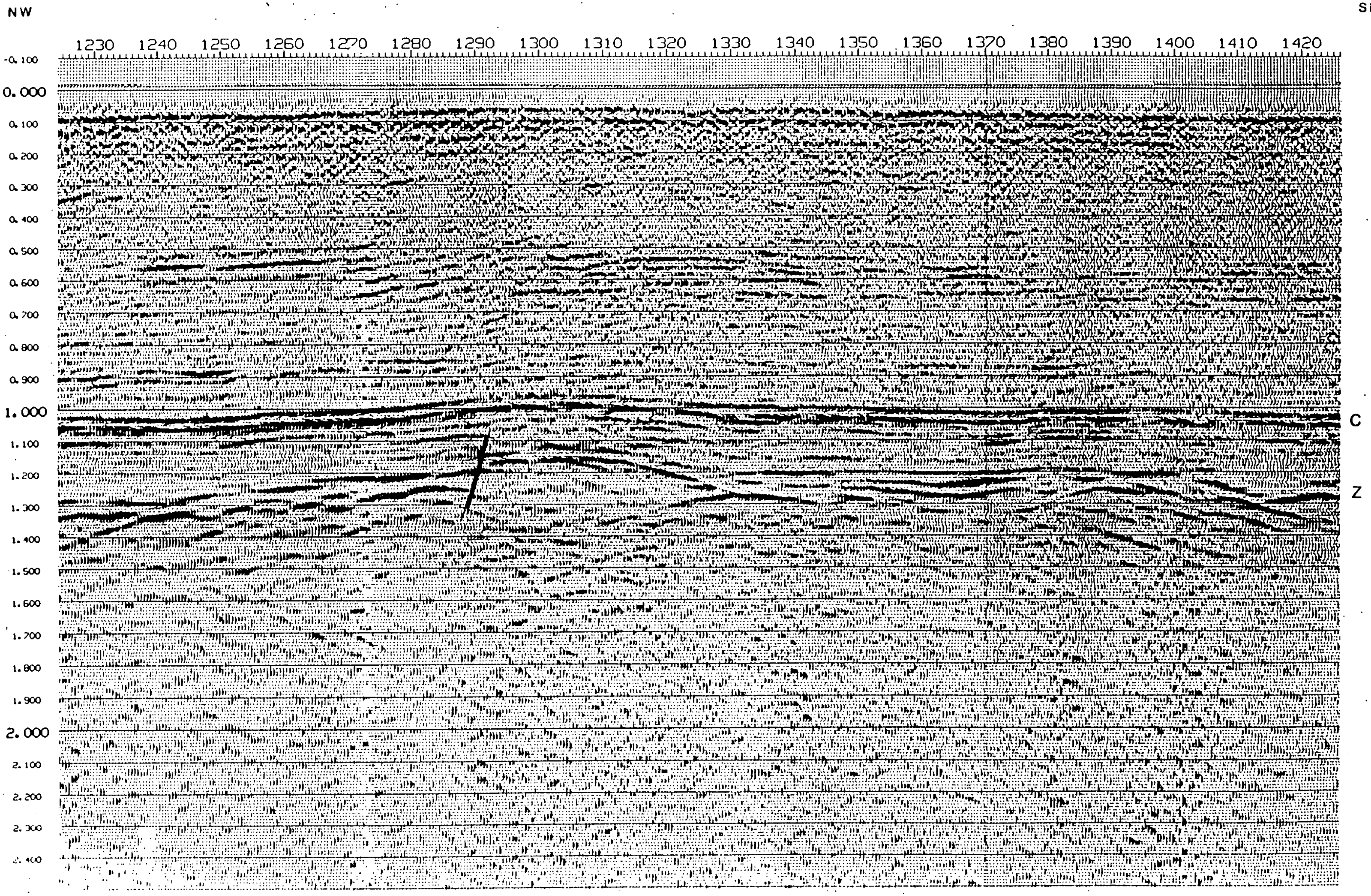
Dry Hole Cost ($mm) :

Case and Suspend Cost ($mm) :

00407


1120
1100
1080
1060
1040
1020
1000
980
1100
1040
1060
1080
1020
LAKE PROMISE
28°10'
137°50'
SANTOS LIMITED
S.A. EXPLORATION
LAKE EYRE BLOCK
LAKE PROMISE
C TIME STRUCTURE
1:100 000
KILOMETRES 1 0 1 2 3 KILOMETRES

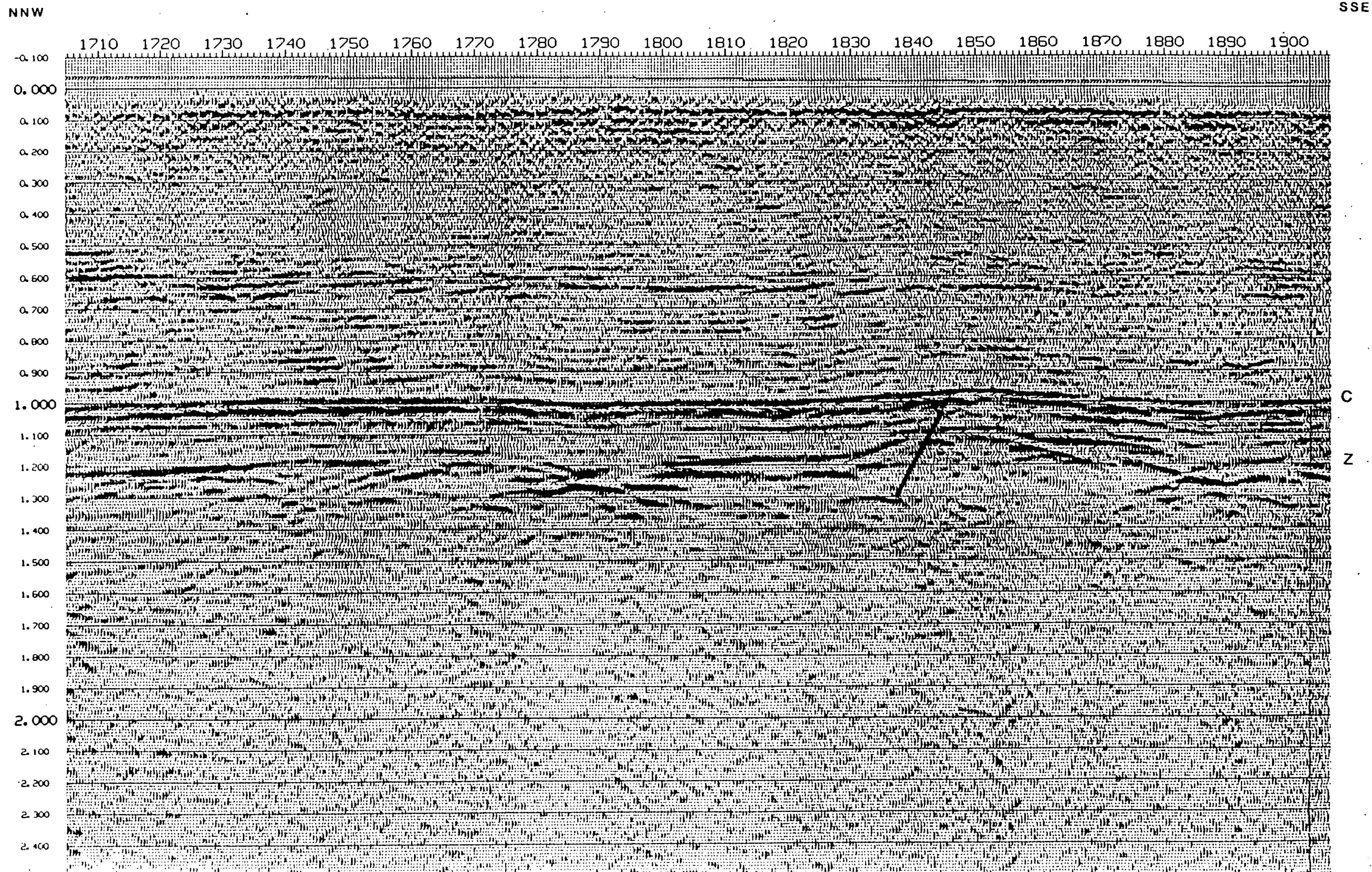
LAKE PROMISE PROSPECT SANTOS LIMITED LAKE EYRE BLOCK LINE 85-YRY



LAKE PROMISE PROSPECT

SANTOS LIMITED LAKE EYRE BLOCK

LINE 85-YSA



PROSPECT AND LEAD INVENTORY

00410

WILDCAT WELLS

SUMMARY SHEET

Date : 29/07/88

Prospect : TIRARI EAST
Status : STRONG LEAD
Licence : PEL'S 5 AND 6 Block : LAKE EYRE
Trap type : ANTICLINE
Ref. Seismic Line : 87-BAM S.P. : 505
Proposed T.D. : 6100
Dist. to Facility (km) : 240 (oil), (gas)

Latitude : 27 50
Longitude : 137 40
G.L. : 26

Geological Summary : FOUR WAY DIP CLOSED STRUCTURE WHICH WAS A PALAEOHIGH DURING JURASSIC SEDIMENTATION WITH STRUCTURAL GROWTH IN THE POST WINTON.

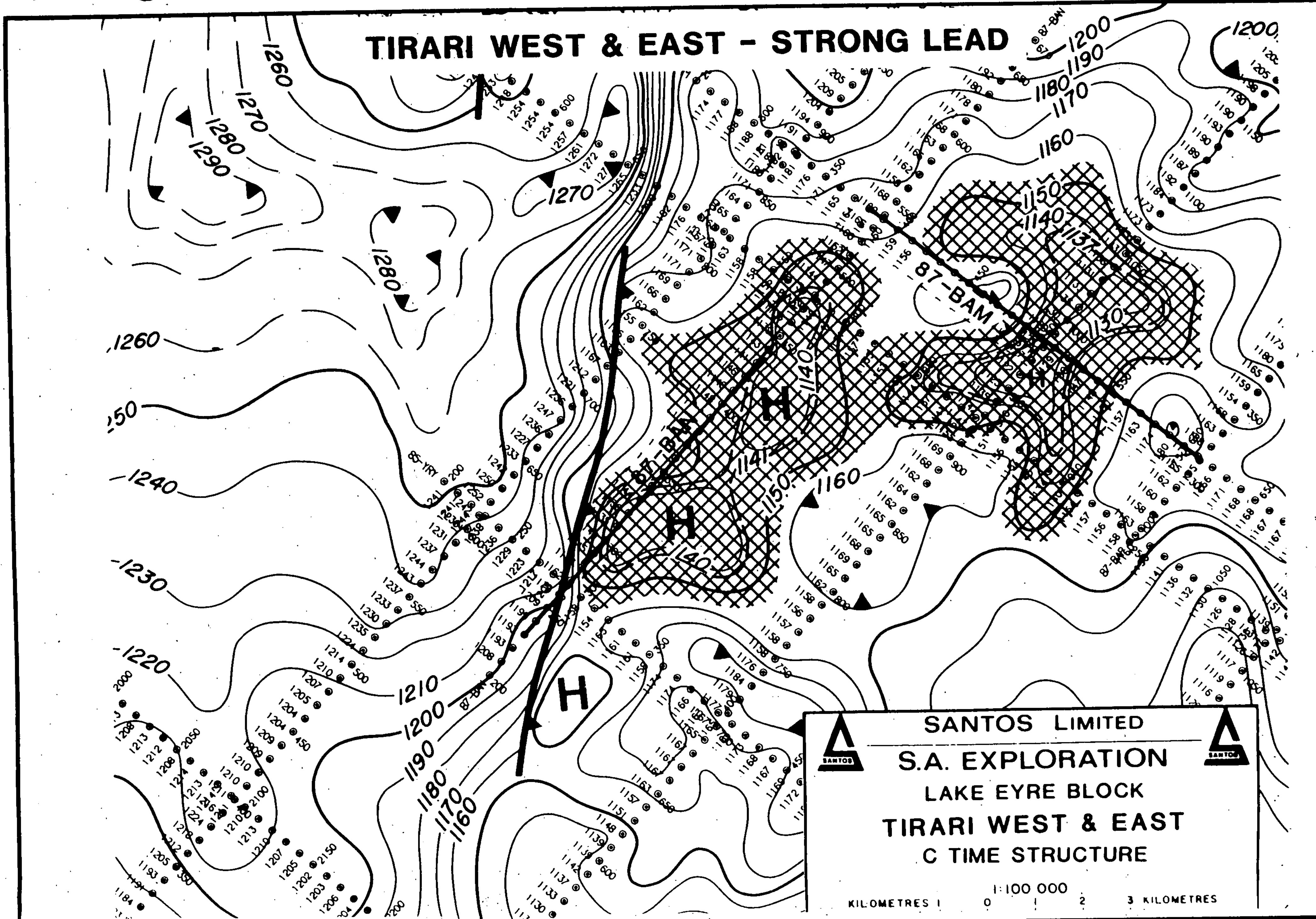
Formation	Reservoir	RESERVOIR PARAMETERS											POTENTIAL RESERVES						
		Subsea Depth ft	Struct Area LCC Acres	Max Rel ft	Pot Pool Area Acres	% Area Fill	Gross Hyd Col ft	Ave NEP ft	Por %	Sh %	BO/BG Oil	BO/BG Gas	Pot OIP MMSTB	Pot GIP BCF	Rec Fac %	Pot Rec Oil MMSTB	Pot Sales Gas BCF	Pot LPG (C3C4) MMSTB	Pot Cond (C5) MMSTB
NAMUR		5000	7392	120	1287	17	40	19	20	70	0.91		24.42		33	8.06			
TOTAL													24.42			8.06			

Reference Field or Well : LAKE VIEW 1

Risk : LACK OF MATURE SOURCE ROCKS IN DEPOCENTRE TO THE WEST AND NORTHWEST.

Dry Hole Cost ($mm) : 1.080

Case and Suspend Cost ($mm) :

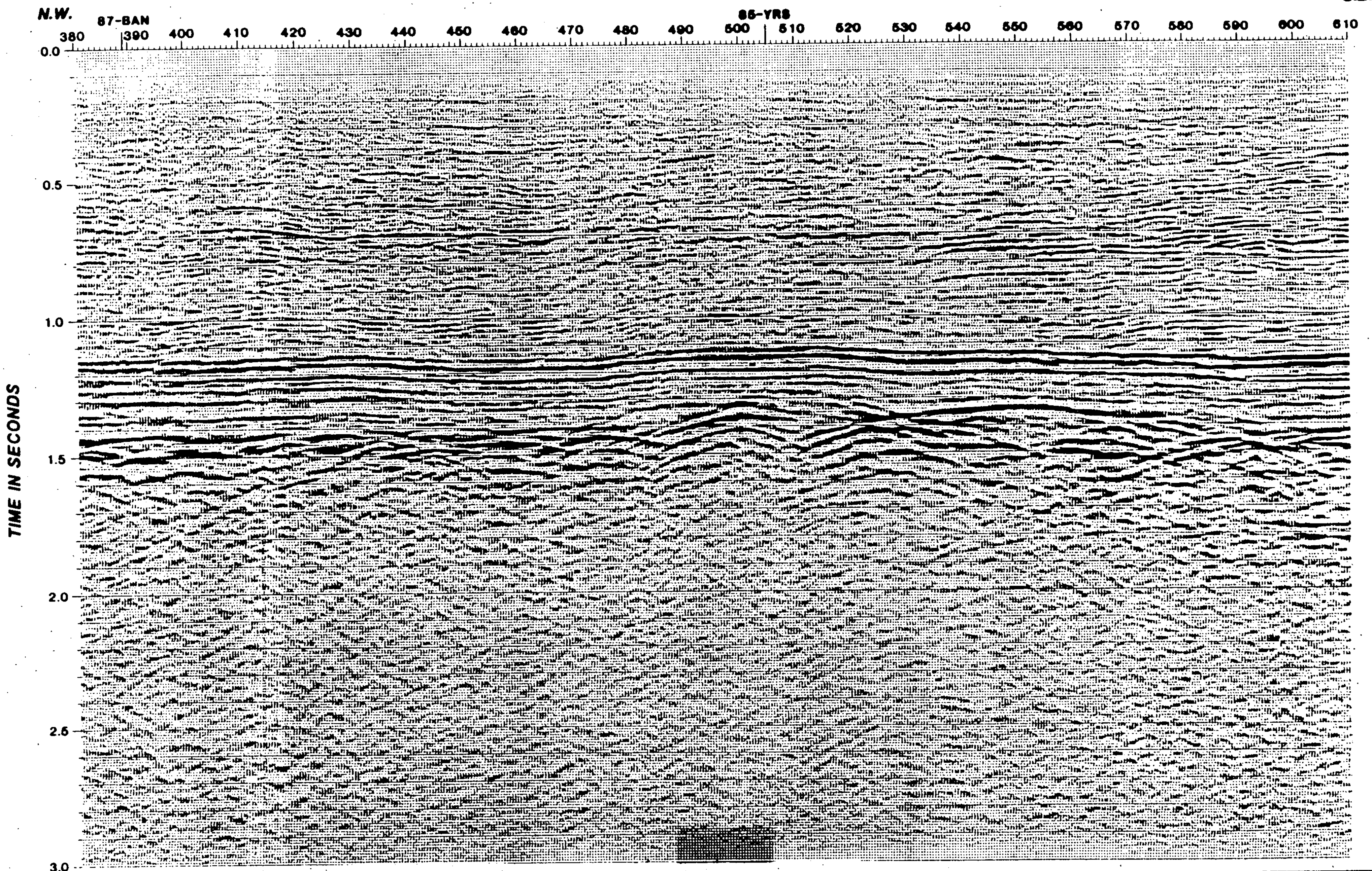


TIRARI WEST & EAST - STRONG LEAD
87-BAM
H
SANTOS LIMITED
SANTOS
S.A. EXPLORATION
LAKE EYRE BLOCK
TIRARI WEST & EAST
C TIME STRUCTURE
1:100 000
KILOMETRES 1 0 1 2 3 KILOMETRES

SANTOS LIMITED
S.A. EXPLORATION

LINE : 87-BAM
FINAL STACK : 143.1B

TIRARI EAST
STRONG LEAD



PROSPECT AND LEAD INVENTORY

WILDCAT WELLS

SUMMARY SHEET

Date : 29/07/88

Prospect : TIRARI WEST
Status : STRONG LEAD
Licence : PEL'S 5 AND 6 Block : LAKE EYRE
Trap type : ANTICLINE Latitude : 27 50
Ref. Seismic Line : 87-BAN S.P. : 300 Longitude : 137 35
Proposed T.D. : 6500 G.L. : 33
Dist. to Facility (km) : 280 (oil), (gas)

Geological Summary : STRUCTURE DEFINED BY FOUR WAY DIP CLOSURE ADJACENT TO A HIGH ANGLE REVERSE FAULT TO THE WEST. THE FEATURE IS A PALAEOHIGH STRUCTURALLY ENHANCED BY POST WINTON STRUCTURING.

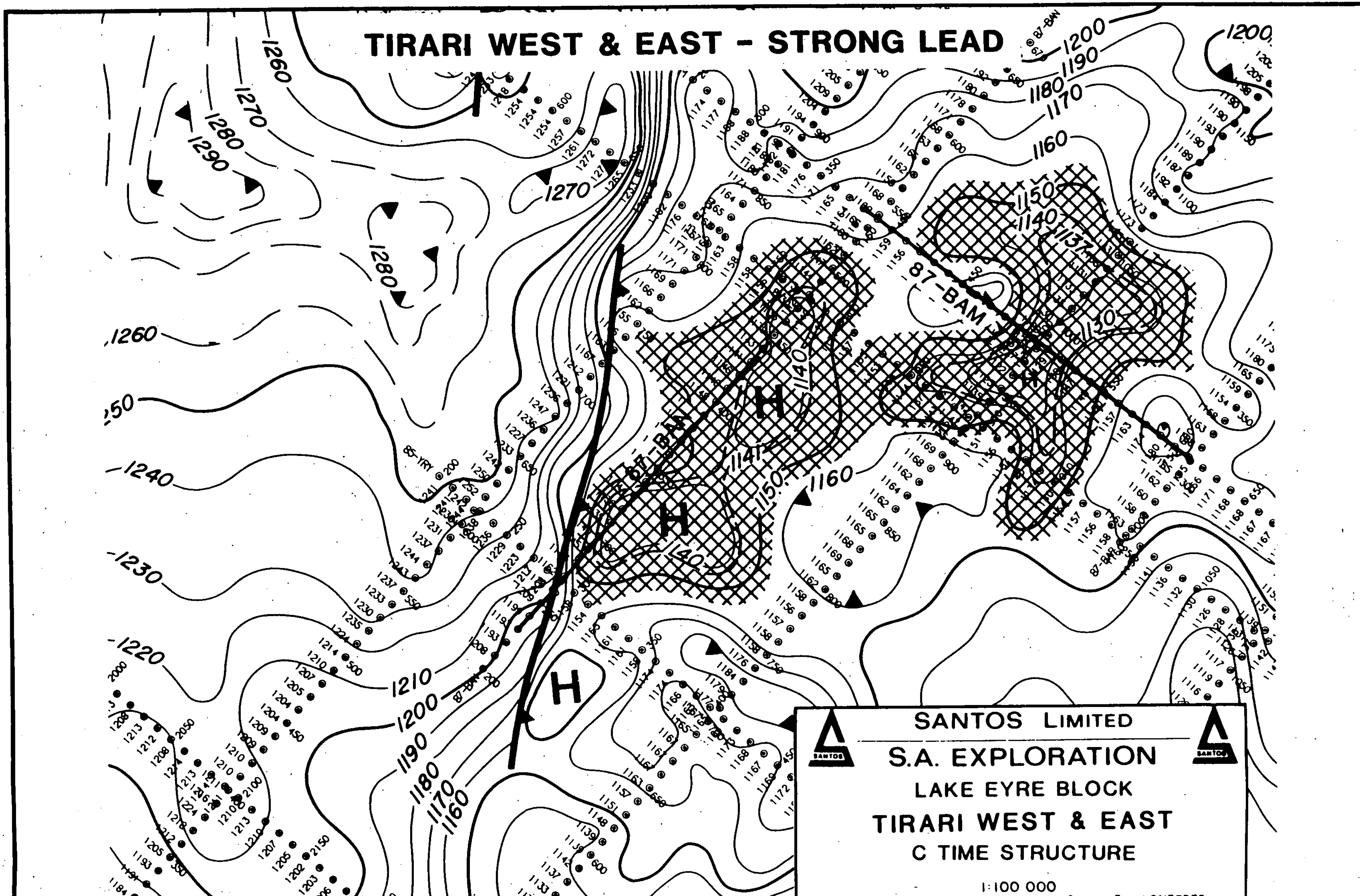
		RESERVOIR PARAMETERS											POTENTIAL RESERVES						
Formation	Reservoir	Subsea Depth ft	Struct Area LCC Acres	Max Rel ft	Pot Pool Area Acres	% Area Fill	Gross Hyd Col ft	Ave NEP ft	Por %	Sh %	BO/BG Oil	BO/BG Gas	Pot OIP MMSTB	Pot GIP BCF	Rec Fac %	Pot Rec Oil MMSTB	Pot Sales Gas BCF	Pot LPG (C3C4) MMSTB	Pot Cond (C5) MMSTB
NAMUR		5000	7532	80	2000	27	40	24	.20	70	0.91		47.44		30	14.23			
TOTAL													47.44			14.23			

Reference Field or Well : LAKE VIEW 1

Risk : LACK OF MATURE SOURCE ROCKS INI THE DEPOCENTRES TO THE NORTH AND WEST OF THE FEATURE. THE FAULT DEFINING THE WESTERN FLANK EXTENDS TO THE C HORIZON AND MAY DOWNGRADE THE CADNAOWIE SEAL. THE FAULT MAY ALSO DESTROY MUCH OF THE MIGRATION PATH FOR SOURCE ROCKS TO THE WEST.

