Envelope No. 9124

PEL 5/6

COOPER BASIN

1997 SA97 SEISMIC SURVEY
FINAL REPORTS

Submitted by

Santos Ltd.
1998

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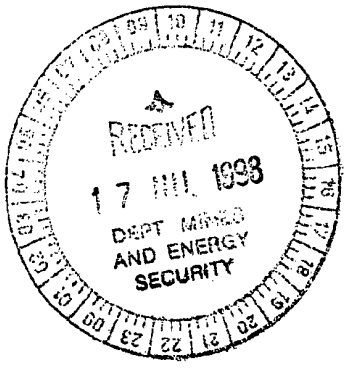
PRIMARY INDUSTRIES AND RESOURCES SA

SA97 SEISMIC SURVEY

PEL 5 & 6, SOUTH AUSTRALIA

ACQUISITION AND PROCESSING REPORT



Compiled by: K.R. Seedsman
Santos Ltd.
June 1998

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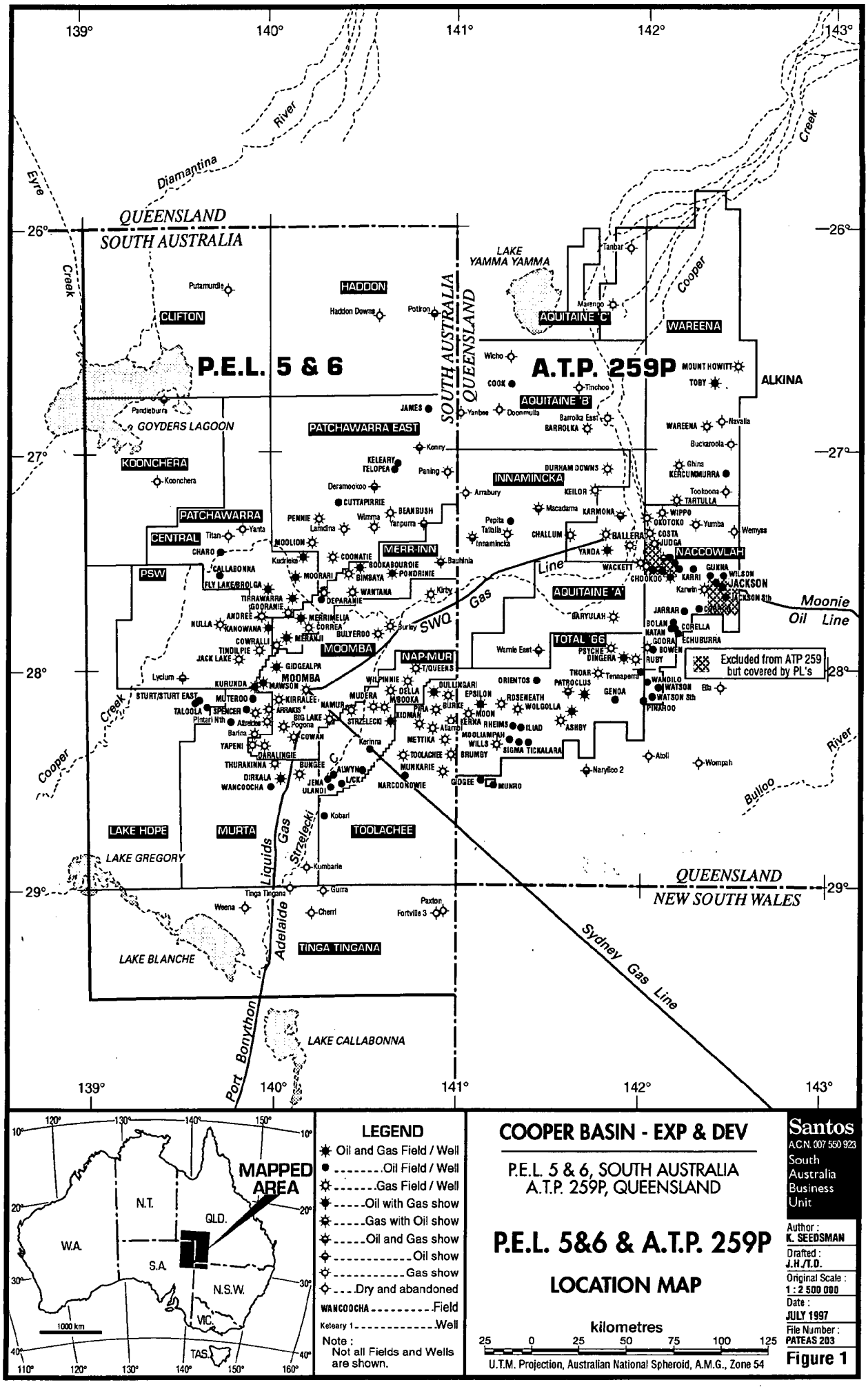


LEGEND

- Oil and Gas Field / Well
- Oil Field / Well
- Gas Field / Well
- Oil with Gas show
- Gas with Oil show
- Oil and Gas show
- Oil show
- Gas show
- Dry and abandoned
- WANCOOCHA — Field
- Kelleary 1 — Well

Note : Not all Fields and Wells are shown.

COOPER BASIN - EXP & DEV

P.E.L. 5 & 6, SOUTH AUSTRALIA
A.T.P. 259P, QUEENSLAND

P.E.L. 5&6 & A.T.P. 259P

LOCATION MAP

kilometres
25 0 25 50 75 100 125

U.T.M. Projection, Australian National Spheroid, A.M.G., Zone 54

Santos
A.C.N. 007 550 923
South Australia Business Unit

Author :	K. SEEDSMAN
Drafted :	J.H./T.D.
Original Scale :	1 : 2 500 000
Date :	JULY 1997
File Number :	PATEAS 203

Figure 1

1 INTRODUCTION

1.1 GENERAL

In 1997/98 Santos Ltd., as operator of petroleum exploration and development in the adjacent permits PEL 5 & 6 in South Australia and ATP 259P in Queensland, and in associated production licence areas, carried out approximately 4,480 kilometres of conventional vibroseis reflection profiling, and 2356 sq km of 3D coverage. This total included the SA97 Seismic Survey of 2,713 kilometres 2D, and 1857 sq km 3D, in PEL 5 & 6, and the SQ97 Seismic Survey of 1767 kilometres 2D, and 499 sq km 3D, in ATP 259P. The SA97 survey consisted of seventeen programmes for exploration objectives and five with both exploration and development aims.

The geophysical contractor was Geco-Prakla (Australia) Pty Ltd. Their Crew No. 1161 carried out the work until 17 September, when a second crew (No. 1160) was mobilised. Geco sub-contracted Denham and O'Keefe Pty Ltd for line preparation, Geodrill Pty Ltd for drilling holes for static correction control, and Velocity Data Pty Ltd for the necessary measurements in these holes.

Santos Ltd contracted John Allen, Bruce Beer, Mike Walcott and Alan Jones to supervise field operations, in alternating periods. Section 4, describing field operations, is drawn from their reports.

Processing of the seismic data was carried out by Western Geophysical in their centre in Adelaide and Digicon Geophysical Limited in Brisbane, and is discussed in Section 5.

This report describes the SA97 Seismic Survey recorded in seven of the thirteen blocks of PEL 5 & 6 in South Australia, between 1 February 1997 and 20 February 1998.

1.2 TIMETABLE OF MAIN EVENTS

17 January 1997	:	Initial permit letter delivered to Innamincka Station by field representative.
22 January 1997	:	Line preparation and surveying commenced (Innamincka Flank programme).
1 February 1997	:	Recording commenced (Innamincka Flank).
3 February 1997	:	Weathering drilling/recording commenced (Innamincka Flank).
8-9, 13-22 February 1997	:	Recording in Queensland.
23 February 1997	:	Distal Gas recording commenced.
26 February 1997	:	Data processing commenced.
1 March 1997	:	Meroo recording commenced.
3 March 1997	:	Wantana recording commenced.
9 March 1997	:	Merindal recording commenced.
12 March 1997	:	Proximal Gas recording commenced.
20 March 1997	:	Cuttapirrie Regional recording commenced.
23 March 1997	:	Deramookoo Platform recording commenced.
30 March 1997	:	Swan Lake South West recording commenced.
7 April 1997	:	Pondrinie 3D recording commenced.
6 May 1997	:	Weathering drilling/recording crew demobilised.
7-8 May 1997	:	Innamincka Flank Extension recording.
11 May 1997	:	Moomba/Big Lake 3D recording commenced.
16 July 1997	:	Dullingari/Burke 3D recording commenced.
1 August 1997	:	Weathering drilling/recording crews re-mobilised (Dullingari/Burke 3D).
16 August 1997	:	Dullingari/Burke 3D recording completed.
17 August 1997	:	East/Central Gas recording commenced.
6 September 1997	:	WL43 recording: PUP Detail recording commenced.
10 September 1997	:	Corkwood Nose recording commenced.
13 September 1997	:	Toolachee Field 3D recording commenced.
15 September 1997	:	Weathering drilling/recording crews to Queensland.

17 September 1997	:	Second party (1160) commenced recording (in Queensland).
19 October 1997	:	Weathering drilling/recording crews return to S.A. (Tooroo, etc).
20 October 1997	:	Tooroo recording commenced (Party 1160).
22 October 1997	:	Cuttapirrie Terrace recording commenced (Party 1160).
22 October 1997	:	Trial line preparation, Western Prospects.
23 October 1997	:	Weathering drilling/recording crews to Queensland.
23 October 1997	:	Planning meeting, operational procedures, Western Prospects.
24 October 1997	:	Party 1160 to Queensland.
9 November 1997	:	Toolachee Field 3D recording completed (Party 1161).
11 November 1997	:	Party 1161 to Queensland.
13 November 1997	:	Western Prospects line preparation commenced.
29 November 1997	:	Weathering drilling/recording crews return to S.A. (Western Prospects).
1 December 1997	:	Western Prospects recording commenced (Party 1160).
20 December 1997	:	Western Prospect recording suspended (Party 1160 demobilised).
28 January 1998	:	Western Prospects recording resumed.
30/31 January 1998	:	Ellar recording.
18 February 1998	:	P.U.P. Detail carryover recording commenced.
20 February 1998	:	Recording completed.
1 March 1998	:	Weathering survey drilling/recording completed.
29 May 1998	:	Data processing completed.

2 SUMMARY

2.1 SA97 SEISMIC SURVEY

Programme:	226 x 2D source lines	Total Km:	2,713.20
	(234 x 2D subsurface profiles		2,782.01)
	4 x 3D grids	Total Sq Km:	1856.79 *

Contractors

Recording	:	Geco-Prakla (Australia) Pty Ltd
Line Preparation	:	Denham & O'Keefe Earthmoving
Weathering Drilling	:	Geodrill Pty Ltd
Weathering Recording	:	Velocity Data Pty Ltd
Surveying	:	Dynamic Satellite Surveys Pty Ltd
Data Processing	:	Western Geophysical Digicon Geophysical Limited

Normal Recording Parameters

2D

Vibroseis, 120 channel, 60 fold, 37.5m GI,
2 sweeps/VP, 3 second linear upsweep,
5-90 Hz, 3 or 4 second listen.

3D

Vibroseis, 768 channel, 24 fold, 35, 40 or 50m GI,
1 or 2 sweeps/VP, 3 or 6 second linear upsweep, 5-90 Hz, 4 second listen.
70, 80 or 100m vibrator point interval.

Statics Control

Multiple uphole velocity surveys (downhole geophone, weight-drop energy source)

Number of holes	:	1,589
Average Depth	:	39m
Sample Depth Points	:	2,3,4,6,8,10,12,15,18,21,24,27,30 then 4m intervals

* 24.5 sq km of the easternmost part of the Dullingari/Burke 3D grid were in Queensland.

2.1.1 SA97 - MEI SEISMIC SURVEY

Programme: 54 x 2D lines
1 x 3D grid

Total Km: 600.6375
Total Sq km: 181.57

Prospect/Area:	Recorded:
Innamincka Flank	1 - 11 February 1997
Meroo	1 - 3 March 1997
Wantana/Warrah	3 - 12 March 1997
Merindal	9 - 11 March 1997
Swan Lake South West	30 March - 4 April 1997
Pondrinie 3D	5 April - 6 May 1997
Innamincka Flank Extension	7 - 8 May 1997

Recording Parameters

2D Vibroseis, 120 channel, 60 fold, 37.5m group interval, 2 sweeps/VP, 3 second linear upsweep, 5-90 Hz, 3 or 4 second listen.

3D Vibroseis, 768 channel, 35m group interval, 1 sweep/VP, 6 second linear upsweep, 5-80Hz, 4 second listen

Statics Control

Multiple uphole velocity surveys (downhole geophone, weight-drop energy source)

Number of Holes	: 404
Average effective interval	: 1.08 km on 2D lines
Depth	: Average 52m
Sample Depth Points	: 2, 3, 4, 6, 10, 12, 15, 18, 21, 24, 27, 30 then 4m intervals

Permitting

Pastoral Holdings	: Innamincka	: Gidgealpa
Date Permitted	: 15/1/97; 14/2/97; 7/3/97	: 7/3/97

Environmental

Terrain Types : Gibber hill, sand dunes, interdunal flats, creeks, waterholes, floodplains.

Main Concerns : Special environmental protection within Innamincka Regional Reserve.
Minimal cutting of dunes.
Minimal disturbance to vegetation.
No bladework on gibbers.

2.1.2 SA97 - MOO SEISMIC SURVEY

Programme:	10 x 2D lines 1 x 3D grid	Total Km: Total Sq km:	61.05 757.51
Prospect/Area:	Swan Lake South West Moomba/Big Lake 3D	Recorded:	31 March - 4 April 1997 11 May - 15 July 1997

Recording Parameters

2D Vibroseis, 120 channel, 60 fold, 37.5m group interval, 2 sweeps/VP, 3 second linear upsweep, 5-90 Hz, 4 second listen.

3D Vibroseis, 768 channels, 24 fold, 50m group interval, 1 or 2 sweeps per VP, 3 second linear upsweep, 5-90 Hz, 4 second listen, 100 or 141.4m VP interval

Statics Control

Multiple uphole velocity surveys (downhole geophone, weight-drop energy source)

Number of Holes	: 81
Average effective interval	: 1.05 km on 2D lines
Depth	: Average 34m
Sample Depth Points	: 2, 3, 4, 6, 10, 12, 15, 18, 21, 24, 27, 30 then 4m intervals

Permitting

Pastoral Holdings	: Gidgealpa	: Merty Merty
Date Permitted	: 7/3/97; 27/3/97	: 27/3/97

Environmental

Terrain Type	:	Sand dunes and interdunal flats, creek channels, waterholes.
Main Concerns	:	Minimal cutting of dunes. Minimal disturbance to vegetation.

2.1.3 SA97 - NM SEISMIC SURVEY

Programme:	2 x 3D grids	Total Sq km:	94.29
	3 X 2D source lines	Total Km:	58.5
	(5 x 2D subsurface profiles	Total Km:	97.5)

Prospect/Area:	Moomba/Big Lake 3D	Recorded:	11 May - 15 July 1997
	Dullingari/Burke 3D		16 July - 16 August 1997
	Corkwood Nose		10 - 12 September 1997

Recording Parameters

3D Vibroseis, 768 channel, 24 fold, 40 & 50m group interval, 1 or 2 sweeps/VP, 3 second linear upsweep, 5-90 Hz, 4 second listen, 80, 100, 113.1 or 141.4m VP interval.

2D Vibroseis, 120 channels, 60 fold, 37.5m group interval, 2 sweeps per VP, 3 second linear upsweep, 5-90 Hz, 4 second listen.

Statics Control

Multiple uphole velocity surveys (downhole geophone, weight-drop energy source)

Number of Holes	: 19 on 2D lines
Average effective interval	: 1.67 km on 2D lines
Depth	: Average 74m on 2D lines
Sample Depth Points	: 2, 3, 4, 6, 10, 12, 15, 18, 21, 24, 27, 30 then 4m intervals

Permitting

Pastoral Holdings	: Gidgealpa	: Merty Merty	: Innamincka
Date Permitted	: 27/3/97	: 27/3/97	: 18/6/97

Environmental

Terrain Types	:	Sand dunes and interdunal flats, gibber plains.
Main Concerns	:	Special environmental protection within Innamincka Regional Reserve. Minimal cutting of dunes. Minimal disturbance to vegetation. No bladework on gibbers.

2.1.4 SA97 - PC SEISMIC SURVEY

Programme:	11 lines	Km:	126.00
Prospect/Area:	WL43 P.U.P. Detail	Recorded:	6 September 1997 6 - 9 September 1997, 18 - 20 February, 1998

Recording Parameters

Vibroseis, 120 channel, 60 fold, 37.5m group interval, 2 sweeps/VP,
3 second linear upsweep, 5-90 Hz, 4 second listen.

Statics Control

Multiple uphole velocity surveys (downhole geophone, weight-drop energy source)

Number of Holes	: 63
Average effective interval	: 1.3 km
Depth	: Average 30m
Sample Depth Points	: 2, 3, 4, 6, 10, 12, 15, 18, 21, 24, 27, 30 then 4m intervals

Permitting

Pastoral Holdings	: Gidgealpa	: Kanowana
Date Permitted	: 21/5/97	: 21/5/97

Environmental

Terrain Types	:	Sand dunes, interdunal flats, creeks, waterholes
Main Concerns	:	Avoidance of damage to waterholes and channels. Minimal disturbance to vegetation Minimal cutting of sand dunes

2.1.5 SA97 - PE SEISMIC SURVEY

Programme:	90 source lines (96 subsurface profiles	Km:	1,191.4125 1,221.2225)
Prospect/Area:	Distal Gas	Recorded:	23 February - 1 March 1997
	Proximal Gas		12 - 19 March 1997
	Cuttapirrie Regional		20 - 28 March 1997
	Deramookoo Platform		23 - 29 March 1997
	Tooroo		20 - 22 October 1997
	Cuttapirrie Terrace		22 - 24 October 1997
	Western Prospects		1 - 20 December 1997, 29 January - 17 February 1998
	Ellar		30 - 31 January 1998

Recording Parameters

Vibroseis, 120 channel, 60 fold, 37.5m group interval, 2 sweeps/VP,
3 second linear upsweep, 5-90 Hz, 3 or 4 second listen.
Dynamite, 120 channel, 15 fold, 37.5m group interval.

Statics Control

Multiple uphole velocity surveys (downhole geophone, weight-drop energy source)

Number of Holes	: 609
Average effective interval	: 1.4 km
Depth	: Average 34m
Sample Depth Points	: 2, 3, 4, 6, 10, 12, 15, 18, 21, 24, 27, 30 then 4m intervals

Permitting

Pastoral Holdings	: Innamincka
Date Permitted	: 6/1/97, 15/1/97, 13/10/97

Environmental

Terrain Types	: Sand dunes, interdunal flats, creeks, waterholes, floodplains, salt lakes
Main Concerns	: Extreme care in Innamincka Regional Reserve, most particularly in Coongie Lakes Control Zone. (Refer 4.7.4)

2.1.6 SA97 - PSW SEISMIC SURVEY

Programme: 54 lines

Km: 649.05

Prospect/Area: East/Central Gas
P.U.P. Detail

Recorded: 17 August - 6 September 1997
6 - 9 September 1997

Recording Parameters

Vibroseis, 120 channel, 60 fold, 37.5m group interval, 2 sweeps/VP,
3 second linear upsweep, 5-90 Hz, 4 second listen.

Statics Control

Multiple uphole velocity surveys (downhole geophone, weight-drop energy source)

Number of Holes	: 384
Average effective interval	: 1.09 km
Depth	: Average 31m
Sample Depth Points	: 2, 3, 4, 6, 10, 12, 15, 18, 21, 24, 27, 30 then 4m intervals

Permitting

Pastoral Holdings	: Gidgealpa	: Waukatana
Date Permitted	: 21/5/97	: 21/5/97

Environmental

Terrain Types	: Sand dunes, interdunal flats
Main Concerns	: Minimal cutting of sand dunes Minimal disturbance to vegetation

2.1.7 SA97 - TOO SEISMIC SURVEY

Programme: 2 x 3D grids

Total Sq km: 798.92

Prospect/Area: Dullingari/Burke 3D
Toolachee Field 3D

Recorded: 16 July - 16 August 1997
13 September - 10 November 1997

Recording Parameters

Vibroseis, 768 channel, 24 fold, 40m group interval, 1 or 2 sweeps/VP,
3 second linear upsweep, 5-90 Hz, 4 second listen, 80 or 113.1m VP interval.

Statics Control

Multiple uphole velocity surveys (downhole geophone, weight-drop energy source)

Number of Holes	: 29
Depth	: Average 72m
Sample Depth Points	: 2, 3, 4, 6, 10, 12, 15, 18, 21, 24, 27, 30 then 4m intervals

Permitting

Pastoral Holdings	: Innamincka	: Gidgealpa
Date Permitted	: 18/6/97, 19/6/97	: 19/6/97
Pastoral Holdings	: Merty Merty	: Bollard's Lagoon
Date Permitted	: 19/6/97	: 19/6/97

Environmental

Terrain Types:	Sand dunes, interdunal flats
Main Concerns	: Minimal cutting of sand dunes Minimal disturbance to vegetation

2.1.8 SA97 - UNIT SEISMIC SURVEY

Programme: 4 x 3D grids
4 x 2D lines

Total Sq km: 1340.84 assigned to unit
Total Km: 26.55

Prospect/Area:	Recorded:
Swan Lake South West	30 March - 1 April 1997
Pondrinie 3D	5 April - 6 May 1997
Moomba/Big Lake	11 May - 14 July 1997
Dullingari/Burke 3D	16 July - 16 August 1997
Toolachee Field 3D	13 September - 10 November 1997

Recording Parameters

3D Vibroseis, 768 channel, 24 fold, 35, 40 or 50m group interval, 1 or 2 sweeps/VP, 3 or 6 second linear upsweep, 5-90 Hz, 4 second listen, 70, 80, 100, 113.1 or 141.4m VP interval.

2D Vibrosieis, 120 channel, 60 fold, 37.5m group interval, 2 sweeps/VP, 3 second linear upsweep, 5-90 Hz, 4 second listen.

Permitting

Pastoral Holdings	: Gidgealpa	: Innamincka
Date Permitted	: 7/3/97, 27/3/97, 19/6/97	: 7/3/97, 18/6/97, 19/6/97
Pastoral Holdings	: Merty Merty	: Bollard's Lagoon
Date Permitted	: 27/3/97, 19/6/97	: 19/6/97

Environmental

Terrain Types : Sand dunes, interdunal flats, creek channels, waterholes, gibber hills

Main Concerns : Minimal cuttings of dunes
Minimal disturbance to vegetation
No blade work on gibbers

3 SURVEY SCOPE AND OBJECTIVES

3.1 SA97 - MEI SEISMIC SURVEY

3.1.1 INNAMINCKA FLANK

A grid of thirteen lines was designed to allow detailed structural and stratigraphic mapping of part of the Innamincka Dome, and to mature the Innamincka Flank, and Turban Updip, Toolachee and Tirrawarra Formation, gas prospects.

Line	Stations	Km
97-HKY	201-501	11.25
97-HKZ	200-508	11.55
97-HLA	201-537	12.60
97-HLB	200-544	12.90
97-HLC	201-573	13.95
97-HLD	200-412	7.95
97-HLE	200-600	15.00
97-HLF	201-441	9.00
97-HLG	201-621	15.75
97-HLH	200-500	11.25
97-HLJ	200-652	16.95
97-HLK	201-601	15.00
97-HLL	201-369	6.30
		159.45

3.1.2 MEROO

Five dip lines were recorded to reduce the seismic grid over the Meroo Prospect to 500 metre spacing to provide accurate structural control of the prospect and to define the Daralingie unconformity on the flanks of the high.

Line	Stations	Km
97-HNR	200-416	8.10
97-HNS	201-417	8.10
97-HNT	200-416	8.10
97-HNW	201-413	7.95
97-HNX	200-412	7.95
		40.20

3.1.3 WANTANA/WARRAH

Eighteen lines were recorded over these prospects to allow detailed mapping of structural and stratigraphic gas targets in the Tirrawarra and Toolachee Formations.

Line	Stations	Km
97-HHQ	200-664	17.400
97-HHR	201-585	14.400
97-HHS	200-452	9.450
97-HHT	201-557	13.350
97-HHW	200-668	17.550
97-HHX	201-441	9.000
97-HHY	917-1401	18.150
97-HHZ	200-624	15.900
97-HJA	201-505	11.400
97-HJB	200-388	7.050
97-HJC	201-561	13.500
97-HJD	200-668	17.550
97-HJE	201-523	13.950
97-HJF	200-464	9.900
97-HJG	200-492	10.950
97-HJH	201-493	10.950
97-HJJ	405-897	18.450
97-HJK	579-1185	22.725

		251.625

3.1.4 MERINDAL

Five lines were designed to provide detail of the Merindal West prospect and the nose between the Merindal 1 and Pondrinie 3 wells, and to delineate the Toolachee Formation zero edges and the potential of Toolachee onlap gas plays. 97-HNP tied the Merindal 1 well and was additionally designed to determine the extent of a seismic amplitude anomaly about the well.

Line	Stations	Km
97-HNK	200-388	7.05
97-HNL	201-389	7.05
97-HNM	200-428	8.55
97-HNN	201-425	8.40
97-HNP	200-456	9.60

		40.65

3.1.5 SWAN LAKE SOUTH WEST

A programme of sixteen lines was designed to achieve two main objectives:

(a) to allow optimal location of two development wells in the Swan Lake gas field;

(b) to mature several prospects and leads having similar features to Swan Lake and Meranji South, namely Swan Lake South West Strong Lead, Meranji South West Weak Lead, Davren Strong Lead, Halima Weak Lead and the Rufous Prospect.

Parts or all of ten of these lines were part of the Merrimelia-Innamincka Block exploration programme, with the remainder allocated to Moomba Block exploration and Unit development.

Line	Stations	Km
97-HQJ	201-381	6.7500
97-HQK	200-396	7.3500
97-HQL	201-497	11.1000
97-HQM	200-455	9.5625
97-HQN	201-565	13.6500
97-HQP	380-528	5.5500
97-HQS	200-424	8.4000
97-HQT	289-457	6.3000
97-HQX	401-585	6.9000
97-HQY	336-416	3.0000

		78.5625

3.1.6 PONDRINIE FIELD 3D EXTENSION

A pilot 3D survey covering 25 sq km at Pondrinie was carried out in January 1996 as part of the 1995 Barker Seismic Survey. With the quality, consistency and spatial distribution of the resultant data substantially superior to that of the pre-existing 2D seismic coverage, interpretation of structural and stratigraphic features in the area has been improved, extended in detail, and more-confidently made.

In particular, a new play, involving the interpreted sub-crop of Lower Permian sequences at the Daralingie Unconformity unaffected by faulting, was developed and successfully tested by Pondrinie 11 in late 1996. In general, the previous interpretation from 2D data, of extensive and complex faulting in the Pondrinie Field, has been substantially modified to indicate minimal faulting in the area.

It was therefore proposed to extend 3D coverage westward and northward of the pilot area over 183 sq km, including the remainder of the Pondrinie Complex and a number of prospects and leads on the northern flank of the Packsaddle High, to allow improved mapping and evaluation of gas reserves.

The programme was recorded with 83 source lines totalling 907 km in length, and 67 receiver lines aggregating 664 km.

Reflecting the multiple objectives of the survey, etc., the costs were divided between Block Exploration (59.8%) and Unit Development (40.2%).

3.1.7 INNAMINCKA FLANK EXTENSION

Three lines were designed to mature a drilling prospect updip of the Bauhinia 1 well. The lines were orientated to image unconformity and onlap, stratigraphic plays associated with the edges of the Tirrawarra, Patchawarra and Toolachee Formations on the flank of the Innamincka Dome.

Line	Stations	Km
97-HPL	201-469	10.05
97-HPM	200-468	10.05
97-HPN	201-469	10.05

		30.15

3.2 SA97 - MOO SEISMIC SURVEY

3.2.1 SWAN LAKE SOUTH WEST

A programme of sixteen lines was designed to achieve two main objectives:

(a) to allow optimal location of two development wells in the Swan Lake gas field

(b) to mature several prospects and leads having similar features to Swan Lake and Meranji South, namely Swan Lake South West Strong Lead, Meranji South West Weak Lead, Davren Strong Lead, Halima Weak Lead and Rufous Prospect.

Parts or all of ten of these lines were part of the Moomba Block exploration programme, with the remainder allocated to MEI Block exploration and Unit development.

Line	Stations	Km
97-HQH	200-396	7.35
97-HQJ	381-493	4.20
97-HQK	396-548	5.70
97-HQQ	201-373	6.45
97-HQT	201-289	3.30
97-HQW	200-372	6.45
97-HQX	201-401	7.50
97-HQY	200-336} 416-488}	7.80
97-HQZ	201-365	6.15
97-HRA	200-364	6.15
		61.05

3.2.2 MOOMBA/BIG LAKE 3D

The pilot 3D survey carried out in January 1996 over an area of 148 sq km on the Moomba North Flank, as part of the 1995 Barker Seismic Survey, produced data of very good to excellent quality. This has allowed substantial improvement and confidence in the interpretation of structural and stratigraphic features, at all target levels, beyond those which could be made from 2D seismic coverage. As a result, opportunities for at least four stratigraphic or structural test wells and several development wells had already been recognised in the pilot survey area with interpretation incomplete.

It was therefore proposed to extend 3D coverage to the south and west over the whole Moomba/Big Lake area by the acquisition of a further 797 sq km of surface coverage. This was designed to provide the spatial distribution and consistent quality of data necessary to confirm in detail the structure of the gas fields , to define the distribution of sand trends, and to delineate fully the fault patterns, particularly in the deeper parts of the section, which may control or influence these trends.

The survey was also designed to allow more-comprehensive imaging of known Mesozoic oil reservoirs in the Big Lake field, and possible extensions in both Big Lake and Moomba.

The programme covering 797 sq km required 109 source lines totalling 2,438 km, of which the great majority were in the Moomba block, with minor parts in Nappacoongie-Murteree, and 85 receiver lines totalling 2,024 km.

Reflecting the multiple objectives of the survey etc., costs of the survey were divided between Unit Development (77.7%), Moomba Block Exploration (16.4%), Moomba Block Development (2.8%) and Nappacoongie-Murteree Block Exploration (3.1%).

3.3 SA97 - NM SEISMIC SURVEY

3.3.1 MOOMBA/BIG LAKE 3D

Scope and objectives of this programme are discussed in 3.2.2 above.

Parts of 66 source lines were within the Nappacoongie-Murteree Block, and 3.1% of costs were allocated to NM Block Exploration.

3.3.2 DULLINGARI COMPLEX 3D

Scope and objectives of this programme are discussed in section 3.8.3, below.

Part of the programme lay in the Nappacoongie-Murteree Block, and 8.5% of costs were allocated to NM Block Exploration.

3.3.3 CORKWOOD NOSE

The Corkwood Nose is the north extension of the Della-Nappacoongie High. It is situated immediately adjacent to the Nappamerri Trough source kitchen and would have been a major focus for migration out of the trough.

The nose is intersected by major lineaments whose influence can bee seen across the basin. A north-south lineament extends from the Toolachee Field, cross-cutting the Della-Nappacoongie High and the GMI Ridge, and defining the eastern flank of the Deramookoo Platform. A northwest - southeast lineament offsets both the GMI Ridge and the Della-Nappacoongie High, and indents the southern Deramookoo Platform edge. Faulting associated with these lineaments may create fault traps over the Corkwood Nose. The validity of such trapping geometry was demonstrated by the Wilpinnie gas accumulation.

The previous seismic grid over the Corkwood Nose was not able to define whether any such stratigraphic or fault trap exist. The grid was sparse, of mixed vintage and orientation, and many of the lines had not been migrated due to their short lengths.

It was proposed to shoot a 19.5 km 2D swath from Corkwood 1 along the full extent of the nose. This consisted of three receiver lines 500m apart. The centre acquisition line was recorded into all three receiver lines, while the two outer acquisition lines were recorded as normal 2D seismic lines, thereby creating a set of 5 CDP lines 250 metres apart. This arrangement was designed to resolve whether cross-cutting faulting or stratigraphic variation exists over the Corkwood Nose, thereby demonstrating the trapping mechanism for any large gas accumulation which might exist.

The lines also addressed possible dip reversal and closure on the nose at Birkhead/Hutton level.

Line	Stations	Km	
97-HWT	200-720	19.50	
97-HWW	201-721	19.50	("triple-line" recording)
97-HWX	201-721	19.50	
		58.50	

3.4 SA97 - PC SEISMIC SURVEY

3.4.1 WL43

Two lines were designed to mature to drillable prospect status, Weak Lead 43, which is on trend with the Fly Lake/Brolga gas fields.