Dry Hole Cost ($mm) :

Case and Suspend Cost ($mm) :

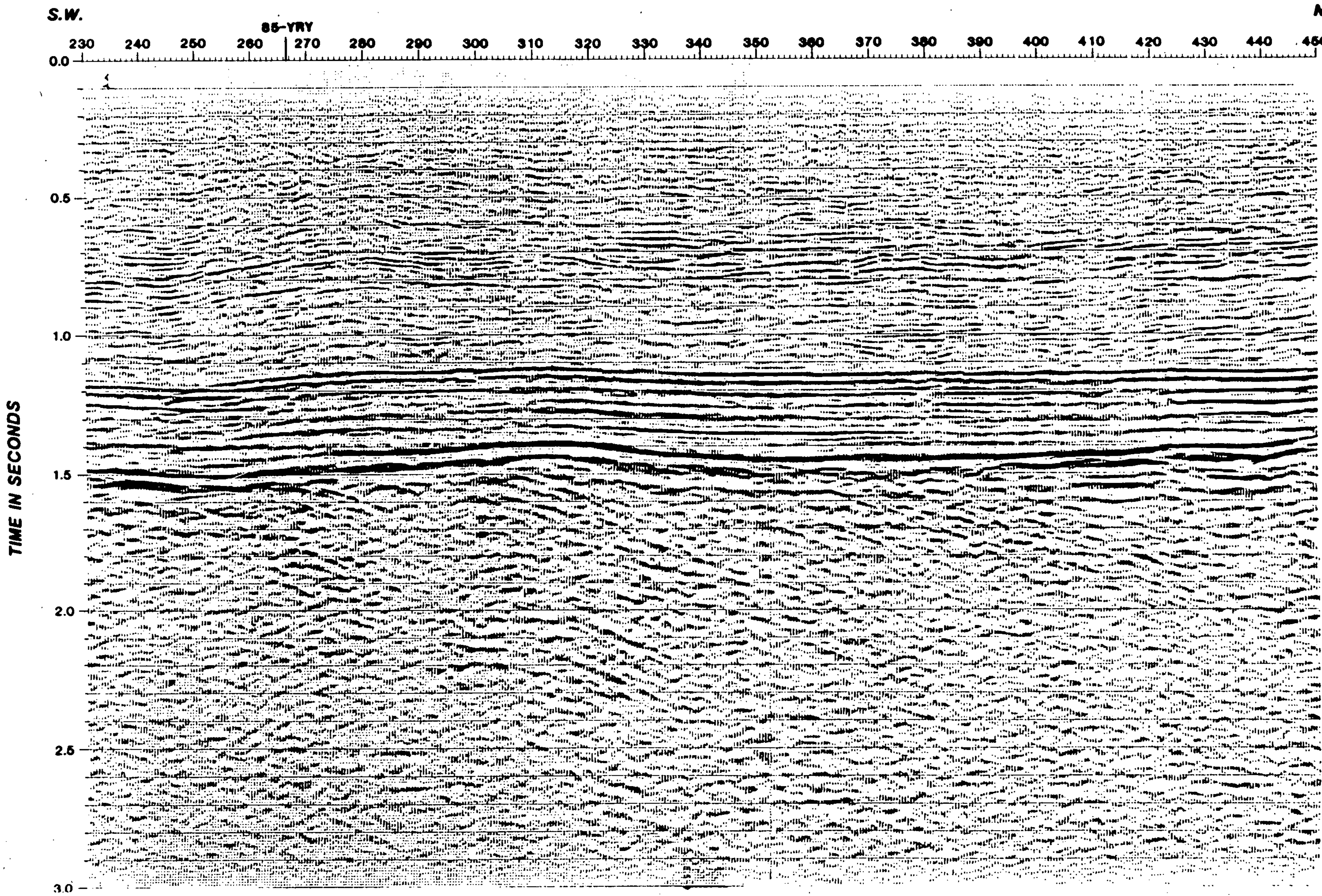

TIRARI WEST & EAST - STRONG LEAD
87-BAM
85-YRY
H
1290
1280
1270
1260
1250
1240
1230
1220
1210
1200
1190
1180
1170
1160
1150
1140
1137
1130
SANTOS LIMITED
S.A. EXPLORATION
LAKE EYRE BLOCK
TIRARI WEST & EAST
C TIME STRUCTURE
1:100 000

00415

SANTOS LIMITED
S.A. EXPLORATION

TIRARI WEST
STRONG LEAD

LINE : 87-BAN
FINAL STACK : 143.1B



PROSPECT AND LEAD INVENTORY

00416

WILDCAT WELLS

SUMMARY SHEET

Date : 29/07/88

Prospect : LAKE PEERA
Status : WEAK LEAD
Licence : PEL'S 5 AND 6   Block : LAKE EYRE
Trap type : ANTICLINE
Ref. Seismic Line : 87-BAQ   S.P. : 710
Proposed T.D. : 6500
Dist. to Facility (km) : 280 (oil), (gas)

Latitude : 27 40
Longitude : 137 35
G.L. : 66

Geological Summary : NORTHERN MOST LEAD, IDEALLY LOCATED FOR HYDROCARBON MIGRATION FROM THE POOLOWANNA TROUGH. IN AREA OF DEEPEST AND MOST MATURE BIRKHEAD WITHIN THE BLOCK. AT PRESENT HUTTON SANDSTONE IS EVIDENT AT THE CREST OF THE FEATURE. THE STRUCTURE IS A PALAEOHIGH ENHANCED BY POST WINTON STRUCTURING.

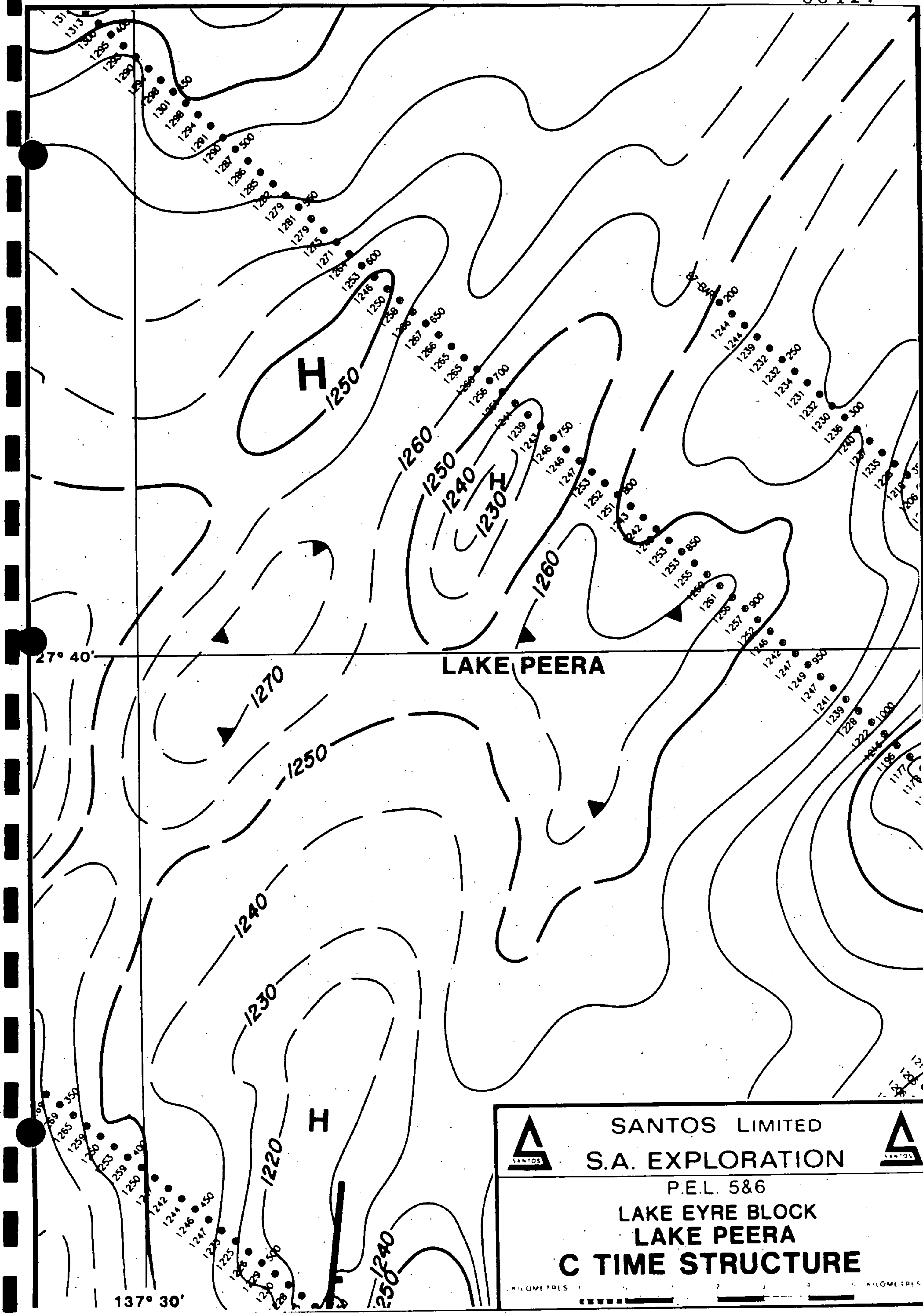
		RESERVOIR PARAMETERS											POTENTIAL RESERVES						
Formation	Reservoir	Subsea Depth ft	Struct Area LCC Acres	Max Rel ft	Pot Pool Area Acres	% Area Fill	Gross Hyd Col ft	Ave NEP ft	Por %	Sh %	BO/BG Oil	BO/BG Gas	Pot OIP MMSTB	Pot GIP BCF	Rec Fac %	Pot Rec Oil MMSTB	Pot Sales Gas BCF	Pot LPG (C3C4) MMSTB	Pot Cond (C5) MMSTB
NAMUR		5000	6410	60	1800	28	40	22	20	70	0.91		39.85		33	13.15			
TOTAL													39.85			13.15			

Reference Field or Well : LAKE VIEW 1

Risk : INSUFFICIENT GENERATIVE MATURITY OF ADJACENT SOURCE ROCKS.

Dry Hole Cost ($mm) :

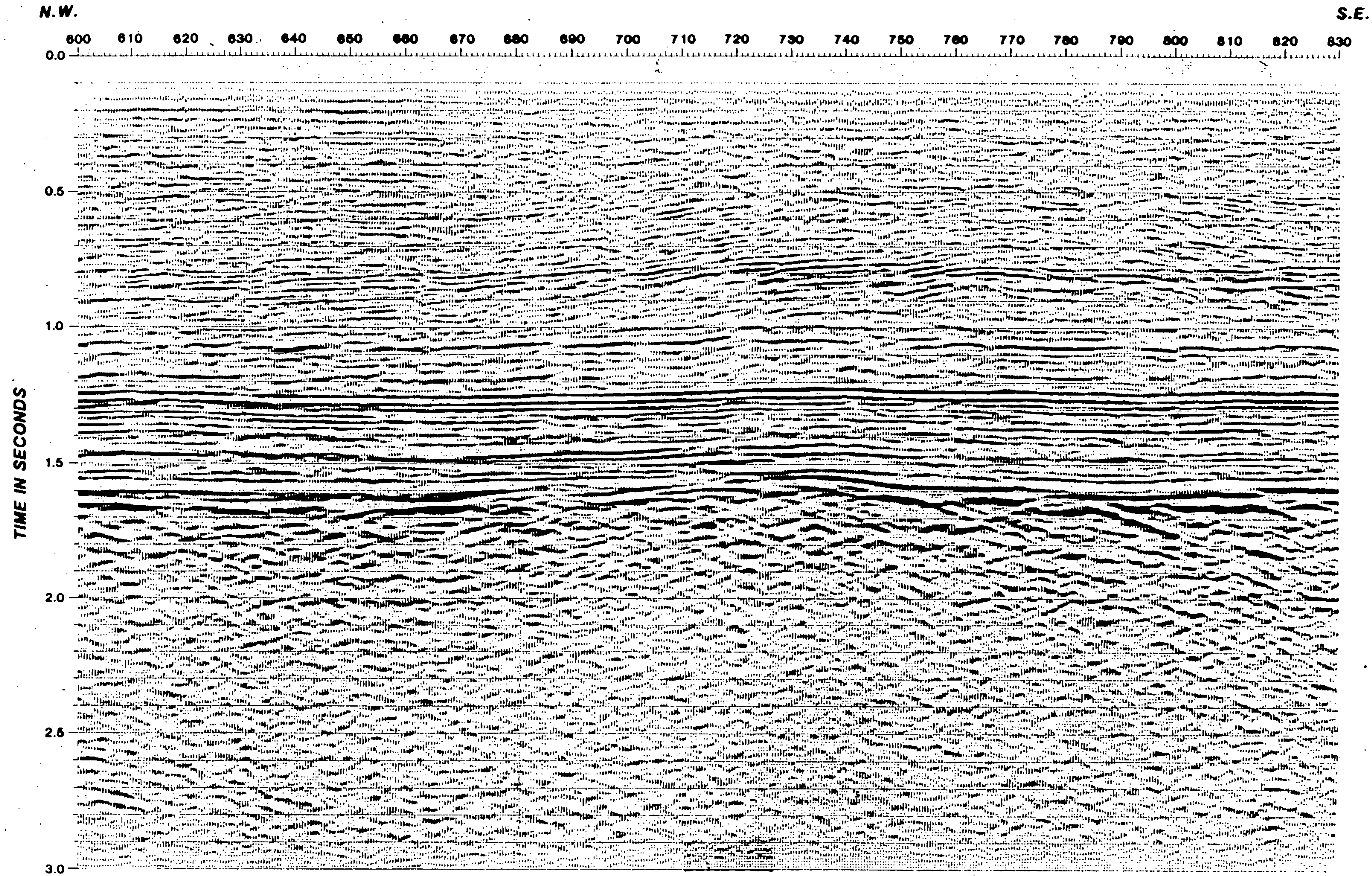
Case and Suspend Cost ($mm) :


H
1250
1260
1250
1240
H
1230
1260
27° 40'
LAKE PEERA
1270
1250
1240
1230
H
1220
1240
1250
137° 30'
SANTOS LIMITED
S.A. EXPLORATION
P.E.L. 5&6
LAKE EYRE BLOCK
LAKE PEERA
C TIME STRUCTURE
KILOMETRES

SANTOS LIMITED
S.A. EXPLORATION

LAKE PEERA
WEAK LEAD

LINE : 87-BAQ
FINAL STACK : 143.1B



PROSPECT AND LEAD INVENTORY

WILDCAT WELLS

SUMMARY SHEET

00419

Date : 29/07/88

Prospect : LAKE SIDE
Status : STRONG LEAD
Licence : PEL'S 5 AND 6 Block : LAKE EYRE
Trap type : ANTICLINE
Ref. Seismic Line : 86-AGN S.P. : 400
Proposed T.D. : 5700
Dist. to Facility (km) : 280 (oil), (gas)

Latitude : 28 05
Longitude : 137 30
G.L. :

Geological Summary : Defined by 4-way dip closure, fault closure on eastern flank. Palaeo-high during Jurassic sedimentation with potential for Hutton & Birkhead sediment on Western flank. Post Winton structuring produced current structure with 130 ms of total closure & 80 ms of fault independent closure.

		RESERVOIR PARAMETERS											POTENTIAL RESERVES						
Formation	Reservoir	Subsea Depth ft	Struct Area LCC Acres	Max Rel ft	Pot Pool Area Acres	% Area Fill	Gross Hyd Col ft	Ave NEP ft	Por %	Sh %	BO/BG Oil	BO/BG Gas	Pot OIP MMSTB	Pot GIP BCF	Rec Fac %	Pot Rec Oil MMSTB	Pot Sales Gas BCF	Pot LPG (C3C4) MMSTB	Pot Cond (C5) MMSTB
NAMUR		5000	9916	240	842	8	40	16	20	70	0.91		13.32		33	4.39			
TOTAL													13.32			4.39			

Reference Field or Well : POONARUNNA 1

Risk : THE EASTERN BOUNDING FAULT MAY HAVE DOWNGRADED SEAL QUALITY. HYDROCARBON GENERATION AND MIGRATION PRIOR TO THE POST WINTON STRUCTURING PHASE WOULD NOT ENABLE ENPLACEMENT OF HYDROCARBONS IN THE STRUCTURE.
INSUFFICIENT MATURITY OF MUCH OF THE ADJACENT SOURCE ROCK IS THE PRINCIPAL RISK ASSOCIATED WITH THE STRUCTURE.

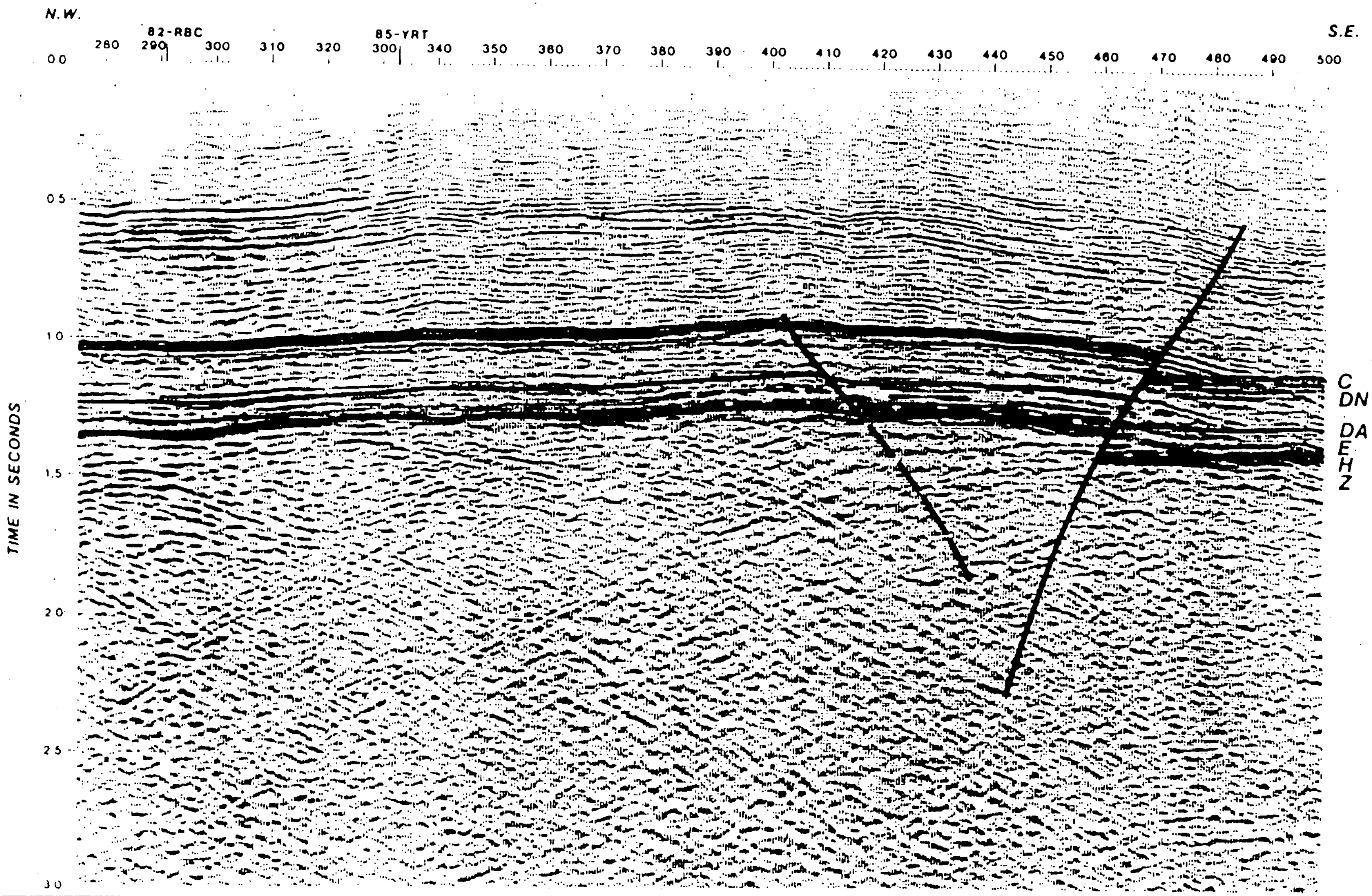
Dry Hole Cost ($mm) :

Case and Suspend Cost ($mm) :

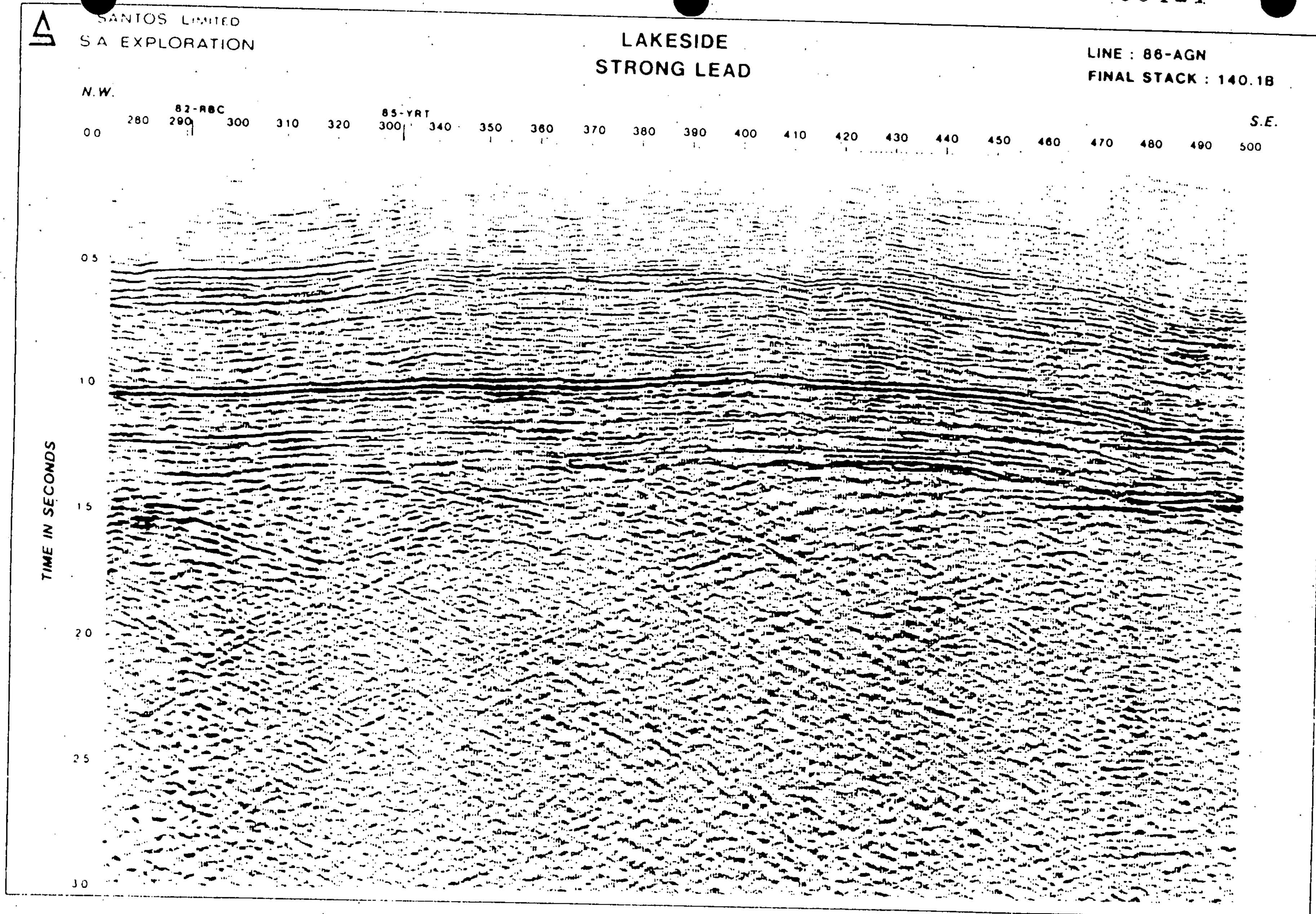
SANTOS LIMITED
S.A EXPLORATION

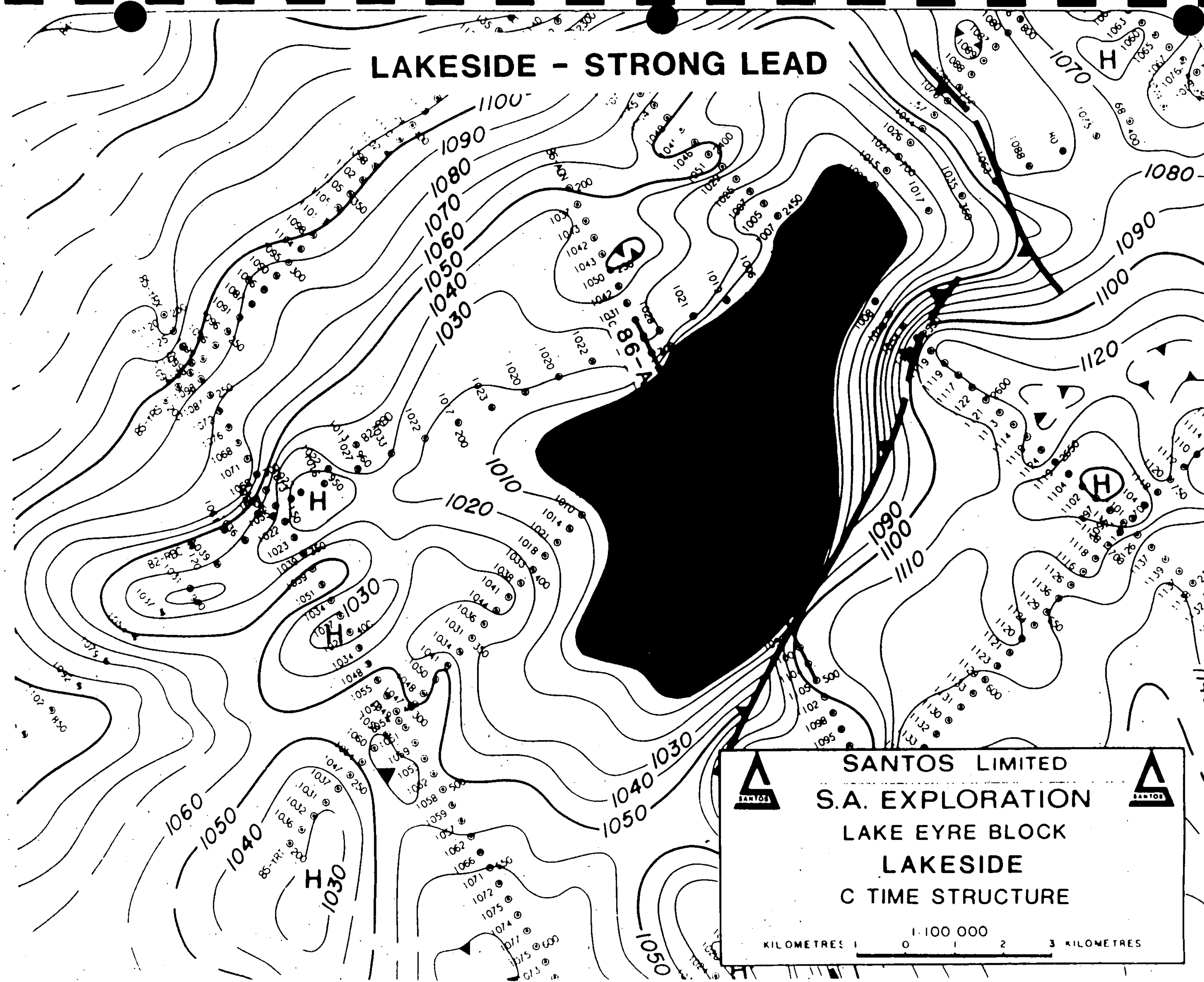
LAKESIDE
STRONG LEAD

LINE : 86-AGN
FINAL STACK : 140.1B



00421


SANTOS LIMITED
S A EXPLORATION
LAKESIDE
STRONG LEAD
LINE : 86-AGN
FINAL STACK : 140.1B
N.W.
S.E.
82-RBC
85-YRT
280 290 300 310 320 300 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500
0 0
0 5
1 0
1 5
2 0
2 5
3 0
TIME IN SECONDS


LAKESIDE - STRONG LEAD
SANTOS LIMITED
S.A. EXPLORATION
LAKE EYRE BLOCK
LAKESIDE
C TIME STRUCTURE
1:100 000
KILOMETRES 1 0 1 2 3 KILOMETRES

PROSPECT AND LEAD INVENTORY

WILDCAT WELLS

SUMMARY SHEET

Date : 29/07/88

Prospect : WARBURTON
Status : WEAK LEAD
Licence : PEL'S 5 AND 6 Block : LAKE EYRE
Trap type : ANTICLINE
Ref. Seismic Line : 84-TZK S.P. : 420
Proposed T.D. : 6500
Dist. to Facility (km) : 280 (oil), (gas)

Latitude : 27 45
Longitude : 137 45
G.L. :

Geological Summary : WARBURTON IS THE MOST NORTHERLY STRONG LEAD MAPPED IN THE NORTHEASTERN LAKE EYRE BLOCK, THE AREA IS CONSIDERED TO CONTAIN THE BEST DEVELOPED MOST MATURE SOURCE ROCKS.
POST WINTON STRUCTURING PRODUCED THE PRESENT STRUCTURE.

		RESERVOIR PARAMETERS											POTENTIAL RESERVES							
Formation	Reservoir	Subsea Depth ft	Struct Area LCC Acres	Max Rel ft	Pot Pool Area Acres	% Area Fill	Gross Hyd Col ft	Ave NEP ft	Por %	Sh %	BO/BG Oil	BO/BG Gas	Pot OIP MMSTB	Pot GIP BCF	Rec Fac %	Pot Rec Oil MMSTB	Pot Sales Gas BCF	Pot LPG (C3C4) MMSTB	Pot Cond (C5) MMSTB
HUTTON		5000	8500	160	2000	24	40	22	20	70	0.91		44.28		33	14.61			
TOTAL													44.28			14.61			

Reference Field or Well : LAKE VIEW 1

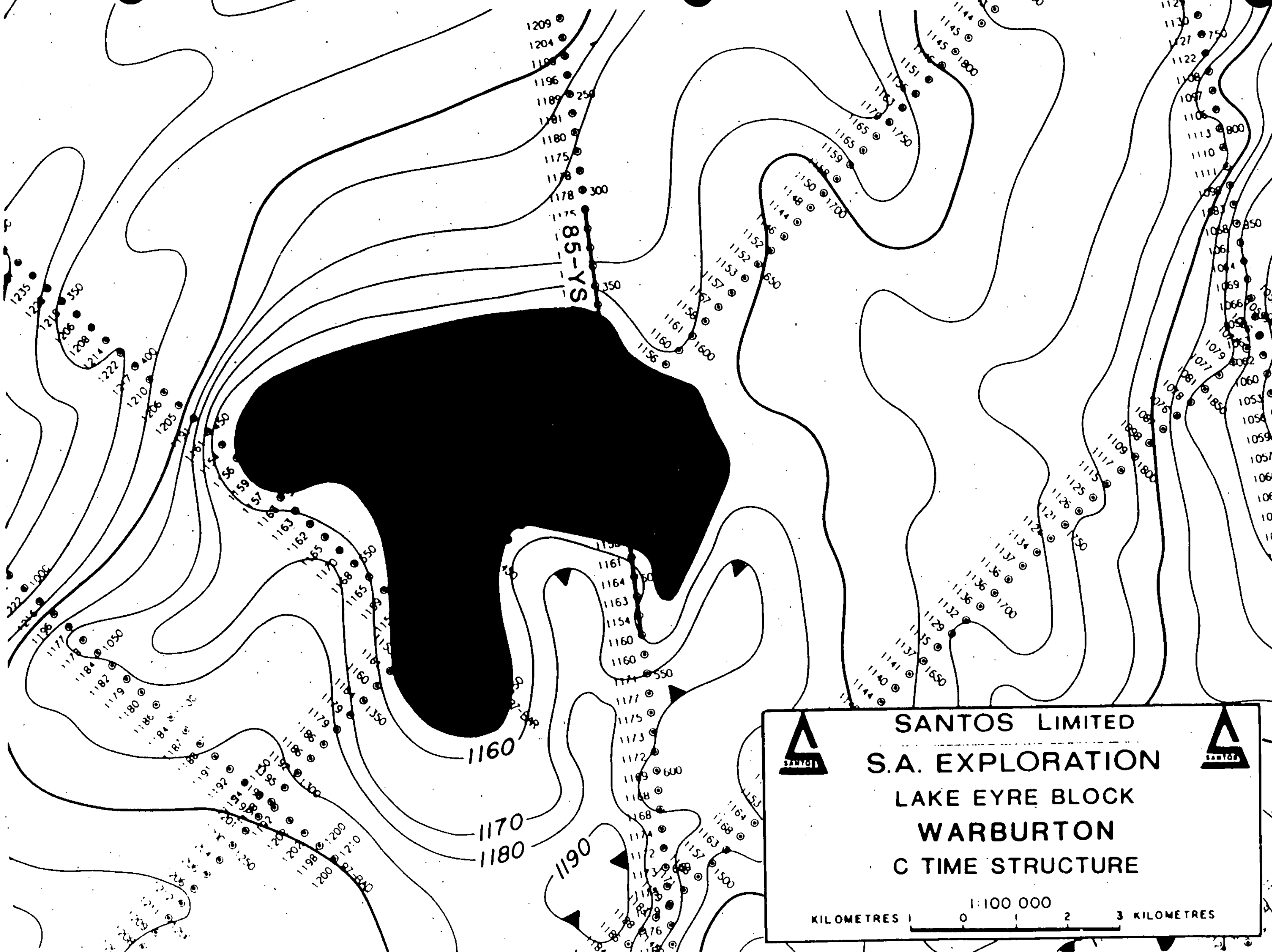
Risk : INSUFFICIENT GENERATIVE MATURITY OF MUCH OF THE ADJACENT SOURCE ROCKS.
THE FEATURE MAY OPEN UP THE THE NE INTO THE WARRANDINNA HIGH.

Dry Hole Cost ($mm) :

Case and Suspend Cost ($mm) :

WARBURTON - STRONG LEAD

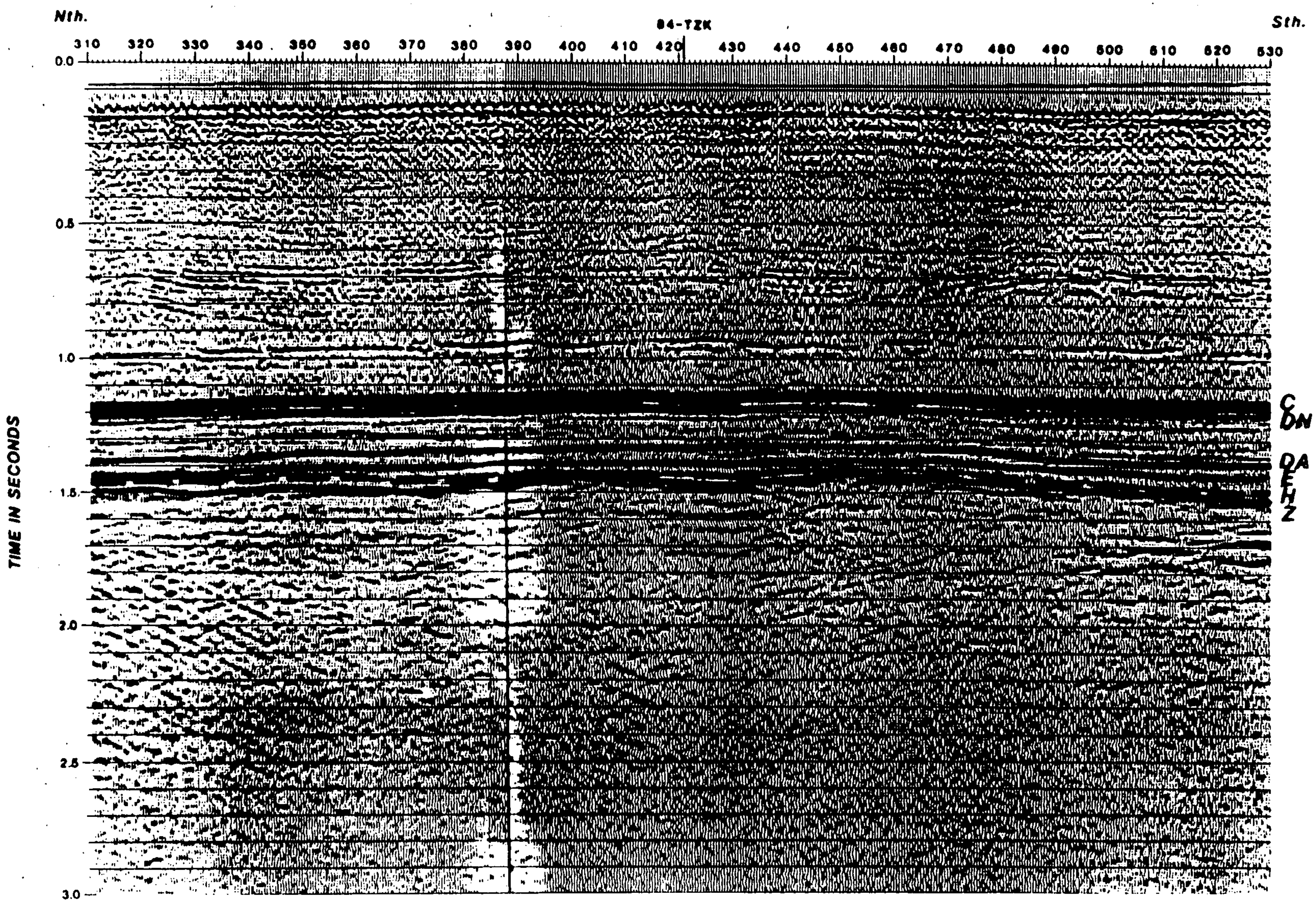
00424

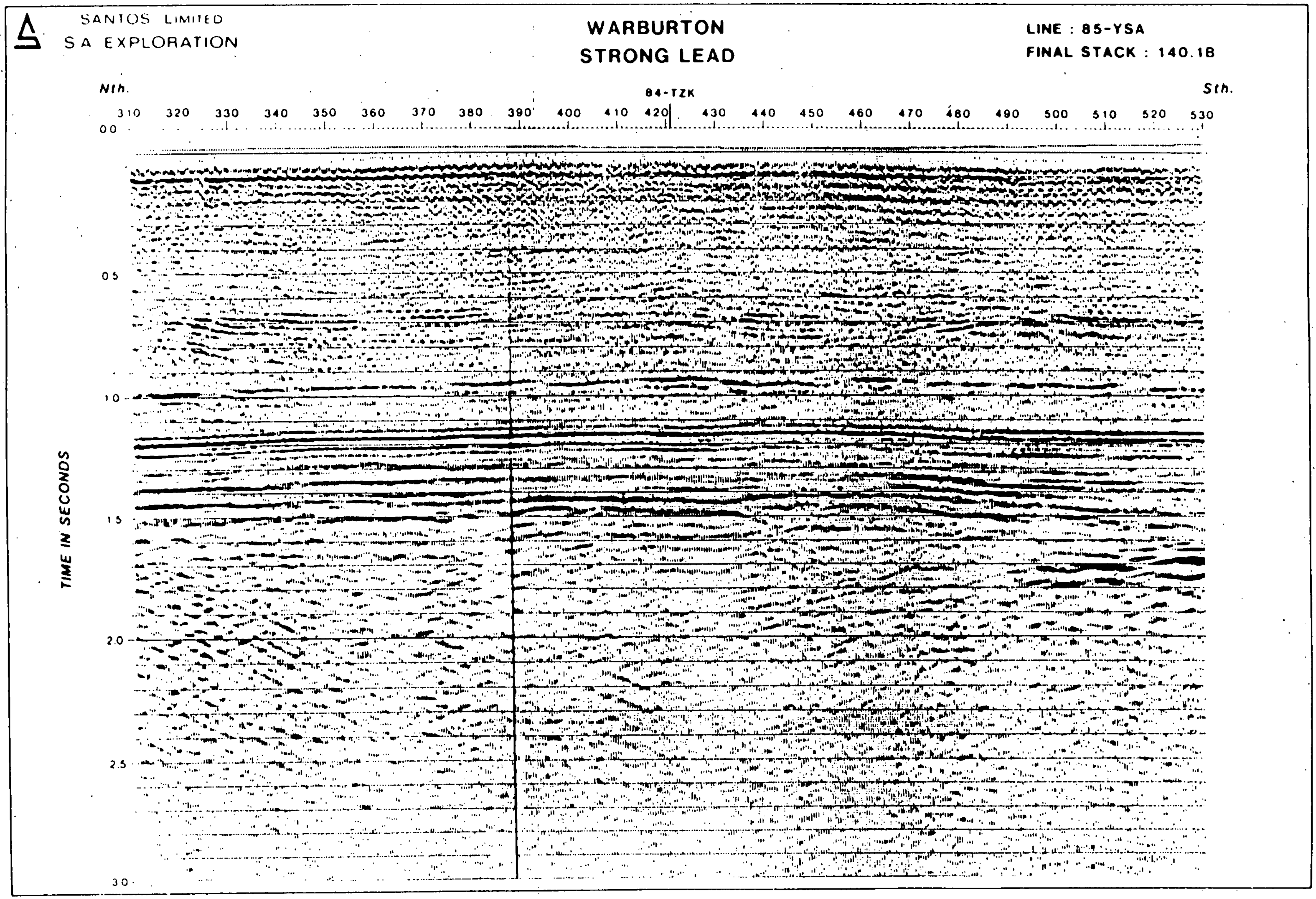


SANTOS LIMITED
S.A. EXPLORATION

WARBURTON
STRONG LEAD

LINE : 85-YSA
FINAL STACK : 140.1B




SANTOS LIMITED
S A EXPLORATION
WARBURTON
STRONG LEAD
LINE : 85-YSA
FINAL STACK : 140.1B
Nth.
Sth.
84-TZK
310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530
0.0
0.5
1.0
1.5
2.0
2.5
3.0
TIME IN SECONDS

PROSPECT AND LEAD INVENTORY

WILDCAT WELLS

SUMMARY SHEET

00427

Date : 29/07/88

Prospect : **WARRANDINNA WEST**
Status : WEAK LEAD
Licence : PEL'S 5 AND 6 Block : LAKE EYRE
Trap type : ANTICLINE
Ref. Seismic Line : 84-XFG S.P. : 860
Proposed T.D. : 5200
Dist. to Facility (km) : 280 (oil), (gas)

Latitude : 27 40
Longitude : 138 00
G.L. : 60

Geological Summary : ONE CULMINATION, SIMPLE CREST, PALAEOHIGH, ON THE LAKE PROMISE-WARRANDINNA TREND.