Line	Stations	Km
97-HRB	201-361	6.00
97-HRC	201-369	6.30
		12.30

3.4.2 P.U.P. DETAIL

A grid of nine lines was proposed, with the reprocessing of fifteen previous lines of 1980 - 1984 vintage, in the Callabonna area of the north-western margin of the Patchawarra Trough. Good prospectivity for stratigraphically-trapped gas in Patchawarra Formation reservoirs was believed to exist in this area and the programme was designed to allow evaluation of several types of play. The programme was also designed to mature further the Mulanie, Wanda and Basham structural leads.

Parts of six of the lines, and all of the other three, were in the Patchawarra Central Block. The other parts of the six lines were in the Patchawarra South-West Block.

Line	Stations	Km
97-HPP	200-416	8.10
97-HPQ	200-316	4.35
97-HPR	201-377	6.60
97-HPS	201-657	17.10
97-HPT	200-668	17.55
97-HPW	309-973	24.90
97-HPX	201-529	12.30
97-HPY	480-964	18.15
97-HPZ	521-645	4.65
		113.70

3.5 SA97 - PE SEISMIC SURVEY

3.5.1 DISTAL GAS

Mapping of 1996 data identified two Toolachee Formation prospects in this area of the Patchawarra Trough, Talinnie and Emydura, and further matured the Tooroo and Piper Prospects.

A grid of eleven lines was proposed to define the prospects for possible drilling later in 1997.

Line	Stations	Km
97-HMH	200-348	5.550
97-HMJ	200-528	12.300
97-HMK	201-361	6.000
97-HML	201-641	16.500
97-HMM	226-720	18.525
97-HMN	201-605	15.150
97-HMP	201-541	12.750
97-HMQ	200-680	18.000
97-HMR	201-1013	30.450
97-HMS	200-680	18.000
97-HMT	201-681	18.000

		171.225

3.5.2 PROXIMAL GAS

Eight lines were designed to detail crests and limits of the Ellar Creek, Cameo and Rowan-Tarpan prospects.

97-HHY extended north from the MEI Wantana programme.

Line	Stations	Km
97-HHY	205-917	26.70
97-HLW	200-1016	30.60
97-HLX	205-661	17.10
97-HLY	200-652	16.95
97-HLZ	200-492	10.95
97-HMA	200-476	10.35
97-HMB	349-721	13.95
97-HMC	316-716	15.00
97-HMD	200-480	10.50
97-HME	201-465	9.90
97-HMF	200-608	15.30

		177.30

3.5.3 CUTTAPIRRIE REGIONAL

Seven lines were designed to investigate a large stratigraphic play in Toolachee and basal Epsilon sands, between the Gudi and Coonatie Fields, and the Deramookoo Platform edge.

97-HLM, HLN and HLP extended north on to the Deramookoo Platform to cover the bounding fault and the Epsilon Formation erosional edge.

Line	Stations	Km
97-HLM	200-732	19.9500
97-HLN	413-1001	22.0500
97-HLP	201-868	25.0125
97-HLQ	200-708	19.0500
97-HLR	201-801	22.5000
97-HLS	200-560	13.5000
97-HLT	201-753	20.7000

		142.7625

3.5.4 DERAMOOKOO PLATFORM

A grid of ten lines was designed to mature the Tarragon East prospect , and "Lead 9", and to provide additional coverage over the Kelly structure.

Line	Stations	Km
97-HPA	200-388	7.0500
97-HPB	200-388	7.0500
97-HPC	201-577	14.1000
97-HPD	201-361	6.0000
97-HPE	201-441	9.0000
97-HPF	201-417	8.1000
97-HPG	200-392	7.2000
97-HPH	215-416	7.5375
97-HPJ	201-417	8.1000
97-HPK	200-360	6.0000

		80.1375

3.5.5 TOOROO

Five lines were programmed to provide detail infill over potential 1998 drilling candidates Tooroo/Lialis in order better to define structural spill points and area limits.

Line	Stations	Km
97-HYT	200-400	7.50
97-HYW	201-389	7.05
97-HYX	201-413	7.95
97-HYY	201-493	10.95
97-HYZ	200-508	11.55

		45.00

3.5.6 CUTTAPIRRIE TERRACE

Four lines were designed to provide detail infill in order to delineate fully the eastern extension of the Cuttapirrie Terrace Epsilon stratigraphic play. They were also intended to aid in the delineation of the Epsilon erosional edge against the Deramookoo Platform and high-grade potential drill locations.

Line	Stations	Km
97-HZC	200-452	9.45
97-HZD	200-480	10.50
97-HZE	201-513	11.70
97-HZF	200-548	13.05

		44.70

3.5.7 ELLAR

Two lines were programmed to address the critical spill points of the Ellar Structure to ensure structural closure.

Line	Stations	Km
97-HZA	200-520	12.00
97-HZB	200-484	10.65

		22.65

3.5.8 WESTERN PROSPECTS

Forty primary lines were recorded under the Western Prospects programme. They were designed to allow semi-regional mapping of the under-explored portion of the northern Patchawarra Trough within the Coongie Lakes Control Zone, and to evaluate the following prospects and leads:- WL5, Furney, Bucalla, Bragg, SL3, WL3, Brewster, Kestrel, Mortlake, Mortlake East, Mortlake South, Ethel, Gudi Northwest, Pirie and Supply.

Line	Stations	Km
97-GNS	324-1116	29.7000
97-GNT	497-671	6.5250
97-GNW	448-596	5.5500
97-GNX	547-860	11.7375
97-GNY	483-617	5.0250
97-GNZ	460-747	10.7625
97-GPE	200-844	24.1500
97-GPF	200-512	11.7000
97-GPG	201-689	18.3000
97-GPH	201-393	7.2000
97-HEE	200-725	19.6875
97-HEL	200-484	10.6500
97-HEN	201-446	9.1875
97-HEP	211-545	12.5250
97-HES	201-633	16.2000
97-HEW	200-701	18.7875
97-HEX	200-400	7.5000
97-HEY	201-433	8.7000
97-HEZ	200-768	21.3000
97-HFAD	158-282	4.6500
97-HFC	200-656	17.1000
97-HFE	201-361	6.0000
97-HFF	200-688	18.3000
97-HFG	200-544	12.9000
97-HFH	200-367	6.2625
97-HFK	200-524	12.1500
97-HFP	200-440	9.0000
97-HFQ	201-544	12.8625
97-HFR	206-916	26.6250
97-HFT	200-680	18.0000
97-HFW	201-365	6.1500
97-HFX	200-364	6.1500
97-HFY	208-704	18.6000
97-HGA	366-765	14.9625
97-HGB	207-481	10.2750
97-HGE	204-644	16.5000
97-HGG	201-509	11.5500
97-HGH	200-408	7.8000
97-HGJ	205-388	6.8625
97-HGK	557-817	9.7500

		507.6375

3.5.8 WESTERN PROSPECTS (con't)

Of this source-line length, 277.31 km lay within the Coongie Lakes Control Zone.

Sections of five lines within the Tirrawarra Swamp, inaccessible to vibrator trucks, were recorded with Anzomex "G" primers explosive energy source. The aggregate length of such portions of line was 19.95 km.

In addition to the primary lines listed above, six "dual" lines were recorded with a slave line of receivers parallel to the source line. Total length of such additional subsurface coverage was 29.81 km.

3.6 SA97 - PSW SEISMIC SURVEY

3.6.1 EAST/CENTRAL GAS

An extensive programme of forty-eight new lines, plus the reprocessing of fifteen older lines, was designed to evaluate and mature a number of potential Patchawarra Formation anticlinal gas prospects in the central and eastern portions of the Patchawarra South West Block. The prospects included Yarowinnie Updip, Paranta, Jack Lake North, Pikai, Jedra, Aratna, Lena, Moonanga and several smaller features.

Line	Stations	Km	Line	Stations	Km
97-HRD	200-436	8.85	97-HSF	200-500	11.25
97-HRE	200-476	10.35	97-HSG	201-613	15.45
97-HRF	200-440	9.00	97-HSH	200-392	7.20
97-HRG	201-557	13.35	97-HSJ	201-409	7.80
97-HRH	200-632	16.20	97-HSK	200-480	10.50
97-HRJ	201-453	9.45	97-HSL	201-505	11.40
97-HRK	200-524	12.15	97-HSM	201-521	12.00
97-HRL	201-689	18.30	97-HSN	200-808	22.80
97-HRM	200-636	16.35	97-HSP	201-653	16.95
97-HRN	201-621	15.75	97-HSQ	201-813	22.95
97-HRP	200-620	15.75	97-HSR	200-680	18.00
97-HRQ	200-468	10.05	97-HSS	200-560	13.50
97-HRR	201-585	14.40	97-HST	201-437	8.85
97-HRS	200-580	14.25	97-HSW	200-364	6.15
97-HRT	201-437	8.85	97-HSX	201-577	14.10
97-HRW	201-449	9.30	97-HSY	200-500	11.25
97-HRX	200-368	6.30	97-HSZ	201-525	12.15
97-HRY	201-373	6.45	97-HTA	200-488	10.80
97-HRZ	200-364	6.15	97-HTB	201-633	16.20
97-HSA	200-524	12.15	97-HTC	200-640	16.50
97-HSB	201-329	4.80	97-HTD	201-529	12.30
97-HSC	200-524	12.15	97-HTE	201-721	19.50
97-HSD	201-685	18.15	97-HTF	200-468	10.05
97-HSE	201-625	15.90	97-HTG	201-337	5.10

					597.15

3.6.2 P.U.P. DETAIL

A grid of nine lines was proposed, with the reprocessing of fifteen previous lines of 1980 - 1984 vintage, in the Callabonna area of the north-western margin of the Patchawarra Trough. Good prospectivity for stratigraphically-trapped gas in Patchwarra Formation reservoirs was believed to exist in this area and the programme was designed to allow evaluation of several types of play. The programme was also designed to mature further the Mulanie, Wanda and Basham structural leads.

Parts of six of the lines were in the Patchawarra South West Block, with the remainder of the programme in Patchawarra Central.

Line	Stations	Km
97-HPP	416-680	9.90
97-HPQ	316-540	8.40
97-HPR	377-565	7.05
97-HPW	201-309	4.05
97-HPY	200-480	10.50
97-HPZ	201-521	12.00
		51.90

3.7 SA97 - TOO SEISMIC SURVEY

3.7.1 DULLINGARI COMPLEX 3D

Scope and objectives of this programme are discussed in section 3.8.3, below.

The multiple objectives of the survey, and its location, required that costs be divided between S.A. Gas Unit Development (80.5%), Toolachee Block Exploration (9.15%), Toolachee Block Development (1.85%) and Nappacoongie-Murteree Block Exploration (8.5%).

3.7.2 TOOLACHEE FIELD 3D

The scope and objectives of this programme are described in section 3.8.4, below.

The multiple objectives of the survey, etc., required that costs be allocated 70% to Unit Development and 30% to Toolachee Block Exploration.

3.8 SA97 - UNIT SEISMIC SURVEY

3.8.1 SWAN LAKE SOUTH WEST

A programme of sixteen lines was designed to achieve two main objectives:

(a) to allow optimal location of two development wells in the Swan Lake gas field;

(b) to mature several prospects and leads having similar features to Swan Lake and Meranji South, namely Swan Lake South West Strong Lead, Meranji South West Weak Lead, Davren Strong Lead, Halima Weak Lead and Rufous Prospect.

Parts or all of four of these lines were part of the Unit Development programme. The rest of the grid was allocated to Merrimelia-Innamincka and Moomba Block Exploration as outlined above in sections 3.1.5 and 3.2.1.

Line	Stations	Km
97-HQP	200-380	6.75
97-HQR	200-380	6.75
97-HQS	424-600	6.60
97-HQT	457-629	6.45
		26.55

3.8.2 PONDRINIE FIELD 3D EXTENSION

Scope and objectives of this programme are discussed in 3.1.6, above.

Reflecting the multiple objectives of the survey, etc., the costs were divided between Unit Development (40.2%) and MEI Block Exploration (59.8%).

3.8.3 MOOMBA/BIG LAKE 3D

Scope and objectives of this programme are discussed in 3.2.2, above.

Reflecting the multiple objectives of the programme, etc., 77.7% of costs were allocated to Unit Development and the remainder to Moomba Block Exploration and Development, and Nappacoongie-Murteree Block Exploration.

3.8.4 DULLINGARI COMPLEX 3D

An audit of 3D surveys over parts of other oil and gas fields within PEL 5&6 has indicated that 3D seismic coverage can economically provide data to allow more-detailed and more-reliable interpretation of structure and stratigraphy than is possible from existing, or even more detailed, 2D seismic grids.

The next stage of Dullingari Development calls for a further ten development wells.

A 3D survey of the Dullingari Complex was therefore proposed, to allow optimum location of these wells, through improved imaging of gas-bearing reservoirs, primarily in the Patchawarra Formation but also in the Toolachee, Daralingie and Epsilon Formations. In addition it was expected that further reserves would be added from presently unimaged stratigraphic components outside current field limits, and from more confident mapping of the Burke 7 and Minnie Prospects. The survey was also designed to allow improved mapping of oil reservoirs in the Murta, Namur and McKinlay Formations.

The survey covered 322.21 sq km, involving 62 zig-zag sources lines totalling 1,427 km, and 63 receiver lines aggregating 1,028 km.

The multiple objectives of the survey required that costs be divided between S.A. Gas Unit Development (80.5%), Toolachee Block Exploration (9.15%), Toolachee Block Development (1.85%), and Nappacoongie-Murteree Block Exploration (8.5%).

Approximately 24.5 sq km of the surface grid of this survey were east of the State border, within ATP259P, Queensland.

3.8.5 TOOLACHEE FIELD 3D

Mapping of the Toolachee Field from existing 2D seismic data shows complex faulting through the main Patchawarra Formation reservoirs. The interpretation of the faulting from such data involves a high degree of uncertainty and is unlikely to define the complexity accurately.

Pressure history from existing wells indicates poor communication, and "baffling", which suggest fault-related compartmentalisation.

A 3D survey, with the high level of control it provides for fault mapping, was proposed, to determine whether such fault-compartmentalisation exists, and allow optimum location of future wells.

In addition to addressing appraisal/development drilling opportunities, the 3D data were expected to assist in geologic modelling for reservoir characterisation, field management and future reservoir simulation projects. Also, the programme was designed to assist further exploration by identifying non-conventional plays.

The survey covered 556.12 sq km, involving 90 zig-zag source lines totalling 2,064 km, and 91 receiver lines totalling 1,764 km. Costs were allocated 70% to Unit Development, and 30% to Block Exploration.

4 DATA ACQUISITION

4.1 PERMITTING

4.1.1 GENERAL

The programmes comprising the SA97 Seismic Survey were located on portions of six pastoral properties. The managers of these stations were initially advised of forthcoming seismic operations by letters, with attached maps. Personal visits, and/or telephone contacts, by Santos field representatives, were made during the course of field operations.

4.1.2 SPECIFIC CONTACTS

4.1.2.1 LETTERS

Santos Ltd. sent letters and maps describing particular seismic operations to station managers, as follows:

Station	Seismic Programme	Date
Bollard's Lagoon	Toolachee Field 3D	30 June 1997
Clifton Hills	East/Central Gas, WL43, P.U.P. Detail	21 May 1997
Gidgealpa	Swan Lake South West	7 March 1997
	Moomba/Big Lake 3D	27 March 1997
	East Central Gas, WL43	21 May 1997
	Toolachee Field 3D	18 June 1997
Innamincka	Proximal Gas, Wantana/Warrah, Distal Gas, Innamincka Flank	15 January 1997
	Merindal/Meroo	14 February 1997
	Deramookoo Platform, Pondrinie 3D	7 March 1997
	Innamincka Flank Extension	15 April 1997
	Dullingari/Burke 3D, Toolachee Field 3D	18 June 1997
	Corkwood Nose	19 August 1997
	Tooroo, Ellar, Cuttapirrie Terrace	13 October 1997
	Western Prospects	23 October 1997
Merty Merty	Moomba/Big Lake 3D	27 March 1997
	Toolachee Field 3D	18 June 1997
Mungeranie	East/Central Gas	21 May 1997

4.1.2.2 PERSONAL VISITS

Field Representatives of Santos Ltd. visited station managers to discuss and obtain approval for various aspects of operations including time-frame, procedures, fences, gates, roads, camp sites, etc., as follows:

Station	Visit Date
Bollard's Lagoon	22 August 1997
Gidgealpa	4 April 1997
Innamincka	17 January 1997
	16 February 1997
	6 March 1997
	13 March 1997
	17 March 1997
	8 April 1997
	19 April 1997
	27 June 1997
	4 September 1997
	14 October 1997
	24 October 1997
	28 October 1997
	30 October 1997
Merty Merty	3 April 1997
	27 June 1997

4.1.2.3 TELEPHONE CALLS

In addition to the above contacts, Santos field representatives held discussions by telephone with the manager of Innamincka Station on 6 March, 12 March and 29 September 1997.

4.2 LOGISTICS AND COMMUNICATIONS

The prime contractor, Geco-Prakla, provided self-contained, air-conditioned, mobile camps, as listed in Appendix V, to house the field management, recording, surveying and maintenance personnel. Line-clearing and drilling sub-contractors, and the uphole recording crew, provided their own camp facilities.

Senior management of Geco-Prakla was located in Brisbane, with expediting, warehousing and repair facilities. Food, fuel, spare parts and other supplies were purchased through the Brisbane office, and delivered to the field by commercial carrier. The prime contractor coordinated supplies for sub-contractors.

Twenty-four-hour telephone and facsimile communications were available to the prime contractors and Santos field representatives by means of Optus portable satellite systems. Sub-contractors were also equipped with SSB radios and/or satellite telephone systems for contact with their respective bases. In-field communications were facilitated by the use of radios, with one frequency common to all parties.

Royal Flying Doctor Service radio frequencies were fitted to all SSB radios for use in case of medical emergency etc, but fortunately were not required.

4.3 SURVEYING

4.3.1 EQUIPMENT

4.3.1.1 PARTY 1161

5 Trimble 4000 SSi GPS receivers
2 Trimble 4400 GPS receivers
4 Trimble DSM GPS receivers
8 Trimble NT200 GPS display units
4 DMS 5 distance meters
Desktop and Notebook computers
Laser printer
SSB, VHF, UHF radios

4.3.1.2 PARTY 1160 (Sub-contractor Dynamic Satellite Surveys Pty. Ltd.)

1 Novatel 2151 RT GPS Receiver
2 Novatel RT20 GPS Receivers
3 Novatel 2151 R GPS Receivers
1 Novatel 3151 R GPS Receiver
Desktop and Notebook computers
Printer
Photocopier
Radios

4.3.2 SURVEY METHODOLOGY

4.3.2.1 GLOBAL POSITIONING SYSTEM (GPS)

Horizontal and vertical positioning was made possible by utilising the US Military Global Positioning System (GPS). With this system, coded positional information is transmitted by a constellation of orbiting satellites and recorded by receivers supplied and operated by the Geco-Prakla survey crew.

GPS can provide sub-metre accuracy when two receivers are used together (known as differential GPS). One receiver (the base) is set up over a station with known co-ordinates, while the other receiver (the rover) is moved around to collect data at stations with unknown positions. The base receiver calculates the difference between the known co-ordinates and the co-ordinates provided by the satellite signal. The resulting error correction can be applied to data collected at the roving stations, either in real time by means of a radio link between receivers, or during the post processing stage.

4.3.2.2 LINE SET-OUT AND SURVEYING

Santos Ltd supplied programme maps showing proposed positions of new lines against a background of old seismic lines. The maps were accompanied by a computer disk containing co-ordinates of the proposed lines.

Station pegging and surveying of seismic lines was done simultaneously using a method called Real Time Kinematic GPS. A vehicle mounted, roving receiver was loaded with co-ordinates of the new lines and guided the surveyors to each station. Wooden pegs were placed at every fifth station and recoverable flagged pins at others. As the markers were placed, GPS data were gathered and stored in a data recorder.

Permanent markers, consisting of star pickets with stamped aluminium tags attached, were placed at the start and end of each line and elsewhere such that intervals did not exceed five kilometres. Differential GPS data were gathered at all permanent markers by securing an antenna to each of the permanent marker pickets with the base resting on a metal pin placed at ground level.

4.3.2.3 THE DATA

In order to be compatible with existing Cooper Basin data, GPS data were transformed from the World Geodetic System (WGS84) to the Australian Geodetic Datum (AGD84) and the Australian Height Datum (AHD) for co-ordinates and elevations respectively. At the end of each programme, the processed data were loaded onto a computer disk and sent to Santos Ltd.

Co-ordinates and elevations of permanent marks, as well as a list of all observed elevations, are given in Appendix III on computer disk.

4.4 LINE PREPARATION

4.4.1 EQUIPMENT

Line preparation for both Geco-Prakla parties was carried out by Denham and O'Keeffe Pty. Ltd., who supplied up to thirteen personnel as required, and the following equipment:

2 Caterpillar D7G Bulldozers
2 Caterpillar Challenger (rubber-track) Bulldozers
2-3 Caterpillar 130G Graders
Support vehicles
Self-contained camp

4.4.2 OPERATIONS

The line-preparation crews faced a variety of terrains such as sand dunes/ interdunal flats, creek channels, flood plains, crabhole flats, gibber plains and rises and dissected tablelands.

Modern line-preparation requires extreme care to avoid unacceptable environmental disturbance such as felling of trees, obstruction of creek channels, removal of root stock, etc. With a large number of detours the work was completed with minimum disturbance to the environment. GPS receivers on the bulldozers allowed overall line bearing and position to be maintained while making detours to avoid trees, etc.

A heavy roller was sometimes used to prepare lines over gibber plains and rises. Otherwise merely walking bulldozers along lines without bladework sufficed in these terrains.

Ramps and detours to protect pipelines and other production installations were frequently necessary.

4.5 RECORDING

4.5.1 EQUIPMENT

4.5.1.1 PARTY 1161

Geco-Prakla supplied and operated a complete I/O System 2 Digital Telemetric Vibroseis Recording System, including:

5	Mertz M26 Vibrators
1	I/O Line Interface Module
1	I/O System Control Module
1	I/O System Interface Module
1	I/O Correlator Stacker Module
2	I/O Operator Console Module - Future 486
1	Oyo DFM 480 Digital Camera
2	Fujitsu 3480 tape decks
1	Pelton Vibra Sig QC computer
5	Pelton Advance 5 Vibrator Control Units
1	Pelton Advance 5 Encode Sweep Generator
2040	Geophone strings, double-ended with 12 x SM4, 10 Hz phones @ 3.5 metre spacing, 6 series x 2 parallel
340	I/O Remote Signal Conditioners
469	MRX Batteries
340	Line cables
12	Advance line tap cables
12	Advance line tap boxes
12	Near MRX cables

with adequate support including battery chargers, test equipment, radios etc.

4.5.1.2 PARTY 1160

Geco-Prakla supplied and operated a complete I/O System 2 Digital Telemetric Vibroseis Recording System, including:

4	Mertz M26 Vibrators
1	I/O Line Interface Module
1	I/O System Control Module
1	I/O System Interface Module
1	I/O Correlator Stacker Module
2	I/O Operator Console Module - Future 486
1	Oyo DFM 480 Digital Camera
2	Fujitsu 3480 tape decks
1	Pelton Vibra Sig QC computer
4	Pelton Advance 5 Vibrator Control Units
1	Pelton Advance 5 Encode Sweep Generator
400	Geophone strings, double-ended with 12 x SM4, 10 Hz phones @ 3.5 metre spacing, 6 series x 2 parallel
90	I/O Remote Signal Conditioners
80	MRX Batteries
90	Line cables
2	Advance line tap cables
1	Advance line tap box
2	Line tap boxes
3	Truck cables
7	Near RSC cables

with adequate support including battery chargers, test equipment, radios etc.

4.5.2 GENERAL

In contrast to previous years, the majority of the programmes comprising the SA97 Seismic Survey were "3D" with a lesser number, traditional "2D" lines. Of the total number of 306 recording-crew-days required for the whole survey, 187 were 3D operations, and the remaining 119, 2D programmes.

In parts of the Cuttapirrie Regional, Deramookoo Platform and Western Prospects programmes in the Patchawarra East Block, dry but soft lakes or swampy ground made lines inaccessible to vibrator trucks. For these portions of line (totalling 26.3 km) an energy source of small dynamite charges in shallow holes drilled by hand or power-auger, was used.

4.5.3 RECORDING PARAMETERS

4.5.3.1 PONDRINIE 3D (MEI)

Instrumentation

Instruments	:	I/O System 1
No. Channels	:	768 (8 lines of 96)
Tape Format	:	SEGD, 8058IEEE Demultiplexed, 3480 Cartridge Noise edited summed uncorrelated and correlated outputs
Filters	:	Hi-cut 90 Hz, 72 dB/Octave Lo-cut 6 Hz, 12 dB/Octave
Sample Rate	:	4 ms
Record Length	:	10 sec (6 sec sweep, 4 sec listen)

Source Data

Vibrators	:	3 x Mertz M26
Electronics	:	Pelton Advance 2
Sweep Frequency	:	5-80 Hz
Sweep Length	:	6 seconds
Sweep Function	:	Linear Upsweep
No. Sweeps/VP	:	1
Source Array	:	3 Vibs in line, P-P 12.5m standing (ie no move-up)

Receiver Data

Manuf/Model/Res freq.	:	Geospace SM4 10 Hz
No./String	:	12
Connection	:	Series

Spread Parameters

Receiver Group Interval	:	35 m
Receiver Location	:	Centred on stations
Receiver Array	:	12 phones, in-line, 2.92m element spacing (no overlap)
VP Interval	:	70m on orthogonal source lines, 99m on zig-zag lines
Spread	:	Split. Source position between groups 48/49 of receiver lines.

4.5.3.2 MOOMBA/BIG LAKE 3D (MOO AND NM)

Instrumentation

Instruments	:	I/O System 2
No. Channels	:	768 (8 lines of 96)
Tape Format	:	SEGD, 8058IEEE Demultiplexed, 3480 Cartridge Noise edited summed uncorrelated and correlated outputs
Filters	:	Hi-cut 90 Hz, 72 dB/Octave Lo-cut 6 Hz, 12 dB/Octave
Sample Rate	:	4 ms
Record Length	:	7 sec (3 sec sweep, 4 sec listen)

Source Data

Vibrators	:	3 x Mertz M26
Electronics	:	Pelton Advance 2
Sweep Frequency	:	5-90 Hz
Sweep Length	:	3 seconds
Sweep Function	:	Linear Upsweep
No. Sweeps/VP	:	2 on orthogonal lines, 1 on zig-zag lines
Source Array	:	3 Vibs in line, P-P 16.7m standing (ie no move-up)

Receiver Data

Manuf/Model/Res freq.	:	Geospace SM4 10 Hz
No./String	:	12
Connection	:	Series

Spread Parameters

Receiver Group Interval	:	50 m
Receiver Location	:	Centred on stations
Receiver Array	:	12 phones, in-line, 4.2m element spacing (no overlap)
VP Interval	:	100m on orthogonal source lines, 141.4m on zig-zag lines
Spread	:	Split. Source position between groups 48/49 of receiver lines.

4.5.3.3 DULLINGARI/BURKE 3D (NM AND TOO)
TOOLACHEE FIELD 3D (TOO)

Instrumentation

Instruments	:	I/O System 2
No. Channels	:	768 (8 lines of 96)
Tape Format	:	SEGD, 8058IEEE Demultiplexed, 3480 Cartridge Noise edited summed uncorrelated and correlated outputs
Filters	:	Hi-cut 90 Hz, 72 dB/Octave Lo-cut 6 Hz, 12 dB/Octave
Sample Rate	:	4 ms
Record Length	:	7 sec (3 sec sweep, 4 sec listen)

Source Data

Vibrators	:	3 x Mertz M26
Electronics	:	Pelton Advance 2
Sweep Frequency	:	5-90 Hz
Sweep Length	:	3 seconds
Sweep Function	:	Linear Upsweep
No. Sweeps/VP	:	1 in outer panels, 2 in inner panels
Source Array	:	3 Vibs in line, P-P 13.3m standing (ie no move-up)

Receiver Data

Manuf/Model/Res freq.	:	Geospace SM4 10 Hz
No./String	:	12
Connection	:	Series

Spread Parameters

Receiver Group Interval	:	40 m
Receiver Location	:	Centred on stations
Receiver Array	:	12 phones, in-line, 3.3m element spacing (no overlap)
VP Interval	:	80m on orthogonal source lines, 113.1m on zig-zag lines
Spread	:	Split. Source position between groups 48/49 of receiver lines.

4.5.3.4 2D PROGRAMMES, SET 1

Programme (Block):	Wantana/Warrah (MEI)	Lines:	97-HHQ → HHZ, 97-HJA → HJK
	Cuttapirrie Regional (PE)		97-HLM → HLT
	Proximal Gas (PE)		97-HLW → HLZ, 97-HMA → HMF
	Distal Gas (PE)		97-HMH → HMT
	Merindal (MEI)		97-HNK → HNP
	Meroo (MEI)		97-HNR → HNX

Instrumentation

Instruments	:	I/O System 1
No. Channels	:	120 (124 including centre gap)
Tape Format	:	SEGD, Demultiplexed, 3480 Cartridge. Uncorrelated summed sweeps and correlated noise edited sum
Filters	:	Hi-cut 90 Hz, 72 dB/Octave Lo-cut 6 Hz, 12 dB/Octave
Sample Rate	:	4 ms
Record Length	:	6 sec (3 sec sweep, 3 sec listen)

Source Data

Vibrators	:	3 x Mertz M26
Electronics	:	Pelton Advance 2
Sweep Frequency	:	5-90 Hz
Sweep Length	:	3 seconds
Sweep Function	:	Linear Upsweep
No. Sweeps/VP	:	2 (standing)
Source Array	:	3 Vibs in line, P-P 12.5m, MU zero

Receiver Data

Manuf/Model/Res freq.	:	Geospace SM4 10 Hz
No./String	:	12
Connection	:	Series/Parallel

Spread Parameters

Receiver Group Interval	:	37.5 m
Receiver Location	:	Centred on stations
Receiver Array	:	12 phones, in-line, 3.1m element spacing (no overlap)
VP Interval	:	37.5 m
VP Location	:	Symmetrical between stations
Spread Geometry	:	2306.25m - 18.75m - 0 - 18.75m - 2306.25m
Multiplicity	:	62 fold (60 fold processed)

4.5.3.5 2D PROGRAMMES, SET 2

Programme (Block):	Innamincka Flank (MEI) Lines:	97-HKY, HKZ, 97-HLA → HLL
	Innamincka Flank Extension (MEI)	97-HPL → HPN
	Deramookoo Platform (PE)	97-HPA → HPK
	Swan Lake South West (MEI AND MOO)	97-HQH → HQZ, 97-HRA

Instrumentation		
Instruments	:	I/O System 1
No. Channels	:	120 (124 including centre gap)
Tape Format	:	SEGD, Demultiplexed, 3480 Cartridge. Uncorrelated summed sweeps and correlated noise edited sum
Filters	:	Hi-cut 90 Hz, 72 dB/Octave Lo-cut 5.5 Hz, 12 dB/Octave
Sample Rate	:	4 ms
Record Length	:	7 sec (3 sec sweep, 4 sec listen)

Source Data		
Vibrators	:	3 x Mertz M26
Electronics	:	Pelton Advance 2
Sweep Frequency	:	5-90 Hz
Sweep Length	:	3 seconds
Sweep Function	:	Linear Upsweep
No. Sweeps/VP	:	2 (standing)
Source Array	:	3 Vibs in line, P-P 12.5m, MU zero

Receiver Data		
Manuf/Model/Res freq.	:	Geospace SM4 10 Hz
No./String	:	12
Connection	:	Series/Parallel

Spread Parameters		
Receiver Group Interval	:	37.5 m
Receiver Location	:	Centred on stations
Receiver Array	:	12 phones, in-line, 3.1m element spacing (no overlap)
VP Interval	:	37.5 m
VP Location	:	Symmetrical between stations
Spread Geometry	:	2306.25m - 18.75m - 0 - 18.75m - 2306.25m
Multiplicity	:	62 fold (60 fold processed)

4.5.3.6 2D PROGRAMMES, SET 3

Programme (Block):	P.U.P. Detail (PC & PSW)	Lines:	97-HPP → HPZ
	WL43 (PC)		97-HRB, HRC
	East Central Gas (PSW)		97-HRD → HRZ, 97-HSA → HSZ, 97-HTA → HTG
	Corkwood Nose (NM)		97-HWT, HWX
	Tooroo (PE)		97-HYT → HYZ
	Ellar (PE)		97-HZA, HZB
	Cuttapirrie Terrace (PE)		97-HZC → HZF
	Western Prospects (PE)		97-GNS → GNZ, 97-GPE → GPH, 97-HEE, HEL, HEN, HEP, HES, HEW → HEZ, 97-HFA, HFC, HFE → HFK, HFP → HFR, HFT → HFY, HGA, HGB, HGE, HGG → HGK

Instrumentation

Instruments	:	I/O System 2
No. Channels	:	120 (124 including centre gap)
Tape Format	:	SEGD, Demultiplexed, 3480 Cartridge. Uncorrelated summed sweeps and correlated noise edited sum
Filters	:	Hi-cut 90 Hz, 72 dB/Octave Lo-cut 5.5 Hz, 12 dB/Octave
Sample Rate	:	4 ms
Record Length	:	7 sec (3 sec sweep, 4 sec listen)

Source Data

Vibrators	:	3 x Mertz M26
Electronics	:	Pelton Advance 2
Sweep Frequency	:	5-90 Hz
Sweep Length	:	3 seconds
Sweep Function	:	Linear Upsweep
No. Sweeps/VP	:	2 (standing)
Source Array	:	3 Vibs in line, P-P 12.5m, MU zero

Receiver Data

Manuf/Model/Res freq.	:	Geospace SM4 10 Hz
No./String	:	12
Connection	:	Series/Parallel

Spread Parameters

Receiver Group Interval	:	37.5 m
Receiver Location	:	Centred on stations
Receiver Array	:	12 phones, in-line, 3.1m element spacing (no overlap)
VP Interval	:	37.5 m
VP Location	:	Symmetrical between stations
Spread Geometry	:	2306.25m - 18.75m - 0 - 18.75m - 2306.25m
Multiplicity	:	62 fold (60 fold processed)

4.5.3.7 SWATH RECORDING

Programme (Block): Corkwood Nose (NM) Lines: 97-HWW ETC.