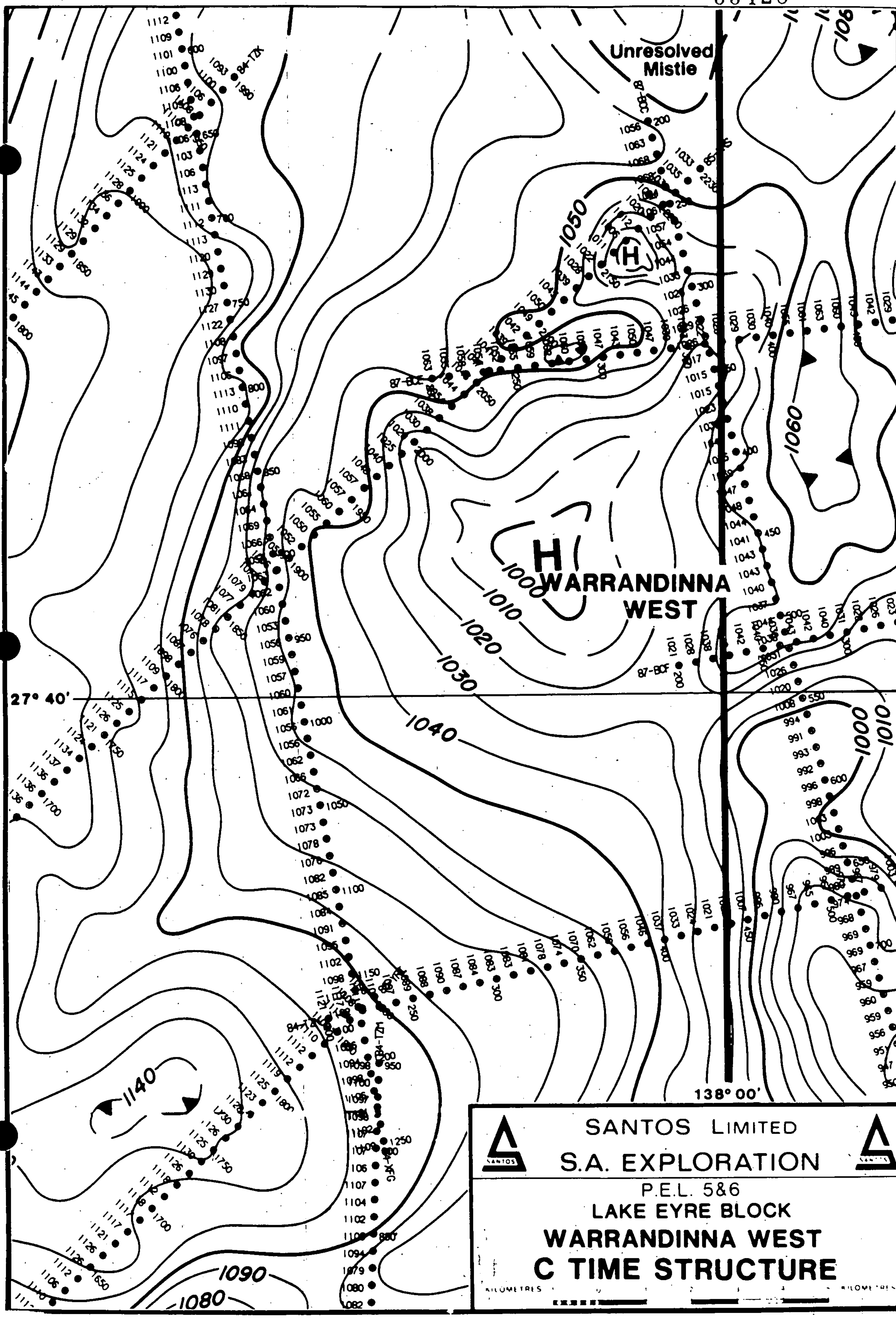
Formation	Reservoir	RESERVOIR PARAMETERS											POTENTIAL RESERVES						
		Subsea Depth ft	Struct Area LCC Acres	Max Rel ft	Pot Pool Area Acres	% Area Fill	Gross Hyd Col ft	Ave NEP ft	Por %	Sh %	BO/ BG Oil	BO/ BG Gas	Pot OIP MMSTB	Pot GIP BCF	Rec Fac %	Pot Rec Oil MMSTB	Pot Sales Gas BCF	Pot LPG (C3C4) MMSTB	Pot Cond (C5) MMSTB
NAMUR		5000	9300	40	2000	22	40	19	20	70	0.91		37.95		33	12.52			
TOTAL													37.95			12.52			

Reference Field or Well : LAKE VIEW 1

Risk :

Dry Hole Cost ($mm) :

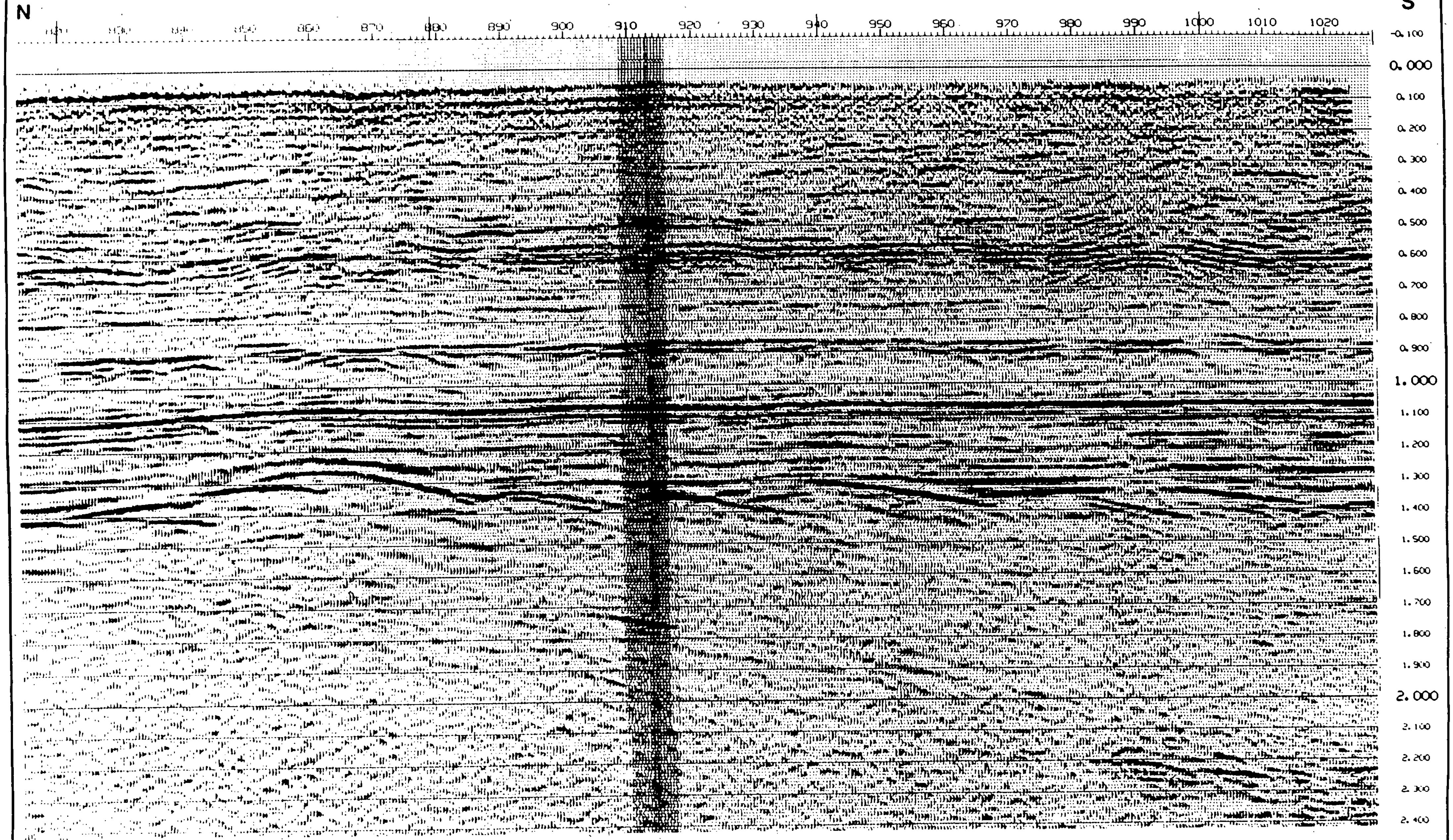
Case and Suspend Cost ($mm) :

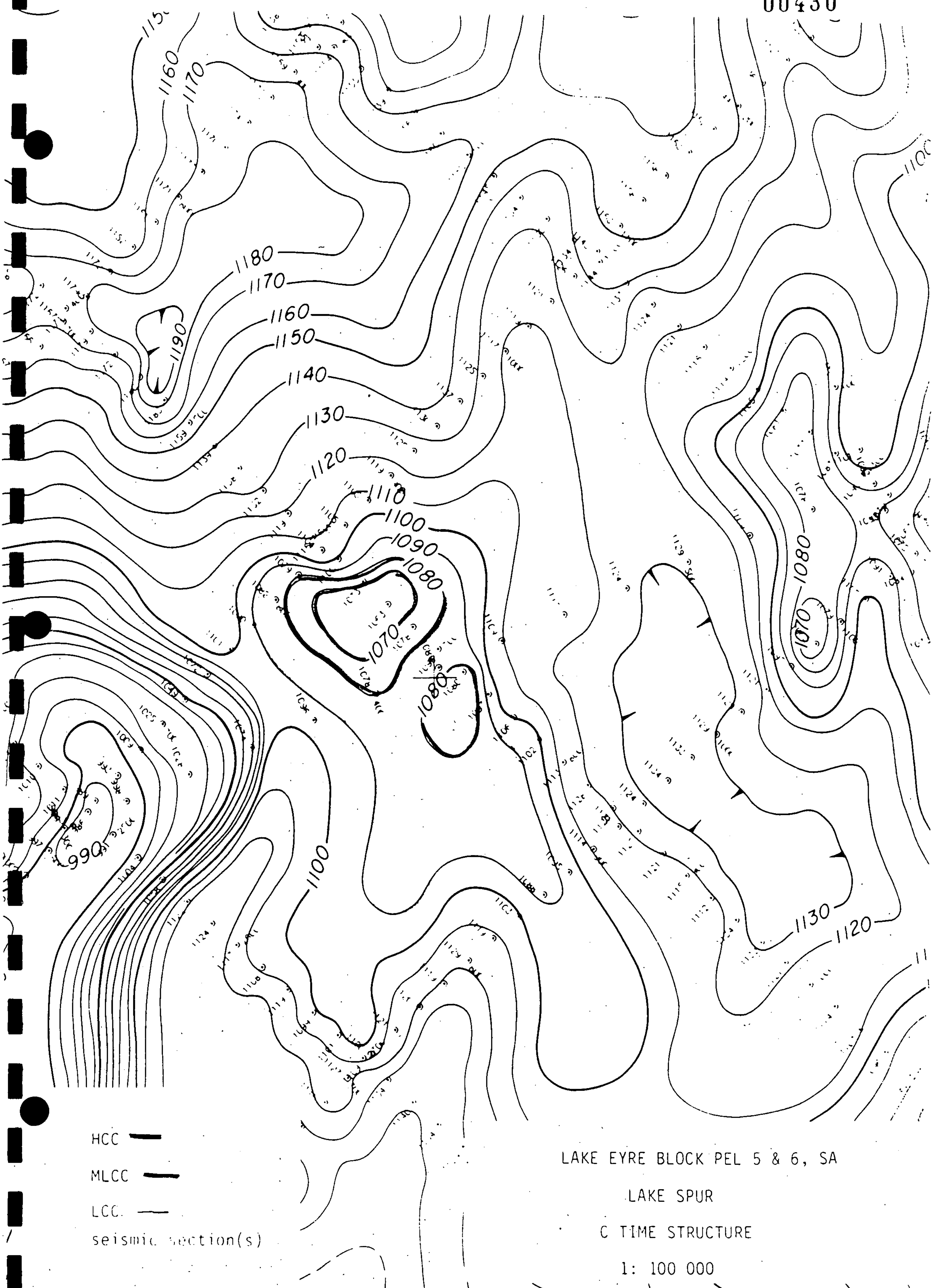

Unresolved Mistie
WARRANDINNA WEST
H
1000
1010
1020
1030
1040
1050
1060
1090
1080
1140
27° 40'
138° 00'
SANTOS LIMITED
S.A. EXPLORATION
P.E.L. 5&6
LAKE EYRE BLOCK
WARRANDINNA WEST
C TIME STRUCTURE
KILOMETRES

SANTOS LIMITED
S.A. EXPLORATION

WARRANDINNA WEST WEAK LEAD
LAKE EYRE BLOCK

84-XFG
FINAL STACK (141.1B)





LAKE EYRE BLOCK PEL 5 & 6, SA

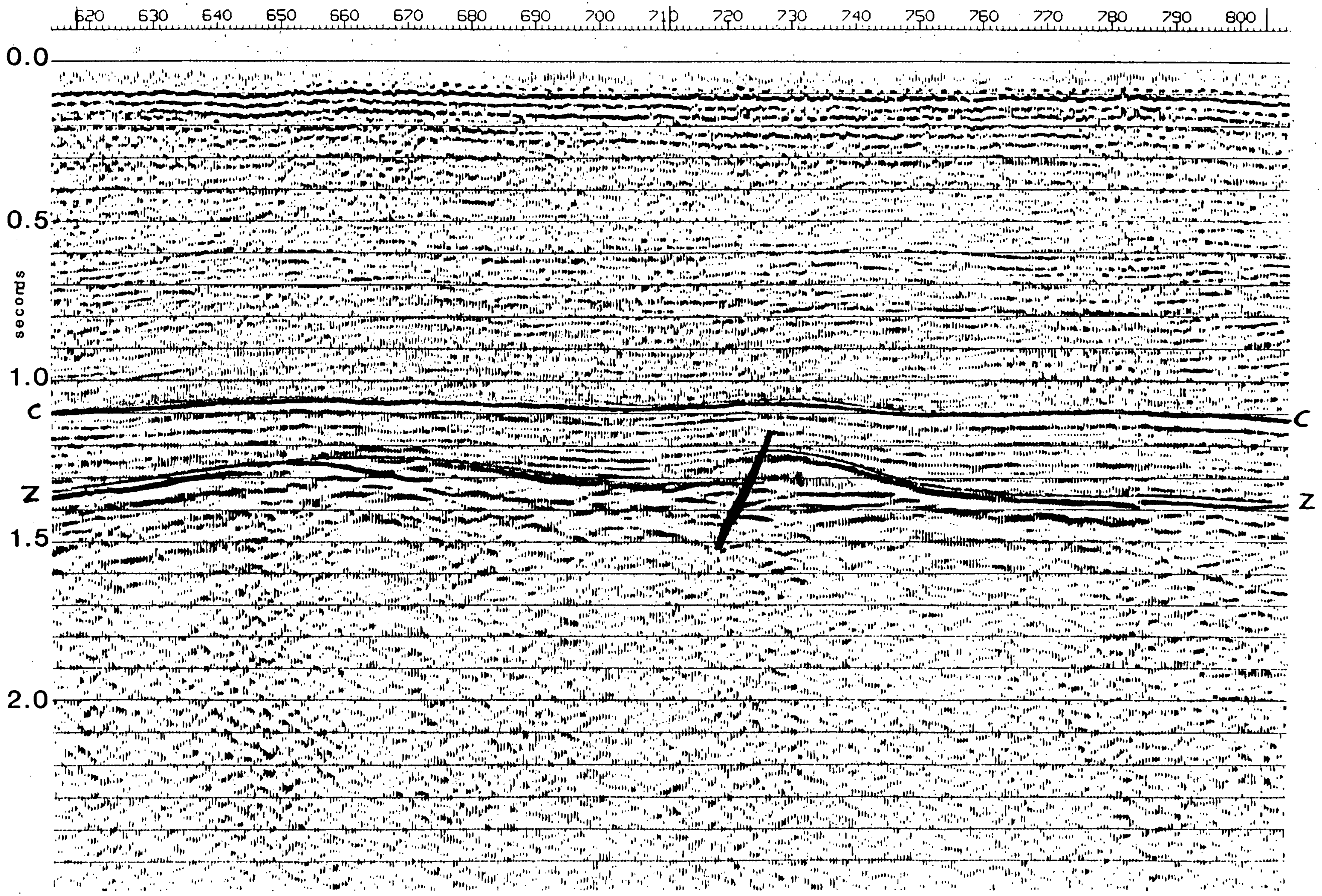
LAKE SPUR

C TIME STRUCTURE

1: 100 000

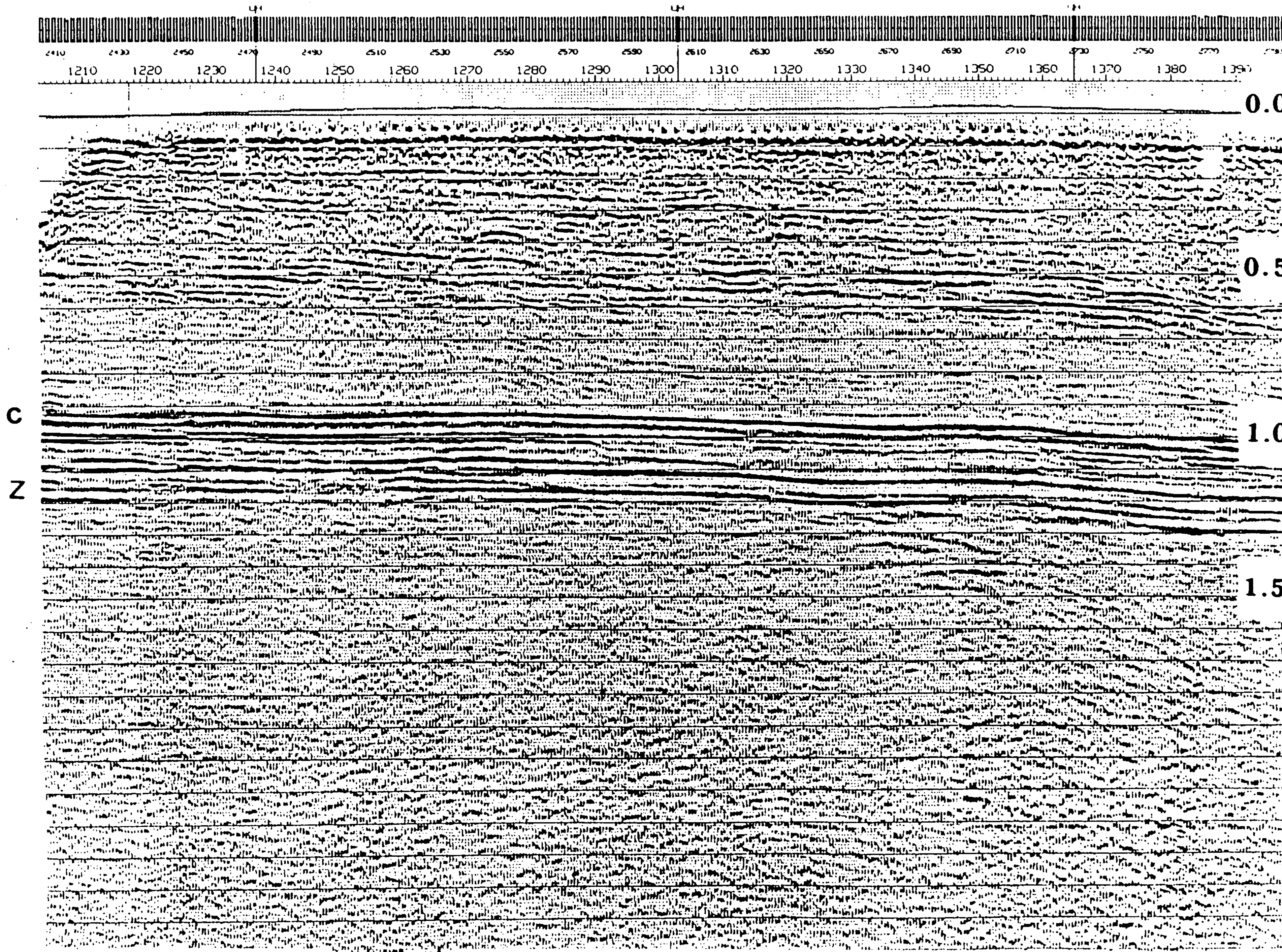
LAKE SPUR WEAK LEAD

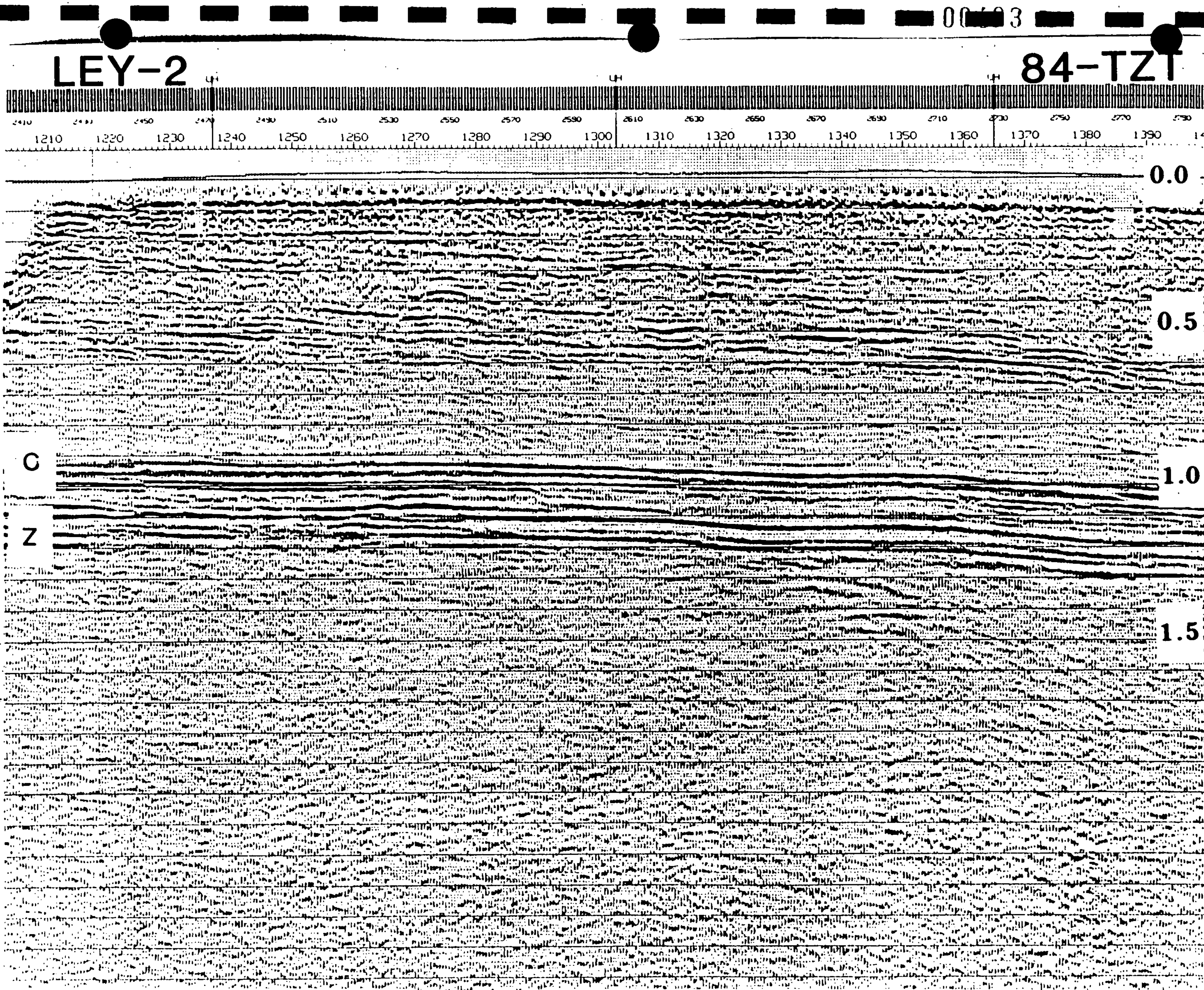
LINE 85-YRY

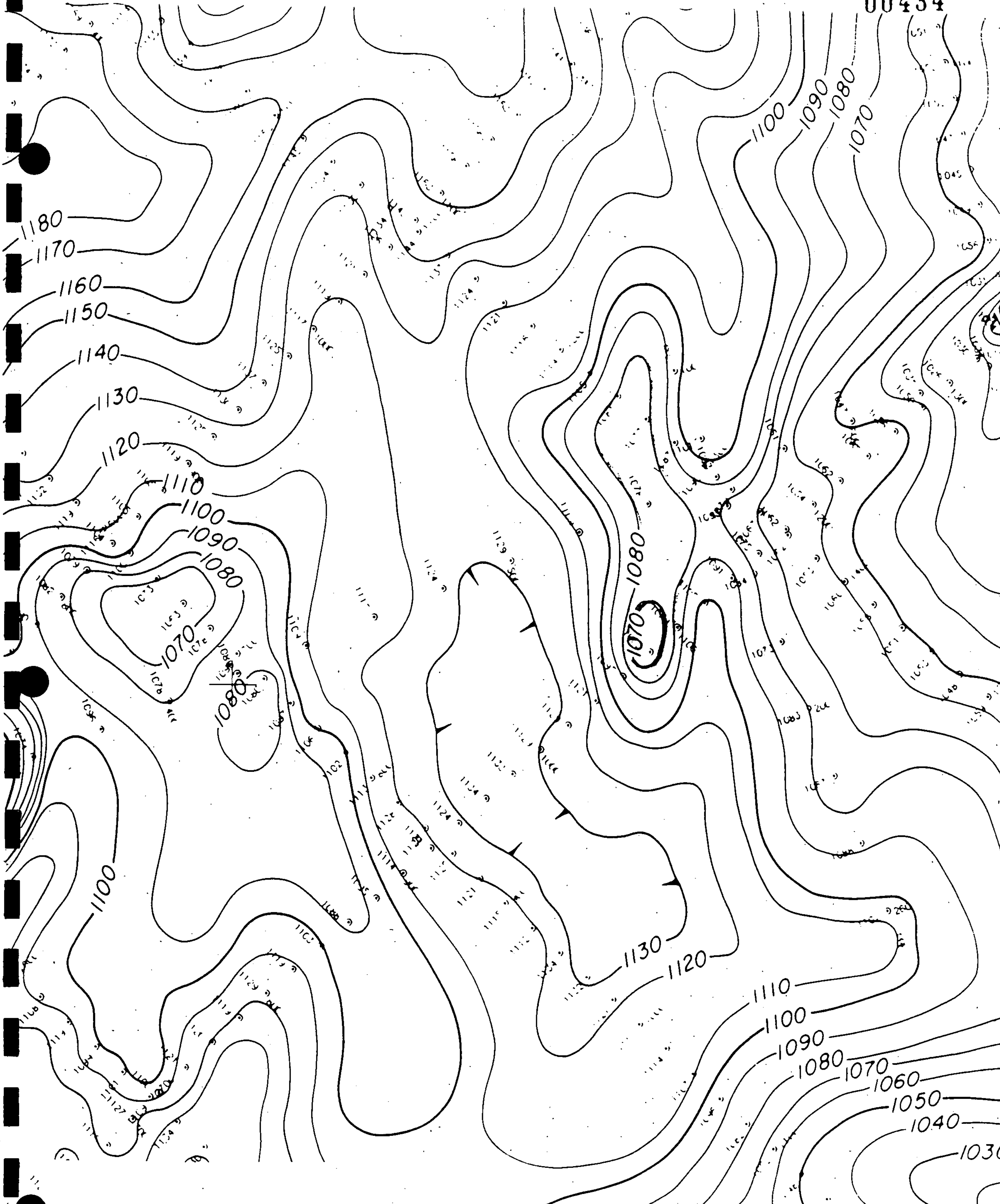


LEY-1

00432 84-TZT




LEY-2
84-TZT
1210
1220
1230
1240
1250
1260
1270
1280
1290
1300
1310
1320
1330
1340
1350
1360
1370
1380
1390
0.0
0.5
1.0
1.5
C
Z



HCC

MLCC

LCC

seismic section(s)

LAKE EYRE BLOCK PEL 5 & 6, S.A.