Instrumentation		
Instruments	:	I/O System 2
No. Channels	:	360 (372 including centre gaps)
Tape Format	:	SEGD, Demultiplexed, 3480 Cartridge. Uncorrelated summed sweeps and correlated noise edited stack
Filters	:	Hi-cut 90 Hz, 72 dB/Octave Lo-cut 5.5 Hz, 12 dB/Octave
Sample Rate	:	4 ms
Record Length	:	7 sec (3 sec sweep, 4 sec listen)
Source Data		
Vibrators	:	3 x Mertz M26
Electronics	:	Pelton Advance 2
Sweep Frequency	:	5-90 Hz
Sweep Length	:	3 seconds
Sweep Function	:	Linear Upsweep
No. Sweeps/VP	:	2 (standing)
Source Array	:	3 Vibs in line, P-P 12.5m, MU zero
Source Line	:	97-HWW
Receiver Data		
Manuf/Model/Res freq.	:	Geospace SM4 10 Hz
No./String	:	12
Connection	:	Series/Parallel
Spread Parameters		
Swath	:	Recording receiver lines 97-HWT, W and X
Receiver Line Interval	:	500m
Receiver Group Interval	:	37.5m
Receiver Location	:	Centred on stations
Receiver Array	:	12 phones, in-line, 3.125m element spacing (no overlap)
VP Interval	:	37.5 m
VP Location	:	Symmetrical between stations
Spread Geometry	:	2306.25m - 18.75m - 0 - 18.75m - 2306.25m on each line
Multiplicity	:	3 sub-surface lines of 62 fold (60 fold processed) each

4.5.3.8 DUAL LINE RECORDING

Programme (Block): Western Prospects (PE) Lines: 97-HEDD, HETD, HFAD, HFBD, HFJD, HGCD, HGFD

Instrumentation

Instruments	:	I/O System 2
No. Channels	:	240 (248 including centre gaps)
Tape Format	:	SEGD, Demultiplexed, 3480 Cartridge. Uncorrelated summed sweeps and correlated noise edited stack
Filters	:	Hi-cut 90 Hz, 72 dB/Octave Lo-cut 5.5 Hz, 12 dB/Octave
Sample Rate	:	4 ms
Record Length	:	7 sec (3 sec sweep, 4 sec listen)

Source Data

Vibrators	:	3 x Mertz M26
Electronics	:	Pelton Advance 2
Sweep Frequency	:	5-90 Hz
Sweep Length	:	3 seconds
Sweep Function	:	Linear Upsweep
No. Sweeps/VP	:	2 (standing)
Source Array	:	3 Vibs in line, P-P 12.5m, MU zero

Receiver Data

Manuf/Model/Res freq.	:	Geospace SM4 10 Hz
No./String	:	12
Connection	:	Series/Parallel

Spread Parameters

Two parallel receiver lines, one of which is the source line

Receiver Line Interval	:	1000m approx.
Receiver Group Interval	:	37.5m
Receiver Location	:	Centred on stations
Receiver Array	:	12 phones, in-line, 3.125m element spacing (no overlap)
VP Interval	:	37.5 m
VP Location	:	Symmetrical between stations
Spread Geometry - in line	:	2306.25m - 18.75m - 0 - 18.75m - 2306.25m
		1 62 63 124
(Dual line approx)		2513.72m - 1000.17m - 1000.17m - 2513.72m
		1 62 63 124

4.5.3.9 DYNAMITE - SOURCE

Programme (Block):	Cuttapirrie Regional (PE)	Lines:	97-HLM, HLP (parts)
	Deramookoo Platform (PE)		97-HPA, HPC (parts)
	Western Prospects (PE)		97-HEZ, HFC, HFF, HFG, HGH (parts)

Instrumentation		
Instruments	:	I/O System 1 & I/O System 2
No. Channels	:	120 (124 including centre gaps)
Tape Format	:	SEGD, Demultiplexed, 3480 Cartridge.
Filters	:	Hi-cut 90 Hz, 72 dB/Octave Lo-cut 5.5 Hz, 12 dB/Octave
Sample Rate	:	4 ms
Record Length	:	3 or 4 sec

Source Data		
Vibrators	:	Anzomex 'G' Primers
Charge Size	:	2 x 110g per hole
Holes per Source Point	:	2 or 3
Depth of Hole	:	2m approx.
Hole Spacing	:	2 - 2.5m
Source Point Interval	:	150m nominal

Receiver Data		
Manuf/Model/Res freq.	:	Geospace SM4 10 Hz
No./String	:	12
Connection	:	Series/Parallel

Field Parameters		
Receiver Line Interval	:	37.5m
Receiver Location	:	Centred on stations
Receiver Array	:	12 phones, in-line, 3.125m element spacing (no overlap)
VP Interval	:	37.5 m
VP Location	:	Symmetrical between stations
Spread Geometry - in line	:	2306.25m - 18.75m - 0 - 18.75m - 2306.25m 1 62 63 124
Multiplicity	:	15 fold

4.5.4 OPERATIONAL PROCEDURE

4.5.4.1 QUALITY CONTROL

Prior to the commencement of the survey, and at approximate monthly intervals thereafter, a comprehensive set of tests was run on the recording instruments, remote signal conditioners, geophones, cables, etc. An abbreviated set of tests and checks was conducted each day before the start of production recording.

"Hardwire similarities" and "remote nest tests" were run at weekly intervals on all vibrators, and "radio similarities" were run daily. The Pelton Vibra Sig QC package provided continuous monitoring of individual vibrator performance during production operations.

A dedicated oscilloscope allowed the geophone spread to be monitored in real time during operations. Camera monitor records were produced frequently, generally from every tenth vibrator point.

Good line discipline in respect to geophone plants and spacing, and vibrator spacing, contributed to the high quality of seismic data recorded.

4.5.4.2 PRODUCTION RECORDING

4.5.4.2.1 2D Operations

About 40% of the recording days of the SA97 Seismic Survey was spent on standard, multi-fold, two-dimensional, split-spread reflection profiling, recording 124 channels of seismic data, of which the inner-most four were not processed.

Geco-Prakla used a line crew of sixteen to nineteen to lay and move the geophones, cables and remote signal conditioner boxes. A line boss had responsibility for coordinating the line crew, and trouble-shooting the spread under the direction of the observer.

For the normal 37.5m group intervals, geophones were laid along the line at intervals of approximately 3.125m so that there was also an interval of 3.1m between the last geophone of one group and the first geophone of the next. The line crew generally used five, specially-fitted, Toyota geophone and cable trucks, and a line boss' vehicle.

The energy source was three Mertz vibrators in line, 12.5m apart pad-to-pad, sweeping twice per vibrator point. Each sweep was a 5 to 90 Hz linear upsweep, of three seconds duration.

Single, uncorrelated sweeps were recorded through the I/O System 1 (February 1997) or System 2 instruments (September 1997 - January 1998), summed and written to tape, followed by the correlated, noise-edited sum. Data format was SEGD with a tape density of 37871 bpi.

4.5.4.2.2 3D Operations

In contrast with previous surveys, a majority of the recording time of the SA97 survey was spent on 3D rather than 2D programmes. Each of the four 3D programmes recorded 768 channels of data from eight parallel receiver lines of 96 geophone-groups each. As in 2D operations, the energy source consisted of three vibrators , with source lines either orthogonal to receiver lines, or,in a zigzag pattern between receiver lines. Receiver-group, vibrator-point and line intervals varied from programme to programme, dependent upon primary target depth, etc., and the desired 24 fold multiplicity of coverage.

Geco-Prakla expanded its line crew to 28 - 32 people, and used nine or ten geophone and cable trucks, for 3D operations. Further details of source and spread layouts and parameters are given in sections 4.5.3.1, 4.5.3.2 and 4.5.3.3, and Appendix IX.

4.5.4.2.2 Dynamite-source Operations

Parts of several lines of the Cuttapirrie Regional, Deramookoo Platform and Western Prospects 2D programmes were inaccessible to vibrator trucks as they crossed the dry, but soft, Mitcaldratillie Lakes, or the Tirrawarra Swamp. Small explosive charges in shallow shot-holes were used as the energy source in these areas. After some experiments comparing different charge sizes, patterns, etc., a configuration of two Anzomex "G" Primers or "P" Boosters in each of two holes 2 to 2.5 metres apart, drilled to 1.8 metres depth by a power auger, was used at each shot point, spaced for 15 fold multiplicity. An aggregate length of 26.3 km of profile was recorded in this manner.

(In the portion of the programme in the Tirrawarra Swamp, in November/December 1997, line preparation was limited to trimming of vegetation by Stihl brush-cutters and hedge-trimmers. This aspect of the programme, with the auger-drilling, and loading, of shotholes, required additional personnel on the crew, and was carried out with helicopter support.)

4.5.5 PRODUCTION

Production details are given in Appendix 1. The average production rate for 2D recording was 3.62 km per recording hour, or 2.24 km per chargeable hour. For the 6,836.678 km of source line in the 3D surveys, average production was 7.65 km per recording hour, and 3.60 km per chargeable hour. The total 1,856.79 sq km covered by 3D surveys were recorded at 2.08 sq km per recording hour, or 0.98 sq km per chargeable hour.

Total source-line length recorded, for the whole SA97 survey, was 9,549.878 km, on 306 recording crew days.

4.6 WEATHERING SURVEY

4.6.1 GENERAL

Geodrill Pty. Ltd., and Velocity Data Pty. Ltd., were sub-contracted to obtain near-surface velocity data for computation of static corrections to the seismic data. A down-hole geophone/surface-source technique, in "upholes" drilled for the purpose, was used.

Santos Ltd. guidelines for the conduct of uphole weathering surveys are given in Appendix IV.

4.6.2 DRILLING

4.6.2.1 EQUIPMENT

Geodrill Pty. Ltd. was the drilling sub-contractor providing two complete drilling units, each consisting of the following or similar:

Bourne 1000R drill, mounted on Ford Louisville 8000, 6x4 truck with Caterpillar 3208 V8 engine;

Bourne mud-pump, 127 mm (5 inch) piston, 152 mm (6 inch) stroke;

Leroy SDS 100, two stage compressor;

Bean pump for water & foam injection;

Ten speed rotary table;

Two hydraulic retractable jacks at rear;

Injection water tank - 1,140 litres (250 gallons);

6.1 metre (twenty-feet) Kelly;

Twenty-five lengths of Mayhew regular stem, 6.1m (20 feet) by 60 mm (2 3/8 inches);

Stenwick down-hole hammer;

Blade and roller bits, 111 mm (4 3/4 inch) for normal drilling;

Two Ford Louisville 6x4 water trucks with 6,400 litre (1,400 gallon) tanks;

Honda 51 mm (2 inch) centrifugal water pump.

Geodrill also provided support vehicles and equipment, and a self-contained camp.

4.6.2.2 PRODUCTION

Details of drilling production are given in Appendix II. For the complete survey, 1,589 holes were drilled, through sands and clays and some silcrete, to an average depth of 39 metres. The average drilling rate was 24.5 metres per chargeable hour.

4.6.3 WEATHERING RECORDING

4.6.3.1 EQUIPMENT

Velocity Data Pty. Ltd. was sub-contracted to record "down-hole" times for static correction computations, and provide the following equipment:

Two truck-mounted, digital recording/weight-drop energy source, systems, each incorporating:

Air-conditioned cab;

Rear-mounted, eight-foot tower;

120 kg metal weight, hydraulically lifted;

80 kg metal base plate fitted with dual time-break sensors;

Two down-hole tools, 700 mm x 38 mm, containing two 8Hz, GS 20D geophones and pre-amplifier and fitted with sidewall locking arm and release mechanism;

Hand-cranked winch with 160 metres of armoured logging cable and depth counter;

Attenuator potentiometer to control gain of down-hole tool;

Seistat recorder;

Dual-beam oscilloscope;

Fujitsu printer;

Ancillary and camp equipment, including:

Toyota tray-top;

Sledge hammer/20 kg base-plate back-up or alternative source;

Second hand-cranked winch and cable;

Accommodation/office caravans;

Generators, 240V 2.2 KVA;

HF and VHF radios.

4.6.3.2 PROCEDURE

Immediately after drilling a hole the down-hole tool was manually lowered to the bottom of the hole on its cable, with the sidewall arm activated on reaching the required depth.

The metal base plate was positioned 2 metres from the hole and the weight drop unit positioned over it. A time-break confirmation geophone was placed about 2 metres from the base plate.

The output of the down-hole tool was monitored on an oscilloscope and the attenuator adjusted to give acceptable noise level. The weight was then raised and dropped. If the break were unacceptable, the drop was repeated, and results summed if necessary, until a satisfactory record was obtained. The tool was then manually winched up the hole to the next level and the process repeated.

Standard recording depths were 2, 3, 4, 6, 8, 10, 12, 15, 18, 21, 24, 27, 30 metres, and thence every 4 metres, with additional levels inserted at the discretion of the observer.

4.6.4 RESULTS

One thousand, four hundred and sixty-two holes were drilled and recorded on 2D lines, which, allowing for holes at intersections, and including data points from previous surveys applicable to lines of these programmes, gives an average effective interval between statics control points of 1.2 km.

One hundred and twenty-seven holes were drilled and recorded on the 3D grids, which, with numerous applicable data points from previous 2D surveys within and adjacent to the grids, gives an average density of statics control points for data processing, of one per 0.62 sq km.

Weathering data are listed in Appendix III.

4.7 ENVIRONMENTAL CONSIDERATIONS

4.7.1 GENERAL

As operator, Santos Ltd. has, for a number of years, been committed to planning and conducting seismic operations in such a way that environmental disturbance is avoided or minimised, and affected areas can rehabilitate naturally in a reasonable time frame. These objectives have most recently been set out and discussed in the publications "Code of Environmental Practice, Seismic Operations", and "Environmental Procedures for Seismic Exploration in the Cooper Basin, South Australia (PEL's 5 & 6) and Queensland (ATP259P)" Santos Ltd., 1997.

The commitment has normally included the distribution to all contractors' personnel, and continual pressure by Santos Ltd. field representatives on these personnel to conform to the principles and requirements of the Code and Procedures.

Compliance with the Aboriginal Heritage Act has also been stressed.

With occasional, minor exceptions, the crews worked extremely well to complete the survey efficiently under the stringent environmental restrictions applied.

4.7.2 STANDARD PRACTICE FOR LINE PREPARATION AND SURVEY CREWS

1. Restrict lines to one blade width.
2. Move as little earth and vegetation as possible.
3. Roll or mark lines only in silcrete and gibber plain areas - no blading.
4. Walk across claypans and consolidated flat open ground.
5. Avoid steep cuts and fills which may cause erosion or landslide problems.
6. Cut sand dunes to the minimum depth required for safe access and operation.
7. Push sand to side of cut, not to bottom of dune.
8. Avoid or reduce to a minimum the formation of windrows.
9. Avoid destruction of isolated trees or stands of vegetation.
10. Avoid unnecessary blockage of creeks and channels.
11. Include erosion control features such as spur drains on sloping terrain.
12. Conceal lines from public roads or tracks by cutting 50 metres short on either side or placing a dog-leg to reduce line of sight in vegetated areas.
13. Offset crossings at drainage channels to avoid the removal of trees and vegetation.
14. Avoid sites of natural, historical, heritage, aboriginal and archaeological significance, known or discovered.
15. Stop and report all discoveries to supervisor.
16. All work is to be carried out with due regard to safety and consideration/protection of the environment.

4.7.3 ADDITIONAL REQUIREMENTS OF FIELD PERSONNEL

(a) Excessive cutting on sand rises/dunes and the creation of windrows on vegetated flats and flood flats must be avoided. There is to be as little disturbance as possible to the Cooper Creek/Wilson River systems and surrounding floodplains - extreme care to be taken.

(b) Minimal cutting and disturbance to vegetation is required. No cutting is to occur in gibber hills or flats. Water courses are not to be blocked or water holes disturbed. Vehicle traffic should be confined to the cleared seismic line. No unnecessary detours or short cuts are to be created.

(c) All metal pin flags must be removed after recording.

(d) Drill cuttings should be returned to holes or spread out and not left in a mound. Holes should be properly reinstated so that subsidence does not occur.

(e) No litter should be left at camp sites, upholes or on seismic lines.

(f) Lines intersecting roads or tracks should be concealed with doglegs.

(g) All gates and fences are to be reconstructed to their original condition and care taken not to disturb cattle.

(h) Extremely careful measures must be taken for the protection of aboriginal sites and artifacts. These sites/artifacts are to be flagged off and vehicle access/traffic avoided.

4.7.4 COONGIE LAKES CONTROL ZONE

For those parts of the Western Prospects programme within the Coongie Lakes Control Zone, specific environment-protection measures, even more stringent than the above, were imposed, and monitored by representatives of the Departments of Primary Industries and Resources, and Environment and Natural Resources, relevant aboriginal people and a consultant archaeologist, an independent ecologist, and Santos Ltd. Environmental Affairs staff. Separate reports have been prepared by a number of these organizations and specialists.

4.7.5 POST-SURVEY AUDITING

To assess the application and performance of contractors' personnel, Santos Ltd. imposed a system of random, post-survey "Environmental Auditing and Reporting" of a representative sample of survey lines, by its field representatives. Nine such audits were carried out and reports compiled on the programmes Wantana/Warrah, Pondrinie 3D, Moomba/Big Lake 3D, Dullingari/Burke 3D, Proximal Gas, Cuttapirrie Regional, Deramookoo Platform, Western Prospects and Toolachee Field 3D.

5.0 DATA PROCESSING

5.1 GENERAL

Most of the data processing was performed by Western Geophysical in their centre in Adelaide. The Pondrinie Field 3D and Moomba/Big Lake 3D data were processed in Brisbane by Digicon Geophysical Limited.

Dependent upon local target depths, either three or four seconds of data were recorded in the field, at a sample rate of 4 milliseconds. In processing, the data were reduced to a datum at mean sea level. Surface elevations in the areas of operation ranged from 18 metres to 214 metres above datum. Depths of weathering ranged from 2 to 137 metres.

Exploration targets in the region occur in the geological interval between the top of the Upper Jurassic Namur Formation and the base of the Permian sequence. In the seismic data recorded in this survey, the top of the Namur Formation varies from about 1 second to 1.7 seconds below datum, with the base of the Permian ranging from about 1.3 seconds to about 2.5 seconds reduced time.

Data processing effectively commenced on 26 February 1997 with the supply by Santos of the first batch of static corrections to Western. Processing was completed on 29 May 1998, when Santos approved the archiving on digital tape of the final batch of data.

Area-by-area processing reports are given in Appendix VIII.

The basic sequences, and the major parameters shown below, have been developed over a number of years, during which a large amount of similarly-acquired data from the region has been processed.

5.2 WESTERN 2D PROCESSING STREAM AND TYPICAL PARAMETERS

The major processes and typical parameters applied in processing 2D data by Western Geophysical Australia were:

1. Correlation - zero phase
2. Sample Rate - 4 ms
3. Amplitude Recovery - Alpha = 4 db/s,T2 = 3.0s
4. Trace Edit - Automatic
5. Conversion - zero to minimum phase
6. Deconvolution - Spiking, 120ms operator
7. Scaling - - Time-variant, 500 ms gates, 50% overlap
8. Brute stack
9. Residual static analysis - Surface consistent, 1 x 800 ms gate, 10-50 Hz DGF
10. Residual statics
11. Preliminary stack
12. Velocity analysis - 15 CDP "Velscan" - surface referenced
13. NMO, mute and static corrections
14. CDP trim static analysis - 1 x 1000 ms gate, 10-80 Hz DGF
15. Stack - data processed -100 to +3000 ms
16. Migration - Finite difference or F-K, 100% smoothed datum-referenced velocitie
17. Spectral whitening - 10-80 Hz
18. Deconvolution - F-X
19. Filtering - 10-80 HZ bandpass
20. Trace scaling

5.3 WESTERN 3D PROCESSING STREAM AND TYPICAL PARAMETERS

1. Correlation - zero phase
2. Sample Rate - 4 ms
3. Amplitude Recovery - "TAR", Alpha = 4 db/s, T2 = 3.0s
4. Trace Edit - Automatic
5. Conversion - zero to minimum phase
6. Deconvolution - Spiking
7. Spectral whitening - Time variant. Target 5-90 Hz
8. Scaling - Time variant, 500 ms gates, no overlap
9. Brute stack
10. Residual static analysis -surface consistent 1 x 800 ms gate, 10-55 Hz DGF
11. Preliminary stack
12. Velocity analysis - 9 x 3 CMP cells - surface referenced
13. NMO, mute and static corrections - Applied four times before stack
14. CDP trim static analysis - 1 x 1000 ms gate, 10-75 Hz DGF
15. Trim Stack
16. Velocity Analysis - 9 x 3 CMP cells- surface referenced
17. DMO - Dip Move out correction. Kirchoff algorithm
18. Stack - Final stack - data processed - 100 to 4000 ms
19. Interpolation - 1:2 cross line interpolation to square CDP bins
20. Migration - Modified residual, 100% smoothed datum-referenced velocities
21. Spectral whitening - 10-80 Hz
22. Filtering - Time-variant bandpass, 0-800 ms, 10-80 Hz; 800-4000ms, 8-70 Hz
23. Trace scaling

5.4 DIGICON 3D PROCESSING STREAM AND TYPICAL PARAMETERS

1.	Correlation	- zero phase
2.	Sample Rate	- 4 ms
3.	Conversion	- zero to minimum phase
4.	Amplitide Recovery	
5.	Trace Edit	
6.	Deconvolution	- Spiking, 2x1000 ms operator, derivation windows 300-1500 ms, 1400-2500
7.	Spectral whitening	- 8-80 Hz
8.	Brute stack	
9.	Residual statics	- surface consistent
10.	Preliminary stack	
11.	Velocity analysis	
12.	CDP trim statics	
13.	Trim Stack	
14.	Scaling	- Time-variant, 500 ms window, 10% overlap
15.	DMO	- Dip Move out correction. Kirchoff algorithm
16.	Stack	
17.	Interpolation	- 1:2 cross line interpolation to square CDP bins
18.	Migration	- 3D, one pass, 100% smoothed datum-referenced velocities
19.	Spectral whitening	- 5-120 Hz
20.	Filtering	- Time-variant bandpass, 0 ms, 10-80 Hz; 2500 ms, 10-80 Hz 4000 ms, 10-65 Hz
21.	Trace scaling	

~ APPENDIX I ~

RECORDING PRODUCTION STATISTICS

~ APPENDIX I (a) ~

RECORDING PRODUCTION STATISTICS

MERRIMELIA-INNAMINCKA BLOCK

MAY					VIBROSEIS RECORDING PRODUCTION														
Y601					SA97 - MEI EXPLORATION														
											CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	TRAV	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
7-May	Innamincka Flank Extn.	120	37.5	HPL	469-201	10.05000														
7-May	Innamincka Flank Extn.	120	37.5	HPM	200-270	2.62500	4.80		0.40	0.20		0.30	0.50				6.20	0.75		
8-May	Innamincka Flank Extn.	120	37.5	HPM	270-468	7.42500														
8-May	Innamincka Flank Extn.	120	37.5	HPN	469-201	10.05000	4.30	0.50	0.30			0.80					5.90	0.70		
9-May	Innamincka Flank Extn.	120	37.5									1.10					1.10			
MONTHLY TOTAL						30.15000	9.10	0.50	0.70	0.20		2.20	0.50				13.20	1.45	3.14	2.28
PROJECT TOTAL						600.63750	160.80	13.60	32.70	14.70		11.60	0.50	0.90		1.80	236.60	20.45	3.44	2.54
Brought Forward						570.48750	151.70	13.10	32.00	14.50		9.40		0.90		1.80	223.40	19.00	3.46	2.55

APRIL					VIBROSEIS RECORDING PRODUCTION															
Y6D1					SA97 - MEI EXPLORATION															
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
1-Apr	Swan Lake SW	120	37.5	HQP	380-528	5.55000														
1-Apr	Swan Lake SW	120	37.5	HQN	565-201	13.65000														
1-Apr	Swan Lake SW	120	37.5	HQM	200-353	5.73750	6.50	0.30	1.00	0.20							8.00	0.20		
2-Apr	Swan Lake SW	120	37.5	HQM	353-455	3.82500														
2-Apr	Swan Lake SW	120	37.5	HQL	497-201	11.10000														
2-Apr	Swan Lake SW	120	37.5	HQK	200-396	7.35000														
2-Apr	Swan Lake SW	120	37.5	HQJ	381-299	3.07500	6.50	0.20	1.00	0.20							7.90	0.70		
3-Apr	Swan Lake SW	120	37.5	HQJ	299-201	3.67500														
3-Apr	Swan Lake SW	120	37.5	HQX	585-401	6.90000	2.60		0.80	0.10							3.50	0.50		
4-Apr	Swan Lake SW	120	37.5	HQY	336-416	3.00000	0.80									0.30	1.10			
5-Apr	Swan Lake SW	120	37.5									1.70					1.70			
MONTHLY TOTAL						63.86250	16.40	0.50	2.80	0.50		1.70				0.30	22.20	1.40	3.78	2.88
PROJECT TOTAL						570.48750	151.70	13.10	32.00	14.50		9.40		0.90		1.80	223.40	19.00	3.46	2.55
Brought Forward						506.62500	135.30	12.60	29.20	14.00		7.70		0.90		1.50	201.20	17.60	3.43	2.52

MARCH					VIBROSEIS RECORDING PRODUCTION															
Y601					SA97 - MEI EXPLORATION															
											CHARGE HOUR ANALYSIS									
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
	Brought Forward					306.00000	77.80	6.50	16.70	8.40		5.30		0.60		0.90	116.20	10.30		
12-Mar	Wantana	120	37.5	HJJ	627-405	8.32500														
12-Mar	Wantana	120	37.5	HHY	1401-917	18.15000	6.60	0.70	1.00	0.30						0.20	8.80	0.60		
29-Mar	Swan Lake	120	37.5									1.90				0.20	2.10			
30-Mar	Swan Lake	120	37.5	HQT	457-427	1.12500	0.20					0.50				0.20	0.90	0.30		
31-Mar	Swan Lake	120	37.5	HQT	427-289	5.17500														
31-Mar	Swan Lake	120	37.5	HQS	200-424	8.40000	3.80	0.70	0.80								5.30	0.20		
TOTAL - MEROO						40.20000	11.70	0.30	1.50	2.70		2.70		0.40		0.50	19.80	2.50	3.35	2.03
TOTAL - WANTANA						251.62500	62.40	6.90	12.40	3.90		2.60		0.20		0.60	89.00	7.50	3.63	2.83
TOTAL - MERINDAL						40.65000	10.30		3.80	2.10							16.20	0.90	3.95	2.51
TOTAL - SWAN LAKE						14.70000	4.00	0.70	0.80			2.40				0.40	8.30	0.50	3.13	1.77
MONTHLY TOTAL						347.17500	88.40	7.90	18.50	8.70		7.70		0.60		1.50	133.30	11.40	3.61	2.60
PROJECT TOTAL						506.62500	135.30	12.60	29.20	14.00		7.70		0.90		1.50	201.20	17.60	3.43	2.52
Brought Forward						159.45000	46.90	4.70	10.70	5.30				0.30			67.90	6.20	3.09	2.35

MARCH					VIBROSEIS RECORDING PRODUCTION															
Y601					SA97 - MEI EXPLORATION															
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
1-Mar	Meroo	120	37.5	HNR	200-416	8.10000	2.20			0.70		2.70				0.50	6.10	0.70		
2-Mar	Meroo	120	37.5	HNS	417-201	8.10000														
2-Mar	Meroo	120	37.5	HNT	200-416	8.10000														
2-Mar	Meroo	120	37.5	HNW	413-201	7.95000														
2-Mar	Meroo	120	37.5	HNX	200-271	2.66250	7.90	0.30	1.50	1.50							11.20	1.20		
3-Mar	Meroo	120	37.5	HNX	271-412	5.28750	1.60			0.50				0.40			2.50	0.60		
3-Mar	Wantana	120	37.5	HJF	200-464	9.90000														
3-Mar	Wantana	120	37.5	HJE	573-390	6.86250	4.20	0.50	1.00	0.10		2.60				0.30	8.70	0.30		
4-Mar	Wantana	120	37.5	HJE	390-201	7.08750														
4-Mar	Wantana	120	37.5	HJD	200-668	17.55000														
4-Mar	Wantana	120	37.5	HJC	561-331	8.62500	8.20	1.30	1.40	0.40							11.30	0.70		
5-Mar	Wantana	120	37.5	HJC	331-201	4.87500														
5-Mar	Wantana	120	37.5	HHQ	200-664	17.40000														
5-Mar	Wantana	120	37.5	HHR	585-201	14.40000	8.50	0.90	1.80	0.40				0.20			11.80	1.10		
6-Mar	Wantana	120	37.5	HHS	200-452	9.45000														
6-Mar	Wantana	120	37.5	HHT	557-201	13.35000														
6-Mar	Wantana	120	37.5	HHW	200-450	9.37500	7.90	1.10	1.00								10.00	1.40		
7-Mar	Wantana	120	37.5	HHW	450-668	8.17500														
7-Mar	Wantana	120	37.5	HHX	441-201	9.00000														
7-Mar	Wantana	120	37.5	HHZ	200-624	15.90000	8.30	0.50	2.10	0.20							11.10	1.00		
8-Mar	Wantana	120	37.5	HJA	505-201	11.40000														
8-Mar	Wantana	120	37.5	HJB	200-388	7.05000														
8-Mar	Wantana	120	37.5	HJG	200-492	10.95000														
8-Mar	Wantana	120	37.5	HJH	493-401	3.45000	8.40		2.00	0.60							11.00	0.80		
9-Mar	Wantana	120	37.5	HJH	401-201	7.50000	2.00										2.00	0.40		
9-Mar	Merindal	120	37.5	HNK	200-388	7.05000														
9-Mar	Merindal	120	37.5	HNL	389-201	7.05000														
9-Mar	Merindal	120	37.5	HNM	200-428	8.55000	5.70		2.40	0.20							8.30	0.40		
10-Mar	Merindal	120	37.50	HNN	425-201	8.40000	2.20			0.70							2.90	0.50		
10-Mar	Wantana	120	37.5	HJK	1185-693	18.45000	4.70	0.70	1.20	1.20						0.10	7.90	0.50		
11-Mar	Wantana	120	37.5	HJK	693-579	4.27500														
11-Mar	Wantana	120	37.5	HJJ	897-627	10.12500	3.60	1.20	0.90	0.70							6.40	0.70		
11-Mar	Merindal	120	37.5	HNP	200-456	9.60000	2.40		1.40	1.20							5.00			
Carried Forward						306.00000	77.80	6.50	16.70	8.40		5.30		0.60		0.90	116.20	10.30		
PROJECT TOTAL																				
Brought Forward																				