LAKINA

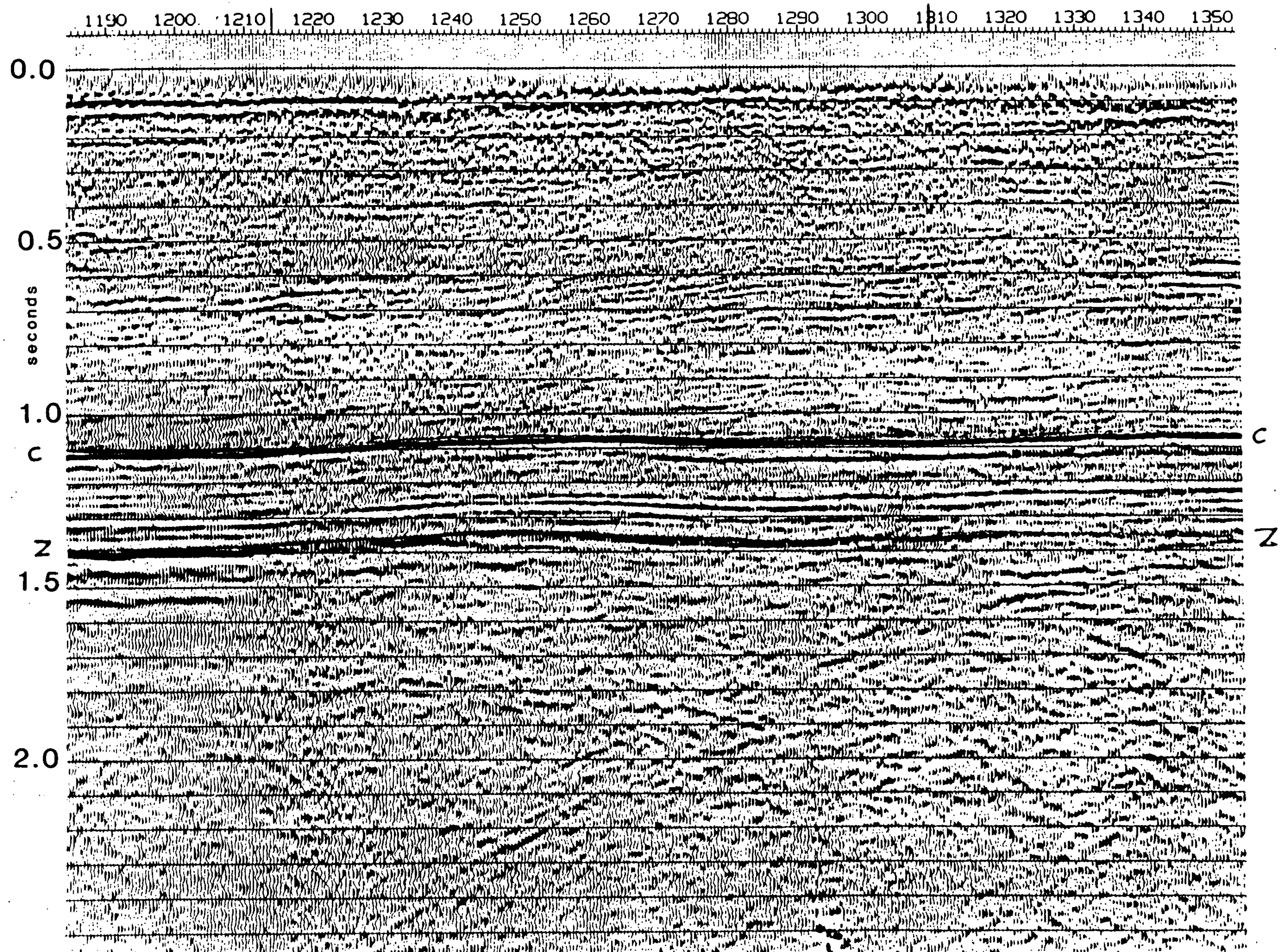
C TIME STRUCTURE

1: 100 000

LAKE EYRE BLOCK

LAKINA WEAK LEAD

LINE 85-YRZ

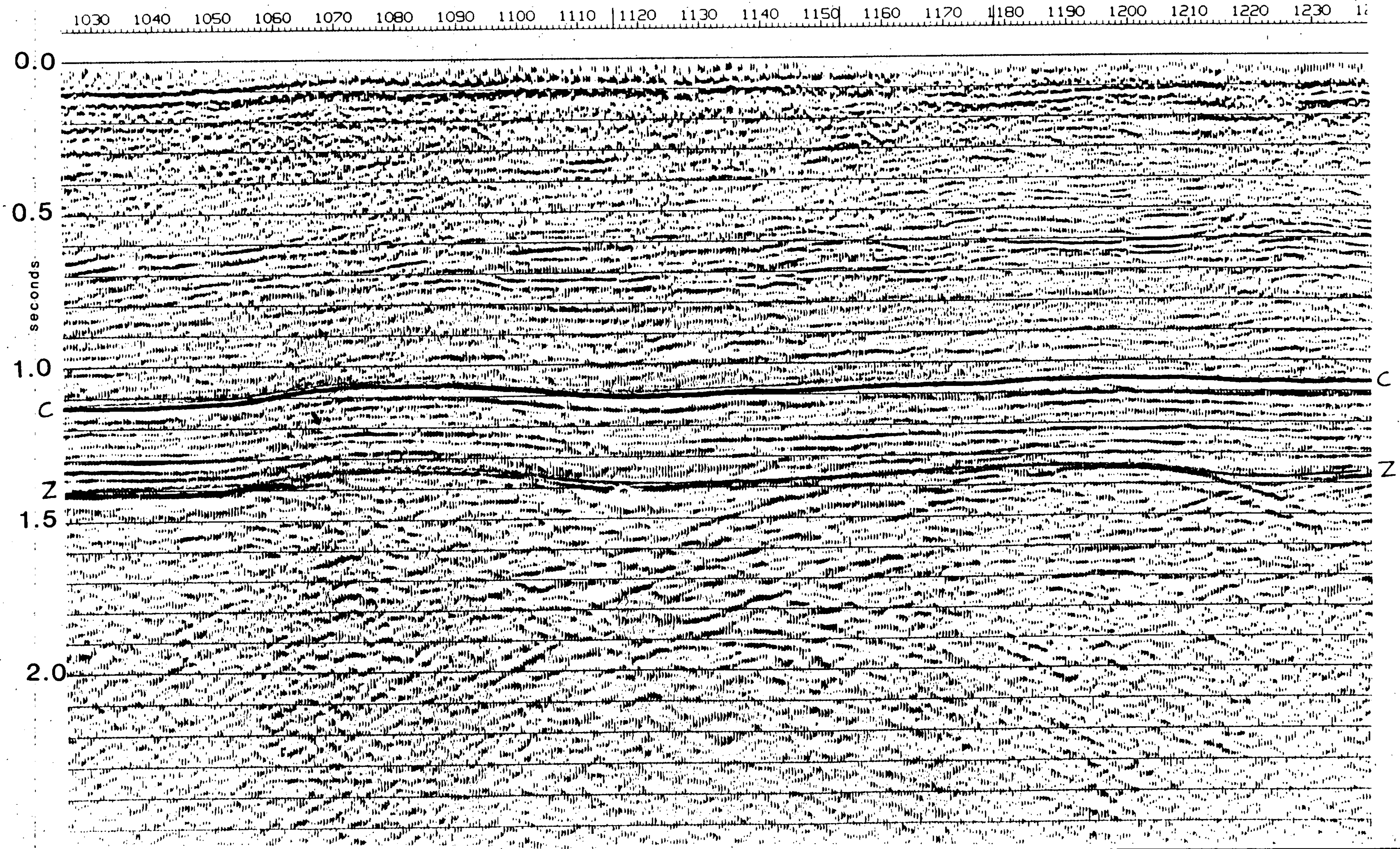


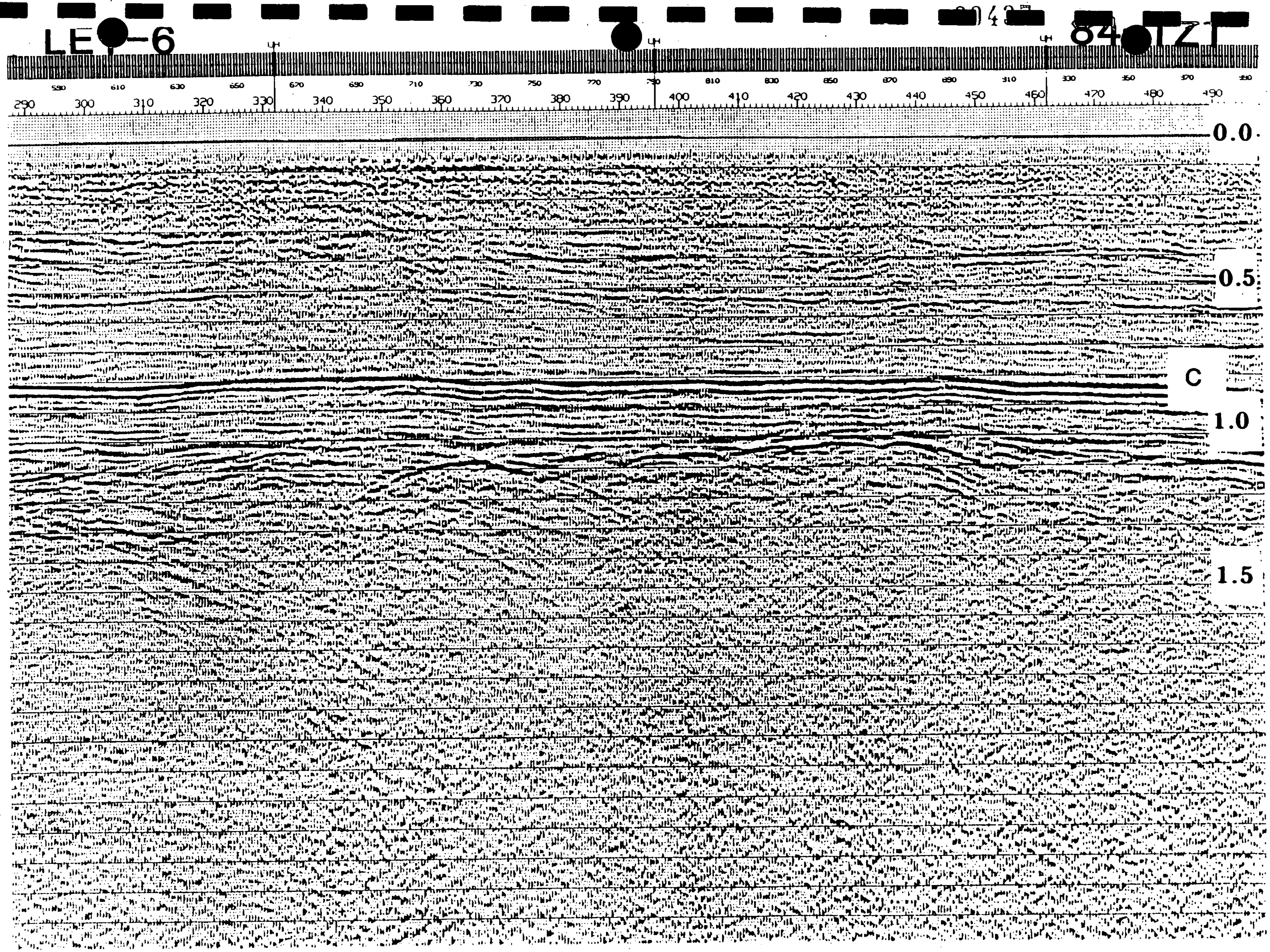
00436

LAKE EYRE BLOCK

LAKINA WEAK LEAD

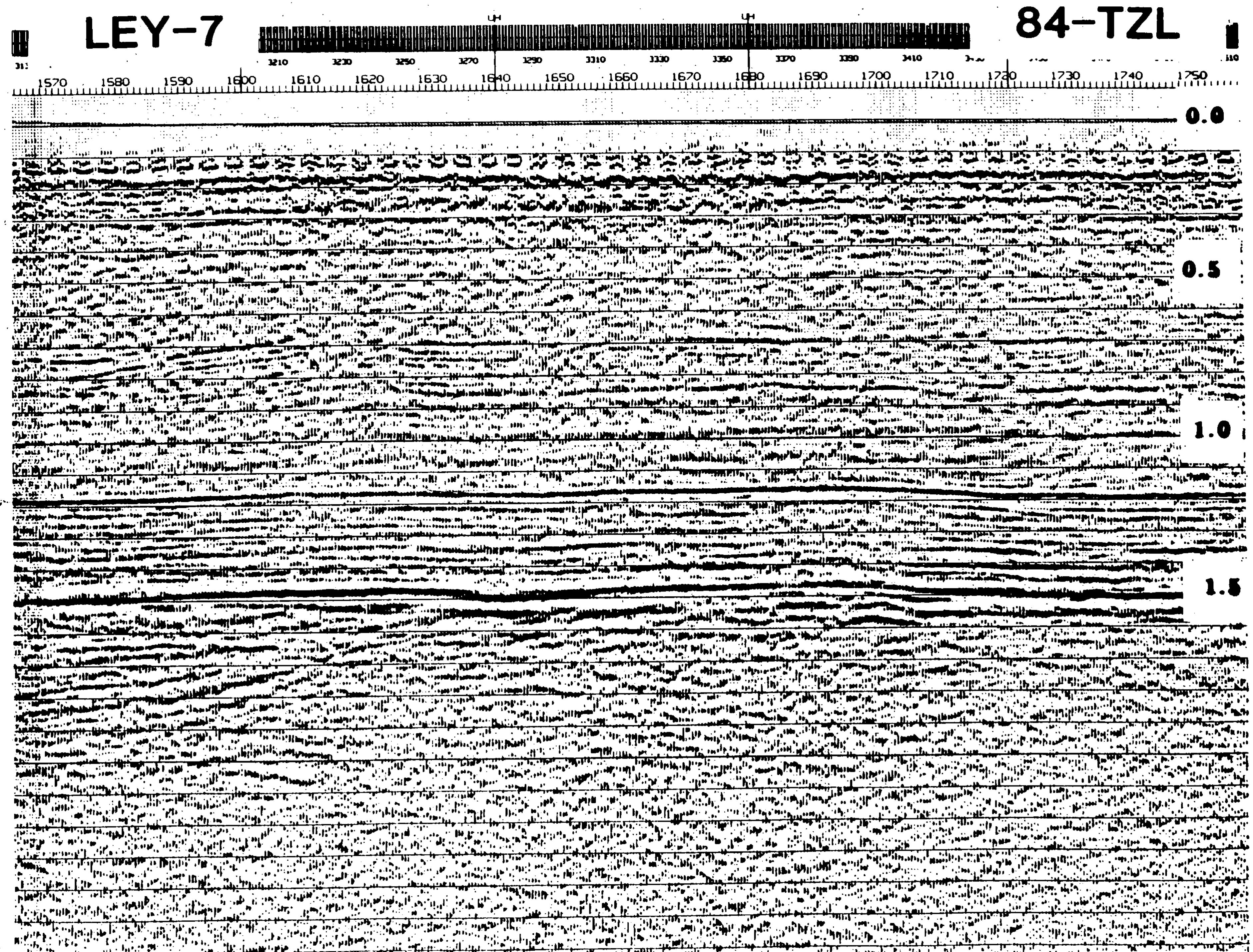
LINE 85-YRW



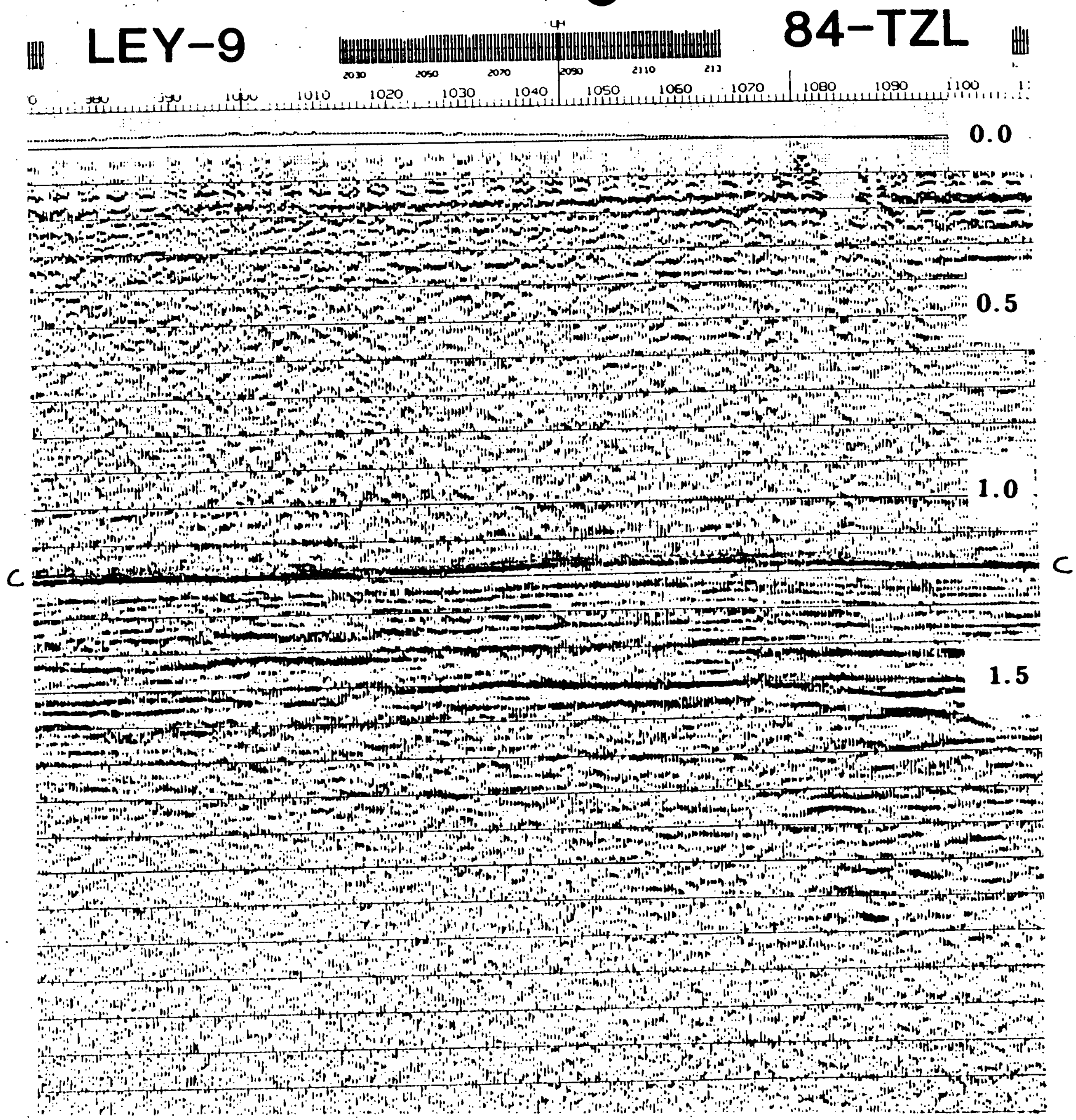


290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490
0.0
0.5
C
1.0
1.5

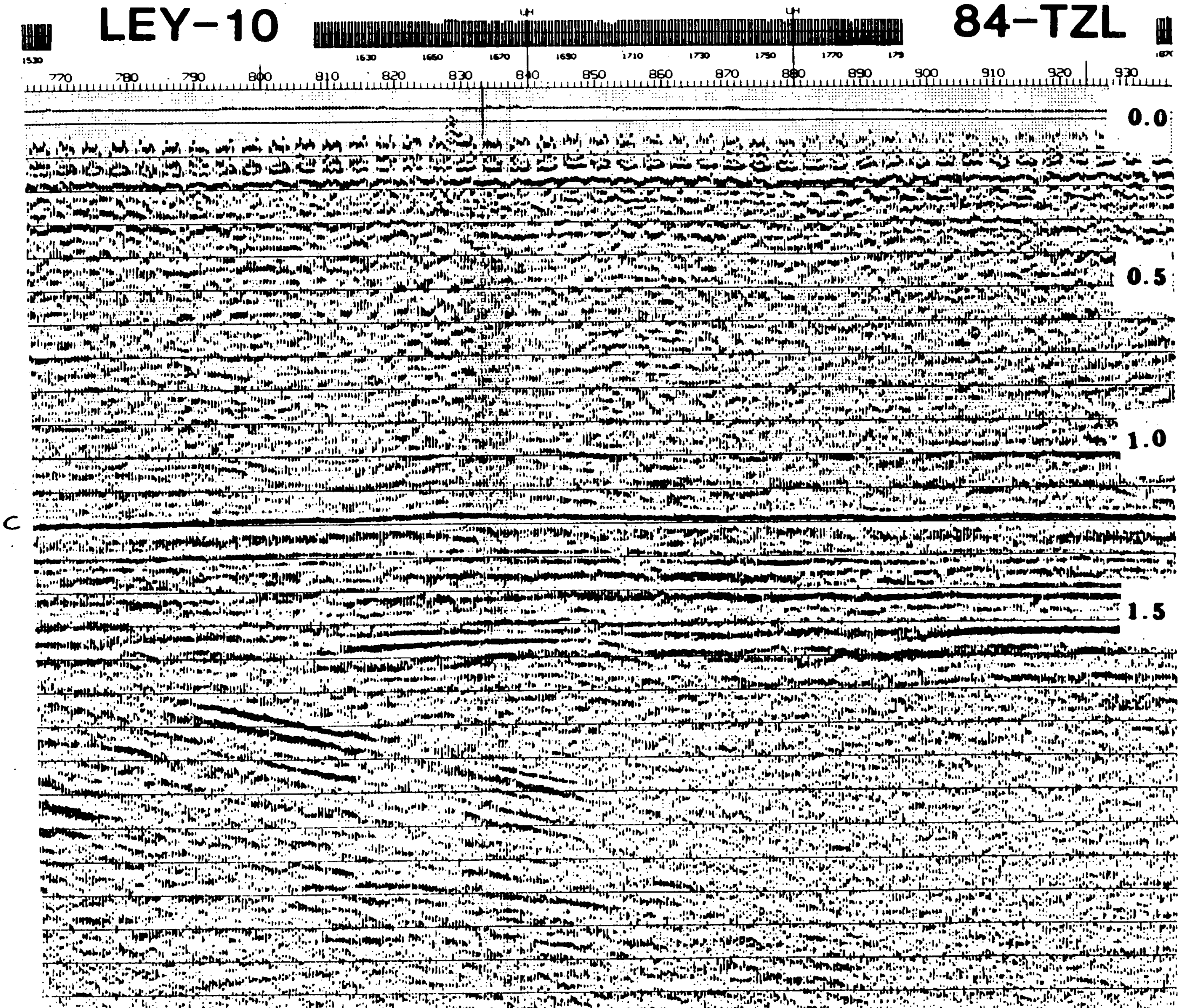
00438


LEY-7
84-TZL
1570
1580
1590
1600
1610
1620
1630
1640
1650
1660
1670
1680
1690
1700
1710
1720
1730
1740
1750
0.0
0.5
1.0
1.5

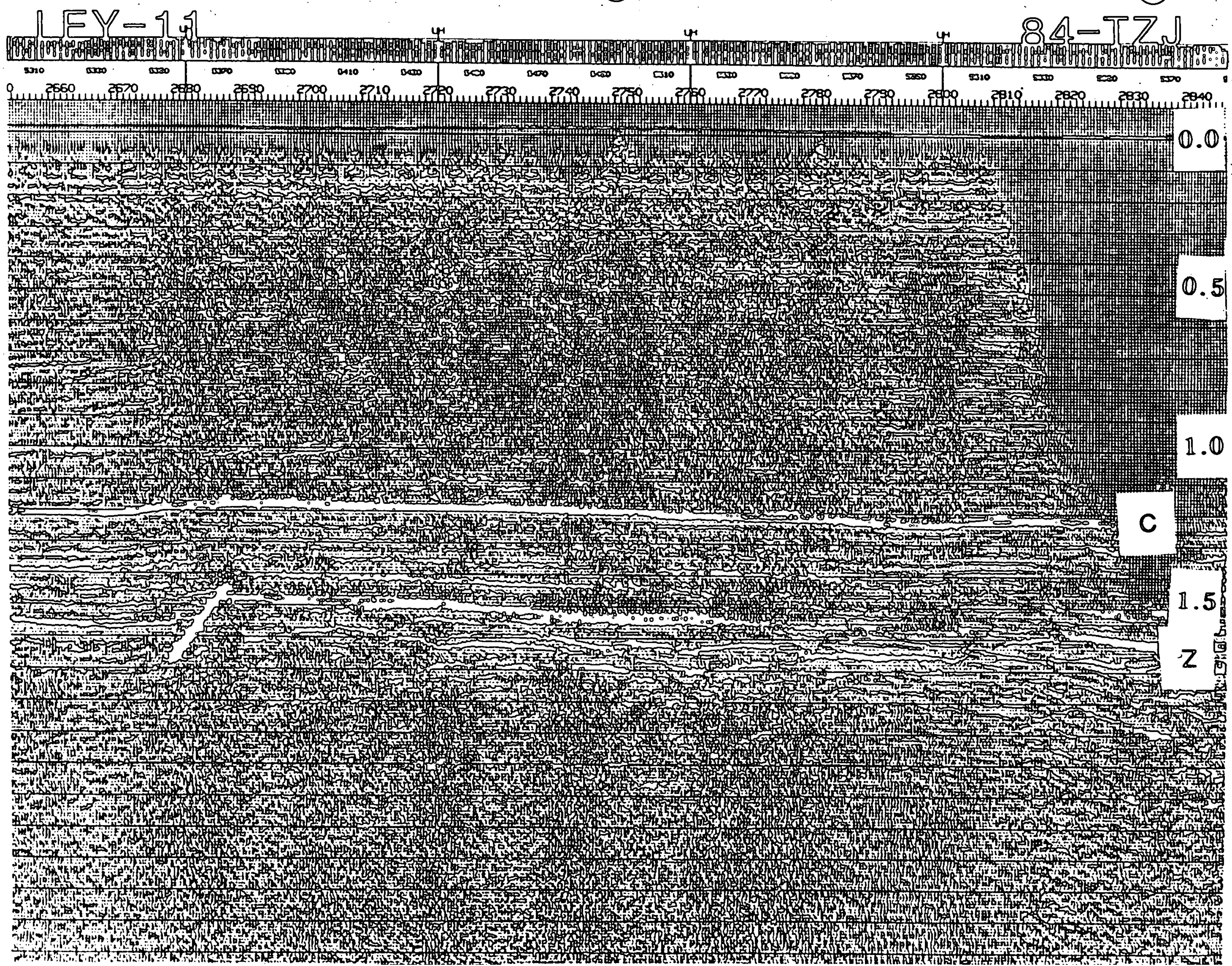
00439


LEY-9
84-TZL
2030
2050
2070
2090
2110
1010
1020
1030
1040
1050
1060
1070
1080
1090
1100
0.0
0.5
1.0
1.5
C
C

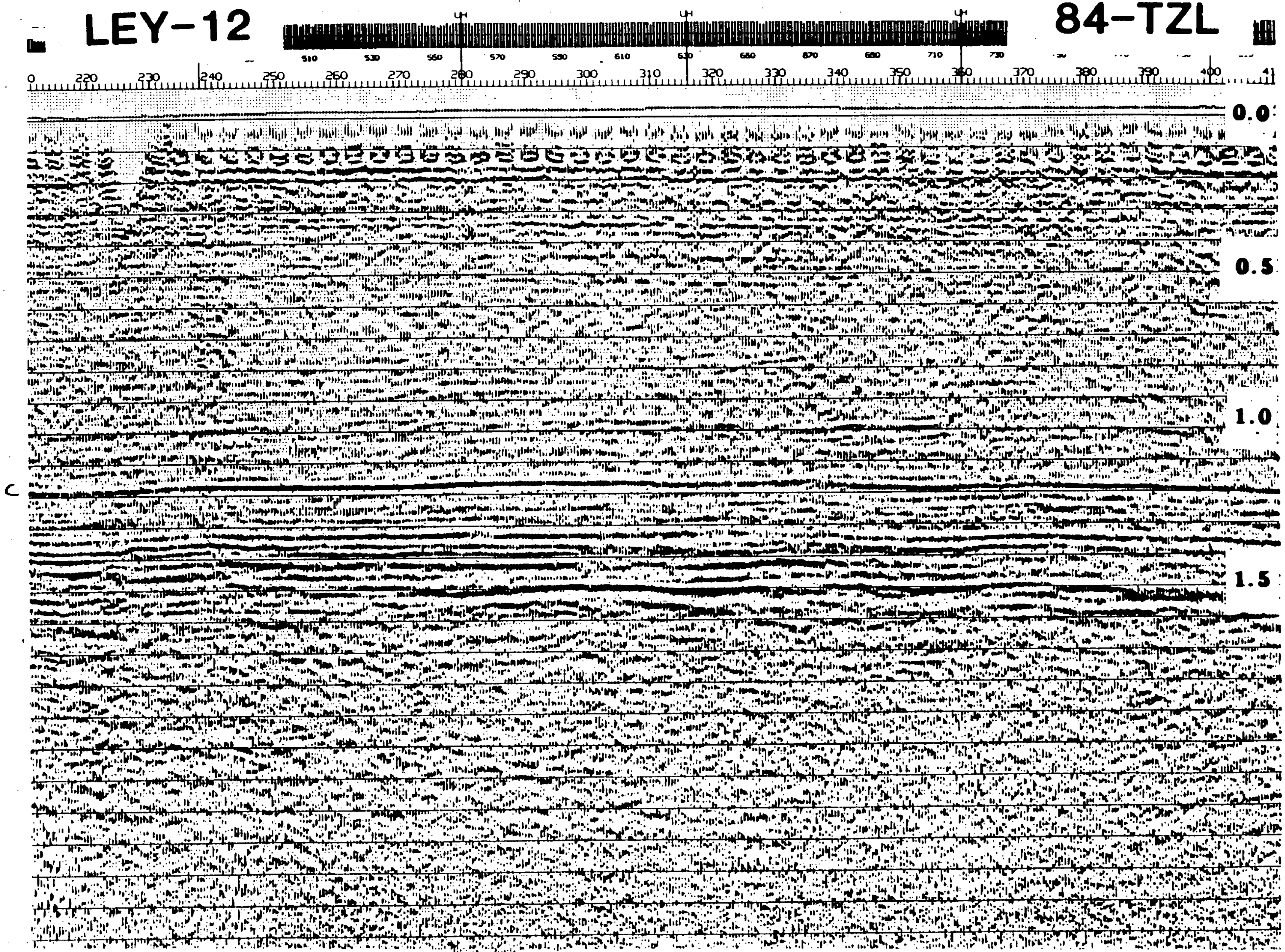
LEY-10 84-TZL

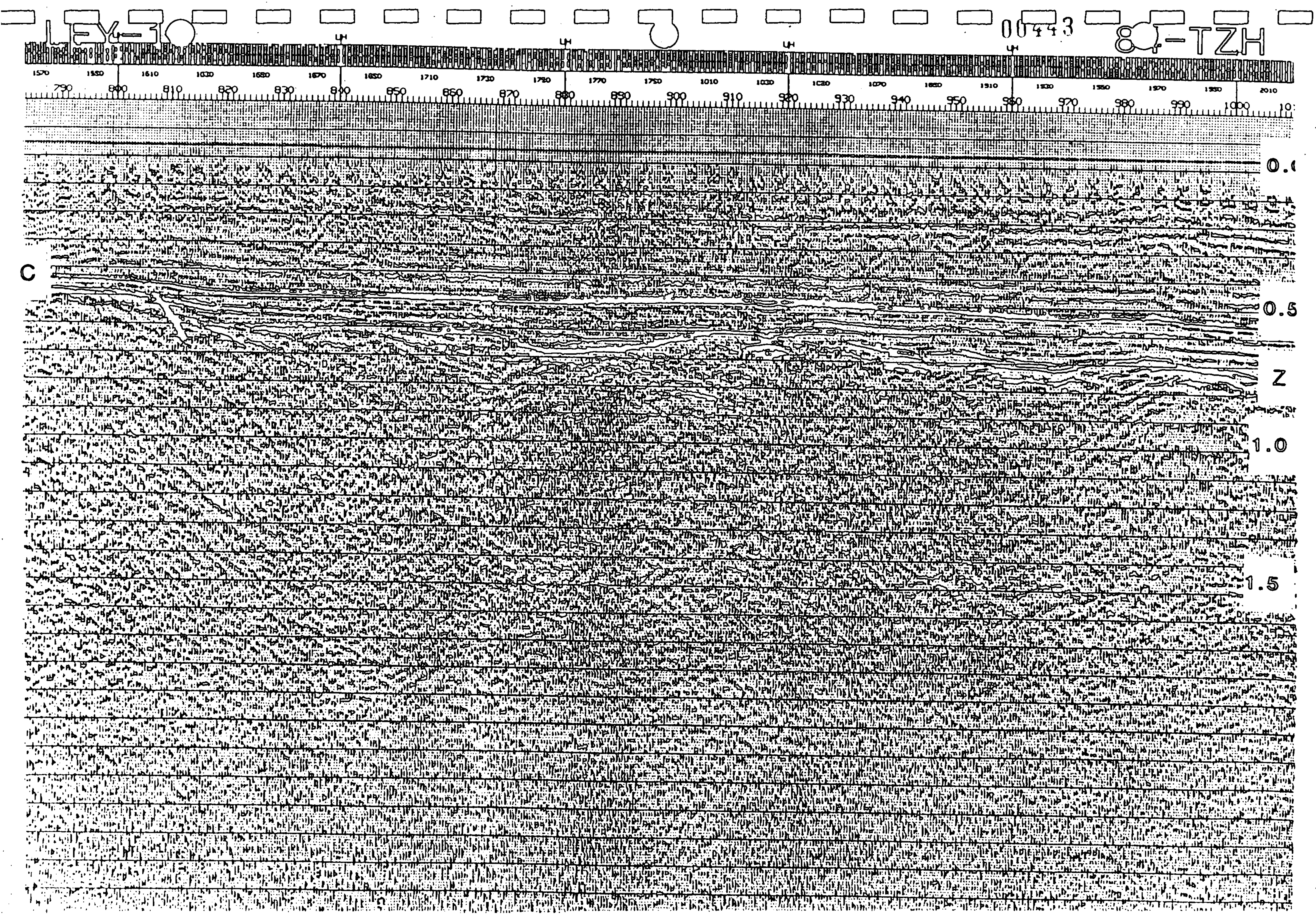

770
780
790
800
810
820
830
840
850
860
870
880
890
900
910
920
930
1630
1650
1670
1690
1710
1730
1750
1770
0.0
0.5
1.0
1.5
C
C

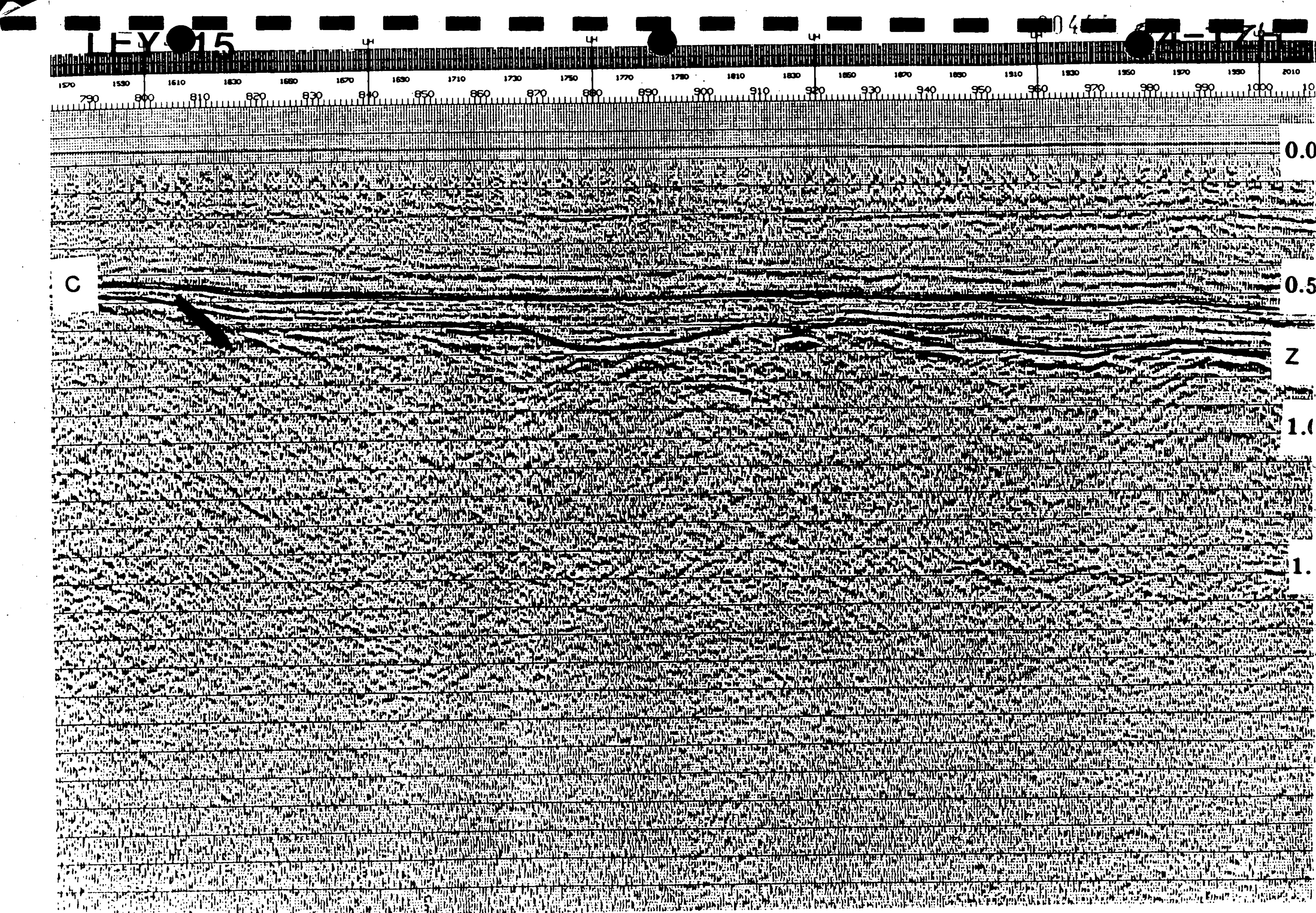
00441


LEY-11
84-TZJ
2660
2670
2680
2690
2700
2710
2720
2730
2740
2750
2760
2770
2780
2790
2800
2810
2820
2830
2840
0.0
0.5
1.0
C
1.5
Z