FEBRUARY					VIBROSEIS RECORDING PRODUCTION															
Y601						SA97 - MEI EXPLORATION														
														CHARGE HOUR ANALYSIS						
DATE	PROSPECT	CHN	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
1-Feb	Innamincka Flank	120	37.5	HKY	501-201	11.25000														
1-Feb	Innamincka Flank	120	37.5	HKZ	200-508	11.55000														
1-Feb	Innamincka Flank	120	37.5	HLA	537-353	6.90000	9.20		1.60	0.90							11.70	1.20		
3-Feb	Innamincka Flank	120	37.5	HLA	353-201	5.70000														
3-Feb	Innamincka Flank	120	37.5	HLB	200-544	12.90000														
3-Feb	Innamincka Flank	120	37.5	HLC	573-324	9.33750	8.00	1.30	1.20	0.70							11.20	1.00		
6-Feb	Innamincka Flank	120	37.5	HLC	324-201	4.61250														
6-Feb	Innamincka Flank	120	37.5	HLD	200-412	7.95000														
6-Feb	Innamincka Flank	120	37.5	HLF	441-201	9.00000														
6-Feb	Innamincka Flank	120	37.5	HLE	200-399	7.46250	8.70	0.30	2.60	0.60							12.20	0.70		
7-Feb	Innamincka Flank	120	37.5	HLE	399-600	7.53750														
7-Feb	Innamincka Flank	120	37.5	HLG	621-201	15.75000														
7-Feb	Innamincka Flank	120	37.5	HLH	200-250	1.87500	7.30	0.90	2.90	1.10							12.20	0.70		
8-Feb	Innamincka Flank	120	37.5	HLH	250-500	9.37500	2.70			0.70							3.40	0.60		
9-Feb	Innamincka Flank	120	37.5	HLL	369-201	6.30000														
9-Feb	Innamincka Flank	120	37.5	HLK	601-428	6.48750	3.60		1.20	0.30							5.10			
10-Feb	Innamincka Flank	120	37.5	HLK	428-201	8.51250														
10-Feb	Innamincka Flank	120	37.5	HLJ	200-536	12.60000	6.00	1.90	1.20	0.40				0.30			9.80	1.00		
11-Feb	Innamincka Flank	120	37.5	HLJ	536-652	4.35000	1.40	0.30		0.60							2.30	1.00		
MONTHLY TOTAL						159.45000	46.90	4.70	10.70	5.30				0.30			67.90	6.20	3.09	2.35
PROJECT TOTAL						159.45000	46.90	4.70	10.70	5.30				0.30			67.90	6.20	3.09	2.35
Brought Forward																				

APRIL					VIBROSEIS RECORDING PRODUCTION															
Y621					SA97 - MEI UNIT DEVELOPMENT															
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
1-Apr	Swan Lake SW	120	37.5	HQP	348-380	1.20000	0.20			0.10				0.30			0.60	0.10		
5-Apr	Swan Lake SW	120	37.5									0.50					0.50			
MONTHLY TOTAL						1.20000	0.20			0.10		0.50		0.30			1.10	0.10	6.00	1.09
PROJECT TOTAL						26.55000	7.00		1.60	0.60		1.10		0.30		0.20	10.80	0.20	3.79	2.46
Brought Forward						25.35000	6.80		1.60	0.50		0.60				0.20	9.70	0.10	3.73	2.61

MARCH					VIBROSEIS RECORDING PRODUCTION															
Y621					SA97 - MEI UNIT DEVELOPMENT															
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
29-Mar	Swan Lake	120	37.5									0.60				0.10	0.70			
30-Mar	Swan Lake	120	37.5	HQR	200-380	6.75000														
30-Mar	Swan Lake	120	37.5	HQT	629-457	6.45000	3.50		0.70	0.20						0.10	4.50			
31-Mar	Swan Lake	120	37.5	HQS	424-600	6.60000														
31-Mar	Swan Lake	120	37.5	HQP	200-348	5.55000	3.30		0.90	0.30							4.50	0.10		
MONTHLY TOTAL						25.35000	6.80		1.60	0.50		0.60				0.20	9.70	0.10	3.73	2.61
PROJECT TOTAL						25.35000	6.80		1.60	0.50		0.60				0.20	9.70	0.10	3.73	2.61
Brought Forward																				

MAY						VIBROSEIS RECORDING PRODUCTION													
Y603						SA97 - MEI PONDRINIE 3D													
						CHARGE HOUR ANALYSIS													
DATE	PROSPECT	CHNL	GI	SWATH	KM	REC	R/M	S/M	DET	WOS	P/M	T/MOVE	EXP	SPRD	S/BY	TOTAL	TRAV	STNS LAID	STNS P/U
1-May	Pondrinie 3D	768	35	145-152	49.89600	6.50	0.80	0.20	0.50	2.80						10.80	0.50	1,305	1,294
2-May	Pondrinie 3D	768	35	153-159	40.49100	5.70	0.70	0.10	0.80	3.30					0.30	10.90	0.60	1,220	1,195
3-May	Pondrinie 3D	768	35	159-165	41.87700	6.40	0.70	0.30	1.60	0.70						9.70	0.80	1,239	1,048
4-May	Pondrinie 3D	768	35	166-170	37.62000	6.20	0.60	0.30	0.60	2.50						10.20	1.00	966	1,051
5-May	Pondrinie 3D	768	35	171-176	39.60000	6.20		0.30	0.80	3.70						11.00	1.00	917	995
6-May	Pondrinie 3D	768	35	176-177	13.06800	2.20		0.10							0.70	3.00	0.50	-	255
7-May	Pondrinie 3D	768	35								0.80					0.80			
9-May	Pondrinie 3D	768	35								1.10					1.10			
MAY																			
KM/REC HR		6.18																	
KM/CHG HR		3.87																	
STNS LAID/CHG HR		98.21																	
TOTAL																			
KM/REC HR		5.39																	
KM/CHG HR		3.26																	
STNS LAID/CHG HR		98.31																	
The 1,200 stations laid before recording commenced and the 1,200 picked up after recording was completed, are not included in these figures.																			
MONTHLY TOTAL					222.55200	33.20	2.80	1.30	4.30	13.00	1.90				1.00	57.50	4.40	5,647	5,838
PROJECT TOTAL					907.64400	152.60	15.80	31.50	26.20	35.00	1.90	8.10	1.50	3.10	2.50	278.20	24.30	27,351	27,359
Brought Forward					685.09200	119.40	13.00	30.20	21.90	22.00		8.10	1.50	3.10	1.50	220.70	19.90	21,704	21,521

APRIL				VIBROSEIS RECORDING PRODUCTION															
Y603					SA97 - MEI PONDRINIE 3D														
										CHARGE HOUR ANALYSIS									
DATE	PROSPECT	CHNL	GI	SWATH	KM	REC	R/M	S/M	DET	WOS	P/M	T/MOVE	EXP	SPRD	S/BY	TOTAL	TRAV	STNS LAID	STNS P/U
7-Apr	Pondrinie 3D	768	35	1	6.33600	1.10		0.10	0.20				0.30			1.70	1.30	250	
8-Apr	Pondrinie 3D	768	35	2-8	44.35200	7.00	0.50	1.90	0.70					0.30	0.30	10.70	0.80	773	796
9-Apr	Pondrinie 3D	768	35	9-14	38.01600	6.10	0.60	3.00	0.30				0.50			10.50	0.80	1,054	1,059
10-Apr	Pondrinie 3D	768	35	15-21	40.49100	5.30	0.40	3.30	1.20						0.30	10.50	0.60	1,273	1,118
11-Apr	Pondrinie 3D	768	35	21-26	33.95700	4.50		3.60	1.90						0.30	10.30	0.50	994	952
12-Apr	Pondrinie 3D	768	35	26-33	31.70400	4.30	1.00	1.70	1.60			2.80				11.40	0.40	845	892
13-Apr	Pondrinie 3D	768	35	33-41	26.67200	4.60	0.80	2.80	0.90			1.80				10.90	0.30	1,122	1,315
14-Apr	Pondrinie 3D	768	35	41-46	23.60000	3.80	0.20	2.70	0.80			2.70				10.20	0.60	1,050	714
15-Apr	Pondrinie 3D	768	35	47-50	30.10400	5.20	0.60	2.80	1.00			0.80				10.40	0.90	585	740
16-Apr	Pondrinie 3D	768	35	51-55	36.43200	6.20	0.70	2.30	1.30	1.10						11.60	0.90	859	878
17-Apr	Pondrinie 3D	768	35	56	4.25700	1.00			0.10							1.10	1.00	378	242
18-Apr	Pondrinie 3D	768	35	56-58	5.64300	1.00		0.30	0.10						0.30	1.70	1.00	30	186
19-Apr	Pondrinie 3D	768	35	58-67	42.86700	7.50	1.10	1.30	0.70							10.60	1.00	997	976
20-Apr	Pondrinie 3D	768	35	67-72	31.18500	6.40		1.20	2.00							9.60	1.00	513	465
21-Apr	Pondrinie 3D	768	35	72-77	29.30400	5.70	0.50	0.90	3.30							10.40	1.00	777	878
22-Apr	Pondrinie 3D	768	35	78-82	21.78000	4.70	0.60	0.50	1.40	1.70			0.40	0.70		10.00	1.00	798	853
23-Apr	Pondrinie 3D	768	35	83-88	21.38400	4.50	0.70	0.10	0.70	3.60						9.60	1.00	955	963
24-Apr	Pondrinie 3D	768	35	89-93	17.82000	3.90	0.80	0.10	0.20	4.80						9.80	0.90	890	941
25-Apr	Pondrinie 3D	768	35	94-101	26.43300	5.50	0.70	0.20	1.60	0.90						8.90	0.90	1,214	1,263
26-Apr	Pondrinie 3D	768	35	101-107	23.46300	4.70	0.70	0.10	0.70	4.10						10.30	1.20	1,162	1,162
27-Apr	Pondrinie 3D	768	35	108-115	28.51200	6.60	0.50	0.30	0.10	2.50						10.00	1.00	1,410	1,240
28-Apr	Pondrinie 3D	768	35	116-125	34.84800	6.70	0.60	0.40	0.60	0.50				0.90		9.70	0.80	1,263	1,394
29-Apr	Pondrinie 3D	768	35	126-136	41.58000	6.50	0.70	0.30	0.40	1.70			0.30	0.40		10.30	0.50	1,281	1,221
30-Apr	Pondrinie 3D	768	35	128-144	44.35200	6.60	1.30	0.30	0.10	1.10				0.80	0.30	10.50	0.50	1,231	1,273
KM/REC HR		5.17																	
KM/CHG HR		3.10																	
STNS LAID/CHG HR		98.34																	
MONTHLY TOTAL					685.09200	119.40	13.00	30.20	21.90	22.00		8.10	1.50	3.10	1.50	220.70	19.90	21,704	21,521
PROJECT TOTAL					685.09200	119.40	13.00	30.20	21.90	22.00		8.10	1.50	3.10	1.50	220.70	19.90	21,704	21,521
Brought Forward																			

~ APPENDIX I (b) ~

RECORDING PRODUCTION STATISTICS

MOOMBA BLOCK

APRIL					VIBROSEIS RECORDING PRODUCTION															
Y609					SA97 - MOO EXPLORATION															
							CHARGE HOUR ANALYSIS													
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
2-Apr	Swan Lake SW	120	37.5	HQK	396-548	5.70000														
2-Apr	Swan Lake SW	120	37.5	HQJ	493-381	4.20000	2.50		0.50								3.00			
3-Apr	Swan Lake SW	120	37.5	HQH	200-396	7.35000														
3-Apr	Swan Lake SW	120	37.5	HQW	200-372	6.45000														
3-Apr	Swan Lake SW	120	37.5	HQX	401-201	7.50000	5.30	0.40	1.50	0.30							7.50	0.30		
4-Apr	Swan Lake SW	120	37.5	HQY	200-336	5.10000														
4-Apr	Swan Lake SW	120	37.5	HQY	416-488	2.70000														
4-Apr	Swan Lake SW	120	37.5	HQZ	365-201	6.15000														
4-Apr	Swan Lake SW	120	37.5	HRA	200-364	6.15000														
4-Apr	Swan Lake SW	120	37.5	HQQ	373-201	6.45000	6.50		1.20			0.20				0.20	8.10	0.30		
5-Apr	Swan Lake SW	120	37.5									1.10					1.10			
MONTHLY TOTAL						57.75000	14.30	0.40	3.20	0.30		1.30				0.20	19.70	0.60	3.93	2.93
PROJECT TOTAL						61.05000	15.10	0.40	3.20	0.60		3.00				0.40	22.70	0.60	3.94	2.69
Brought Forward						3.30000	0.80			0.30		1.70				0.20	3.00		4.13	1.10

MARCH					VIBROSEIS RECORDING PRODUCTION															
Y609					SA97 - MOO EXPLORATION															
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
29-Mar	Swan Lake	120	37.5									1.40				0.10	1.50			
30-Mar	Swan Lake	120	37.5									0.30				0.10	0.40			
31-Mar	Swan Lake	120	37.5	HQT	289-201	3.30000	0.80			0.30							1.10			
MONTHLY TOTAL						3.30000	0.80			0.30		1.70				0.20	3.00		4.13	1.10
PROJECT TOTAL						3.30000	0.80			0.30		1.70				0.20	3.00		4.13	1.10
Brought Forward																				

JULY						VIBROSEIS RECORDING PRODUCTION															
Y606							SA97 - MOO/BIG LAKE 3D														
										CHARGE HOUR ANALYSIS											
DATE	PROSPECT	CHNL	GI	SWATH	KM	REC	R/M	S/M	DET	WOS	P/M	T/MOVE	EXP	SPRD	S/BY	S.BON	TOTAL	TRAV	STNS LD	STNS P/U	CONFIG
1-Jul	MOO/Big Lake 3D	758	35	314-321	28.80000	3.40	0.60	0.30	0.10	1.90		3.00		0.30	0.30		9.90	0.80	1,420	1,179	Ortho
2-Jul	MOO/Big Lake 3D	758	35	322-329	28.80000	3.60	0.60	0.20		3.00		3.30		0.20			10.90	0.80	1,280	1,221	Ortho
3-Jul	MOO/Big Lake 3D	758	35	330	3.60000	0.50			0.10			0.60					1.20		50	43	Ortho
3-Jul	MOO/Big Lake 3D	758	35	331-338	54.30400	6.30	1.20	0.50	0.70	0.30							9.00	0.90	756	648	Zig Zag
4-Jul	MOO/Big Lake 3D	758	35	339-346	67.88000	7.50	0.60	0.20		1.50							9.80	0.90	1,022	1,380	Zig Zag
5-Jul	MOO/Big Lake 3D	758	35	347-355	62.79000	6.30	0.30	0.10	0.20	1.10				0.10			8.10	0.60	1,329	1,285	Zig Zag
5-Jul	MOO/Big Lake 3D	758	35	353-355	10.80000	1.10		0.10				1.10					2.30		229	221	Ortho
6-Jul	MOO/Big Lake 3D	758	35	356-365	24.00000	3.00		0.20				3.20			0.20		6.60		594	627	Ortho
6-Jul	MOO/Big Lake 3D	758	35	356-365	39.60000	3.90	0.80	0.20							0.30		5.20	0.40	979	1,035	Zig Zag
7-Jul	MOO/Big Lake 3D	758	35	366-376	43.56000	4.60	0.40	0.10	0.10								5.20	0.40	947	906	Zig Zag
7-Jul	MOO/Big Lake 3D	758	35	366-376	24.40000	2.70		0.10				2.60					5.40		531	507	Ortho
8-Jul	MOO/Big Lake 3D	758	35	376-385	26.00000	2.90	0.60	0.30				2.30			0.40		6.50		680	629	Ortho
8-Jul	MOO/Big Lake 3D	758	35	376-385	31.68000	2.90		0.20									3.10	0.40	828	766	Zig Zag
9-Jul	MOO/Big Lake 3D	758	35	385-391	41.86100	5.00	0.30	0.20	0.30	0.40							6.20	0.50	770	711	Zig Zag
9-Jul	MOO/Big Lake 3D	758	35	385-388	17.60000	2.10						1.70	0.30				4.10		324	299	Ortho
10-Jul	MOO/Big Lake 3D	758	35	391-396	59.96200	6.60	0.60	0.10	0.50	3.20							11.00	0.70	1,062	1,098	Zig Zag
11-Jul	MOO/Big Lake 3D	758	35	397-401	53.74000	6.90	0.70	0.20	1.30	1.90							11.00	0.90	1,079	1,091	Zig Zag
12-Jul	MOO/Big Lake 3D	758	35	402-407	64.48800	7.30		0.10	0.30	2.30					0.30		10.30	1.00	1,035	1,032	Zig Zag
13-Jul	MOO/Big Lake 3D	758	35	408-413	56.70900	5.70	1.30	0.20	0.20	3.30						0.30	11.00	1.10	1,189	1,157	Zig Zag
14-Jul	MOO/Big Lake 3D	758	35	413-418	46.80900	4.50		0.40	0.70	0.70	0.20			0.20		2.80	9.50	0.60	204	583	Zig Zag
15-Jul	MOO/Big Lake 3D	758	35								1.30						1.30				Zig Zag
TOTAL ZIG ZAG					1460.03700	157.70	15.40	10.30	24.00	31.80	3.80	0.10	0.30	13.20	2.00	3.10	261.70	25.30	27,691	27,663	
TOTAL ORTHO					977.60000	121.30	15.10	11.50	12.90	73.10		113.60	1.30	37.70	3.20		389.70	21.00	38,801	38,664	
																			66,492	66,327	
TOTAL KM/REC HR		7.88		Zig Zag	8.43		Ortho	7.17													
TOTAL KM/CHG HR		3.74		Zig Zag	5.58		Ortho	2.51													
TOTAL STNS LAID/CHG HR		102.43		Zig Zag	105.81		Ortho	99.57													
		102.43																			
The 1200 stations picked up after recording was completed are not included in these figures																					
MONTHLY TOTAL					787.38300	86.80	8.00	3.70	4.50	19.60	1.50	17.80	0.30	0.80	1.50	3.10	147.60	10.00	16,308	16,418	
PROJECT TOTAL					2437.63700	279.00	30.50	21.80	36.90	104.90	3.80	113.70	1.60	50.90	5.20	3.10	651.40	46.30	66,723	67,010	
Brought Forward					1650.25400	192.20	22.50	18.10	32.40	85.30	2.30	95.90	1.30	50.10	3.70		503.80	36.30	50,415	50,592	
ZIG ZAG					623.38300	67.50	6.20	2.50	4.30	14.70	1.50			0.30	0.60	3.10	100.70	8.40	11,200	11,692	
ORTHO					164.00000	19.30	1.80	1.20	0.20	4.90		17.80	0.30	0.50	0.90		46.90	1.60	5,108	4,726	
KM/REC HR		8.31		Zig Zag	8.46		Ortho	7.77													
KM/CHG HR		5.33		Zig Zag	6.19		Ortho	3.50													
STNS LAID/CHG HR		110.49		Zig Zag	111.22		Ortho	108.91													

JUNE						VIBROSEIS RECORDING PRODUCTION														
Y606						SA97 - MOO/BIG LAKE 3D														
										CHARGE HOUR ANALYSIS										
DATE	PROSPECT	CHNL	GI	SWATH	KM	REC	R/M	S/M	DET	WOS	P/M	T/MOVE	EXP	SPRD	S/BY	TOTAL	TRAV	STNS LD	STNS P/U	CONFIG
1-Jun	MOO/Big Lake 3D	758	35	125-131	28.00000	3.70	0.60	0.30	0.30			3.10		1.80		9.80	0.40	1,116	1,225	Ortho
2-Jun	MOO/Big Lake 3D	758	35	132-137	21.20000	2.60	0.30	0.30	0.80			2.50		4.50		11.00	0.60	1,008	810	Ortho
3-Jun	MOO/Big Lake 3D	758	35	137-143	24.40000	2.80	0.60	0.30	1.00			3.30		2.60		10.60	0.80	1,008	1,122	Ortho
4-Jun	MOO/Big Lake 3D	758	35	143-151	34.40000	3.80	0.50	0.40	0.30	2.20		3.30		0.60		11.10	0.70	1,230	1,362	Ortho
5-Jun	MOO/Big Lake 3D	758	35	152-158	24.80000	2.50	0.50	0.20	0.20	5.20		2.10				10.70	0.70	1,140	1,146	Ortho
6-Jun	MOO/Big Lake 3D	758	35	158-162	19.20000	2.00		0.30		3.40		1.80				7.50	0.30	656	633	Ortho
6-Jun	MOO/Big Lake 3D	758	35	163-165	13.01100	1.80		0.30		1.10						3.20	0.40	444	429	Zig-Zag
7-Jun	MOO/Big Lake 3D	758	35	165-172	32.24500	3.90	0.60	1.20	1.60			0.10			0.30	7.70	0.40	903	681	Zig-Zag
7-Jun	MOO/Big Lake 3D	758	35	171	3.60000	0.40		0.30	0.20			0.40				1.30	0.30	101	76	Ortho
8-Jun	MOO/Big Lake 3D	758	35	172-178	25.60000	3.10	0.50	0.40	0.40	0.90		3.50		0.30		9.10	0.70	964	1,082	Ortho
9-Jun	MOO/Big Lake 3D	758	35	179-184	21.60000	2.60	0.60	0.30		0.50		2.60		1.10		7.70	0.60	884	968	Ortho
10-Jun	MOO/Big Lake 3D	758	35	184-190	26.40000	3.00	0.50	0.30	0.20	2.50		3.10		0.40		10.00	0.40	1,124	1,106	Ortho
11-Jun	MOO/Big Lake 3D	758	35	191-195	18.00000	2.60		0.30	0.50	1.00		2.70		1.20		8.30	0.40	875	791	Ortho
12-Jun	MOO/Big Lake 3D	758	35	195-198	14.00000	2.30	0.60	0.20	0.40	0.90		2.00	0.40	2.40		9.20	0.30	611	636	Ortho
13-Jun	MOO/Big Lake 3D	758	35	199-202	12.70000	2.40		0.30	1.70	0.60		1.60		4.20		10.80	0.30	577	480	Ortho
14-Jun	MOO/Big Lake 3D	758	35	202-205	15.30000	2.60	0.50	0.20	0.50			2.90		3.20	0.30	10.20	0.30	581	575	Ortho
15-Jun	MOO/Big Lake 3D	758	35	206-210	20.00000	2.60	0.60	0.40	0.30	0.70		2.90		1.90	0.20	9.60	0.30	639	842	Ortho
16-Jun	MOO/Big Lake 3D	758	35	211-216	24.00000	2.90		0.20	0.10	3.20		3.60		0.30		10.30	0.50	1,104	1,127	Ortho
17-Jun	MOO/Big Lake 3D	758	35	217-223	28.00000	3.10	0.50	0.50	0.30	3.20		3.20		0.30		11.10	0.70	1,175	1,034	Ortho
18-Jun	MOO/Big Lake 3D	758	35	224-231	32.00000	3.70	0.40	0.70	0.20	1.40		3.50		0.50		10.40	0.90	1,230	1,308	Ortho
19-Jun	MOO/Big Lake 3D	758	35	232-237	24.00000	2.60	0.30	0.20		2.90		2.20		1.20		9.40	0.90	1,122	1,056	Ortho
20-Jun	MOO/Big Lake 3D	758	35	238-243	24.00000	3.00	1.00	0.30	0.10	1.80		2.40	0.30	1.10	0.20	10.20	1.10	1,074	1,128	Ortho
21-Jun	MOO/Big Lake 3D	758	35	244-246	12.00000	1.30		0.20	0.10	0.80		1.20			0.30	3.90	1.20	308	343	Ortho
21-Jun	MOO/Big Lake 3D	758	35	247-252	28.00200	2.90	0.50	0.30		2.30						6.00		720	801	Zig Zag
22-Jun	MOO/Big Lake 3D	758	35	252-254	14.99000	1.40		0.10	0.20	0.20						1.90	1.20	413	410	Zig Zag
22-Jun	MOO/Big Lake 3D	758	35	255-260	21.60000	2.20	0.40	0.20	0.30	2.60		2.10				7.80		594	591	Ortho
23-Jun	MOO/Big Lake 3D	758	35	261-268	28.80000	3.10	0.60	0.20	0.30	3.30		2.90				10.40	0.90	1,427	1,243	Ortho
24-Jun	MOO/Big Lake 3D	758	35	269-276	26.40000	3.10	0.50	0.10		3.50		2.80		0.10		10.10	0.70	1,120	1,280	Ortho
25-Jun	MOO/Big Lake 3D	758	35	276-283	27.60000	3.90	0.60	0.20	0.30	1.00		3.40		0.60		10.00	0.50	1,260	1,120	Ortho
26-Jun	MOO/Big Lake 3D	758	35	284-290	25.20000	2.80	0.50	0.20		3.40		2.80		0.70		10.40	0.40	1,113	1,120	Ortho
27-Jun	MOO/Big Lake 3D	758	35	291-296	20.40000	2.30	0.40	0.20	0.10	5.00		1.90		0.40		10.30	0.20	827	860	Ortho
28-Jun	MOO/Big Lake 3D	758	35	296-301	16.40000	3.40		0.30	0.50	2.90		2.10		0.30	0.30	9.80	0.10	800	800	Ortho
29-Jun	MOO/Big Lake 3D	758	35	301-306	20.80000	4.20	0.30	0.20	0.50	1.10		3.00		1.10		10.40	0.30	960	818	Ortho
30-Jun	MOO/Big Lake 3D	758	35	307-313	25.20000	3.60		0.30	0.50	2.40		2.80		0.80		10.40	0.40	980	1,262	Ortho
MONTHLY TOTAL					753.84800	94.20	12.40	10.40	11.90	60.00		77.80	0.70	31.60	1.60	300.60	17.90	30,088	30,265	
PROJECT TOTAL					1650.25400	192.20	22.50	18.10	32.40	85.30	2.30	95.90	1.30	50.10	3.70	503.80	36.30	50,415	49,909	
Brought Forward					896.40600	98.00	10.10	7.70	20.50	25.30	2.30	18.10	0.60	18.50	2.10	203.20	18.40	20,327	19,644	
TOTAL ZIG ZAG					88.24800	10.00	1.10	1.90	1.80	3.60		0.10			0.30	18.80	2.00	2,480	2,321	
TOTAL ORTHO					665.60000	84.20	11.30	8.50	10.10	56.40		77.70	0.70	31.60	1.30	281.80	15.90	27,608	27,944	
TOTAL KM/REC HR		7.07		Zig Zag	7.95		Ortho	6.97												
TOTAL KM/CHG HR		2.51		Zig Zag	4.69		Ortho	2.36												
TOTAL STNS LAID/CHG HR		100.09		Zig Zag	131.91		Ortho	97.97												

MAY						VIBROSEIS RECORDING PRODUCTION														
Y606						SA97 - MOO/BIG LAKE 3D														
						CHARGE HOUR ANALYSIS														
DATE	PROSPECT	CHNL	GI	SWATH	KM	REC	R/M	S/M	DET	WOS	P/M	T/MOVE	EXP	SPRD	S/BY	TOTAL	TRAV	STNS LD	STNS P/U	CONFIG
7-May	MOO/Big Lake 3D	758	35								0.80					0.80				
9-May	MOO/Big Lake 3D	758	35								1.10					1.10		330		
10-May	MOO/Big Lake 3D	758	35															645		
11-May	MOO/Big Lake 3D	758	35	1-2	14.28400	1.60		0.10	0.50		0.40		0.30	1.30		4.20	0.80	745		Z-Z
12-May	MOO/Big Lake 3D	758	35	2-6	50.20400	5.00		0.20	1.30	1.90				0.10		8.50	1.20	398	542	Z-Z
13-May	MOO/Big Lake 3D	758	35	7-9	32.24400	3.50	0.90	0.10	1.40	2.10				0.30		8.30	1.30	796	652	Z-Z
14-May	MOO/Big Lake 3D	758	35	10-14	53.74000	5.70		0.10	1.20	2.20						9.20	1.30	878	934	Z-Z
15-May	MOO/Big Lake 3D	758	35	15-20	47.51800	5.10	1.00	0.30	0.90	0.10				0.50		7.90	1.10	978	1,056	Z-Z
16-May	MOO/Big Lake 3D	758	35	21-25	33.37600	3.50	0.80	0.20	0.40					2.60	0.50	8.00	1.00	881	755	Z-Z
17-May	MOO/Big Lake 3D	758	35	25-32	54.87200	5.70	0.80	0.30	0.40	0.70				2.70	0.30	10.90	1.00	906	1,057	Z-Z
18-May	MOO/Big Lake 3D	758	35	33-38	44.12400	5.50	0.30	0.30	1.20					1.70		9.00	0.80	1,124	984	Z-Z
19-May	MOO/Big Lake 3D	758	35	39-45	51.47800	5.70	0.70	0.40	0.60	0.30				0.90		8.60	0.80	875	1,130	Z-Z
20-May	MOO/Big Lake 3D	758	35	46-52	61.66000	6.60	0.70	0.60	1.70					0.60		10.20	0.80	1,124	1,026	Z-Z
21-May	MOO/Big Lake 3D	758	35	52-59	65.05400	6.30	0.50	0.50	1.40	0.30				0.90		9.90	0.80	1,175	1,152	Z-Z
22-May	MOO/Big Lake 3D	758	35	60-65	54.30600	5.90	0.50	0.50	1.00	2.90				0.10		10.90	0.80	1,026	1,119	Z-Z
23-May	MOO/Big Lake 3D	758	35	66-70	45.25500	4.90		0.70	2.70	2.20				0.20		10.70	0.80	1,074	915	Z-Z
24-May	MOO/Big Lake 3D	758	35	71-76	54.30600	6.10	1.40	0.70	1.20	0.10				0.10	0.30	9.90	0.90	1,026	1,032	Z-Z
25-May	MOO/Big Lake 3D	758	35	77-83	63.35700	6.60	0.50	0.50	1.90	0.70						10.20	1.10	1,005	914	Z-Z
26-May	MOO/Big Lake 3D	758	35	84-87	22.62800	2.50		0.40	0.10					0.90		3.90	0.40	387	382	Z-Z
26-May	MOO/Big Lake 3D	758	35	88-92	17.20000	1.70		0.40	0.20	1.80		1.90				6.00	0.40	596	588	Ortho
27-May	MOO/Big Lake 3D	758	35	92-98	25.20000	2.90	0.50	0.60	0.70	1.90		3.60		0.60		10.80	0.80	1,004	1,051	Ortho
28-May	MOO/Big Lake 3D	758	35	98-105	29.60000	3.40	0.40	0.10	0.40	2.70		3.10		0.20		10.30	0.60	1,238	1,235	Ortho
29-May	MOO/Big Lake 3D	758	35	106-113	29.20000	3.60			0.30	2.50		3.60	0.30	1.50		11.80	0.70	1,184	1,092	Ortho
30-May	MOO/Big Lake 3D	758	35	113-119	24.00000	3.20	0.80	0.30	0.40	1.50		3.20		1.50		10.90	0.60	1,064	1,080	Ortho
31-May	MOO/Big Lake 3D	758	35	119-124	22.80000	3.00	0.30	0.40	0.60	1.40		2.70		1.80	0.30	10.50	0.40	1,068	948	Ortho
MONTHLY TOTAL					896.40600	98.00	10.10	7.70	20.50	25.30	2.30	18.10	0.60	18.50	1.40	202.50	18.40	21,527	19,644	
PROJECT TOTAL					896.40600	98.00	10.10	7.70	20.50	25.30	2.30	18.10	0.60	18.50	1.40	202.50	18.40	21,527	19,644	
Brought Forward																				

~ APPENDIX I (c) ~

RECORDING PRODUCTION STATISTICS

NAPPACOONGEE-MURTEREE BLOCK

SEPTEMBER					VIBROSEIS RECORDING PRODUCTION															
Y302					SA97 - NM EXPLORATION															
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
9-Sep	Corkwood Nose	120	37.5									0.80					0.80			
10-Sep	Corkwood Nose	120	37.5	HWX	721-350	13.91250	3.70			0.10		0.70				0.50	5.00	0.30		
11-Sep	Corkwood Nose	120	37.5	HWX	350-201	5.58750														
11-Sep	Corkwood Nose	120	37.5	HWT	200-720	19.50000	6.70	0.50	0.80						0.40	0.30	8.70	0.50		
11-Sep	Corkwood Nose	360	37.5	HWW	721-568	5.73750	1.50										1.50			
12-Sep	Corkwood Nose	360	37.5	HWW	568-201	13.76250	3.90	0.80		0.20							4.90	0.30		
TOTAL: 360 CHANNEL, 37.5 GI						19.50000	5.40	0.80		0.20							6.40	0.30	3.15	3.05
TOTAL - 120 CHANNEL, 37.5 GI						39.00000	10.40	0.50	0.80	0.10		1.50			0.40	0.80	14.50	0.80	3.58	2.69
MONTHLY TOTAL						58.50000	15.80	1.30	0.80	0.30		1.50			0.40	0.80	20.90	1.10	3.42	2.80
PROJECT TOTAL						58.50000	15.80	1.30	0.80	0.30		1.50			0.40	0.80	20.90	1.10	3.42	2.80
Brought Forward																				

~ APPENDIX I (d) ~

RECORDING PRODUCTION STATISTICS

PATCHAWARRA CENTRAL BLOCK

FEBRUARY					VIBROSEIS RECORDING PRODUCTION															
Y602					SA97 - PC EXPLORATION															
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	S/DWN	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
15-Feb	PUP Detail	120	37.5									1.60					1.60			
16-Feb	PUP Detail	120	37.5									1.50					1.50			
17-Feb	PUP Detail	120	37.5									2.20					2.20			
18-Feb	PUP Detail	120	37.5	HPX	529-201	12.30000														
18-Feb	PUP Detail	120	37.5	HPWX	664-973	11.58750	6.90	0.60	1.20	0.70		2.00		0.30		0.50	12.20	0.80		
19-Feb	PUP Detail	120	37.5	HPT	200-668	17.55000														
19-Feb	PUP Detail	120	37.5	HPS	657-335	12.07500	7.50	1.10	1.10	0.30							10.00	1.10		
20-Feb	PUP Detail	120	37.5	HPS	335-201	5.02500	1.20									0.40	1.60	0.60		
MONTHLY TOTAL						58.53750	15.60	1.70	2.30	1.00		7.30		0.30		0.90	29.10	2.50	3.38	2.01
PROJECT TOTAL						126.00000	32.50	3.50	6.40	1.60		9.00		0.30		1.50	54.80	3.10	3.50	2.30
Brought Forward						67.46250	16.90	1.80	4.10	0.60		1.70				0.60	25.70	0.60	3.61	2.63

SEPTEMBER					VIBROSEIS RECORDING PRODUCTION															
Y602					SA97 - PC EXPLORATION															
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
6-Sep	WL43	120	37.5	HRC	369-201	6.30000														
6-Sep	WL43	120	37.5	HRB	361-201	6.00000	2.90		0.40	0.20		1.00				0.60	5.10			
6-Sep	PUP Detail	120	37.5	HPR	377-266	4.16250	1.10	0.30				0.20					1.60			
7-Sep	PUP Detail	120	37.5	HPR	266-201	2.43750														
7-Sep	PUP Detail	120	37.5	HPQ	200-316	4.35000														
7-Sep	PUP Detail	120	37.5	HPZ	645-521	4.65000	2.90	0.10	1.90								4.90	0.40		
8-Sep	PUP Detail	120	37.5	HPY	480-964	18.15000														
8-Sep	PUP Detail	120	37.5	HPW	664-545	4.46250	5.70	0.60	1.30	0.10							7.70			
9-Sep	PUP Detail	120	37.5	HPW	545-309	8.85000														
9-Sep	PUP Detail	120	37.5	HPP	200-416	8.10000	4.30	0.80	0.50	0.30							5.90	0.20		
10-Sep	PUP Detail	120	37.5									0.50					0.50			
TOTAL WL 43						12.30000	2.90		0.40	0.20		1.00				0.60	5.10		4.24	2.41
TOTAL PUP DETAIL						55.16250	14.00	1.80	3.70	0.40		0.70					20.60	0.60	3.49	2.68
MONTHLY TOTAL						67.46250	16.90	1.80	4.10	0.60		1.70				0.60	25.70	0.60	3.61	2.63
PROJECT TOTAL						67.46250	16.90	1.80	4.10	0.60		1.70				0.60	25.70	0.60	3.61	2.63
Brought Forward																				

~ APPENDIX I (e) ~

RECORDING PRODUCTION STATISTICS

PATCHAWARRA EAST BLOCK

JANUARY					VIBROSEIS RECORDING PRODUCTION															
Y605						SA97 - PE EXPLORATION														
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
30-Jan	Ellar	120	37.5	HZA	200-289	3.33750	0.90	0.60				0.50					2.00	0.50		
31-Jan	Ellar	120	37.5	HZA	289-520	8.66250														
31-Jan	Ellar	120	37.5	HZB	485-201	10.65000	5.00	0.50	0.60	0.50						0.30	6.90	0.30		
MONTHLY TOTAL						22.65000	5.90	1.10	0.60	0.50		0.50				0.30	8.90	0.80	3.24	2.54
PROJECT TOTAL						683.77500	184.50	27.00	35.80	19.70	4.20	12.40	0.20	2.00		5.30	291.10	31.20	3.23	2.35
Brought Forward						661.12500	178.60	25.90	35.20	19.20	4.20	11.90	0.20	2.00		5.00	282.20	30.40	3.23	2.34

OCTOBER					VIBROSEIS RECORDING PRODUCTION															
Y605					SA97 - PE EXPLORATION															
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
20-Oct	Tooroo	120	37.5	HYX	413-201	7.95000	2.10					4.90					7.00			
21-Oct	Tooroo	120	37.5	HYY	493-201	10.95000														
21-Oct	Tooroo	120	37.5	HYT	200-400	7.50000														
21-Oct	Tooroo	120	37.5	HYW	389-280	4.08750	5.80	0.30	1.10	0.40						0.40	8.00	0.50		
22-Oct	Tooroo	120	37.5	HYW	280-201	2.96250														
22-Oct	Tooroo	120	37.5	HYZ	200-508	11.55000	3.80		0.80								4.60	0.50		
22-Oct	Cuttapirrie Terrace	120	37.5	HZC	200-452	9.45000	2.50					3.20					5.70			
23-Oct	Cuttapirrie Terrace	120	37.5	HZF	200-548	13.05000														
23-Oct	Cuttapirrie Terrace	120	37.5	HZE	513-201	11.70000														
23-Oct	Cuttapirrie Terrace	120	37.5	HZD	200-280	3.00000	7.20	0.70	1.60	0.60				0.30		0.20	10.60	0.30		
24-Oct	Cuttapirrie Terrace	120	37.5	HZD	280-480	7.50000	2.00	0.20		0.20							2.40	0.20		
TOTAL - TOOROO						45.00000	11.70	0.30	1.90	0.40		4.90				0.40	19.60	1.00	3.75	2.30
TOTAL - CUTTAPIRRIE TERRACE						44.70000	11.70	0.90	1.60	0.80		3.20		0.30		0.20	18.70	0.50	3.55	2.39
MONTHLY TOTAL						89.70000	23.40	1.20	3.50	1.20		8.10		0.30		0.60	38.30	1.50	3.65	2.34
PROJECT TOTAL						661.12500	178.60	25.90	35.20	19.20	4.20	11.90	0.20	2.00		5.00	282.20	30.40	3.23	2.34
Brought Forward						571.42500	155.20	24.70	31.70	18.00	4.20	3.80	0.20	1.70		4.40	243.90	28.90	3.18	2.34

MARCH					VIBROSEIS RECORDING PRODUCTION															
Y605					SA97 - PE EXPLORATION															
											CHARGE HOUR ANALYSIS									
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	WOS	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
	Brought Forward					315.48750	85.70	12.10	16.90	13.20	2.00	1.00		1.60		1.70	134.20	15.90		
25-Mar	Cuttapirrie Regional	120	37.5	HLP	201-587	14.47500	5.10	1.50	0.50	1.70							8.80	1.80		
26-Mar	Cuttapirrie Regional	120	37.5	HLP	587-868	10.53750	2.60	0.40			2.20		0.20				5.40	0.80		
26-Mar	Deramookoo	120	37.5	HPC	577-201	14.10000	4.20	0.70	1.00								5.90	0.80		
27-Mar	Deramookoo	120	37.5	HPF	417-201	8.10000	2.30										2.30	0.80		
27-Mar	Cuttapirrie Regional	120	37.5	HLM	200-650	16.87500	4.60	1.50	1.30	0.40						0.30	8.10	0.30		
28-Mar	Cuttapirrie Regional	120	37.5	HLM	650-732	3.07500														
28-Mar	Cuttapirrie Regional	120	37.5	HLQ	200-708	19.05000	6.00	0.90	1.50	0.40						0.60	9.40	1.30		
29-Mar	Deramookoo	120	37.5	HPJ	417-201	8.10000														
29-Mar	Deramookoo	120	37.5	HPK	200-360	6.00000	3.60		2.70	0.70						0.70	7.70	0.90		
TOTAL - DISTAL GAS						15.60000	3.80	1.20		0.20						0.30	5.50	0.40	3.12	2.84
TOTAL - PROXIMAL GAS						177.30000	47.20	7.30	9.90	8.10	2.00			0.20		0.60	75.30	8.20	3.25	2.35
TOTAL - CUTTAPIRRIE REGIONAL						142.76250	40.50	7.90	7.20	6.30	2.20	0.70	0.20	1.00		1.70	67.70	8.90	2.95	2.11
TOTAL - DERAMOOKOO						80.13750	22.60	0.70	6.80	1.80		0.30		0.40		0.70	33.30	5.10	3.44	2.41
MONTHLY TOTAL						415.80000	114.10	17.10	23.90	16.40	4.20	1.00	0.20	1.60		3.30	181.80	22.60	3.17	2.29
PROJECT TOTAL						571.42500	155.20	24.70	31.70	18.00	4.20	3.80	0.20	1.70		4.40	243.90	28.90	3.18	2.34
Brought Forward						155.62500	41.10	7.60	7.80	1.60		2.80		0.10		1.10	62.10	6.30	3.20	2.51

MARCH					VIBROSEIS RECORDING PRODUCTION															
Y605					SA97 - PE EXPLORATION															
											CHARGE HOUR ANALYSIS									
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
1-Mar	Distal Gas	120	37.5	HMR	617-201	15.60000	3.80	1.20		0.20						0.30	5.50	0.40		
12-Mar	Proximal Gas	120	37.5	HHY	917-781	5.10000	1.20	0.70		0.20							2.10	0.70		
13-Mar	Proximal Gas	120	37.5	HHY	781-205	21.60000														
13-Mar	Proximal Gas	120	37.5	HLY	200-330	4.87500	7.00	2.30	0.90	1.00	0.10					0.30	11.60	1.10		
14-Mar	Proximal Gas	120	37.5	HLY	330-652	12.07500														
14-Mar	Proximal Gas	120	37.5	HMA	200-476	10.35000														
14-Mar	Proximal Gas	120	37.5	HMF	200-410	7.87500	8.30	0.30	1.90	0.70						0.30	11.50	0.60		
15-Mar	Proximal Gas	120	37.5	HMF	410-608	7.42500														
15-Mar	Proximal Gas	120	37.5	HME	465-201	9.90000														
15-Mar	Proximal Gas	120	37.5	HMB	721-478	9.11250	6.70		1.20	0.90	1.90			0.20			10.90	1.00		
16-Mar	Proximal Gas	120	37.5	HMB	478-349	4.83750														
16-Mar	Proximal Gas	120	37.5	HMC	316-716	15.00000														
16-Mar	Proximal Gas	120	37.5	HMD	200-299	3.71250	6.60	1.00	1.80	0.60							10.00	1.00		
17-Mar	Proximal Gas	120	37.5	HMD	299-480	6.78750														
17-Mar	Proximal Gas	120	37.5	HLX	661-314	13.01250	5.10	1.30	1.00	3.20							10.60	1.00		
18-Mar	Proximal Gas	120	37.5	HLX	314-205	4.08750														
18-Mar	Proximal Gas	120	37.5	HLZ	200-492	10.95000														
18-Mar	Proximal Gas	120	37.5	HLW	200-232	1.20000	4.30	0.30	3.10	0.80							8.50	1.30		
19-Mar	Proximal Gas	120	37.5	HLW	232-1016	29.40000	8.00	1.40		0.70							10.10	1.50		
20-Mar	Cuttapirrie Regional	120	37.5	HLT	753-201	20.70000						0.70					0.70			
20-Mar	Cuttapirrie Regional	120	37.5	HLS	200-300	3.75000	6.60	1.00	0.50	1.50						0.30	9.90	1.70		
21-Mar	Cuttapirrie Regional	120	37.5	HLS	300-560	9.75000														
21-Mar	Cuttapirrie Regional	120	37.5	HLR	801-388	15.48750	7.00	2.10	1.10	1.40							11.60	1.20		
22-Mar	Cuttapirrie Regional	120	37.5	HLR	388-201	7.01250														
22-Mar	Cuttapirrie Regional	120	37.5	HLN	1001-634	13.76250	6.30		2.30	0.90				1.00		0.50	11.00	0.90		
22-Mar	Deramookoo													0.30			0.30			
23-Mar	Cuttapirrie Regional	120	37.5	HLN	634-413	8.28750	2.30	0.50									2.80	0.90		
23-Mar	Deramookoo	120	37.5	HPB	200-388	7.05000														
23-Mar	Deramookoo	120	37.5	HPH	215-416	7.53750														
23-Mar	Deramookoo	120	37.5	HPD	361-252	4.08750	5.20		1.30	0.90		0.30					7.70	0.80		
24-Mar	Deramookoo	120	37.5	HPD	252-201	1.91250														
24-Mar	Deramookoo	120	37.5	HPE	441-201	9.00000														
24-Mar	Deramookoo	120	37.5	HPA	200-388	7.05000														
24-Mar	Deramookoo	120	37.5	HPG	200-392	7.20000	7.30		1.80	0.20				0.10			9.40	1.80		
Carried Forward						315.48750	85.70	12.10	16.90	13.20	2.00	1.00		1.60		1.70	134.20	15.90	3.23	2.35
PROJECT TOTAL																				
Brought Forward																				

FEBRUARY					VIBROSEIS RECORDING PRODUCTION															
Y605						SA97 - PE EXPLORATION														
							CHARGE HOUR ANALYSIS													
DATE	PROSPECT	CHN	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
23-Feb	Distal Gas	120	37.5	HMN	605-303	11.32500	2.90	0.90		0.10		2.80				0.20	6.90	0.70		
24-Feb	Distal Gas	120	37.5	HMN	303-201	3.82500														
24-Feb	Distal Gas	120	37.5	HMQ	200-680	18.00000														
24-Feb	Distal Gas	120	37.5	HMP	541-396	5.43750	7.40	0.90	2.00	0.30						0.20	10.80	1.30		
25-Feb	Distal Gas	120	37.5	HMP	396-201	7.31250														
25-Feb	Distal Gas	120	37.5	HMM	226-720	18.52500														
25-Feb	Distal Gas	120	37.5	HML	641-561	3.00000	7.60	1.30	1.70	0.30				0.10			11.00	1.30		
26-Feb	Distal Gas	120	37.5	HML	561-201	13.50000														
26-Feb	Distal Gas	120	37.5	HMJ	200-528	12.30000														
26-Feb	Distal Gas	120	37.5	HMK	361-278	3.11250	7.50	1.30	1.60	0.30						0.70	11.40	1.10		
27-Feb	Distal Gas	120	37.5	HMK	278-201	2.88750														
27-Feb	Distal Gas	120	37.5	HMH	200-348	5.55000														
27-Feb	Distal Gas	120	37.5	HMT	681-201	18.00000														
27-Feb	Distal Gas	120	37.5	HMS	200-271	2.66250	7.70	0.80	1.70								10.20	1.00		
28-Feb	Distal Gas	120	37.5	HMS	271-680	15.33750														
28-Feb	Distal Gas	120	37.5	HMR	1013-617	14.85000	8.00	2.40	0.80	0.60							11.80	0.90		
MONTHLY TOTAL						155.62500	41.10	7.60	7.80	1.60		2.80		0.10		1.10	62.10	6.30	3.20	2.51
PROJECT TOTAL						155.62500	41.10	7.60	7.80	1.60		2.80		0.10		1.10	62.10	6.30	3.20	2.51
Brought Forward																				

FEBRUARY
Y300

VIBROSEIS RECORDING PRODUCTION
SA97 - PE EXPLORATION (WESTERN PROSPECTS)

							CHARGE HOUR ANALYSIS													
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	S/DWN	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
1-Feb	Western Prospects	120	37.5	HGB	266-206	2.25000														
1-Feb	Western Prospects	120	37.5	HFX	200-364	6.15000														
1-Feb	Western Prospects	120	37.5	HFW	365-201	6.15000														
1-Feb	Western Prospects	120	37.5	GPE	423-599	6.60000	5.80		1.80	0.70					3.20		11.50	1.00		
2-Feb	Western Prospects	120	37.5	GPE	200-423	8.36250	2.50			0.50					3.60		6.60	1.30		
3-Feb	Western Prospects	120	37.5	GPE	599-844	9.18750														
3-Feb	Western Prospects	120	37.5	HES	633-501	4.95000	5.30	1.90	0.50	0.50					0.80	1.00	10.00	1.30		
4-Feb	Western Prospects	120	37.5	HES	501-234	10.01250	2.80	0.70		1.00					6.00		10.50	1.60		
7-Feb	Western Prospects	120	37.5	HES	234-201	1.23750	0.40		1.00	1.00					1.00		3.40	1.80		
10-Feb	Western Prospects	120	37.5	GPF	200-512	11.70000	4.10		1.10	1.10					2.90		9.20	1.20		
11-Feb	Western Prospects	120	37.5	HGE	204-520	11.85000	3.70			0.20					3.50		7.40	0.90		
12-Feb	Western Prospects	120	37.5	HGE	520-644	4.65000														
12-Feb	Western Prospects	120	37.5	HGA	764-365	14.96250	5.20	1.30	2.60	0.70					1.20		11.00	1.20		
13-Feb	Western Prospects	120	37.5	GNX	547-860	11.73750														
13-Feb	Western Prospects	120	37.5	GNY	616-482	5.02500														
13-Feb	Western Prospects	120	37.5	GNZ	460-598	5.17500	6.00	1.10	2.90	0.70					0.10		10.80	1.20		
14-Feb	Western Prospects	120	37.5	GNZ	598-747	5.58750														
14-Feb	Western Prospects	120	37.5	HEP	211-545	12.52500	5.00	0.80	2.00	1.60					0.40	0.60	10.40	1.10		
15-Feb	Western Prospects	120	37.5	HEE	725-407	11.92500	3.20	0.40		2.00						0.30	5.90	0.30		
16-Feb	Western Prospects	120	37.5	HEE	407-200	7.76250	1.80		0.60	3.40					0.60	0.80	7.20	1.60		
17-Feb	Western Prospects	120	37.5	GNT	671-497	6.52500														
17-Feb	Western Prospects	120	37.5	GNW	448-596	5.55000	3.00		0.60	0.20						0.50	4.30	1.60		
MONTHLY TOTAL						169.87500	48.80	6.20	13.10	13.60					23.30	3.20	108.20	16.10	3.09	1.57
PROJECT TOTAL						507.63750	161.80	18.00	36.10	41.00		12.40		1.10	49.40	15.20	335.00	33.10	2.82	1.52
Brought Forward						337.76250	113.00	11.80	23.00	27.40		12.40		1.10	26.10	12.00	226.80	17.00	5.66	3.49

JANUARY

Y300

VIBROSEIS RECORDING PRODUCTION

SA97 - PE EXPLORATION (WESTERN PROSPECTS)

DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	CHARGE HOUR ANALYSIS REC	R/M	L/M	DET	F DET	P/M	S/DWN	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
28-Jan	Western Prospects	120	37.5	HFY	704-567	5.13750	1.50		0.60	0.30				0.30		0.30	3.00	0.30		
29-Jan	Western Prospects	120	37.5	HFY	567-208	13.46250														
29-Jan	Western Prospects	120	37.5	HEW	701-590	4.16250	5.10	1.30	0.80							0.80	8.00	0.70		
30-Jan	Western Prospects	120	37.5	HEW	590-480	4.12500														
30-Jan	Western Prospects	120	37.5	HEZ	541-768	8.51250	3.80	0.30	0.80	0.50							5.40	0.30		
31-Jan	Western Prospects	120	37.50	HGB	480-266	8.02500	2.10	0.40				1.20			1.00		4.70	0.30		
MONTHLY TOTAL						43.42500	12.50	2.00	2.20	0.80		1.20		0.30	1.00	1.10	21.10	1.60	2.99	2.06
PROJECT TOTAL						337.76250	113.00	11.80	23.00	27.40		12.40		1.10	26.10	12.00	226.80	17.00	5.66483	3.48806
Brought Forward						294.33750	100.50	9.80	20.80	26.60		11.20		0.80	25.10	10.90	205.70	15.40	2.67	1.43

DECEMBER

Y300

VIBROSEIS RECORDING PRODUCTION

SA97 - PE EXPLORATION (WESTERN PROSPECTS)

								CHARGE HOUR ANALYSIS											
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
	Brought Forward					202.68750	73.30	6.00	14.00	14.40		11.20		0.50	18.60	9.30	147.30	11.60	2.56	1.38
16-Dec	Western Prospects	120	37.5	HFT	459-680	8.28750														
16-Dec	Western Prospects	120	37.5	GNS	958-1116	5.92500	3.70		2.20	1.20					4.50		11.60	0.80		
17-Dec	Western Prospects	120	37.5	GPG	689-201	18.30000														
17-Dec	Western Prospects	120	37.5	HGK	557-597	1.50000	6.00	0.80	0.70	2.80					0.20	0.70	11.20	0.80		
18-Dec	Western Prospects	120	37.5	HGK	597-817	8.25000														
18-Dec	Western Prospects	120	37.5	HGJ	205-388	6.86250														
18-Dec	Western Prospects	120	37.5	HGG	509-415	3.52500	4.50	1.20	1.50	3.50					0.50	0.50	11.70	0.50		
19-Dec	Western Prospects	120	37.5	HGG	415-201	8.02500														
19-Dec	Western Prospects	120	37.5	GPH	393-201	7.20000	4.70	0.20	1.50	3.50					1.30	0.40	11.60	0.30		
20-Dec	Western Prospects	120	37.5	GNS	958-324	23.77500	8.30	1.60	0.90	1.20				0.30			12.30	1.40		
MONTHLY TOTAL						294.33750	100.50	9.80	20.80	26.60		11.20		0.80	25.10	10.90	205.70	15.40	2.67	1.43
PROJECT TOTAL						294.33750	100.50	9.80	20.80	26.60		11.20		0.80	25.10	10.90	205.70	15.40	2.67	1.43
Brought Forward																				

DECEMBER
Y300

VIBROSEIS RECORDING PRODUCTION
SA97 - PE EXPLORATION (WESTERN PROSPECTS)

CHARGE HOUR ANALYSIS

DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
1-Dec	Western Prospects	120	37.5									8.70					8.70			
2-Dec	Western Prospects	120	37.5									2.50				6.00	8.50			
3-Dec	Western Prospects	120	37.5	HFE	361-201	6.00000														
3-Dec	Western Prospects	120	37.5	HEX	200-400	7.50000														
3-Dec	Western Prospects	120	37.5	HEY	433-307	4.72500	5.10		1.30	2.10					2.20	0.90	11.60	0.40		
4-Dec	Western Prospects	120	37.5	HEY	307-201	3.97500														
4-Dec	Western Prospects	120	37.5	HEW	200-480	10.50000	4.20		2.00	2.10				0.20	3.20	0.40	12.10	0.70		
5-Dec	Western Prospects	120	37.5	HEZ	541-272	10.08750	5.10	1.00		1.00					1.20		8.30	0.50		
6-Dec	Western Prospects	120	37.5	HEZ	272-200	2.70000														
6-Dec	Western Prospects	120	37.5	HFR	916-664	9.45000	3.30	1.30	2.40	1.10							8.10	0.60		
7-Dec	Western Prospects	120	37.5	HFR	664-206	17.17500														
7-Dec	Western Prospects	120	37.5	HFQ	544-271	10.23750	7.80	1.10	0.80	1.20					1.10		12.00	1.00		
8-Dec	Western Prospects	120	37.5	HFQ	271-201	2.62500														
8-Dec	Western Prospects	120	37.5	HFP	200-440	9.00000														
8-Dec	Western Prospects	120	37.5	HEN	445-200	9.18750														
8-Dec	Western Prospects	120	37.5	HEL	200-230	1.12500	6.80	0.30	2.20	1.40							10.70	1.30		
9-Dec	Western Prospects	120	37.5	HEL	230-484	9.52500														
9-Dec	Western Prospects	120	37.5	HFT	200-459	9.71250	5.50		2.20	1.20					0.80	0.20	9.90	1.40		
10-Dec	Western Prospects	120	37.5	HFK	200-524	12.15000	3.40		0.60	0.90					3.60	0.60	9.10	1.20		
11-Dec	Western Prospects	120	37.5	HFH	200-367	6.26250														
11-Dec	Western Prospects	120	37.5	HFG	200-347	5.51250	5.90		0.50	0.60				0.30	3.60		10.90	0.70		
12-Dec	Western Prospects	120	37.5	HFG	347-544	7.38750														
12-Dec	Western Prospects	120	37.5	HGH	200-408	7.80000														
12-Dec	Western Prospects	120	37.5	HFF	688-650	1.42500	8.00	0.70	1.30								10.00	1.00		
13-Dec	Western Prospects	120	37.5	HFF	650-380	10.12500	5.00	1.00							2.90	0.90	9.80	1.30		
14-Dec	Western Prospects	120	37.5	HFF	380-200	6.75000														
14-Dec	Western Prospects	120	37.5	HFAD	158-282	4.65000	5.40		0.70	0.40							6.50	0.50		
15-Dec	Western Prospects	120	37.5	HFC	200-656	17.10000	7.80	0.60		2.40						0.30	11.10	1.00		
	Dual Lines																			
10-Dec	Western Prospects	120	37.5	HFJD	686-822	5.10000														
15-Dec	Western Prospects	120	37.5	HFBD	208-332	4.65000														
	Carried Forward																			
MONTHLY TOTAL						202.68750	73.30	6.00	14.00	14.40		11.20		0.50	18.60	9.30	147.30	11.60	2.56	1.38
PROJECT TOTAL																				
Brought Forward																				

~ APPENDIX I (f) ~

RECORDING PRODUCTION STATISTICS

PATCHAWARRA SOUTHWEST BLOCK

SEPTEMBER					VIBROSEIS RECORDING PRODUCTION															
Y604					SA97 - PSW EXPLORATION															
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
1-Sep	East Central Gas	120	37.5	HRE	315-476	6.03750														
1-Sep	East Central Gas	120	37.5	HRD	200-436	8.85000	4.40		1.70	0.30							6.40			
2-Sep	East Central Gas	120	37.5	HRG	557-201	13.35000														
2-Sep	East Central Gas	120	37.5	HRH	200-632	16.20000														
2-Sep	East Central Gas	120	37.5	HRJ	453-391	2.32500	8.60	0.90	0.80	0.60							10.90	0.30		
3-Sep	East Central Gas	120	37.5	HRJ	391-201	7.12500														
3-Sep	East Central Gas	120	37.5	HRK	200-524	12.15000														
3-Sep	East Central Gas	120	37.5	HRL	689-391	11.17500	7.90	0.80	1.20	0.80							10.70	0.30		
4-Sep	East Central Gas	120	37.5	HRL	391-201	7.12500														
4-Sep	East Central Gas	120	37.5	HRM	200-636	16.35000														
4-Sep	East Central Gas	120	37.5	HRN	621-489	4.95000	8.00	1.50	1.00	0.40							10.90	0.50		
5-Sep	East Central Gas	120	37.5	HRN	489-201	10.80000														
5-Sep	East Central Gas	120	37.5	HRP	200-465	9.93750	6.10	0.60	0.50	0.60				2.70			10.50			
6-Sep	East Central Gas	120	37.5	HRP	465-620	5.81250	1.70	0.30								0.30	2.30	0.30		
6-Sep	PUP Detail	120	37.5	HPR	565-377	7.05000	1.80					0.50					2.30			
7-Sep	PUP Detail	120	37.5	HPQ	316-540	8.40000														
7-Sep	PUP Detail	120	37.5	HPZ	521-201	12.00000	5.10	1.30		0.30							6.70			
8-Sep	PUP Detail	120	37.5	HPY	200-480	10.50000	2.60	0.70									3.30	0.40		
9-Sep	PUP Detail	120	37.5	HPW	309-201	4.05000														
9-Sep	PUP Detail	120	37.5	HPP	416-680	9.90000	3.40	0.50									3.90			
10-Sep	PUP Detail	120	37.5									4.50					4.50			
TOTAL EAST CENTRAL GAS						132.18750	36.70	4.10	5.20	2.70				2.70		0.30	51.70	1.40	3.24	2.56
TOTAL PUP DETAIL						51.90000	12.90	2.50		0.30		5.00					20.70	0.40	3.37	2.51
MONTHLY TOTAL						184.08750	49.60	6.60	5.20	3.00		5.00		2.70		0.30	72.40	1.80	3.28	2.54
PROJECT TOTAL						649.05000	171.40	16.30	26.60	6.70		9.50		3.00	0.20	2.20	235.90	10.50	3.46	4.00
Brought Forward						464.96250	121.80	9.70	21.40	3.70		4.50		0.30	0.20	1.90	163.50	8.70	3.54	2.84

AUGUST					VIBROSEIS RECORDING PRODUCTION															
Y604					SA97 - PSW EXPLORATION															
											CHARGE HOUR ANALYSIS									
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	OTHER	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
	Brought Forward					313.01250	81.60	6.80	13.20	2.60		4.50		0.20	0.20	1.00	110.10	5.80		
27-Aug	East/Central Gas	120	37.5	HSE	482-201	10.53750														
27-Aug	East/Central Gas	120	37.5	HSB	329-201	4.80000														
27-Aug	East/Central Gas	120	37.5	HSA	200-524	12.15000														
27-Aug	East/Central Gas	120	37.5	HTG	337-201	5.10000	8.50	0.80	2.00	0.10							11.40	0.40		
28-Aug	East/Central Gas	120	37.5	HRW	449-201	9.30000														
28-Aug	East/Central Gas	120	37.5	HRX	200-368	6.30000														
28-Aug	East/Central Gas	120	37.5	HRY	373-201	6.45000														
28-Aug	East/Central Gas	120	37.5	HRZ	200-364	6.15000														
28-Aug	East/Central Gas	120	37.5	HRT	437-411	0.97500	8.10	0.50	1.50	0.50							10.60	0.90		
29-Aug	East/Central Gas	120	37.5	HRT	411-201	7.87500														
29-Aug	East/Central Gas	120	37.5	HRS	200-580	14.25000														
29-Aug	East/Central Gas	120	37.5	HRR	585-331	9.52500	8.40	0.60	1.00	0.30				0.10			10.40	0.80		
30-Aug	East/Central Gas	120	37.5	HRR	331-201	4.87500														
30-Aug	East/Central Gas	120	37.5	HRQ	200-468	10.05000														
30-Aug	East/Central Gas	120	37.5	HSC	200-524	12.15000														
30-Aug	East/Central Gas	120	37.5	HSD	685-581	3.90000	7.80	0.50	1.70							0.30	10.30	0.50		
31-Aug	East/Central Gas	120	37.5	HSD	581-201	14.25000														
31-Aug	East/Central Gas	120	37.5	HRF	200-440	9.00000														
31-Aug	East/Central Gas	120	37.5	HRE	200-315	4.31250	7.40	0.50	2.00	0.20						0.60	10.70	0.30		
MONTHLY TOTAL						464.96250	121.80	9.70	21.40	3.70		4.50		0.30	0.20	1.90	163.50	8.70	3.54	2.84
PROJECT TOTAL						464.96250	121.80	9.70	21.40	3.70		4.50		0.30	0.20	1.90	163.50	8.70	3.54	2.84
Brought Forward																				

AUGUST					VIBROSEIS RECORDING PRODUCTION															
Y604						SA97 - PSW EXPLORATION														
												CHARGE HOUR ANALYSIS								
DATE	PROSPECT	CHNL	GI	LINE	STATIONS	KM	REC	R/M	L/M	DET	F DET	P/M	TRAV	EXP	SPRD	S/BY	TOTAL	TRAV	K/R.HR	K/C.HR
16-Aug	East/Central Gas	120	37.5									0.90				0.40	1.30			
17-Aug	East/Central Gas	120	37.5	HSQ	813-421	14.70000	4.10	0.80		0.20		3.60		0.20		0.30	9.20	0.40		
18-Aug	East/Central Gas	120	37.5	HSQ	421-201	8.25000														
18-Aug	East/Central Gas	120	37.5	HSR	200-680	18.00000	7.10	1.40	1.60	1.00							11.10	0.80		
19-Aug	East/Central Gas	120	37.5	HSP	653-201	16.95000														
19-Aug	East/Central Gas	120	37.5	HSM	521-201	12.00000	7.70	0.60	1.50	0.70							10.50	1.00		
20-Aug	East/Central Gas	120	37.5	HSN	200-808	22.80000														
20-Aug	East/Central Gas	120	37.5	HSL	505-201	11.40000	9.10	0.90	1.30	0.20							11.50	0.60		
21-Aug	East/Central Gas	120	37.5	HSK	200-480	10.50000														
21-Aug	East/Central Gas	120	37.5	HSJ	409-201	7.80000														
21-Aug	East/Central Gas	120	37.5	HSH	200-392	7.20000														
21-Aug	East/Central Gas	120	37.5	HSG	613-384	8.58750	9.10		1.90	0.20							11.20	0.60		
22-Aug	East/Central Gas	120	37.5	HSG	384-201	6.86250														
22-Aug	East/Central Gas	120	37.5	HSS	200-560	13.50000														
22-Aug	East/Central Gas	120	37.5	HST	437-201	8.85000														
22-Aug	East/Central Gas	120	37.5	HSW	200-364	6.15000	9.00	0.50	1.70	0.10							11.30	0.70		
23-Aug	East/Central Gas	120	37.5	HSX	577-201	14.10000														
23-Aug	East/Central Gas	120	37.5	HSY	200-500	11.25000														
23-Aug	East/Central Gas	120	37.5	HSZ	525-327	7.42500	8.40	0.80	1.00							0.30	10.50	0.80		
24-Aug	East/Central Gas	120	37.5	HSZ	327-201	4.72500														
24-Aug	East/Central Gas	120	37.5	HTA	200-488	10.80000														
24-Aug	East/Central Gas	120	37.5	HTB	633-201	16.20000														
24-Aug	East/Central Gas	120	37.5	HSF	200-300	3.75000	9.10	0.50	1.40						0.20		11.20	0.40		
25-Aug	East/Central Gas	120	37.5	HSF	300-500	7.50000														
25-Aug	East/Central Gas	120	37.5	HTF	200-468	10.05000														
25-Aug	East/Central Gas	120	37.5	HTD	529-201	12.30000														
25-Aug	East/Central Gas	120	37.5	HTC	200-331	4.91250	8.70	0.60	1.50	0.20							11.00	0.20		
26-Aug	East/Central Gas	120	37.5	HTC	331-640	11.58750														
26-Aug	East/Central Gas	120	37.5	HTE	721-201	19.50000														
26-Aug	East/Central Gas	120	37.5	HSE	625-482	5.36250	9.30	0.70	1.30								11.30	0.30		
	Carried Forward																			
MONTHLY TOTAL						313.01250	81.60	6.80	13.20	2.60		4.50		0.20	0.20	1.00	110.10	5.80		
PROJECT TOTAL						313.01250	81.60	6.80	13.20	2.60		4.50		0.20	0.20	1.00	110.10	5.80		
Brought Forward																				