00442

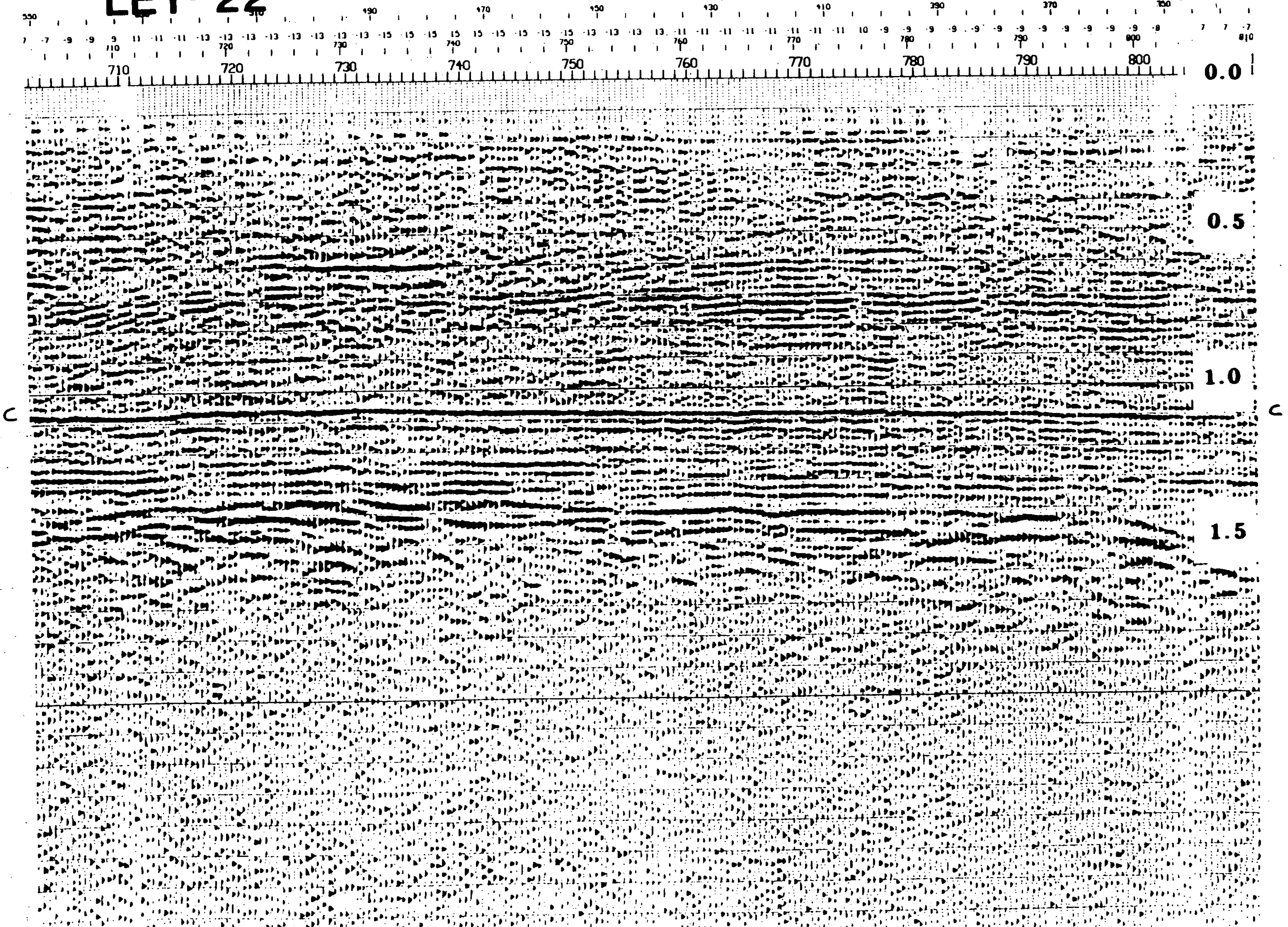

LEY-12
84-TZL
220
230
240
250
260
270
280
290
300
310
320
330
340
350
360
370
380
390
400
0.0
0.5
1.0
1.5
C
C

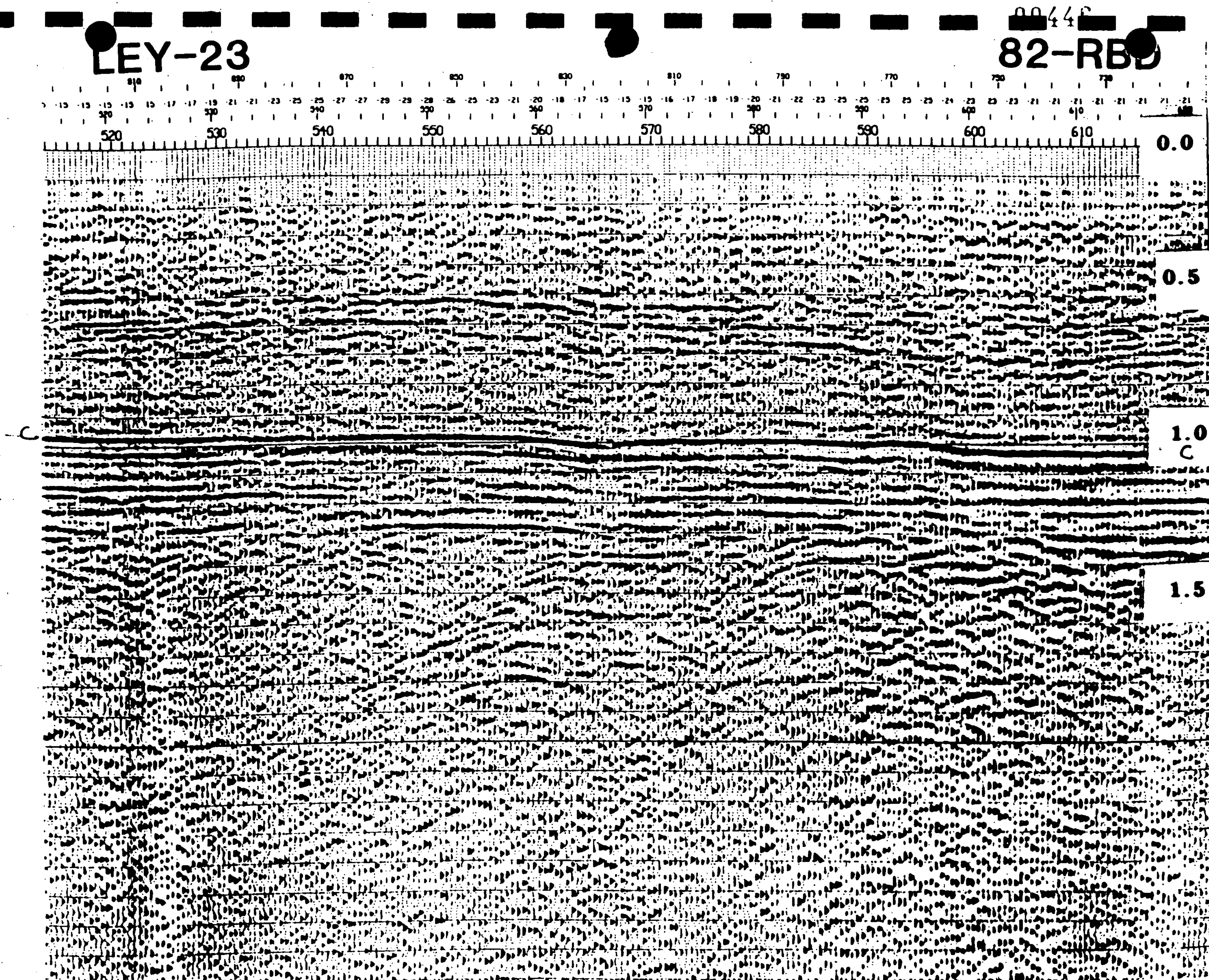

LEY-30
00443
C
0.5
Z
1.0
1.5


C
Z
0.0
0.5

LEY-22

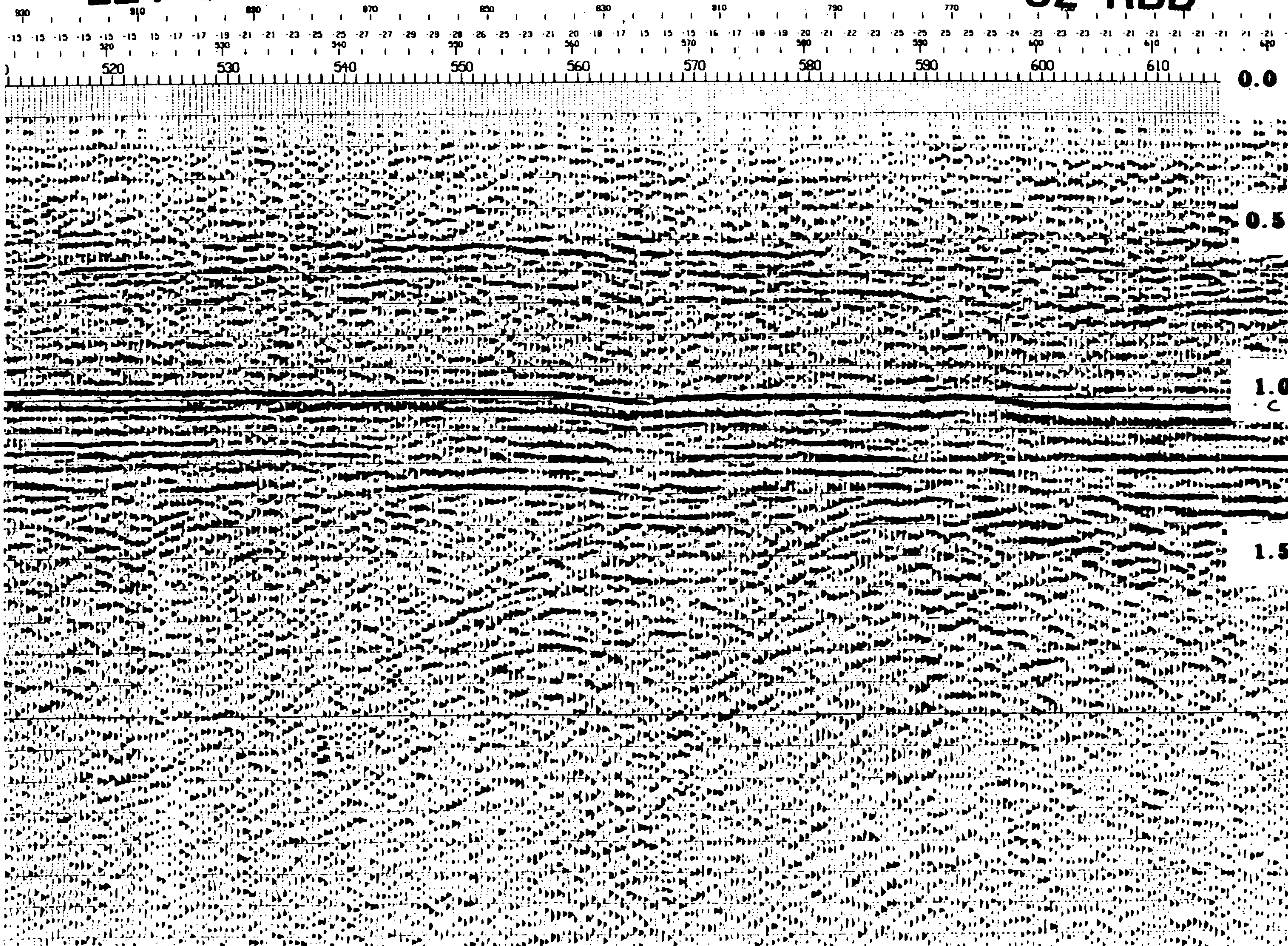
82-RBD



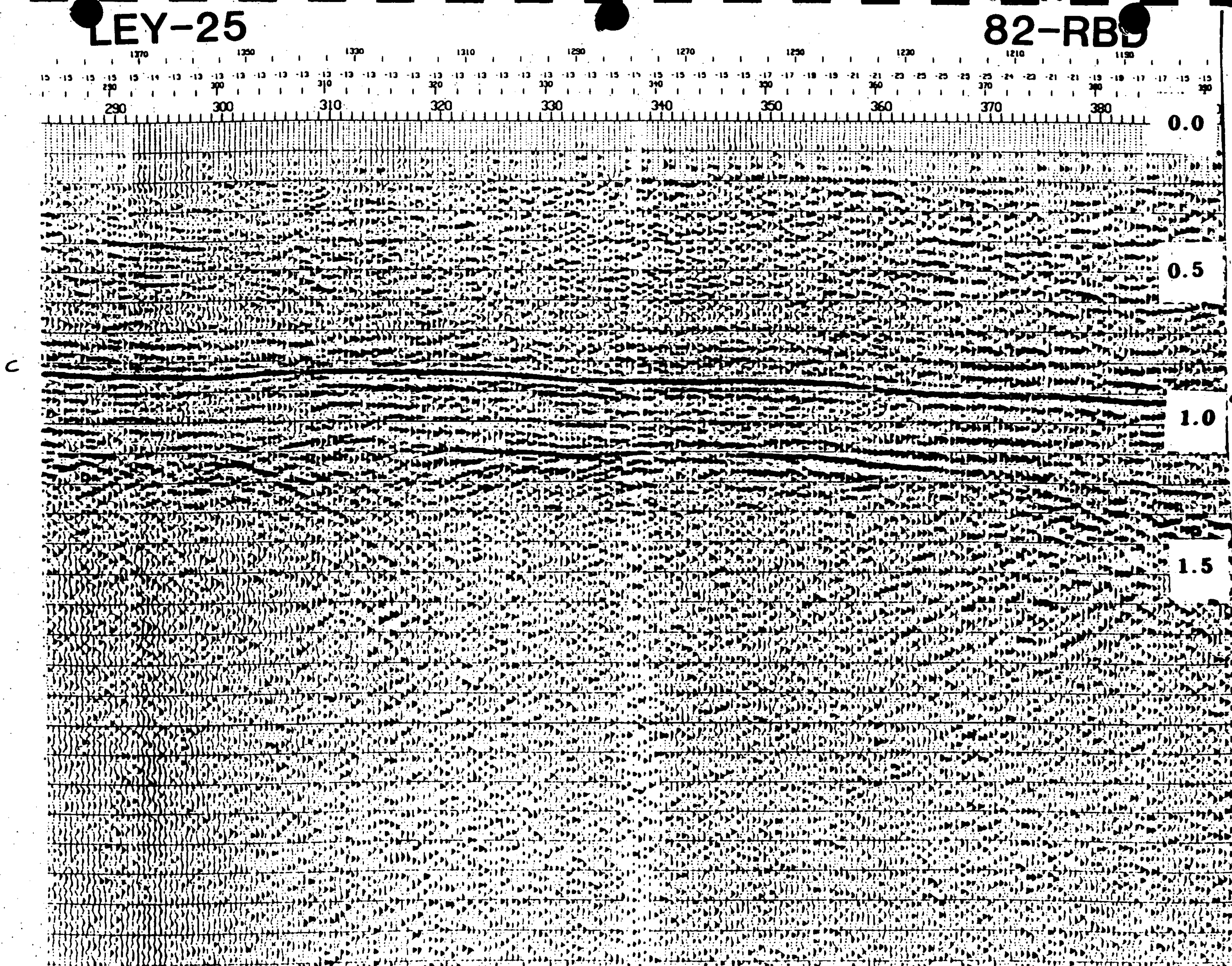

LEY-23
82-RBD
520
530
540
550
560
570
580
590
600
610
0.0
0.5
1.0
1.5
C
C

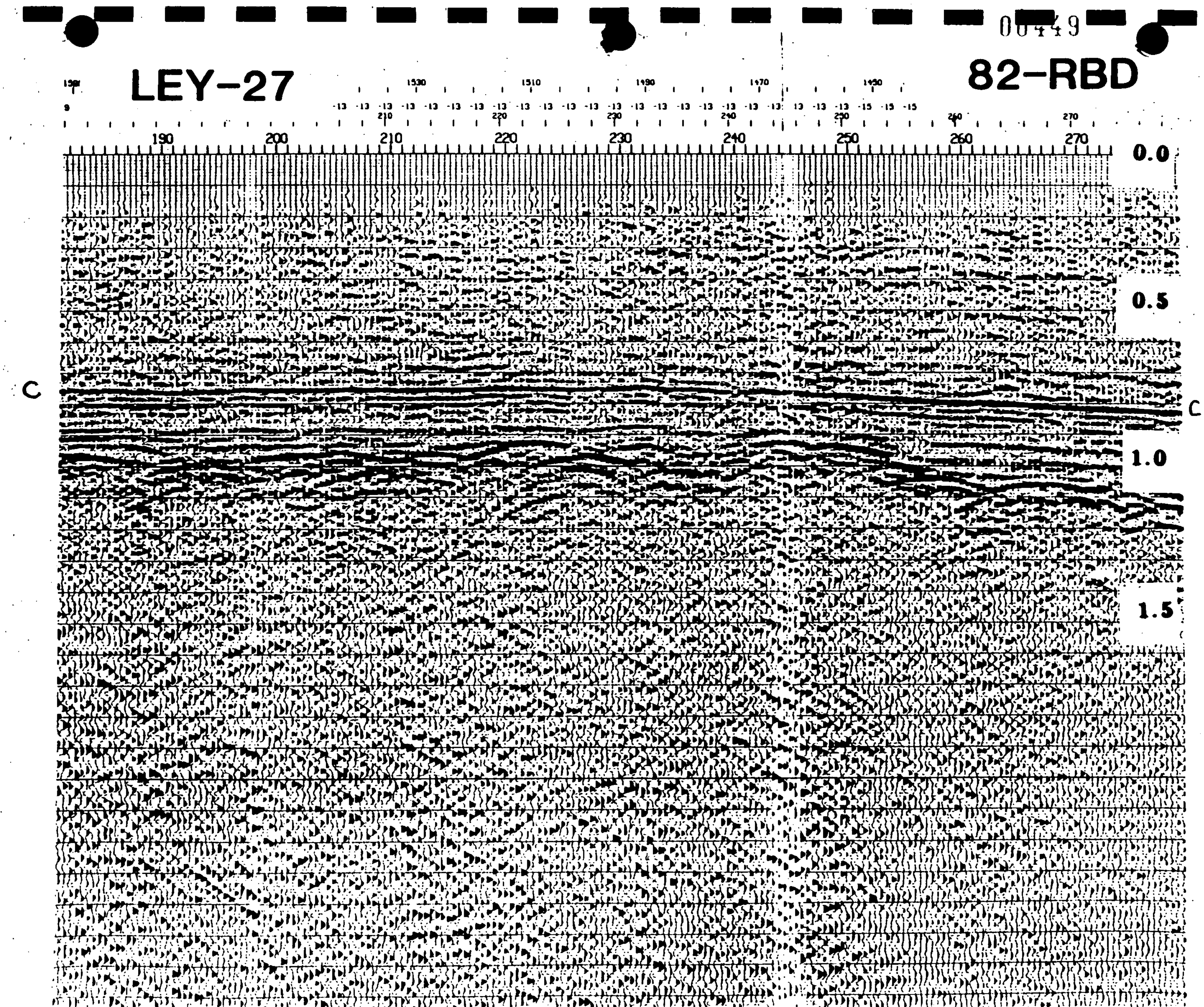
LEY-24

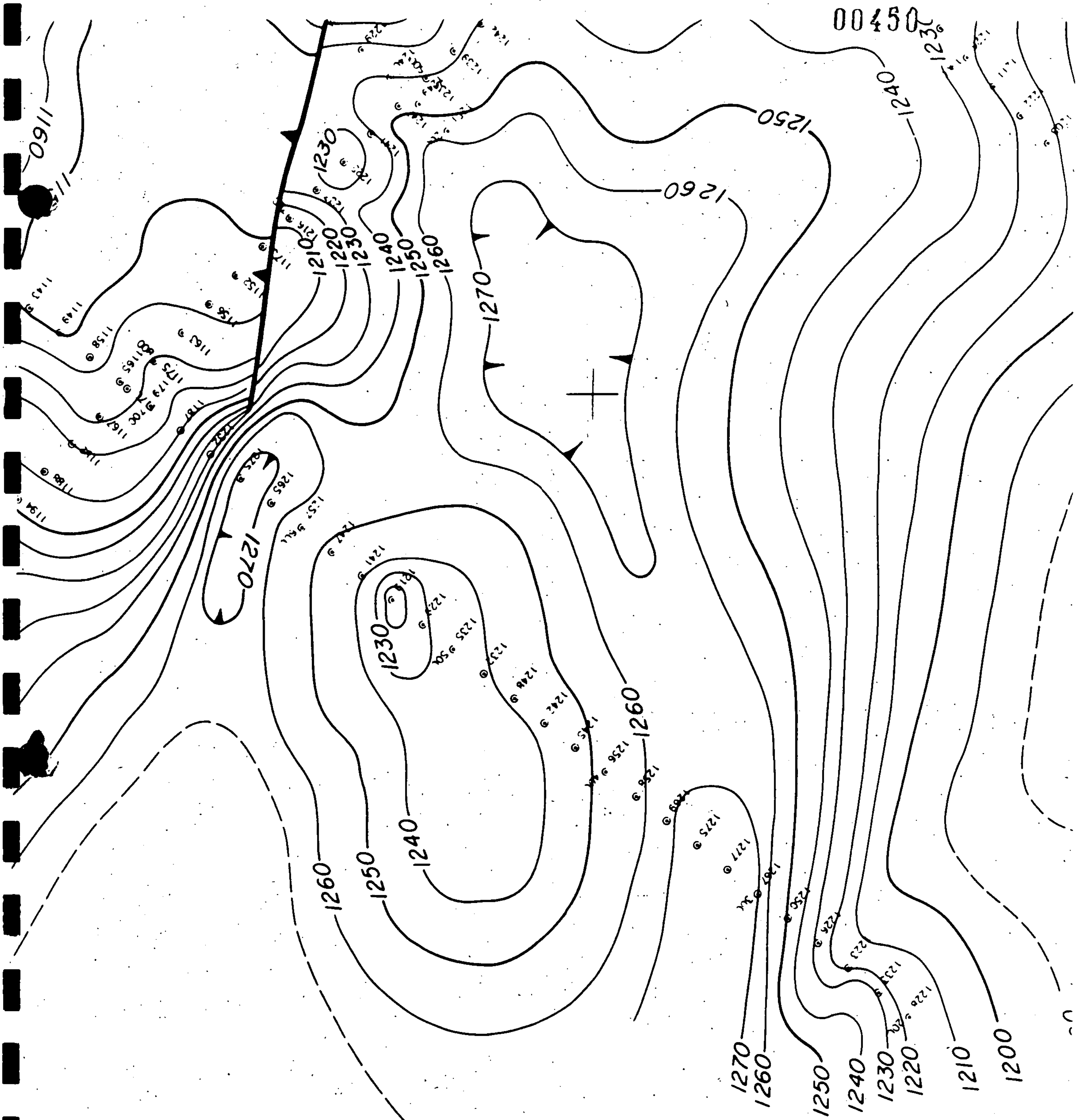
82-RBD



00448


LEY-25
82-RBD
290
300
310
320
330
340
350
360
370
380
0.0
0.5
1.0
1.5
c
c


00449
LEY-27
82-RBD
190
200
210
220
230
240
250
260
270
0.0
0.5
1.0
1.5
C
C



LAKE EYRE BLOCK PEL 5 & 6 S.A.