~ APPENDIX I (g) ~

RECORDING PRODUCTION STATISTICS

TOOLACHEE BLOCK

AUGUST						VIBROSEIS RECORDING PRODUCTION															
Y608						SA97 - DULLINGARI/BURKE 3D															
										CHARGE HOUR ANALYSIS											
DATE	PROSPECT	CHNL	GI	SWATH	KM	REC	R/M	S/M	DET	WOS	P/M	T/MOVE	EXP	SPRD	S/BY	S.BON	TOTAL	TRAV	STNS LD	STNS P/U	CONFIG
1-Aug	Dullingari/Burke	758	40	125-132	52.26800	7.90	1.10	0.80	0.90								10.70	0.70	1,048	1,068	Zig Zag
2-Aug	Dullingari/Burke	758	40	132-140	52.26800	7.10	0.70	0.60	0.50	0.50					0.30	0.70	10.40	0.80	1,196	1,253	Zig Zag
3-Aug	Dullingari/Burke	758	40	140-149	65.16400	6.50	0.80	0.70	1.40	1.40						1.20	12.00	0.80	1,611	1,586	Zig Zag
4-Aug	Dullingari/Burke	758	40	150-156	40.73000	4.70	1.00	0.60	0.80	2.90						1.00	11.00	0.70	1,386	1,336	Zig Zag
5-Aug	Dullingari/Burke	758	40	157-164	36.20800	4.40	0.50	0.30	0.60	4.60						0.90	11.30	0.60	1,412	1,517	Zig Zag
6-Aug	Dullingari/Burke	758	40	165-172	33.37900	4.70		0.40	1.50	2.80					1.20	1.10	11.70	0.80	1,342	1,205	Zig Zag
7-Aug	Dullingari/Burke	758	40	172-180	37.11300	5.00	0.90	0.50	1.20	2.90						0.70	11.20	0.70	1,342	1,440	Zig Zag
8-Aug	Dullingari/Burke	758	40	180-190	47.18400	6.00	0.70	0.60	0.70	1.20						1.00	10.20	0.60	1,300	1,256	Zig Zag
9-Aug	Dullingari/Burke	758	40	191-198	36.20800	4.30	0.50	0.60	0.70	4.00				0.50	0.30	0.80	11.70	0.60	1,392	1,392	Zig Zag
10-Aug	Dullingari/Burke	758	40	199-207	38.92300	5.60	0.80	0.50		3.90				0.20		1.10	12.10	0.70	1,566	1,418	Zig Zag
11-Aug	Dullingari/Burke	758	40	207-215	38.01900	5.60	0.60	0.50	0.20	1.70				0.30		1.40	10.30	0.80	1,392	1,412	Zig Zag
12-Aug	Dullingari/Burke	758	40	216-223	48.87600	5.90	0.90	0.50	0.20	2.40			0.30	0.50		0.70	11.40	0.80	1,350	1,400	Zig Zag
13-Aug	Dullingari/Burke	758	40	224-232	69.23700	7.50	0.40	0.30	0.10	1.40				0.40		1.20	11.30	0.80	1,494	1,464	Zig Zag
14-Aug	Dullingari/Burke	758	40	233-240	61.54400	6.60	0.60	0.10	0.40	2.90						1.20	11.80	0.80	1,581	1,464	Zig Zag
15-Aug	Dullingari/Burke	758	40	241-250	70.59400	7.80	0.70	0.30	0.80	1.50						0.40	11.50	0.90	1,276	1,647	Zig Zag
16-Aug	Dullingari/Burke	758	40	251-252	9.05000	1.00		0.10	0.10					0.20	0.30		1.70	0.50		40	Zig Zag
TOTAL KM/REC HR		6.43																			
TOTAL KM/CHG HR		4.11																			
TOTAL STNS LAID/CHG HR		116.11																			
The 1200 stations picked up after recording was completed are not included in these figures																					
MONTHLY TOTAL					736.76500	90.60	10.20	7.40	10.10	34.10			0.30	2.10	2.10	13.40	170.30	11.60	20,688	20,898	
PROJECT TOTAL					1427.33500	202.30	19.60	14.60	17.30	63.40	1.50		1.30	2.50	3.10	21.50	347.10	20.10	40,303	40,215	
Brought Forward					690.57000	111.70	9.40	7.20	7.20	29.30	1.50		1.00	0.40	1.00	8.10	176.80	8.50	19,615	19,317	
KM/REC HR		7.31																			
KM/CHG HR		4.33																			
STNS LAID/CHG HR		121.48																			

JULY						VIBROSEIS RECORDING PRODUCTION															
Y608						SA97 - DULLINGARI/BURKE 3D															
						CHARGE HOUR ANALYSIS															
DATE	PROSPECT	CHNL	GI	SWATH	KM	REC	R/M	S/M	DET	WOS	P/M	T/MOVE	EXP	SPRD	S/BY	S.BON	TOTAL	TRAV	STNS LD	STNS P/U	CONFIG
14-Jul	Dullingari/Burke	758	40								0.20				0.40		0.60				Zig Zag
15-Jul	Dullingari/Burke	758	40								1.30		0.30				1.60	0.40			Zig Zag
16-Jul	Dullingari/Burke	758	40	1-10	54.31000	7.60	0.70	0.50	0.40							1.20	10.40	0.70	1,088	858	Zig Zag
17-Jul	Dullingari/Burke	758	40	11-20	50.23700	6.50	0.70	1.10	0.40	1.80						0.30	10.80	0.80	1,168	1,430	Zig Zag
18-Jul	Dullingari/Burke	758	40	20-27	47.51800	7.00	0.80	0.30	0.20	2.30						0.50	11.10	0.80	1,259	1,168	Zig Zag
19-Jul	Dullingari/Burke	758	40	28-34	46.27200	6.90	0.50	0.20	0.20	1.50				0.10	0.30	0.80	10.50	0.70	1,223	1,002	Zig Zag
20-Jul	Dullingari/Burke	758	40	34-40	46.61300	7.10		0.60	0.10	2.60						0.40	10.80	0.70	1,218	1,098	Zig Zag
21-Jul	Dullingari/Burke	758	40	40-46	47.85800	8.10	0.50	0.40	0.70	0.70			0.30				10.70	0.40	1,074	1,146	Zig Zag
22-Jul	Dullingari/Burke	758	40	46-51	47.97100	9.40	0.80	0.50	0.40								11.10	0.30	1,051	1,021	Zig Zag
23-Jul	Dullingari/Burke	758	40	52-60	61.09500	8.40	0.40	0.50	0.40	0.80						0.60	11.10	0.40	1,283	1,468	Zig Zag
24-Jul	Dullingari/Burke	758	40	61-71	45.25100	6.50	1.70	0.70	0.60	1.00							10.50	0.30	1,099	968	Zig Zag
25-Jul	Dullingari/Burke	758	40	71-77	28.16800	6.00		0.40	0.50	3.60							10.50	0.30	1,127	1,184	Zig Zag
26-Jul	Dullingari/Burke	758	40	77-83	27.26300	7.00	0.70	0.40	1.50						0.30	0.40	10.30	0.30	1,116	1,028	Zig Zag
27-Jul	Dullingari/Burke	758	40	83-91	38.68900	6.80	0.80	0.40	1.00	1.90				0.30		0.40	11.60	0.30	1,290	1,392	Zig Zag
28-Jul	Dullingari/Burke	758	40	92-99	36.20000	6.20	0.70	0.20	0.20	3.00			0.40			0.90	11.60	0.40	1,468	1,429	Zig Zag
29-Jul	Dullingari/Burke	758	40	100-107	36.20000	5.90	0.30	0.20	0.10	4.10						0.90	11.50	0.40	1,451	1,355	Zig Zag
30-Jul	Dullingari/Burke	758	40	108-115	36.20000	5.80	0.40	0.30		3.80						0.90	11.20	0.80	1,392	1,480	Zig Zag
31-Jul	Dullingari/Burke	758	40	116-124	40.72500	6.50	0.40	0.50	0.50	2.20						0.80	10.90	0.50	1,308	1,290	Zig Zag
The 1200 stations laid before recording commenced are not included in these figures.																					
MONTHLY TOTAL					690.57000	111.70	9.40	7.20	7.20	29.30	1.50		1.00	0.40	1.00	8.10	176.80	8.50	19,615	19,317	
PROJECT TOTAL					690.57000	111.70	9.40	7.20	7.20	29.30	1.50		1.00	0.40	1.00	8.10	176.80	8.50	19,615	19,317	
Brought Forward																					
TOTAL KM/REC HR		5.70																			
TOTAL KM/CHG HR		3.91																			
TOTAL STNS LAID/CHG HR		110.94																			

NOVEMBER						VIBROSEIS RECORDING PRODUCTION															
Y301/201						SA97 - TOOLACHEE FIELD 3D															
						CHARGE HOUR ANALYSIS															
DATE	PROSPECT	CHNL	GI	SWATH	KM	REC	R/M	S/M	DET	WOS	P/M	T/MOVE	EXP	SPRD	S/BY	S.BON	TOTAL	TRAV	STNS LD	STNS P/U	CONFIG
1-Nov	Toolachee Field	768	40	397-404	25.60000	3.40	0.40	0.20	0.10	2.10		3.50	0.30		0.30	0.60	10.90	0.70	1,224	1,142	Ortho
1-Nov	Toolachee Field	768	40	405	4.52500	0.60			0.10	0.60						0.10	1.40		216	202	Zig-Zag
2-Nov	Toolachee Field	768	40	406-415	61.09100	7.60	0.40	0.40	1.10	0.80						0.40	10.70	0.80	1,204	1,141	Zig-Zag
3-Nov	Toolachee Field	768	40	416-424	61.09200	7.10	0.60	0.20	0.20	2.30						1.10	11.50	1.00	1,485	1,670	Zig-Zag
4-Nov	Toolachee Field	768	40	425-432	54.30400	6.40	0.80	0.20	0.20	2.40						0.90	10.90	0.70	1,354	1,336	Zig-Zag
5-Nov	Toolachee Field	768	40	433-441	61.09200	7.30	0.60	0.20	0.30	2.80						0.50	11.70	0.70	1,336	1,336	Zig-Zag
6-Nov	Toolachee Field	768	40	442-450	57.47200	5.80	0.40	0.20	0.10	5.70				0.20		0.50	12.90	0.50	1,503	1,503	Zig-Zag
7-Nov	Toolachee Field	768	40	450-460	69.23800	7.10	0.40	0.40	0.10	4.10						0.80	12.90	0.70	1,582	1,503	Zig-Zag
8-Nov	Toolachee Field	768	40	461-472	54.31200	6.00	1.20	1.00		3.10						1.00	12.30	0.50	1,579	1,978	Zig-Zag
9-Nov	Toolachee Field	768	40	473-486	63.36400	6.80	0.50	0.80	0.70	4.10					0.80	0.40	14.10	0.60	1,507	1,323	Zig-Zag
10-Nov	Toolachee Field	768	40								1.50				0.40		1.90				Zig-Zag
11-Nov	Toolachee Field	768	40								2.40						2.40				Zig-Zag
PROJECT TOTAL																					
KM/REC HR		7.13			ZIG-ZAG		7.77		ORTHO		6.51										
KM/CHG HR		3.33			ZIG-ZAG		4.76		ORTHO		2.48										
STNS LAID/CHG HR		122.27			ZIG-ZAG		125.30		ORTHO		120.47										
TOTAL ZIG ZAG:					1101.50200	130.10	11.60	10.60	12.50	32.90	6.90		0.30	2.70	3.10	20.50	231.20	19.50	28,970	28,709	
TOTAL ORTHO:					962.56000	129.40	18.40	10.70	8.40	51.10		133.10	0.80	1.20	1.90	33.80	388.80	13.50	46,837	47,011	
NOVEMBER ZIG ZAG:					486.49000	54.70	4.90	3.40	2.80	25.90	3.90			0.20	1.20	5.70	102.70	5.50	11,766	11,992	
NOVEMBER ORTHO:					25.60000	3.40	0.40	0.20	0.10	2.10		3.50	0.30		0.30	0.60	10.90	0.70	1,224	1,142	
The 1200 stations picked up after recording was completed are not included in these figures																					
MONTHLY TOTAL					512.09000	58.10	5.30	3.60	2.90	28.00	3.90	3.50	0.30	0.20	1.50	6.30	113.60	6.20	12,990	13,134	
PROJECT TOTAL					2064.06200	259.50	30.00	21.30	20.90	84.00	6.90	133.10	1.10	3.90	5.00	54.30	620.00	33.00	75,807	75,720	
Brought Forward					1551.97200	201.40	24.70	17.70	18.00	56.00	3.00	129.60	0.80	3.70	3.50	48.00	506.40	26.80	62,817	62,586	
NOVEMBER																					
KM/REC HR		8.08			ZIG-ZAG		8.16		ORTHO		6.74										
KM/CHG HR		4.51			ZIG-ZAG		4.74		ORTHO		2.35										
STNS LAID/CHG HR		114.35			ZIG-ZAG		114.57		ORTHO		112.29										

OCTOBER						VIBROSEIS RECORDING PRODUCTION															
Y301/201							SA97 - TOOLACHEE FIELD 3D														
											CHARGE HOUR ANALYSIS										
DATE	PROSPECT	CHNL	GI	SWATH	KM	REC	R/M	S/M	DET	WOS	P/M	T/MOVE	EXP	SPRD	S/BY	S.BON	TOTAL	TRAV	STNS LD	STNS P/U	CONFIG
	Brought Forward				750.54600	100.80	13.40	9.50	6.20	31.50		82.00	0.40	1.20	1.30	21.00	267.30	12.00	33,328	33,261	
24-Oct	Toolachee Field	768	40	330	1.81000	0.20											0.20		93	95	Zig-Zag
24-Oct	Toolachee Field	768	40	330-337	25.60000	3.00	0.40	0.30		2.60		3.50				1.00	10.80	0.40	1,321	1,341	Ortho
25-Oct	Toolachee Field	768	40	338-346	28.80000	4.10	0.60	0.30		1.70		3.50			0.30	1.10	11.60	0.40	1,476	1,512	Ortho
26-Oct	Toolachee Field	768	40	347-355	28.80000	4.90	0.60	0.40	0.20	0.90		4.80				0.70	12.50	0.30	1,512	1,464	Ortho
27-Oct	Toolachee Field	768	40	356-364	26.56000	3.90	0.70	0.40	1.00			4.70				0.70	11.40	0.30	1,344	1,392	Ortho
28-Oct	Toolachee Field	768	40	364-372	27.84000	3.80	0.60	0.50	0.30	1.60		4.00				1.00	11.80	0.40	1,512	1,512	Ortho
29-Oct	Toolachee Field	768	40	373-380	25.60000	3.30	0.40	0.40		2.00		3.70				0.90	10.70	0.80	1,344	1,344	Ortho
30-Oct	Toolachee Field	768	40	381-387	21.52000	2.90	0.60	0.30	0.20	1.00		3.30	0.10			1.00	9.40	0.70	1,176	1,028	Ortho
31-Oct	Toolachee Field	768	40	387-396	29.68000	4.00	0.40	0.30		2.20		4.10				0.90	11.90	0.90	1,512	1,660	Ortho
TOTAL ZIG ZAG:					162.91600	21.20	2.70	2.30	1.50	0.60						2.40	30.70	4.20	5,141	5,101	
TOTAL ORTHO:					803.84000	109.70	15.00	10.10	6.40	42.90		113.60	0.50	1.20	1.60	25.90	326.90	12.00	39,477	39,508	
MONTHLY TOTAL					966.75600	130.90	17.70	12.40	7.90	43.50		113.60	0.50	1.20	1.60	28.30	357.60	16.20	44,618	44,609	
PROJECT TOTAL					1551.97200	201.40	24.70	17.70	18.00	56.00	3.00	129.60	0.80	3.70	3.50	48.00	506.40	26.80	62,817	62,586	
Brought Forward					585.21600	70.50	7.00	5.30	10.10	12.50	3.00	16.00	0.30	2.50	1.90	19.70	148.80	10.60	18,199	17,977	
KM/REC HR		6.51			ZIG-ZAG		6.82		ORTHO		6.45										
KM/CHG HR		2.70			ZIG-ZAG		5.31		ORTHO		2.46										
STNS LAID/CHG HR		124.77			ZIG-ZAG		167.46		ORTHO		120.76										

OCTOBER						VIBROSEIS RECORDING PRODUCTION															
Y301/201						SA97 - TOOLACHEE FIELD 3D															
						CHARGE HOUR ANALYSIS															
DATE	PROSPECT	CHNL	GI	SWATH	KM	REC	R/M	S/M	DET	WOS	P/M	T/MOVE	EXP	SPRD	S/BY	S.BON	TOTAL	TRAV	STNS LD	STNS P/U	CONFIG
1-Oct	Toolachee Field	768	40	114-124	14.48500	1.60	0.50	0.20								0.30	2.60	0.60	483	573	Zig-Zag
1-Oct	Toolachee Field	768	40	114-124	28.16000	3.10		0.10	0.70	1.00		3.10				0.70	8.70		940	1,113	Ortho
2-Oct	Toolachee Field	768	40	125-135	18.55800	2.20		0.20	0.50	0.30						0.20	3.40	0.70	577	574	Zig-Zag
2-Oct	Toolachee Field	768	40	125-135	25.60000	3.10	0.40	0.10	0.80			2.90				0.60	7.90		796	791	Ortho
3-Oct	Toolachee Field	768	40	136-146	33.03400	4.30	1.00	0.20	0.40							0.60	6.50	0.70	1,067	863	Zig-Zag
3-Oct	Toolachee Field	768	40	136-146	12.80000	1.50	0.50	0.20		1.10		1.30				0.40	5.00		413	335	Ortho
4-Oct	Toolachee Field	768	40	147-155	28.80000	3.50	0.60	0.30		2.80		3.70			0.30	0.80	12.00	0.60	1,428	1,362	Ortho
5-Oct	Toolachee Field	768	40	156-163	25.60000	3.30	0.40	0.20		3.20		3.20				1.00	11.30	0.50	1,428	1,344	Ortho
6-Oct	Toolachee Field	768	40	164-172	28.80000	4.20	0.40	0.30		1.60		3.90	0.10			1.10	11.60	0.50	1,512	1,512	Ortho
7-Oct	Toolachee Field	768	40	173-180	25.60000	3.90	1.10	0.40	0.30	0.40		3.90				1.30	11.30	0.30	1,512	1,512	Ortho
8-Oct	Toolachee Field	768	40	181-190	30.40000	3.90	0.50	0.40	0.10	2.40		3.80		0.10		0.90	12.10	0.20	1,512	1,512	Ortho
9-Oct	Toolachee Field	768	40	190-198	27.20000	3.60	0.50	0.40	0.10	1.20		4.20		0.40		0.70	11.10	0.30	1,344	1,512	Ortho
10-Oct	Toolachee Field	768	40	199-207	28.80000	3.80	0.50	0.40	0.20	0.80		5.00				1.00	11.70	0.30	1,512	1,512	Ortho
11-Oct	Toolachee Field	768	40	208-215	25.60000	3.60	0.50	0.30	0.10	1.90		3.90			0.30	1.10	11.70	0.70	1,480	1,344	Ortho
12-Oct	Toolachee Field	768	40	216-228	20.81500	3.00	0.60	0.40	0.20							0.30	4.50	0.40	684	761	Zig-Zag
12-Oct	Toolachee Field	768	40	216-228	17.28000	2.10	0.40	0.30	0.10			2.50		0.50		0.30	6.20	0.40	568	631	Ortho
13-Oct	Toolachee Field	768	40	229-238	18.10000	2.60		0.20	0.30							0.20	3.30	0.40	602	594	Zig-Zag
13-Oct	Toolachee Field	768	40	229-238	19.20000	2.60	0.50	0.30	0.10	1.00		2.60				0.40	7.50	0.30	638	631	Ortho
14-Oct	Toolachee Field	768	40	239-248	30.40000	4.40	0.60	0.40	0.20	1.50		3.90				1.20	12.20	0.50	1,617	1,523	Ortho
15-Oct	Toolachee Field	768	40	248-257	29.12000	3.70	0.40	0.40	0.30	1.30		4.30				1.30	11.70	0.40	1,575	1,381	Ortho
16-Oct	Toolachee Field	768	40	257-265	26.88000	3.70	0.70	0.30	0.10	1.60		3.50				1.10	11.00	0.50	1,417	1,643	Ortho
17-Oct	Toolachee Field	768	40	266-274	26.88000	3.80	0.50	0.40	0.10	1.10		4.70		0.20	0.40	0.70	11.90	0.40	1,439	1,374	Ortho
18-Oct	Toolachee Field	768	40	274-282	27.52000	5.30	0.50	0.40	0.20	0.50		4.00			0.30	0.60	11.80	0.30	1,344	1,374	Ortho
19-Oct	Toolachee Field	768	40	283-291	28.80000	5.10	0.80	0.60	0.50	0.70		4.50				0.60	12.80	0.30	1,512	1,620	Ortho
20-Oct	Toolachee Field	768	40	292-301	32.00000	3.90	0.40	0.40	0.20	2.90		3.50	0.30			1.30	12.90	0.60	1,735	1,680	Ortho
21-Oct	Toolachee Field	768	40	302-311	29.44000	3.60	0.50	0.40	0.60	1.80		4.70				0.70	12.30	0.70	1,481	1,458	Ortho
22-Oct	Toolachee Field	768	40	311-314	12.16000	1.40		0.10		1.60		2.10				0.20	5.40		336	335	Ortho
22-Oct	Toolachee Field	768	40	315-322	40.84200	5.30		0.90								0.50	6.70	0.80	1,130	1,125	Zig-Zag
23-Oct	Toolachee Field	768	40	322-329	15.27200	2.00	0.60	0.20	0.10	0.30						0.30	3.50	0.60	505	516	Zig-Zag
23-Oct	Toolachee Field	768	40	322-329	22.40000	2.70		0.10		0.50		2.80				0.60	6.70		741	756	Ortho
	Carried Forward																				
MONTHLY TOTAL					750.54600	100.80	13.40	9.50	6.20	31.50		82.00	0.40	1.20	1.30	21.00	267.30	12.00	33,328	33,261	
PROJECT TOTAL																					
Brought Forward																					

SEPTEMBER						VIBROSEIS RECORDING PRODUCTION															
Y301/201						SA97 - TOOLACHEE FIELD 3D															
										CHARGE HOUR ANALYSIS											
DATE	PROSPECT	CHNL	GI	SWATH	KM	REC	R/M	S/M	DET	WOS	P/M	T/MOVE	EXP	SPRD	S/BY	S.BON	TOTAL	TRAV	STNS LD	STNS P/U	CONFIG
12-Sep	Toolachee Field	768	40								1.00				0.50		1.50				Zig-Zag
13-Sep	Toolachee Field	768	40	1-2	14.48200	1.50		0.10			2.00				0.30		3.90		503	110	Zig-Zag
14-Sep	Toolachee Field	768	40	3-11	65.16900	8.00	0.50	0.40	0.60	0.80				0.10		0.50	10.90	0.80	1,262	1,280	Zig-Zag
15-Sep	Toolachee Field	768	40	12-18	50.68700	5.60	0.50	0.30	0.60	1.20				0.60		1.20	10.00	0.60	1,286	1,400	Zig-Zag
16-Sep	Toolachee Field	768	40	19-23	36.20500	4.10	0.40	0.10	0.10	0.50						2.80	8.00	0.30	1,164	875	Zig-Zag
17-Sep	Toolachee Field	768	40	24-28	36.20500	4.60	0.50	0.30	0.60						0.30	1.00	7.30	0.40	875	875	Zig-Zag
18-Sep	Toolachee Field	768	40	29-33	36.20500	4.50	0.40	0.20	1.70					0.50		0.50	7.80	0.60	875	875	Zig-Zag
19-Sep	Toolachee Field	768	40	34-38	36.20500	5.00		0.20	0.50					0.90		0.70	7.30	0.70	840	875	Zig-Zag
20-Sep	Toolachee Field	768	40	39-44	38.01400	4.30	0.40	0.40	0.80	0.10						1.90	7.90	0.70	1,051	1,050	Zig-Zag
21-Sep	Toolachee Field	768	40	45-49	29.41500	3.70		0.50	0.60						0.50	0.90	6.20	0.80	645	755	Zig-Zag
22-Sep	Toolachee Field	768	40	50-54	29.41500	3.60	0.40	0.50	0.80							0.70	6.00	1.10	686	567	Zig-Zag
23-Sep	Toolachee Field	768	40	55-59	24.88900	2.90	0.50	0.40	1.10								4.90	0.90	408	399	Zig-Zag
24-Sep	Toolachee Field	768	40	60-64	10.86000	1.20		0.40	0.20	0.40						0.60	2.80	0.50	401	408	Zig-Zag
24-Sep	Toolachee Field	768	40	62-64	7.68000	1.00	0.40					0.90				0.70	3.00	0.50	283	288	Ortho
25-Sep	Toolachee Field	768	40	65-69	12.80000	1.80	0.30		0.20			1.60				1.70	5.60	0.30	632	641	Ortho
25-Sep	Toolachee Field	768	40	65-69	4.52500	0.50		0.30								0.40	1.20	0.30	223	226	Zig Zag
26-Sep	Toolachee Field	768	40	70-77	7.24000	0.90		0.20	0.30							0.10	1.50	0.50	268	321	Zig Zag
26-Sep	Toolachee Field	768	40	70-77	20.48000	2.80	0.50		1.30			2.70				0.40	7.70		758	907	Ortho
27-Sep	Toolachee Field	768	40	78-85	20.48000	2.30	0.40	0.10	0.20	1.60		2.40				1.00	8.00		1,011	1,114	Ortho
27-Sep	Toolachee Field	768	40	78-85	7.24000	0.90	0.40	0.10	0.30	0.60					0.30	0.20	2.80	0.40	357	394	Zig-Zag
28-Sep	Toolachee Field	768	40	86-93	7.24000	1.00		0.10		0.50			0.30			0.50	2.40	0.40	424	357	Zig-Zag
28-Sep	Toolachee Field	768	40	86-93	20.48000	2.50	0.40	0.10	0.10	0.70		2.60				1.90	8.30		1,200	1,011	Ortho
29-Sep	Toolachee Field	768	40	94-103	25.60000	2.90	0.60	0.10	0.10	1.60		3.00				1.00	9.30		1,201	1,263	Ortho
29-Sep	Toolachee Field	768	40	94-103	9.05000	0.90		0.20		1.10				0.40		0.20	2.80	0.40	424	447	Zig-Zag
30-Sep	Toolachee Field	768	40	104-113	9.05000	1.00		0.20		1.20						0.20	2.60	0.40	371	402	Zig-Zag
30-Sep	Toolachee Field	768	40	104-113	25.60000	3.00	0.40	0.10		2.20		2.80				0.60	9.10		1,051	1,137	Ortho
TOTAL ZIG-ZAG					452.09600	54.20	4.00	4.90	8.20	6.40	3.00		0.30	2.50	1.90	12.40	97.80	9.80	12,063	11,616	
TOTAL ORTHO					133.12000	16.30	3.00	0.40	1.90	6.10		16.00				7.30	51.00	0.80	6,136	6,361	
The 1200 stations laid before recording commenced are not included in these figures.																					
MONTHLY TOTAL					585.21600	70.50	7.00	5.30	10.10	12.50	3.00	16.00	0.30	2.50	1.90	19.70	148.80	10.60	18,199	17,977	
PROJECT TOTAL					585.21600	70.50	7.00	5.30	10.10	12.50	3.00	16.00	0.30	2.50	1.90	19.70	148.80	10.60	18,199	17,977	
Brought Forward																					
KM/REC HR		7.55			ZIG-ZAG		7.77		ORTHO		6.90										
KM/CHG HR		3.93			ZIG-ZAG		4.62		ORTHO		2.61										
STNS LAID/CHG HR		122.31			ZIG-ZAG		123.34		ORTHO		120.31										

~ APPENDIX II ~

DRILLING PRODUCTION STATISTICS

~ APPENDIX II (a) ~

DRILLING PRODUCTION STATISTICS

MERRIMELIA-INNAMINCKA BLOCK

APRIL DRILLING						SA97 - MEI EXPLORATION - Y601													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
1-Apr	9	Swan Lake SW	HQK,HQJ,HQS	8	241		7.50							7.50		0.50			
2-Apr	9	Swan Lake SW	HQM,HQN,HQT	4	131		3.75							3.75					
3-Apr	9	Swan Lake SW	HQN,HQP,HQX	4	117		3.75	1.75						5.50		0.25			
4-Apr	9	Swan Lake SW						2.10						2.10					
15-Apr	9	Meroo						2.25						2.25					
16-Apr	9	Meroo	HNR,HNS,HNT	5	421		10.75							10.75		0.50			
17-Apr	9	Meroo	HNT	2	225		9.00					1.00		10.00		0.50			
18-Apr	9	Meroo	HNS,HNT	3	283		10.00							10.00		0.50			
19-Apr	9	Meroo	HNS	1	100		10.00							10.00		1.00			
20-Apr	9	Meroo	HNR	3	273		10.00							10.00		0.50			
27-Apr	9	Innamincka Flank Extn						2.00						2.00					
28-Apr	9	Innamincka Flank Extn.	HPN	3	272		9.00	1.00						10.00		0.50			
29-Apr	9	Innamincka Flank Extn.	HPN,HPM	4	343		10.00							10.00		0.50			
30-Apr	9	Innamincka Flank Extn.	HPL	1	72		4.50							4.50		0.25			
1-Apr	11	Swan Lake SW	HQL,HQK,GQJ	7	217		7.00							7.00		0.75			
3-Apr	11	Swan Lake SW	HQP	2	58		1.75	1.75						3.50					
4-Apr	11	Swan Lake SW						2.10						2.10					
15-Apr	11	Meroo						2.25						2.25					
16-Apr	11	Meroo	HNT,HNW,HNX	3	262		10.25					0.25		10.50		0.50			
17-Apr	11	Meroo	HNX	1	95		3.00							3.00	7.00	1.00			
18-Apr	11	Meroo	HNW,HNX	3	292		10.25							10.25		1.25			
19-Apr	11	Meroo	HNW,HNX	3	309		8.75					1.25		10.00		1.50			
20-Apr	11	Meroo	HNX,HNW,HNZ	4	343		10.00							10.00		1.50			
27-Apr	11	Innamincka Flank Extn.						2.00						2.00					
28-Apr	11	Innamincka Flank Extn.	HPM,HPL	4	397		9.50	1.00						10.50		0.50			
29-Apr	11	Innamincka Flank Extn.	HPM,HPL	3	268		9.50							9.50		0.50			
30-Apr	11	Innamincka Flank Extn.	HPL,HPM	2	148		5.50							5.50		0.25			
TOTAL - SWAN LAKE				25	764		23.75	7.70						31.45		1.50	24.29	32.17	30.56
TOTAL - MEROO				28	2603		92.00	4.50				2.50		99.00	7.00	8.75	26.29	27.54	92.96
TOTAL - INNAMINCKA FLANK EXTN.				17	1500		48.00	6.00						54.00		2.50	27.78	31.25	88.24
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				38	2478		88.25	9.10				1.00		98.35		5.00	25.20	27.76	65.21
TOTAL DRILLING RIG GE11				32	2389		75.50	9.10				1.50		86.10	7.00	7.75	27.75	31.03	74.66
TOTAL ALL RIGS THIS MONTH				70	4867		163.75	18.20				2.50		184.45	7.00	12.75	26.39	29.28	69.53
PROJECT TO DATE TOTALS				340	17763		531.25	43.65	1.75			6.50		583.15	12.50	52.50	30.46	33.03	52.24
Project Brought Forward				270	12896		367.50	25.45	1.75			4.00		398.70	5.50	39.75	32.35	34.71	47.76