LEY-28

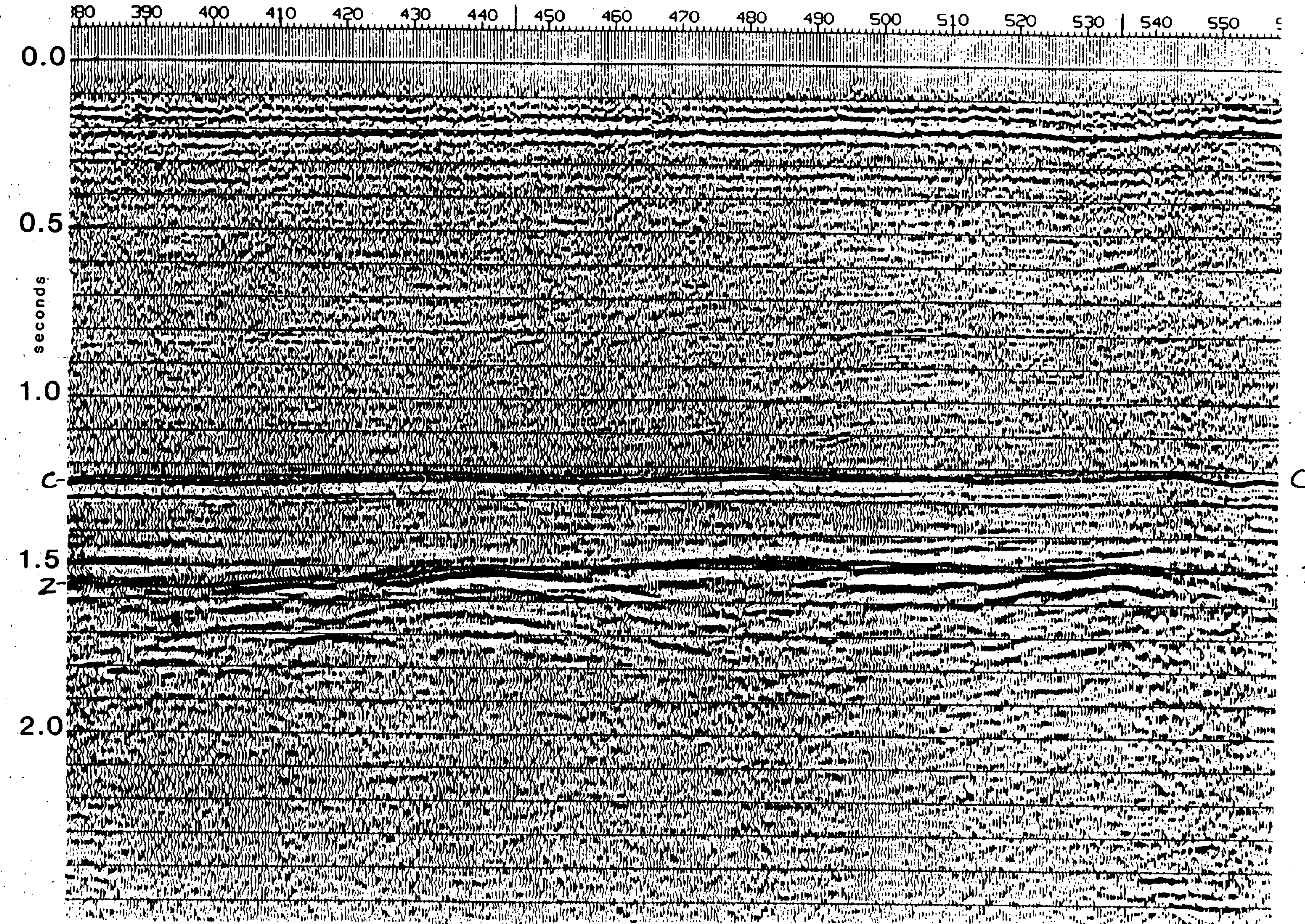
C TIME STRUCTURE

1: 100000

LAKE EYRE BLOCK

LEY-28 WEAK LEAD

LINE 85-YRZ



00452

5" : 100'
ENCLOSURE I

SANTOS LIMITED

COMPOSITE WELL LOG

SANTOS-DELHI-BRIDGE-VAMGAS-SAOGC-CANADA NW-ADELAIDE PET

LAKE VIEW-1

EROMANGA BASIN, SOUTH AUSTRALIA

Location : LATITUDE -
LONGITUDE -
SEISMIC - STATION 486.5 , LINE 86-AGD

1 : 250000 Sheet : NOOLYEANA SG53-16

Petroleum Tenement : PEL 5 & 6 , LAKE EYRE BLOCK

Elevation : G.L. K.B.
M.S.L. 0' PORT ADELAIDE

Total Depth : 4681' (Driller) 4681' (Logger Extrap.)

Date Spudded : 16 FEBRUARY 1988

Date Completed : 29 FEBRUARY 1988

Well Status : PLUGGED AND ABANDONED

Geologists : M. BILEK, B. CREW

Report : M. BILEK

Composite Log : M. BILEK

Log Coverage :

DLL	4632' - 632'
MSFL	4614' - 3590'
GR	4595' - SURFACE
SLS	4639' - 632'
LDT	4660' - 3534'
CNL	4643' - 3534'
SP	4655' - 632'
VELOCITY	4655' - SURFACE
SIDEWALL CORES	30

Drafted : J. R. HAMER Date : JUNE 1988 File : LOG BOX

LEGEND

CORE
C- (No.) Core Number

CORE ANALYSIS
Interval
Kav - Average Permeability (Millidarcys)
Øav - Average Porosity (%)
Soav - Average Oil Saturation (%)
No Recovery

SIDEWALL CORE (No.)
(No Recovery)

D.S.T. - DRILL STEM TEST
Number and Interval

LOG ANALYSIS
AvØ - Average weighted Porosity (%)
Av Sw - Average weighted Water Saturation (%)

N.P. - NET PAY
Ø - Average weighted Porosity (%)
Sw - Average weighted Water Saturation (%)

R.F.T. TEST POINT

PERFORATED INTERVAL

PLUG (No.)

CASING SHOE

PALYNOLOGY

PALYNOSTRATIGRAPHIC UNITS
PP - Permian unit
PT - Triassic unit
PJ - Jurassic unit
PK - Cretaceous unit
Gk - Dinocyst unit

SYMBOLS

OIL
OIL SHOW
UNCONFORMITY
DIP
DEVIATION

LITHOLOGY

GRANULES & larger : esp. SMALL PEBBLES (larger)
SANDSTONE
TIGHT SANDSTONE
Very coarse grained
Coarse grained
Medium grained
Fine grained
Very fine grained
CALCAREOUS SANDSTONE
SILTY SANDSTONE
SILTSTONE
CARBONACEOUS SILTSTONE
SILTY CLAYSTONE
CLAYSTONE
DOLOMITE
LIMESTONE
COAL
BASEMENT

G GLAUCONITE
PYRITE
PLANT REMAINS
FOSSILS
M MICA
SIDERITE

ABBREVIATIONS

MW - Muddy water
GCM - Gas cut mud
GCMW - Gas cut muddy water
SGCW - Slightly gas cut water
SGCWTS - Slightly gas cut water to surface
SGCM - Slightly gas cut mud
GTS - Gas to surface
NFTS - No fluid to surface
WTS - Water to surface
OTS - Oil to surface
BOPD - Barrels of oil per day
BCPD - Barrels of condensate per day
BWPD - Barrels of water per day
MMCFD - Millions cubic feet per day
RTSTM - Rate too small to measure
POH - Pulled out of hole
TG - Trip gas
CG - Connection gas
NB - New bit
RRB - Re run bit
CB - Core bit
RRCB - Re run core bit
PBTD - Plug back total depth
Q - Flow rate
Rw - Resistivity water
Drlr - Driller
Logr - Logger
API - Gas / oil gravity
Rec - Recovery

ALL DATA CORRECTED TO LOG DEPTHS

GAMMA RAY — SONIC — RESISTIVITY

5" = 100'

COMPOSITE WELL LOG

00453

DELHI INTERNATIONAL OIL CORPORATION, SANTOS LIMITED & VAMGAS N.L.

POOLOWANNA I

UN-NAMED TRIASSIC/JURASSIC BASIN — SOUTH AUSTRALIA

LOCATION: LAT. 26° 25' 34" S
LONG. 137° 40' 31" E

ELEVATION: K.B. 100', G.L. 85' approx.

TOTAL DEPTH: 10,086 (Drlr.) 10,083 (Schlum.)

WELL STATUS: PLUGGED AND ABANDONED

LITHOLOGY BY: M.J. WILTSHIRE

PETROLEUM TENEMENT P.P.L. 586

4 MILE SHEET POOLOWANNA

DATE SPUDDED: AUGUST 2, 1977

DATE COMPLETED: SEPTEMBER 18, 1977

OTHER LOG COVERAGE: P.M.L.- CALIPER
D.L.L., F.D.C.- C.N.L.

LEGEND

Drill Stem Test Number and Interval.

CORES

C-(No.) Core Number.

CORE ANALYSIS

Interval of analysis of samples.
Kav.-Average Permeability - Millidarcys
Øav.-Average Porosity - Percentage

Non recovery

LOG ANALYSIS

Av. Ø - Average weighted Porosity - Percentage
Av. Sw - Average weighted Water Saturation - Percentage

N.P. Net Pay
Ø Average weighted Porosity - Percentage
Sw Average weighted Water Saturation - Percentage

SIDEWALL CORES

Gas

Gas Show

Oil

Oil Show

Dip

Unconformity

Perforated Interval

Casing Shoe

PALYNOLOGY

M - Middle

Up.- Upper

L - Lower

Stg.- Stage

Tr. Triassic Age

Perm. Permian Age

NOTE: For Core and D.S.T. Intervals Driller's Depths corrected to Log Depths wherever possible.

BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

REMARKS CART. GAIN 1/5 PANEL GAIN MANUAL.

Changes in Mud Type or Additional Samples				
Date / Sample No.				
Depth—Driller				
Type Fluid in Hole				
Dens. / Visc.				
ph / Fluid Loss		ml		
Source of Sample				
R_m @ Meas. Temp.	@	°F	@	°F
R_{mf} @ Meas. Temp.	@	°F	@	°F
R_{mc} @ Meas. Temp.	@	°F	@	°F
Source: R_{mf} / R_{mc}				
R_m @ BHT	@	°F	@	°F
R_{mf} @ BHT	@	°F	@	°F
R_{mc} @ BHT	@	°F	@	°F

Scale Changes			
Type Log	Depth	Scale Up Hole	Scale Down Hole

Equipment Data				
Run No.	Tool Type	Pad Type	Tool Pos.	Other

C.D.: FIN S.O.: 2"

Equip. Used: CART. No. DA 471
PANEL No. JH 335
SONDE No. NA 1103

CALIBRATION:	BACKGND. CPS.	SOURCE CPS.	GALV. INCR. DIVISIONS	SENS. TAP (FOR CAL.)	SENS. TAP (RECORD)	TIME CONST.	RECORDING SPEED (FT./MIN.)
GAMMA RAY:	70	+430	100	165	150	2	30

$$\text{Velocity (feet per second)} = \frac{1{,}000{,}000}{\text{Interval Transit Time (microseconds per foot)}}$$

REMARKS

Changes in Mud Type or Additional Samples

DELHI PETROLEUM PTY. LTD.

00454

5" : 100'
ENCLOSURE I

COMPOSITE WELL LOG

DELHI PETROLEUM PTY. LTD., WESTERN MINING CORP., ADELAIDE PETROLEUM N.L., SANTOS LIMITED, BRIDGE OIL LTD., VAMGAS LIMITED, S.A.O.G.C.

POOLOWANNA 2

SIMPSON DESERT/EROMANGA BASINS, SOUTH AUSTRALIA

Location : LATITUDE – 26° 26' 52.8" SOUTH (Prelim.)
LONGITUDE – 137° 40' 17.7" EAST (Prelim.)
SEISMIC – INTERSECTION LINES 76-WBY/80-WJF

1 : 250 000 Sheet : POOLOWANNA (SG-53-12)

Petroleum Tenement : PEDIRKA BLOCK, PEL'S 5 & 6

Elevation : G.L. 68' (Prelim.), K.B. 88' (Prelim.)
M.S.L. 0' PORT ADELAIDE

Total Depth : 9568' (Driller), 9574' (Logger) (Extrap.)

Date Spudded : 1630 HRS. 19-4-85

Date Completed : 1600 HRS. 19-5-85

Well Status : PLUGGED AND ABANDONED - EXPLORATION

Geologists : J. PHILLIPS, C. MARTIN

Report : C. MARTIN

Composite Log : C. MARTIN

Log Coverage :

SUITE 1		SUITE 2	
SLS-	5146'-590'	DLL-SP-	9558'-5214'
-GR	5146'-50'	-MSFL	9540'-5214'
DLL-SP-GR	5150'-590'	-GR	9522'-5214'
		SLS-	9550'-5214'
		-GR	9534'-5214'
		CST	
		VELOCITY SURVEY	

Drafted : H. KUSTER — Date : JULY 1985 — Dwg. No. : 85XG-5721 — File : LOG BOX

LEGEND

CORE
C – (No.) Core Number

CORE ANALYSIS
Interval
Kav. – Average Permeability (Millidarcys)
Øav. – Average Porosity (%)
So av. – Average Oil Saturation (%)
No Recovery

SIDEWALL CORES
(No Recovery)

D.S.T. – DRILL STEM TEST
Number and Interval

LOG ANALYSIS
Av. Ø – Average weighted Porosity (%)
Av. Sw – Average weighted Water Saturation (%)

N.P. – NET PAY
Ø – Average weighted Porosity (%)
Sw – Average weighted Water Saturation (%)

R.F.T. TEST POINT

PERFORATED INTERVAL

PLUG (No.)

CASING SHOE

PALYNOLOGY
E. – Early
M. – Middle
L. – Late
J – Jurassic Age
P – Permian Age
Tr – Triassic Age
Stg. – Stage

SYMBOLS
OIL
OIL SHOW
GAS
GAS SHOW
UNCONFORMITY
HIATUS
DIP
DEVIATION

LITHOLOGY
GRANULES & larger : esp. SMALL PEBBLES (larger)
QUARTZ SANDSTONE
Very coarse grained
Coarse grained
Medium grained
Fine grained
Very fine grained
CALCAREOUS SANDSTONE
SILTSTONE (CARBONACEOUS)
CLAYSTONE
COAL
LIMESTONE
DOLOSTONE
G GLAUCONITE
PYRITE
PLANT REMAINS
FOSSILS

ABBREVIATIONS

MW – Muddy Water
GCM – Gas Cut Mud
GCMW – Gas Cut Muddy Water
SGCW – Slightly Gas Cut Water
SGCWTS – Slightly Gas Cut Water To Surface
SGCM – Slightly Gas Cut Mud
GTS – Gas to Surface
NGTS – No Gas to Surface
NOTS – No Oil to Surface
BOPD – Barrels of Oil Per Day
BWPD – Barrels of Water Per Day
MMCFD – Millions Cubic Feet per Day
RTSTM – Rate Too Small To Measure
POH – Pulled Out of Hole
TG – Trip Gas
CG – Connection Gas
NB – New Bit
RRB – Re Run Bit
◊ – Diamond Core Bit
RR◊ – Re Run Diamond Core Bit
PBTD – Plug Back Total Depth
Q – Flow Rate
RW – Resistivity Water
Drlr Driller
Logr Logger

ALL DATA CORRECTED TO LOG DEPTHS

GAMMA RAY – LONG SPACING SONIC LOG

GR (GAPI)		DT (US/F)	
0.0	200.00	240.00	140.00
CALI(IN)		DTL (US/F)	
10.000	20.000	140.00	40.000
BS (IN)		DT (US/F)	
10.000	20.000	140.00	40.000

4882-6

82-RBC 20-5-A

NORMAL POLARITY

LINE : 82-RBC

S.P. 120 TO S.P. 792

FINAL STACK(140.2)

DELHI PETROLEUM PTY. LTD.

GEOPHYSICAL SERVICE INTERNATIONAL

ADELAIDE S. AUSTRALIA

Q.C. BY CR

AREA: LAKE EYRE
BLOCK: LAKE EYRE
SURVEY: CHRISTMAS CREEK
STATE: S. AUSTRALIA

FIELD RECORDING DATA

RECORDED S.E.G PHASE AND POLARITY
DELHI PARTY NO - 6
RECORDING DATE - JUNE 1982
RECORDED BY - EG & G GES PTY LTD.
INSTRUMENTS - SERCEL 338HR
FIELD FILTERS - OUT-125 HERTZ
SAMPLE RATE - 2 MSEC
RECORD LENGTH - 4 SECS
TAPE FORMAT - SEG B (1600BPI)
FIELD TAPE NO.S - 82-6-96 TO - 82-6-103
NO. CHANNELS - 67 (48TRACES)

SHOT DATA :

PROCESSING SEQUENCE

DATUM - SEA LEVEL
MULTIPLICITY - 1200%
UPHOLE STATICS

1 RESAMPLE TO 4 MSEC
2 INSTRUMENT DELAY - NONE
3 TRACE EDIT
4 TAR - ALPHA=4DB/SEC, T2=3 5 SEC.
5 PREDECONVOLUTION RAMP
6 VELFILT - +27, -6 MSEC /TRACE
7. DESIGNATURE (V4) (SHOT WAVELET ESTIMATED FROM ALL TRACES OF RECORD)
8 CDP GATHER

RECEIVER DATA

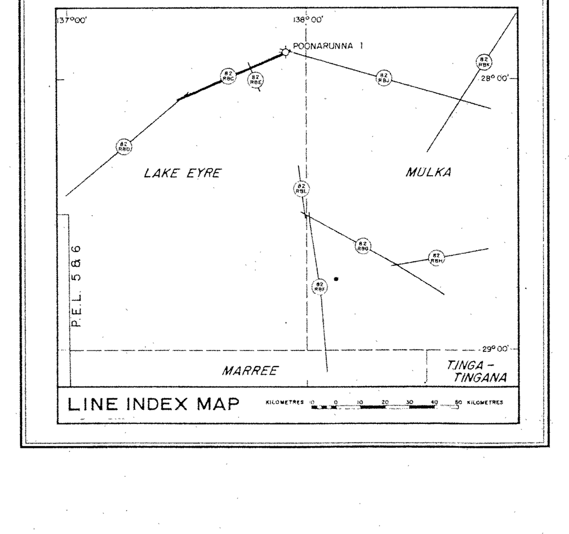
MUTE :

FILTER :

POST STACK SCALING

DISPLAY : PLOT NO. 11817

POLARITY - NORMAL
VERTICAL SCALE - 5 INCHES PER SECOND
HORIZONTAL SCALE - 11 TRACES PER INCH
BIAS - 0 %
FILM DISPLAY GAIN - -2DB



LINE INDEX MAP

4882-6

4882-6

4882-7

84-TZL STNS:200-3877

DELHI PETROLEUM PTY. LTD.

FINAL STACK 140.1B

SURVEY : HOGARTH-LEY
BLOCK : LAKE EYRE
STATE : SOUTH AUSTRALIA
AREA : REGIONAL

RECORDING PARAMETERS

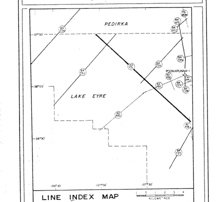
RECORDED BY	GES	GAIN MODE	IFP
DATE	15/11-5/12/84	LOW CUT FILTER	8Hz. 12DB/OCT
INSTRUMENT	SERCEL 338HR	HIGH CUT FILTER	125Hz. 12DB/OCT
SYSTEM NO.		GEOPHONE TYPE	OSC 200 8HZ
SOURCE	REOCORD	GEOPHONE PATTERN	12 IN LINE 3.41M
NO. CHANNELS	96	GROUP INTERVAL	37.5M
SAMPLE RATE	2 ms	SOURCE INT.	150M
RECORD LENGTH	4 SECS	SOURCE PATTERN	2x50M
REELS SEGB	299 - 328	SPREAD	1 48 x 49 96 / 1856.2 93.7 93.7 1856.2M
DENSITY SEGB	1600 BPI		

SEQUENCE	PROCESSING PARAMETERS
DEMULTIPLEX	SSL DEMULTIPLEX AND GAIN RECOVERY. CONVERT TO SEGY FORMAT.
RESAMPLE	RESAMPLE TO 4ms. CONVERT TO PHOENIX I FORMAT.
SCALE	500MS WINDOWS WITH 10% OVERLAP. PROCESS TO 3 SECS.
DECON	PREDICTIVE. 32ms OP., 8ms GAP, 0.1% W.N. 2 WINDOWS. DESIGN WINDOWS : 300-1300-2400 ms. ON NEAR TRACE.
CDP GATHER	SORT INTO CDP GATHERS. TRACE EDIT. APPLICATION OF REVISED UPHOLE STATICS TO SURFACE DATUM.
NMO	NMO CORRECTION VELOCITIES CHOSEN FROM MULTI-VELOCITY-FUNCTION GATHERS AND STACKS AND POWER SPECTRA.
STATICS	APPLICATION OF REVISED FIELD STATICS TO M.S.L. DATUM.
MUTE	2 FOLD : 150ms 4 FOLD : 400ms 6 FOLD : 750ms 8 FOLD : 940ms 10 FOLD : 1120ms 12 FOLD : 1300MS
RESIDUALS I	SURFACE CONSISTENT AUTOMATIC STATICS. (AUTOSTAT) 48 POINT FILTER.
RESIDUALS II	CDP CONSISTENT AUTOMATIC STATICS. 7 TRACE PILOT. 85% TAPER.
STACK	NOMINAL 12 FOLD STACK. SQUARE ROOT STACK COMPENSATION.
FILTER	BAND_PASS : 8-10-65-80 Hz.
SCALE	2 WINDOWS 0 to 500 ms. 500 to 3000 ms.

DISPLAY DETAILS

VERTICAL SCALE	: 5 IPS	POLARITY	: "SEG"
HORIZONTAL SCALE	: 20 TPI 1:14764	BLACK VAR	: +VE VALUE
SECURITY NUMBER	: 03338	PLOT TYPE	: WIG+VAR AREA

PROCESSED BY : P. HOMONKO   CHECKED BY : [signature]



LINE INDEX MAP

SEISMOGRAPH SERVICE LIMITED VAX-VPU
INCORPORATED IN ENGLAND REGISTERED IN W.A.
ADELAIDE PROCESSING CENTRE JUNE 1985.

4882-

882439

4882-8

RETURN TO LINE : 82-RBK

S.P. 100 TO S.P. 1008

FINAL STACK(150.1)

DELHI PETROLEUM

EXPLORATION D. GROUP

AREA: LAKE EYRE
BLOCK: LAKE EYRE
SURVEY: CHRISTMAS CREEK
STATE: S. AUSTRALIA

FIELD RECORDING DATA

PROCESSING SEQUENCE

DATUM - SEA LEVEL
MULTIPLICITY-1200%
UPHOLE STATICS

4882-8