MARCH DRILLING						SA97 - MEI EXPLORATION - Y601													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
11-Mar	9	Wantana						1.25						1.25					
12-Mar	9	Wantana	HNJ,HHQ	3	94		3.50	6.50						10.00		0.75			
13-Mar	9	Wantana	HHQ,HHR	5	145		5.75							5.75	3.25	2.25			
14-Mar	9	Wantana	HHR,HHT,HHW,HHT	11	319		10.00							10.00		1.25			
15-Mar	9	Wantana	HHX,HHY,HJJ,HJK	11	311		10.00							10.00		1.00			
16-Mar	9	Wantana	HHY,HHZ,HJA	9	267		8.50							8.50		0.75			
17-Mar	9	Wantana	HHZ,HJA,HJC,HJJ	11	343		10.50							10.50		0.75			
18-Mar	9	Wantana	HJB,HJC,HJK	10	338		10.50							10.50		0.75			
19-Mar	9	Wantana	HJB,HJC,HJD,HJE	10	295		10.50							10.50		0.50			
20-Mar	9	Wantana	HJD,HJJ,HJK	10	320		9.75					1.00		10.75					
28-Mar	9	Swan Lake						1.00						1.00					
29-Mar	9	Swan Lake						2.10						2.10					
30-Mar	9	Swan Lake	HQN	7	209		5.25	1.75						7.00		0.25			
31-Mar	9	Swan Lake	HQM,HQL,HQS	10	302		9.50							9.50		0.50			
12-Mar	11	Wantana	HJK	2	52		2.50	6.50				1.00		10.00					
13-Mar	11	Wantana	HHQ,HHR,HHS,HHT,HJK	9	270		10.00							10.00		0.50			
14-Mar	11	Wantana	HHS,HHT,HHW	11	337		10.00							10.00		0.50			
15-Mar	11	Wantana	HJG,HJH,HJK	6	198		6.00							6.00		0.50			
15-Mar	11	Merindal	HNK,HNL	4	134		4.00							4.00					
16-Mar	11	Wantana	HJH,HJK	2	76		2.50							2.50					
16-Mar	11	Merindal	HNK,HNL,HNP	7	245		7.50							7.50					
17-Mar	11	Wantana	HJG,HJH,HJJ	9	297		9.00							9.00		0.50			
17-Mar	11	Merindal		1	41		1.00							1.00					
18-Mar	11	Wantana	HJG,HJK	4	128		4.00							4.00					
18-Mar	11	Merindal	HNM,HNN,HNP	6	198		6.00							6.00		0.50			
19-Mar	11	Wantana	HJF,HJK	4	122		4.00							4.00					
19-Mar	11	Merindal	HNM,HNN,HNP	6	178		6.00							6.00		0.75			
20-Mar	11	Wantana	HJE,HJF,HJJ	9	291		9.50					1.00		10.50		0.50			
21-Mar	11	Wantana	HJE	1	29		0.75					1.00		1.75		0.25			
28-Mar	11	Swan Lake						1.00						1.00					
29-Mar	11	Swan Lake						2.10						2.10					
30-Mar	11	Swan Lake	HQP	1	29		1.00	1.75						2.75					
TOTAL - WANTANA				137	4232		137.25	14.25				4.00		155.50	3.25	10.75	27.22	29.96	30.89
TOTAL - SWAN LAKE				18	540		15.75	9.70						25.45		0.75	21.22	34.29	30.00
TOTAL - MERINDAL				24	557		17.50							17.50		0.75	31.83	31.83	23.21
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				97	2943		93.75	12.60				1.00		107.35	3.25	8.75	27.41	31.06	30.34
TOTAL DRILLING RIG GE11				82	2625		83.75	11.35				3.00		98.10		4.00	26.76	30.26	32.01
TOTAL ALL RIGS THIS MONTH				179	5568		177.50	23.95				4.00		205.45	3.25	12.75	27.10	30.68	31.11
PROJECT TO DATE TOTALS				270	12896		367.50	25.45	1.75			4.00		398.70	5.50	39.75	32.35	34.71	47.76
Project Brought Forward				91	7328		190.00	1.50	1.75					193.25	2.25	27.00	37.92	38.57	80.53

FEBRUARY DRILLIN						SA97 - MEI E LORATION - Y601													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
3-Feb	9	Innamincka Flank	HLK,HKY	6	383		10.25							10.25		0.50			
6-Feb	9	Innamincka Flank	HKY,HKZ	7	437		10.50							10.50		0.50			
7-Feb	9	Innamincka Flank	HLC,HLE	5	291		8.50							8.50	2.00	0.50			
8-Feb	9	Innamincka Flank	HLB,HLJ,HKZ	4	362		10.00							10.00		0.75			
9-Feb	9	Innamincka Flank	HLB,HLC	6	501		10.75		0.25					11.00		0.75			
10-Feb	9	Innamincka Flank	HLC,HLD	4	397		8.75							8.75		2.00			
11-Feb	9	Innamincka Flank	HLD,HLE	4	397		10.25							10.25		0.75			
14-Feb	9	Innamincka Flank	HLF	1	105		2.50							2.50		3.50			
15-Feb	9	Innamincka Flank	HLJ	1	140		6.25		1.00					7.25		2.25			
26-Feb	9	Innamincka Flank	HLE	4	354		10.00							10.00		1.00			
3-Feb	11	Innamincka Flank	HKZ,HLA	7	449		9.50							9.50		0.25			
6-Feb	11	Innamincka Flank	HLK,HLB,HLC	6	360		10.00							10.00		0.50			
7-Feb	11	Innamincka Flank	HLA,HLK	6	413		10.25							10.25		0.75			
8-Feb	11	Innamincka Flank	HLE,HLG	6	430		10.50							10.50	0.25	0.75			
9-Feb	11	Innamincka Flank	HLH	3	311		10.00		0.25					10.25		1.50			
10-Feb	11	Innamincka Flank	HLG,HLH,HLJ	3	337		8.50							8.50		2.00			
11-Feb	11	Innamincka Flank	HLJ,HLF	4	403		10.50							10.50		1.00			
14-Feb	11	Innamincka Flank	HLE	1	119		3.00							3.00		3.75			
15-Feb	11	Innamincka Flank	HLF,HLG	3	310		9.00							9.00		2.25			
16-Feb	11	Innamincka Flank	HLG,GLK	4	351		8.25	1.50	0.25					10.00		1.00			
23-Feb	11	Innamincka Flank	HLH	1	83		1.75							1.75					
24-Feb	11	Innamincka Flank	HLH,HLL	5	395		11.00							11.00		0.75			
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				42	3367		87.75		1.25					89.00	2.00	12.50	37.83	38.37	80.17
TOTAL DRILLING RIG GE11				49	3961		102.25	1.50	0.50					104.25	0.25	14.50	38.00	38.74	80.84
TOTAL ALL RIGS THIS MONTH				91	7328		190.00	1.50	1.75					193.25	2.25	27.00	37.92	38.57	80.53
PROJECT TO DATE TOTALS				91	7328		190.00	1.50	1.75					193.25	2.25	27.00	37.92	38.57	80.53
Project Brought Forward																			

APRIL DRILLING						SA97 - MEI UNIT DEVELOPMENT - Y621													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
3-Apr	9	Swan Lake SW						0.60						0.60					
4-Apr	9	Swan Lake SW						0.60						0.60					
3-Apr	11	Swan Lake SW						0.60						0.60					
4-Apr	11	Swan Lake SW						0.60						0.60					
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9								1.20						1.20					
TOTAL DRILLING RIG GE11								1.20						1.20					
TOTAL ALL RIGS THIS MONTH								2.40						2.40					
PROJECT TO DATE TOTALS				16	464		14.75	5.20						19.95		0.25	23.26	31.46	29.00
Project Brought Forward				16	464		14.75	2.80						17.55		0.25	26.44	31.46	29.00

MARCH DRILLING					SA97 - MEI UNIT DEVELOPMENT - Y621														
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
28-Mar	9	Swan Lake						0.30						0.30					
29-Mar	9	Swan Lake						0.60						0.60					
30-Mar	9	Swan Lake						0.50						0.50					
28-Mar	11	Swan Lake						0.30						0.30					
29-Mar	11	Swan Lake						0.60						0.60					
30-Mar	11	Swan Lake	HQP	5	143		4.25	0.50						4.75					
31-Mar	11	Swan Lake	HQR,HQT,HQS	11	321		10.50							10.50		0.25			
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9								1.40						1.40					
TOTAL DRILLING RIG GE11				16	464		14.75	1.40						16.15		0.25	28.73	31.46	29.00
TOTAL ALL RIGS THIS MONTH				16	464		14.75	2.80						17.55		0.25	26.44	31.46	29.00
PROJECT TO DATE TOTALS				16	464		14.75	2.80						17.55		0.25	26.44	31.46	29.00
Project Brought Forward																			

APRIL DRILLING						SA97 - MEI PONDRINIE 3D - Y603													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
21-Apr	9	Pondrinie 3D	PR336,348	2	202		10.00							10.00		1.50			
22-Apr	9	Pondrinie 3D	PR352,348	2	213		8.75		0.25			1.00		10.00		1.50			
23-Apr	9	Pondrinie 3D	PR332,344	3	284		10.00							10.00		1.00			
24-Apr	9	Pondrinie 3D	PR332,312,292	4	320		10.00							10.00		1.00			
25-Apr	9	Pondrinie 3D	PR268,284,300	4	295		10.00							10.00		0.50			
26-Apr	9	Pondrinie 3D	PR276,292	2	111		8.50					1.50		10.00		0.50			
27-Apr	9	Pondrinie 3D	PR236,248	2	124		6.50					1.50		8.00		0.50			
21-Apr	11	Pondrinie 3D	PR320,284	2	172		9.50							9.50		2.00			
22-Apr	11	Pondrinie 3D	PR252,248,228,232	4	280		8.50		0.25			1.25		10.00		1.50			
23-Apr	11	Pondrinie 3D	PR204,116,132	4	195		7.25					3.00		10.25		1.00			
24-Apr	11	Pondrinie 3D	PR132,128,224,220,204	5	187		10.25							10.25		0.75			
25-Apr	11	Pondrinie 3D	PR188,180,140,132	4	161		8.75					1.25		10.00		1.00			
26-Apr	11	Pondrinie 3D	PR144,160,176,128,140,120	7	275		10.00							10.00		1.00			
27-Apr	11	Pondrinie 3D	PR112,236,244	3	129		7.50							7.50		0.50			
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				19	1549		63.75		0.25			4.00		68.00		6.50	22.78	22.86	81.53
TOTAL DRILLING RIG GE11				29	1399		61.75		0.25			5.50		67.50		7.75	20.73	20.80	48.24
TOTAL ALL RIGS THIS MONTH				48	2948		125.50		0.50			9.50		135.50		14.25	21.76	21.84	61.42
PROJECT TO DATE TOTALS				48	2948		125.50		0.50			9.50		135.50		14.25	21.76	21.84	61.42
Project Brought Forward																			

~ APPENDIX II (b) ~

DRILLING PRODUCTION STATISTICS

MOOMBA BLOCK

APRIL DRILLING						SA97 - MOO EXPLORATION - Y609													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
1-Apr	9	Swan Lake SW	HQQ	2	72		1.75							1.75					
2-Apr	9	Swan Lake SW	HQH,HQJ,HQK,HQM,HQX,HQY	7	239		6.75							6.75					
3-Apr	9	Swan Lake SW	HQQ,HQY	4	124		3.75	1.40						5.15					
4-Apr	9	Swan Lake SW						1.60						1.60					
1-Apr	11	Swan Lake SW	HQK,HQJ	2	76		2.25							2.25					
2-Apr	11	Swan Lake SW	HQJ,HQL,HQN,HQW,HQX	10	309		9.50							9.50					
3-Apr	11	Swan Lake SW	HQQ,HQZ,HRA	6	174		5.75	1.40						7.15		0.25			
4-Apr	11	Swan Lake SW						1.60						1.60					
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				13	435		12.25	3.00						15.25			28.52	35.51	33.46
TOTAL DRILLING RIG GE11				18	559		17.50	3.00						20.50		0.25	27.27	31.94	31.06
TOTAL ALL RIGS THIS MONTH				31	994		29.75	6.00						35.75		0.25	27.80	33.41	32.06
PROJECT TO DATE TOTALS				31	994		29.75	13.60						43.35		0.25	22.93	33.41	32.06
Project Brought Forward								7.60						7.60					

MARCH DRILLING						SA97 - MOO EXPLORATION - Y609													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
28-Mar	9	Swan Lake						0.70						0.70					
29-Mar	9	Swan Lake						1.60						1.60					
30-Mar	9	Swan Lake						1.50						1.50					
28-Mar	11	Swan Lake						0.70						0.70					
29-Mar	11	Swan Lake						1.60						1.60					
30-Mar	11	Swan Lake						1.50						1.50					
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9								3.80						3.80					
TOTAL DRILLING RIG GE11								3.80						3.80					
TOTAL ALL RIGS THIS MONTH								7.60						7.60					
PROJECT TO DATE TOTALS								7.60						7.60					
Project Brought Forward																			

MAY DRILLING					SA97 - MOO/BIG LAKE 3D - Y606														
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
1-May	9	MOO/Big Lake 3D	MR280,288,296,308,324	5	181		8.00	2.00						10.00		0.50			
2-May	9	MOO/Big Lake 3D	MR396,412,416,84-TPK	5	180		9.00		1.00					10.00		0.50			
3-May	9	MOO/Big Lake 3D	MR216,240,280,292,296,312	7	239		9.50		0.50					10.00		0.50			
4-May	9	MOO/Big Lake 3D	MR108,148,160,184	5	193		9.25		0.75					10.00		0.50			
5-May	9	MOO/Big Lake 3D	MR244,252	2	70		3.00	0.25						3.25		0.25			
1-May	11	MOO/Big Lake 3D	MR256,240.252.272,83-M020	5	145		8.00	2.00						10.00		0.50			
2-May	11	MOO/Big Lake 3D	MR276,296,324,392,404,412	6	199		10.50							10.50		0.50			
3-May	11	MOO/Big Lake 3D	MR312,296,316,324,284,244,232	7	251		10.00							10.00		0.50			
4-May	11	MOO/Big Lake 3D	MR140,164,192,172,188,85-YMC	6	198		10.00							10.00		0.50			
5-May	11	MOO/Big Lake 3D	MR232,244	2	76		3.00	0.25						3.25		0.25			
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				24	863		38.75	2.25	2.25					43.25		2.25	19.95	22.27	35.96
TOTAL DRILLING RIG GE11				26	869		41.50	2.25						43.75		2.25	19.86	20.94	33.42
TOTAL ALL RIGS THIS MONTH				50	1732		80.25	4.50	2.25					87.00		4.50	19.91	21.58	34.64
PROJECT TO DATE TOTALS				50	1732		80.25	12.50	2.25					95.00		4.50	18.23	21.58	34.64
Project Brought Forward								8.00						8.00					

APRIL DRILLING						SA97 - MOO/BIG LAKE 3D - Y606													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
30-Apr	9							4.00						4.00					
30-Apr	11							4.00						4.00					
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9								4.00						4.00					
TOTAL DRILLING RIG GE11								4.00						4.00					
TOTAL ALL RIGS THIS MONTH								8.00						8.00					
PROJECT TO DATE TOTALS								8.00						8.00					
Project Brought Forward																			

~ APPENDIX II (c) ~

DRILLING PRODUCTION STATISTICS

NAPPACOONGIE-MURTEREE BLOCK

SEPTEMBER DRILLING						SA97 - NM EXPLORATION - Y302													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
10-Sep	9	Corkwood Nose						0.50						0.50					
11-Sep	9	Corkwood Nose	HWX	1	78		3.75	1.00						4.75					
12-Sep	9	Corkwood Nose	HWW,HWX	4	326		11.25							11.25		0.25			
13-Sep	9	Corkwood Nose	HWT,HWW,HWX	4	320		10.75							10.75		0.25			
14-Sep	9	Corkwood Nose	HWW	2	130		5.75							5.75		0.25			
10-Sep	11	Corkwood Nose						0.25						0.25					
11-Sep	11	Corkwood Nose	HWW	1	36		3.25	1.25				1.25		5.75					
12-Sep	11	Corkwood Nose	HWT	2	154		9.00							9.00	0.75	0.25			
13-Sep	11	Corkwood Nose	HWW,HWT	3	225		10.50							10.50		0.50			
14-Sep	11	Corkwood Nose	HWT	2	142		5.50							5.50		0.25			
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				11	854		31.50	1.50						33.00		0.75	25.88	27.11	77.64
TOTAL DRILLING RIG GE11				8	557		28.25	1.50				1.25		31.00	0.75	1.00	17.97	18.88	69.63
TOTAL ALL RIGS THIS MONTH				19	1411		59.75	3.00				1.25		64.00	0.75	1.75	22.05	23.13	74.26
PROJECT TO DATE TOTALS				19	1411		59.75	3.00				1.25		64.00	0.75	1.75	22.05	23.13	74.26
Project Brought Forward																			

~ APPENDIX II (d) ~

DRILLING PRODUCTION STATISTICS

PATCHAWARRA CENTRAL BLOCK

MARCH DRILLING						SA97 - PC EXPLORATION - Y602													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
1-Mar	11	PUP Detail	HPT,HPW	6	186		8.00							8.00		0.50			
5-Mar	11	PUP Detail						1.50						1.50					
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9																			
TOTAL DRILLING RIG GE11				6	186		8.00	1.50						9.50		0.50	19.58	23.25	31.00
TOTAL ALL RIGS THIS MONTH				6	186		8.00	1.50						9.50		0.50	19.58	23.25	31.00
PROJECT TO DATE TOTALS				63	1878		69.50	3.25	0.25					73.00		4.75	25.73	27.02	29.81
Project Brought Forward				57	1692		61.50	1.75	0.25					63.50		4.25	26.65	27.51	29.68

FEBRUARY DRILLING						SA97 - PC EXPLORATION - Y602													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
25-Feb	11	PUP Detail																	
26-Feb	11	PUP Detail	HPT,HPX	7	179		6.50		0.25					6.75		0.75			
27-Feb	11	PUP Detail	HPS,HPX	8	196		8.75							8.75		1.25			
28-Feb	11	PUP Detail	HPS,HPT,HPW	6	168		6.50							6.50					
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9																			
TOTAL DRILLING RIG GE11				21	543		21.75		0.25					22		2.00	24.68	24.97	25.86
TOTAL ALL RIGS THIS MONTH				21	543		21.75		0.25					22.00		2.00	24.68	24.97	25.86
PROJECT TO DATE TOTALS				57	1692		61.50	1.75	0.25					63.50		4.25	26.65	27.51	29.68
Project Brought Forward				36	1149		39.75	1.75						41.50		2.25	27.69	28.91	31.92

SEPTEMBER DRILLING						SA97 - PC EXPLORATION - Y602													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
8-Sep	9	PUP Detail	HPP	4	128		4.50							4.50		0.75			
9-Sep	9	PUP Detail	HPW	5	133		4.75							4.75					
10-Sep	9	PUP Detail	HPW	2	58		2.00							2.00		0.25			
11-Sep	9	PUP Detail						0.50						0.50					
3-Sep	11	WL43	HRC,HRB	8	327		10.00	0.50						10.50		0.50			
4-Sep	11	WL43	HRB,HRC	2	82		3.00	0.50						3.50					
8-Sep	11	PUP Detail	HPR,HPY,HPZ	7	196		8.00							8.00		0.50			
9-Sep	11	PUP Detail	HPY	4	114		3.50							3.50		0.25			
10-Sep	11	PUP Detail	HPQ,HPY	4	111		4.00							4.00					
11-Sep	11	PUP Detail						0.25						0.25					
TOTAL: WL43				10	409		13.00	1.00						14.00		0.50	29.21	31.46	40.90
TOTAL: PUP DETAIL				26	740		26.75	0.75						27.50		1.75	26.91	27.66	28.46
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				11	319		11.25	0.50						11.75		1.00	27.15	28.36	29.00
TOTAL DRILLING RIG GE11				25	830		28.50	1.25						29.75		1.25	27.90	29.12	33.20
TOTAL ALL RIGS THIS MONTH				36	1149		39.75	1.75						41.50		2.25	27.69	28.91	31.92
PROJECT TO DATE TOTALS				36	1149		39.75	1.75						41.50		2.25	27.69	28.91	31.92
Project Brought Forward																			

~ APPENDIX II (e) ~

DRILLING PRODUCTION STATISTICS

PATCHAWARRA EAST BLOCK

OCTOBER DRILLING						SA97 - PE EXPLORATION - Y605													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
18-Oct	9	Tooroo						6.75						6.75					
19-Oct	9	Tooroo	HYT,HYZ	6	276		10.00	0.75						10.75		0.50			
20-Oct	9	Tooroo	HYT,HYY,HYZ	7	293		10.25							10.25		0.75			
21-Oct	9	Tooroo	HYW,HYY,HYZ	3	123		4.75							4.75		0.50			
21-Oct	9	Cuttapirrie Terrace	HZE	1	29		1.25	3.50						4.75					
22-Oct	9	Cuttapirrie Terrace	HZD,HZE,HZF	8	231		9.75							9.75		0.25			
23-Oct	9	Cuttapirrie Terrace	HZD	4	116		5.25							5.25		0.25			
18-Oct	11	Tooroo						6.75						6.75					
19-Oct	11	Tooroo	HYX,HYY	6	228		10.00	0.25						10.25		0.25			
20-Oct	11	Tooroo	HYW,HYX	6	264		9.00					1.00		10.00		0.50			
21-Oct	11	Tooroo	HYW	2	94		4.75							4.75		0.25			
21-Oct	11	Cuttapirrie Terrace	HZE	1	29		1.75	3.00						4.75					
22-Oct	11	Cuttapirrie Terrace	HZC,HZE,HZF	8	232		9.75							9.75		0.25			
23-Oct	11	Cuttapirrie Terrace	HZC,HZF	4	115		5.50							5.50		0.25			
TOTAL - TOOROO				30	1278		48.75	14.50				1.00		64.25		2.75	19.89	25.69	42.60
TOTAL - CUTTAPIRRIE TERRACE				26	752		33.25	6.50						39.75		1.00	18.92	22.62	28.92
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				29	1068		41.25	11.00						52.25		2.25	20.44	25.89	36.83
TOTAL DRILLING RIG GE11				27	962		40.75	10.00				1.00		51.75		1.50	18.59	23.04	35.63
TOTAL ALL RIGS THIS MONTH				56	2030		82.00	21.00				1.00		104.00		3.75	19.52	24.46	36.25
PROJECT TO DATE TOTALS				350	11438.5	3	417.00	38.25	1.50	1.25	3.25	19.50		480.75		29.25	23.79	26.21	32.68
Project Brought Forward				294	9408.5	3	335.00	17.25	1.50	1.25	3.25	18.50		376.75		25.50	24.97	26.62	32.00

APRIL DRILLING						SA97 - PE EXPLORATION Y605													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
5-Apr	9	Deramookoo	HPD,HPF,HPG,HPH	7	201		7.00							7.00		0.50			
5-Apr	9	Cuttapirrie	HLP,HLQ	4	119		4.00							4.00					
6-Apr	9	Cuttapirrie	HLP,HLR,HLS,HLT	11	354		10.50							10.50		0.75			
7-Apr	9	Cuttapirrie	HLT	3	90		3.00							3.00					
7-Apr	9	Deramookoo	HPJ,HPK	5	150		5.00	2.00	0.50					7.50		0.75			
8-Apr	9	Deramookoo	HPJ,HPK	2	60		2.50							2.50					
8-Apr	9	Distal Gas	HMN	3	98		4.25	2.75	0.25					7.25		0.75			
9-Apr	9	Distal Gas	HMN,HMR	8	299		10.00							10.00		0.75			
10-Apr	9	Distal Gas	HMR,HMN,HMQ	8	306		10.00							10.00		1.00			
11-Apr	9	Distal Gas	HMN,HMQ,HMS,HMT	8	309		10.25							10.25		0.75			
12-Apr	9	Distal Gas	HMN,HMS,HMT	7	259		9.25					1.00		10.25		0.75			
13-Apr	9	Distal Gas	HMT,HMS,HMM,HMK	8	277		10.25							10.25		0.75			
14-Apr	9	Distal Gas	HMJ,HMH,HMS,HMT	6	203		7.00					3.25		10.25		0.75			
15-Apr	9	Distal Gas	HMN,HMJ,HMK	5	171	1	7.00					0.25		7.25		0.50			
5-Apr	11	Deramookoo	HPE,HPB,HPA	7	187		6.25							6.25		0.50			
5-Apr	11	Cuttapirrie	HLP,HLN	4	115		3.75							3.75					
6-Apr	11	Cuttapirrie	HLN,HLP	3	87		2.75							2.75					
6-Apr	11	Deramookoo	HPE,HPA,HPF,HPH,HPB	8	229		7.50							7.50		1.00			
7-Apr	11	Cuttapirrie	HLQ,HLR	9	273		8.25		0.50					8.75					
7-Apr	11	Deramookoo	HPB,HPL	2	58		1.75							1.75					
8-Apr	11	Cuttapirrie	HLT	2	63		3.75							3.75					
8-Apr	11	Distal Gas	HMM	1	41	1	2.50	2.75	0.25			0.75		6.25		0.75			
9-Apr	11	Distal Gas	HML	3	106		5.00					6.00		11.00		0.50			
10-Apr	11	Distal Gas	HML,HMR	4	124	1	7.00					3.50		10.50		0.75			
11-Apr	11	Distal Gas	HMH,HMJ,HMK,HML,HMM,HMR	6	204		9.00			1.25				10.25		0.75			
12-Apr	11	Distal Gas	HMJ,HMP,HMQ	8	280		10.00							10.00		1.00			
13-Apr	11	Distal Gas	HML,HMM	7	245		9.50					0.50		10.00		1.00			
14-Apr	11	Distal Gas	HMM,HMP,HMQ	7	246		9.25					0.75		10.00		0.75			
15-Apr	11	Distal Gas	HMJ	2	72		5.00					2.50		7.50		0.25			
TOTAL - DERAMOOKOO				31	885		30.00	2.00	0.50					32.50		2.75	27.23	29.50	28.55
TOTAL - DISTAL GAS				91	3240	3	125.25	5.50	0.50	1.25		18.50		151.00		11.75	21.45	22.54	35.60
TOTAL - CUTTAPIRRIE				36	1101		36.00		0.50					36.50		0.75	30.16	30.58	30.58
ROCKBITS: 8/4 A17522; 10/4 A15264; 15/4 81956																			
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				85	2896	1	100.00	4.75	0.75			4.50		110.00		8.00	26.33	27.71	34.07
TOTAL DRILLING RIG GE11				73	2330	2	91.25	2.75	0.75	1.25		14.00		110.00		7.25	21.18	22.13	31.91
TOTAL ALL RIGS THIS MONTH				158	5226	3	191.25	7.50	1.50	1.25		18.50		220.00		15.25	23.75	24.91	33.07
PROJECT TO DATE TOTALS				294	9409	3	335.00	17.25	1.50	1.25	3.25	18.50		376.75		25.50	24.97	26.62	32.00
Project Brought Forward				136	4183		143.75	9.75			3.25			156.75		10.25	26.69	29.10	30.76

MARCH DRILLING						SA97 - PE EXPLORATION - Y605													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
16-Mar	9	Proximal Gas	HHY	2	58		1.75							1.75					
20-Mar	9	Proximal Gas						0.50						0.50					
21-Mar	9	Proximal Gas	HMB,HMC	9	267		10.00	0.75						10.75		0.75			
22-Mar	9	Proximal Gas	HHY,HLY	6	190		6.25	3.25						9.50		0.75			
23-Mar	9	Proximal Gas	HLW,HLX,HLY	10	302		10.25							10.25		1.00			
24-Mar	9	Proximal Gas	HLW,HLZ	9	259		10.00							10.00		1.25			
25-Mar	9	Proximal Gas	HLW	4	130		4.50							4.50		0.25			
25-Mar	9	Cuttapirrie Reg.	HLP	5	145		5.75							5.75		0.50			
26-Mar	9	Proximal Gas	HLW	2	58		1.75							1.75		0.25			
26-Mar	9	Cuttapirrie Reg.	HLN,HLM	8	256		7.75	0.75						8.50					
27-Mar	9	Cuttapirrie Reg.	HLR,HLQ,HLM,HLN	10	302		10.00	0.50						10.50		0.50			
28-Mar	9	Cuttapirrie Reg.	HLN,HLM,HLS	6	187		6.00							6.00		0.50			
21-Mar	11	Proximal Gas	HHY,HMC	7	227		7.00	1.50						8.50		0.50			
22-Mar	11	Proximal Gas	HMC,HMF	6	180		6.75	2.50			1.00			10.25		0.75			
23-Mar	11	Proximal Gas	HMD,HME,HMF	7	221		7.25				0.75			8.00		0.50			
23-Mar	11	Cuttapirrie Reg.	HLP	1	35		1.00				1.50			2.50					
24-Mar	11	Proximal Gas	HLY,HMA,HMB,HMD	10	320		10.50							10.50		0.50			
25-Mar	11	Proximal Gas	HLX,HLY,HLZ	10	314		10.50							10.50		0.50			
26-Mar	11	Proximal Gas	HLW,HLX,HMA	9	285		10.25							10.25		0.50			
27-Mar	11	Cuttapirrie Reg.	HLN,HLM,HLS,HLT	9	273		10.50							10.50		0.50			
28-Mar	11	Cuttapirrie Reg.	HLP	3	87		3.00							3.00		0.75			
28-Mar	11	Deramookoo	HPC	3	87		3.00							3.00					
TOTAL - PROXIMAL GAS				91	2811		96.75	8.50			1.75			107.00		7.50	26.27	29.05	30.89
TOTAL - CUTTAPIRRIE REGIONAL				42	1285		44.00	1.25			1.50			46.75		2.75	27.49	29.20	30.60
TOTAL - DERAMOOKOO				3	87		3.00							3.00			29.00	29.00	29.00
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				71	2154		74.00	5.75						79.75		5.75	27.01	29.11	30.34
TOTAL DRILLING RIG GE11				65	2029		69.75	4.00			3.25			77.00		4.50	26.35	29.09	31.22
TOTAL ALL RIGS THIS MONTH				136	4183		143.75	9.75			3.25			156.75		10.25	26.69	29.10	30.76
PROJECT TO DATE TOTALS				136	4183		143.75	9.75			3.25			156.75		10.25	26.69	29.10	30.76
Project Brought Forward																			

DECEMBER DRILLING						SA97 - PE EXPLORATION - Y300												
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
			Brought Forward	202	7050		286.25	12.00	4.50	1.5				304.25	7	26.5	23.17	24.63	34.90
17-Dec	9	Western Prospects	GNY,GNZ,GPD,HEE	8	270		10.00							10.00		1.00			
18-Dec	9	Western Prospects	GNX,GPD,HEE,HGA	9	309		10.75							10.75		0.75			
17-Dec	11	Western Prospects	GNY,GPC,GNZ	7	244		8.75			1.25				10.00		1.00			
18-Dec	11	Western Prospects	GNX,GNY,GPC,GPD	8	274		10.00							10.00		0.50			
TOTAL: WESTERN PROSPECTS				221	7693		309.00	6.00	4.50	2.75				322.25	7.00	28.75	23.87	24.90	34.81
TOTAL: ELLAR				13	454		16.75	6.00						22.75		1.00	19.96	27.10	34.92
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				116	4057		161.00	6.00	2.25					169.25	7.00	14.00	23.97	25.20	34.97
TOTAL DRILLING RIG GE11				118	4090		164.75	6.00	2.25	2.75				175.75		15.75	23.27	24.83	34.66
TOTAL ALL RIGS THIS MONTH				234	8147		325.75	12.00	4.50	2.75				345.00	7.00	29.75	23.61	25.01	34.82
PROJECT TO DATE TOTALS				259	9012		358.25	35.00	16.00	2.75				412.00	7.00	32.00	21.87	25.16	34.80
Project Brought Forward				25	865		32.50	23.00	11.50					67.00		2.25	12.91	26.62	34.60

DECEMBER DRILLING						SA97 - PE EXPLORATION - Y300													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
1-Dec	9	Western Prospects	HEW,HEX,HEY,HFK,HEZ	7	245		10.25							10.25		0.75			
2-Dec	9	Western Prospects	GPF,HES,HEY,HEZ,HFT	7	245		10.00							10.00		1.00			
3-Dec	9	Western Prospects	GNS,GPE,HEN,HFT,HFP	8	280		10.00							10.00		1.00			
4-Dec	9	Western Prospects	HEL,HEN	7	248		10.25							10.25		1.25			
5-Dec	9	Western Prospects	GNS,HFP,HFQ	7	252		10.25							10.25		1.25			
6-Dec	9	Western Prospects	GNS,GNT,HEE,HFQ	7	252		10.25							10.25		1.25			
7-Dec	9	Western Prospects	GNS,GPE,GPH	4	144		8.00		0.25					8.25		0.75			
8-Dec	9	Western Prospects	GPG,HFG,HGG	6	208		7.25	2.50						9.75		0.25			
9-Dec	9	Western Prospects	GNS,HFR,HFF,HGH,HGK	7	246		10.25							10.25		0.75			
10-Dec	9	Western Prospects	HEZ,HEW,HFC,HFT	7	245		10.00							10.00		0.50			
11-Dec	9	Western Prospects	HEW,HGA,HGB	8	280		10.00							10.00		0.50			
12-Dec	9	Western Prospects	HES,GPF	7	245		10.00							10.00		0.75			
13-Dec	9	Western Prospects	GNS,HES	4	134		6.00		2.00					8.00		0.75			
14-Dec	9	Western Prospects	GPE,HGE	5	175		6.75							6.75		0.75			
14-Dec	9	Ellar	HZA	2	70		2.75	0.50						3.25					
15-Dec	9	Ellar	HZA,HZB	5	175		6.25	2.00						8.25		0.25			
16-Dec	9	Western Prospects	GNZ	1	34		2.00	1.00						3.00	7.00	0.50			
1-Dec	11	Western Prospects	HEY,HEZ,HEW,HEX,HFR,HFC	7	242		10.00							10.00		0.75			
2-Dec	11	Western Prospects	HFC,HEW,HFR,GNS	7	239		10.00							10.00		1.00			
3-Dec	11	Western Prospects	GNS,GPF,HFR,HES	6	210		10.00							10.00		1.00			
4-Dec	11	Western Prospects	HFR,HES	7	244		10.00							10.00		1.00			
5-Dec	11	Western Prospects	GPE,HFQ,GNS,HEL	7	245		10.00							10.00		1.00			
6-Dec	11	Western Prospects	GNT,GNW	7	245		10.00							10.00		1.00			
7-Dec	11	Western Prospects	GNW,HEE,GPG	4	139		8.00		0.25					8.25		0.75			
8-Dec	11	Western Prospects	GPG,HGK,HFK	5	175		7.25	2.50						9.75		0.25			
9-Dec	11	Western Prospects	GPG,HFF,HFR,GNS	7	238		10.00							10.00		0.50			
10-Dec	11	Western Prospects	HEZ,HFY,HFC	7	245		10.00							10.00		0.50			
11-Dec	11	Western Prospects	GPF,HFW,HFX,HFY,HGB	7	245		9.75							9.75		1.25			
12-Dec	11	Western Prospects	GPE,GPF,HFX	7	245		9.75							9.75		1.25			
13-Dec	11	Western Prospects	GPE,GNX	4	140		6.00		2.00					8.00		1.00			
14-Dec	11	Western Prospects	GPE,HGE,HEP	6	210		7.75							7.75		1.00			
14-Dec	11	Ellar	HZB	1	35		1.25	1.00						2.25					
15-Dec	11	Ellar	HZB	5	174		6.50	2.50						9.00		0.75			
15-Dec	11	Western Prospects	HEP	1	35		1.25							1.25					
16-Dec	11	Western Prospects	GPA,GPC,HEP	8	266		8.50			1.50				10.00		1.25			
			Carried Forward																
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9																			
TOTAL DRILLING RIG GE11																			
TOTAL ALL RIGS THIS MONTH				202	7050		286.25	12.00	4.50	1.50				304.25	7.00	26.50	23.17	24.63	34.90
PROJECT TO DATE TOTALS																			
Project Brought Forward																			

NOVEMBER DRILLING						SA97 - PE EXPLORATION - Y300													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
27-Nov	9	Western Prospects						5.25						5.25					
28-Nov	9	Western Prospects						5.50	2.50					8.00					
29-Nov	9	Western Prospects	GPG,HGG,HFC,HEY	6	203		7.75		2.25					10.00		1.00			
30-Nov	9	Western Prospects	HEW,HEX,HFF,HFG,HEY	8	278		10.75							10.75		0.50			
27-Nov	11	Western Prospects						6.50						6.50					
28-Nov	11	Western Prospects						5.50	2.50					8.00					
29-Nov	11	Western Prospects	HFC,HFE,HEZ,HEY	4	139		4.50	0.25	4.25					9.00		0.25			
30-Nov	11	Western Prospects	HFE,HEZ,HFK,HFC	7	245		9.50							9.50		0.50			
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				14	481		18.50	10.75	4.75					34.00		1.50	14.15	26.00	34.36
TOTAL DRILLING RIG GE11				11	384		14.00	12.25	6.75					33.00		0.75	11.64	27.43	34.91
TOTAL ALL RIGS THIS MONTH				25	865		32.50	23.00	11.50					67.00		2.25	12.91	26.62	34.60
PROJECT TO DATE TOTALS				25	865		32.50	23.00	11.50					67.00		2.25	12.91	26.62	34.60
Project Brought Forward																			

~ APPENDIX II (f) ~

DRILLING PRODUCTION STATISTICS

PATCHAWARRA SOUTHWEST BLOCK

SEPTEMBER DRILLING						SA97 - PSW EXPLORATION - Y604												
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
1-Sep	9	East/Central Gas	HRG,HRH	7	244		8.75							8.75		0.50			
2-Sep	9	East/Central Gas	HRH,HRJ,HRK	8	270		10.00							10.00		0.50			
3-Sep	9	East/Central Gas	HRD,HRE,HRF,HRK	7	224		9.00			1.00				10.00		0.50			
4-Sep	9	East/Central Gas	HRE,HRF	3	94		4.25							4.25	6.50	0.75			
5-Sep	9	East/Central Gas	HRF,HRG,HRH	8	241		8.50	0.25						8.75		0.25			
6-Sep	9	PUP Detail	HPP,HPZ	7	215		8.00	1.25						9.25		0.25			
7-Sep	9	PUP Detail	HPP,HPY	6	138		6.50		0.25					6.75		0.50			
8-Sep	9	PUP Detail	HPP,HPW,HPY	4	104		3.50							3.50					
9-Sep	9	PUP Detail	HPP,HPW	2	49		2.00							2.00		0.75			
11-Sep	9	PUP Detail						3.75						3.75					
1-Sep	11	East/Central Gas	HRL,HRN	10	302		10.25							10.25		0.50			
2-Sep	11	East/Central Gas	HRN,HRP	9	259		8.75							8.75		0.50			
4-Sep	11	East/Central Gas	HRG,HRH,HRJ,HRK	6	186		7.00							7.00		0.50			
5-Sep	11	East/Central Gas	HRJ,HRK	7	210		8.25	0.25						8.50		0.25			
6-Sep	11	PUP Detail	HPQ,HPZ	5	164		6.75	1.25		1.00				9.00		0.50			
7-Sep	11	PUP Detail	HPR,HPQ	7	208		8.75		0.25					9.00		0.75			
10-Sep	11	PUP Detail	HPQ	1	29		1.00							1.00		0.25			
11-Sep	11	PUP Detail						3.75						3.75					
TOTAL - EAST/CENTRAL GAS				65	2030		74.75	0.50		1.00				76.25	6.50	4.25	26.62	27.16	31.23
TOTAL - PUP DETAIL				32	907		36.5	10.00	0.50	1.00				48.00		3.00	18.90	24.85	28.34
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				52	1579		60.50	5.25	0.25	1.00				67.00	6.50	4.00	23.57	26.10	30.37
TOTAL DRILLING RIG GE11				45	1358		50.75	5.25	0.25	1.00				57.25		3.25	23.72	26.76	30.18
TOTAL ALL RIGS THIS MONTH				97	2937		111.3	10.50	0.50	2.00				124.25	6.50	7.25	23.64	26.40	30.28
PROJECT TO DATE TOTALS				384	11871		449.25	31.25	0.50	7.75				488.75	6.50	31.75	24.29	26.42	30.91
Project Brought Forward				287	8934		338.00	20.75		5.75				364.50		24.50	24.51	26.43	31.13

AUGUST DRILLING						SA97 - PSW EXPLORATION - Y604													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
			Brought Forward	243	7594		286.25	15.75		5.75				307.75		20.75			
29-Aug	9	East/Central Gas	HRE,HRQ,HRR,HRY,HSA	7	237		10.00							10.00		0.50			
30-Aug	9	East/Central Gas	HRD,HRE,HRF	9	273		10.00							10.00		0.50			
31-Aug	9	East/Central Gas	HRE,HRG,HRH	4	131		6.50	2.50						9.00		0.50			
29-Aug	11	East/Central Gas	HRL,HRM,HRN,HRW	10	296		10.00							10.00		0.75			
30-Aug	11	East/Central Gas	HRL,HRM,HRN	8	231		8.75							8.75		1.00			
31-Aug	11	East/Central Gas	HRM	6	172		6.50	2.50						9.00		0.50			
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				135	4273		169.75	10.50		2.25				182.50		10.75	23.41	25.17	31.65
TOTAL DRILLING RIG GE11				152	4661		168.25	10.25		3.50				182.00		13.75	25.61	27.70	30.66
TOTAL ALL RIGS THIS MONTH				287	8934		338.00	20.75		5.75				364.50		24.50	24.51	26.43	31.13
PROJECT TO DATE TOTALS				287	8934		338.00	20.75		5.75				364.50		24.50	24.51	26.43	31.13
Project Brought Forward																			

AUGUST DRILLING						SA97 - PSW EXPLORATION - Y604													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
6-Aug	9	East/Central Gas						0.25						0.25					
7-Aug	9	East/Central Gas						6.25						6.25					
13-Aug	9	East/Central Gas	HSP,HSQ	4	127		5.50							5.50		0.50			
14-Aug	9	East/Central Gas	HSN,HSP,HSQ	8	252		10.00							10.00		0.50			
15-Aug	9	East/Central Gas	HSP,HSQ	7	221		9.00							9.00		0.50			
16-Aug	9	East/Central Gas	HSP,HSR,HTA,HTB	8	239		10.00							10.00		1.00			
17-Aug	9	East/Central Gas	HSQ,HSR,HSX,HTA	7	220		10.00							10.00		1.00			
18-Aug	9	East/Central Gas	HSG,HSM,HSN,HSX	8	252		10.00							10.00		1.00			
19-Aug	9	East/Central Gas	HSE,HSG	3	119		6.25	1.50		1.25				9.00		0.25			
20-Aug	9	East/Central Gas	HSE,HSG,HSS	6	203		7.00							7.00		0.50			
21-Aug	9	East/Central Gas	HSG,HSS,HSM	5	154		6.50							6.50		0.50			
22-Aug	9	East/Central Gas	HSM,HSN,HSQ,HSR,HSS	8	242		10.00							10.00		0.50			
23-Aug	9	East/Central Gas	HSN,HSQ,HSR,HSS,HST	9	279		10.00							10.00		0.50			
24-Aug	9	East/Central Gas	HSW,HSD,HSC,HSM,HSQ,HSR	7	205		9.00			1.00				10.00		0.50			
25-Aug	9	East/Central Gas	HRQ,HRR,HRS,HRW,HRY,HRZ,HSC	8	273		10.00							10.00		0.50			
26-Aug	9	East/Central Gas	HRX,HRY,HRZ,HRQ,HAR,HSA,HSB	9	282		10.00							10.00		0.50			
27-Aug	9	East/Central Gas	HRR,HRS,HRT	9	285		10.00							10.00		0.50			
28-Aug	9	East/Central Gas	HRQ,HRR,HRS,HRT	9	279		10.00							10.00		0.50			
6-Aug	11	East/Central Gas						0.25						0.25					
7-Aug	11	East/Central Gas						6.00						6.00					
13-Aug	11	East/Central Gas	HSQ,HWP,HSN,HSL	6	204		6.50							6.50		0.50			
14-Aug	11	East/Central Gas	HSL,HSN,HSM	9	279		11.00							11.00		1.00			
15-Aug	11	East/Central Gas	HSM,HSH,HSQ,HSK,HTA,HTB	7	233		7.50			2.50				10.00		1.00			
16-Aug	11	East/Central Gas	HSK,HSG,HTB,HSH,HSJ,HSL	9	274		10.00							10.00		1.00			
17-Aug	11	East/Central Gas	HSR	6	186		7.50							7.50		1.00			
18-Aug	11	East/Central Gas	HTE,HTC,HTD,HSL,HSK,HSJ,HSH,HSG	9	285		10.00							10.00		1.00			
19-Aug	11	East/Central Gas	HSF,HTE,HSG,HSH	5	157		7.50	1.50						9.00		0.50			
20-Aug	11	East/Central Gas	HSJ,HSK,HSL,HTE,HTF	10	321		10.25							10.25		0.75			
21-Aug	11	East/Central Gas	HSC,HSD,HSF,HSH,HTF	8	244		10.25							10.25		0.25			
22-Aug	11	East/Central Gas	HSC,HSF,HSG,HSZ,HTB	6	179		5.75							5.75		0.75			
23-Aug	11	East/Central Gas	HSM,HSN,HSQ,HSR,HSZ	8	237		9.25							9.25		0.75			
24-Aug	11	East/Central Gas	HSY,HSG,HSM,HSN,HSQ,HSR	9	298		10.25							10.25		0.75			
25-Aug	11	East/Central Gas	HSC,HSD,HSE	7	216		7.50			1.00				8.50		0.50			
26-Aug	11	East/Central Gas	HSA,HTE,HRP,HRN,HRM,HRL	11	315		10.50							10.50		0.50			
27-Aug	11	East/Central Gas	HRM,HRR,HRS,HRW,HSD,HTC	9	273		9.25							9.25		0.50			
28-Aug	11	East/Central Gas	HRH,HRN,HRP,HRQ,HRS	9	261		10.00							10.00		0.75			
			Carried Forward																
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9																			
TOTAL DRILLING RIG GE11																			
TOTAL ALL RIGS THIS MONTH				243	7594		286.25	15.75		5.75				307.75		20.75			
PROJECT TO DATE TOTALS				243	7594		286.25	15.75		5.75				307.75		20.75			
Project Brought Forward																			

~ APPENDIX II (g) ~

DRILLING PRODUCTION STATISTICS

TOOLACHEE BLOCK

AUGUST DRILLING						SA97 - TOOLACHEE FIELD 3D - Y607													
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
4-Aug	9	Toolachee Field 3D						0.50						0.50					
5-Aug	9	Toolachee Field 3D	TR208,81TL31	2	136		7.25	1.75						9.00		0.50			
6-Aug	9	Toolachee Field 3D	81TL20,81TL25	3	183		7.25					1.00		8.25		0.25			
4-Aug	11	Toolachee Field 3D						0.50						0.50					
5-Aug	11	Toolachee Field 3D	81TL07,81TL06	3	179		8.25	1.00						9.25		0.25			
6-Aug	11	Toolachee Field 3D	81TL04,81TL06	3	184		7.75							7.75		0.25			
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				5	319		14.50	2.25				1.00		17.75		0.75	17.97	20.58	63.80
TOTAL DRILLING RIG GE11				6	363		16.00	1.50						17.50		0.50	20.74	22.69	60.50
TOTAL ALL RIGS THIS MONTH				11	682		30.50	3.75				1.00		35.25		1.25	19.35	21.65	62.00
PROJECT TO DATE TOTALS				11	682		30.50	3.75				1.00		35.25		1.25	19.35	21.65	62.00
Project Brought Forward																			

AUGUST DRILLING						SA97 - DULLINGARI/BURKE 3D - Y608												
DATE	RIG	PROSPECT	LINES	HOLES	METRES	R/B	WORK	P/M	S/B	W.O.W	TRAV	R/B HRS	OTHER	TOTAL	DOWN	TRAVEL	M/C.HR	M/W.HR	M/HOLE
1-Aug	9	Dull/Burke 3D	DR5472,5488	2	161		7.50	2.50	0.25					10.25					
2-Aug	9	Dull/Burke 3D	DR5664,5608,5632	3	237		10.25							10.25		0.50			
3-Aug	9	Dull/Burke 3D	DR5568,5528,5480	4	266		10.00							10.00		0.50			
4-Aug	9	Dull/Burke 3D	DR5496,5528,5792	3	213		9.50							9.50		0.50			
1-Aug	11	Dull/Burke 3D	DR5664,5472	2	167		7.50	2.50	0.25					10.25					
2-Aug	11	Dull/Burke 3D	DR5808,5464,5824	2	215		9.00					1.00		10.00		0.25			
3-Aug	11	Dull/Burke 3D	DR5824	1	77	2	4.00					6.00		10.00		0.50			
4-Aug	11	Dull/Burke 3D	DR5824	1	83	1	3.75					5.75		9.50		0.25			
ROCKBITS: 3/8 N32855, 586833; 4/8 96451																			
TOTAL DRILLING RIG GE8																			
TOTAL DRILLING RIG GE9				12	877		37.25	2.5	0.25					40		1.50	21.93	23.54	73.08
TOTAL DRILLING RIG GE11				6	542	3	24.25	2.5	0.25			12.75		39.75		1.00	13.64	14.65	90.33
TOTAL ALL RIGS THIS MONTH				18	1419	3	61.50	5.00	0.50			12.75		79.75		2.50	17.79	19.11	78.83
PROJECT TO DATE TOTALS				18	1419	3	61.50	5.00	0.50			12.75		79.75		2.50	17.79	19.11	78.83
Project Brought Forward																			

~ APPENDIX III ~

ELEVATIONS, PERMANENT MARKS AND WEATHERING DATA

(Included in Original to PIRSA only)

~ APPENDIX IV ~

WEATHERING SURVEY GUIDELINES

WEATHERING SURVEY

Weathering depths and velocities determined from upholes at selected locations on a seismic line will be used in a model to determine the static corrections used in processing. The field seismologist is responsible for the location, acquisition and interpretation of these upholes.

The number of upholes required on a line to comprehensively sample the sub-surface weathering will be constrained by logistics and cost. Within these limits a reliable sample can be obtained if the available upholes are placed with an understanding of the problems which can be produced in the model by poor placement.

The Uphole Programme Map is a guide showing the MINIMUM number of upholes required. Extra holes should be drilled if the terrain demands. The Santos Field Representative should be consulted prior to programming additional holes.

1. Models

   Generally the depths and velocities are simply interpolated between uphole locations. Ignoring the compulsory locations at intersections, the other upholes should be placed to sample the broad features of the terrain.

   Small to medium dunes cut by lines at right angles (or thereabouts) to the dune are best ignored and the upholes drilled in the interdune corridors. These dunes are easily modelled and any error will be over a small distance. Here it is most important to establish the base of the near surface weathering and not an arbitrary static for the dune.

   Large dunes, especially when cut at a shallow angle, should be sampled. The uphole should be around the peak, preferably on a flat section which should make for easier drilling and never on the dune slope face. Here a realistic number for the static is important as an error in the model is likely to be translated into a structural shift in the section. Uphole control will also be needed at the base of the dune.

2. Placement of Upholes

   Upholes are to be placed at locations shown on the Uphole Programme Map in this proposal:

   a. At all 1997 intersections and where indicated with earlier lines.
   b. At intervals not greater than 1.5 km.
   c. Around 5 stations from the ends of lines, if indicated.

   There may be exceptions.

   An uphole proposed at an intersection with an old line may be moved if the location is considered unsuitable for the 1997 line, adjacent to a well or well pad, or the intersection is inaccessible. The hole must be drilled on a peg.

Upholes at the ends of lines may also be moved if necessary. Upholes are preferred about 5-10 stations from the EOLs so they appear on the seismic section at a point of reasonable fold. Upholes closer than this to the EOL may be beyond the limits of the stack or be in the region of unreliable low fold. If an isolated topographic feature such as a dune exists near the EOL, the uphole should be shifted away from this feature such that it is drilled into more representative topography.

Upholes should be:

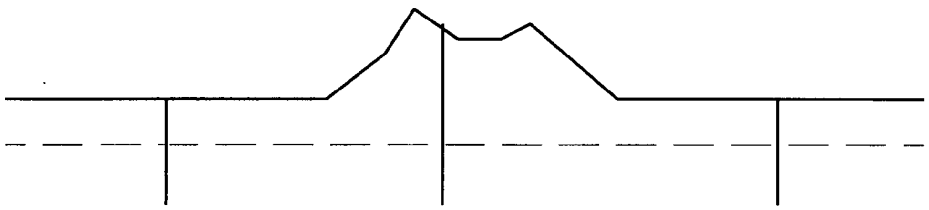
a. On a peg, except with intersections where the intersection should be drilled.
b. On the line, or as close as possible.
c. At a known elevation.

3. Depths of Upholes

The most important information from the uphole is the depth and velocity of the near surface layer(s). The slow velocity layers near the surface have a large effect on the static at the uphole, and on the choice of interpolation in the model. The sub-weathering layers need large errors in the velocity to change the static, as the following example demonstrates:

near surface	10m at 570 m/sec	=	17.5 msec
	10m at 500 m/sec	=	20.0 msec
	---		---
difference:	70 m/sec		2.5 msec
subweathering	20m at 1600 m/sec	=	12.5 msec
	20m at 2000 m/sec	=	10.0 msec
	---		---
difference:	400 m/sec		2.5 msec

a Generally 4 shots should be in the sub-weathering.
b. Sub-weathering velocities should be in the range 1600-2000 m/sec.
c. The elevation of the base of upholes should be similar. Time should not be wasted on extra drilling to achieve this, but holes on large dunes should be 6-12 metres deeper than on flats.



4. Weathering Depths

4.1 Wantana/Warrah, Cuttapirrie Regional, Proximal Gas, Distal Gas

The base of weathering is shallow and very consistent. On interdune flats and floodplains it is close to 10 metres except in Distal Gas where it is nearer 20 metres. The depth of weathering increases proportionally with the height of the dunes.

4.2 Innamincka Flank

Weathering depths for Innamincka Flank lines will mostly range from 40-60m although depths around 100m can be expected on the highest hills. The base of weathering is quite constant and weathering depths are influenced by the large changes in elevation. The base of holes should be kept as constant as possible. Some holes will need to be shifted from the programmed position because of terrain. Extra holes should be added to maintain the approximate 1.5 km spacing.

4.3 Merindal

Sand dunes and flats. Very constant base of weathering commonly near 12m on flats, increasing with elevation to 25-30m on highest dunes.

4.4 Meroo

Gibber hills. The base of weathering is quite constant and weathering depths increase directly with increase in elevation. 96-HGZ upholes show the base at 45-50m above datum.

4.5 Deramookoo Platform

The Deramookoo Platform area has a terrain of sandy/clay flat areas with occasional sand dune/ridges and lakes and tributaries. The weathering is flat at 10-15m on the flats, increasing to 24m under the dunes. The upholes are to be drilled to 24-30m on the flats, increasing with the height of any corresponding dunes.

4.6 Swan Lake South West

The area was last visited in 1993 when the Merrimelia 3D was acquired. The Maranji/Swan Lake region indicated a weathering of 15-20m on the flats. This depth increases with the height of the sand dunes. There was also silcrete intercepted which is generally at the base of weathering, providing an indicator that the weathering layer has been found.
Hence the depth of all upholes with be 30-36m.

4.7 Pondrinie 3D

Gibber hills - The base of weathering is quite constant and weathering depths increase directly with increase in elevation.
Gibber flats and sand dunes and flats - very constant base of weathering commonly near 15-20m.

4.8 Moomba/Big Lake 3D

The terrain is sand dune and clay flat country. The elevation of the base of weathering is flat and the weathering depth is dependent on elevation. The depth of weathering is 12-20m on the flats and increases in depth with the height of the sand dunes. Upholes are to be drilled to a depth of 30-48m.

4. Weathering Depths (cont.)

4.9 Innamincka Flank Extension

Weathering depths for Innamincka Flank lines will mostly range from 50-70m. The base of weathering is quite constant and weathering depths are influenced by the large changes in elevation. The base of holes should be kept as constant as possible.

4.10 Dullingari/Burke 3D

The terrain is sand dunes with interdunal sandy corridors. The elevation of the base of weathering is almost flat and the weathering depth is dependent of the elevation. The depth of weathering is about 50m in the north of the area and increases to 70m in the south. Upholes are to be drilled to a depth of 66m in the north, increasing to 84m in the south.

4.11 East/Central Gas

The East/Central Gas area has a terrain of sandy/clay/crabhole flat areas with occasional sand dunes/ridges, lakes and tributaries. The weathering tends to be flat at 10-20m on flats increasing to 30-40m under the dunes. Upholes are to be drilled to 30-36m, increasing with the height of dunes.

4.12 WL43

The WL43 area has a terrain of sandy/clay/crabhole flat areas with occasional sand dunes/ridges, lakes and tributaries. The weathering tends to be flat at 10-20m on flats increasing to 30-40m under the dunes. Upholes are to be drilled to 30-36m, increasing with the height of dunes.

4.13 P.U.P. Detail

The P.U.P. Detail area has a terrain of sandy/clay/crabhole flat areas with sand dunes/ridges and lakes, creeks and swamps (Thykamingana). The weathering tends to be flat at 8-25m, deeper under dunes. Upholes are to be drilled to 24-36m, increasing with the height of dunes.

4.14 Corkwood Nose

The weathering in the area is similar to that of Dullingari 3D with the exception of the weathering being slightly shallower. There is a deeper weathering at approximately 30-60m which is at an elevation of about 40-50m. The depth of the upholes will be 72-84m, the greater depth being on the higher gibber ground.

4.15 Toolachee Field 3D

The terrain is sand dunes with interdunal sandy corridors. The elevation of the base of weathering is consistent. The depth of weathering varies between 30 and 60m, averaging 35m.

4.16 Tooroo, Ellar, Cuttapirrie Terrace

The weathering throughout these three areas is much the same, with a weathering at approximately 10m beneath the flats portions. This depth increases with the increase in elevation of the sand dunes. The result is that the upholes are to be drilled to 30m on the flats, increasing in depth with the increase in the height of sand dunes.

4. Weathering Depths (cont.)

4.17 Western Prospects

The Western Prospects area has a terrain dominated by lakes and creeks with surrounding sandy/clay flats and some sand dunes. The base of weathering is flat at 10-20m depth on the flats, increasing to 32m under the dunes. The upholes are to be drilled to 30m on the flats, increasing where applicable with the heights of dunes.

NB. Check restrictions - Section 6. No upholes are to be drilled within 100m of any waterfilled lake or major water body. Holes are to be filled with cuttings and any excess cuttings remove from the CLCZ.

5 Recording and Presentation

Travel times will be recorded by Velocity Data using a down-hole geophone and weight drop surface source. Drops should be recorded with the geophone at depths of 2, 3, 4, 6, 8, 10, 12, 15, 18, 21, 24, 27, 30 metres then at 4 metre intervals to the bottom of the hole. Additional levels may be recorded at the discretion of the observer to enhance the accuracy of interpretation. Care should be taken to produce clean, sharp breaks with a minimum of background noise.

The observer will save an interpretation of the hole when the recording is complete. Only one or two velocity layers should be interpreted above a single sub-weathering layer (excluding layer from time zero to first data points).

The autopicks are not to be edited on screen at the time of recording. Any breaks that require to be changed from the autopick are to be noted on the first break plot and edited in the file.

The seismologist will monitor the first break plots to ensure the hole depth and sample interval is sufficient to define the weathered and sub-weathered layers.

The correct line name, station number and intersecting line must be annotated in the plot file header. Station numbers should not be copied from the list accompanying the uphole map as they are not the intersections of the surveyed line.

A sketch showing the uphole location, any intersecting lines and the relationship to adjacent pegs must be included on the plot, with explanatory notes relevant to the hole location and recording. An accurate description of the location, eg. claypan, crabhole flat, top of dune, flat near base of dune, dune slope etc, will aid the interpretation and confirm the location. Care should be taken to see that the station number in the header does not conflict with the sketch.

~ APPENDIX V ~

VEHICULAR EQUIPMENT LISTS

APPENDIX V

VEHICULAR EQUIPMENT LISTS

	PARTY 1161 **(February 1997 - January 1998)**	**PARTY 1160** **(September - December 1997)**
CAMP		
Party Chief	Toyota 4x4 Wagon	Toyota 4x4 Wagon
H.S. & E. Advisor	Toyota 4x4 Traytop	Toyota 4x4 Ute
Mechanic	Toyota 4x4 Ute	Toyota 4x4 Ute
Battery Charging	Mitsubishi Canter 4x4	Isuzu Truck
Water (8,000 litres)	International Paystar 6x6	MAN 6x6
		MAN 4x4 (2)
Generator/Fuel	International Paystar 6x6	
Generator/Fuel/Water	International Paystar 6x6	
Generators		Man 4x4
Mechanic	International Paystar 6x6	MAN 4x4 Flatbed
		MAN 4x4 Workshop
Tyres	International Paystar 6x6 (Aug - Jan)	
Supply	Hino 4x4	Hino 4x4
Fuel Haulage	Mack 6x6	Kenworth
Fuel		Isuzu
Stores		Isuzu
General Purpose	Mitsubishi Canter 4x4 (2, Feb - Jul)	MAN 4x4 Flatbed
	International Paystar 6x6	Isuzu
	John Deere "Gator" (Aug - Jan)	MAN 4x4
Accommodation	Trailers (5 - 6)	Trailers (7)
Kitchen	Trailer	Trailer
Diner	Trailers (1 - 2)	Trailer
Shower/Laundry	Trailers (1 - 2)	Trailer
Office & Accom.	Trailer	Trailer
Client Representative	Trailer	Trailer
Observer, Cable/Geophone Repair	Trailer/Van	Van
Mechanic's Workshop/Vibrator		
Spares	Trailer	Trailer
Stores	Trailer	
Fuel (26,000 litres)	Trailer	Trailer
IMS & Accom.	Trailer	
Chemical Toilets	Trailer	Trailer
RECORDING CREW		
Recording Truck	Hino	Hino
Vibrator Trucks	Mertz (4 - 5)	Mertz (4)
Line Boss	Toyota 4x4 Truck	Toyota 4x4 Truck
Line Crew	Toyota 4x4 Trucks (9 - 10)	Toyota 4x4 Trucks (5)
	Toyota 4x4 Wagons (1 - 2)	Toyota 4x4 Wagons (2)
Depegging/Spare	Toyota 4x Truck	
Vibrator Operators	Toyota 4x4 Wagon	Toyota 4x4 Wagon
Spread	International Paystar 6x6	Isuzu
	Mitsubishi Canter (Aug - Jan)	
Vibrator Maintenance	International Paystar 6x6	Isuzu

VEHICULAR EQUIPMENT LISTS (cont.)

SURVEY CREW		
Surveyors	Toyota 4x4 Trucks (4) John Deere "Gator" (Apr - Jul)	Toyota 4x4 Trucks (2) Nissan 4x4 Wagons (2) Landrover 4x4 Dual Cab
Line Pointer/Set Out	Toyota 4x4 Truck	
General Purpose/Stores	Hino	
Office/Accomodation	Caravan	Caravan
LINE PREPARATION CREW		
Bulldozers	Caterpiller D7 (1 - 2) Caterpillar D6 (0 - 2) Challenger 70 Rubber Track Challenger 65 Rubber Track	Caterpillar D7 (1) Caterpillar D6 (1)
Graders	Caterpillar 130G (2 - 3)	Caterpillar 130G (1)
Prime Movers	Transtar (2) Mack (2) Kenworth (1) White (with crane) (1)	Mack (2) White (with crane) (1)
General Purpose	Nissan 4x4 Truck (3) Toyota 4x4 (1 - 2)	Nissan 4x4 Truck (2)
Crew Change/Supply	Nissan 4x4 Wagon (Feb - Aug)	
Dozer Float	1 - 2	1
Accomodation/Kitchen/Shower	Trailers (2 - 3)	Trailer
Kitchen/Shower	Trailer	
Workshop/Generator	Trailer	
Drop-Deck	Trailer	
Water Tank	Trailer (1 - 2)	Trailer
Fuel Tank	Trailer	
WEATHERING DRILLING CREW	(rotated between parties)	
Drills	Bourne 1000 (2)	
Water Trucks	Ford LNT 8000 (2 - 4)	
Water/Fuel Truck	Isuzu 6x6	
General Purpose	Toyota 4x4 Trucks (2 - 4)	
Accomodation	Trailers (1 - 2)	
Kitchen	Trailer	
Diner/Crew Room	Trailer	
Ablutions	Trailer	
Spare Parts	Van	
Fuel	Trailer	
Generators	Trailer	
Camp Water	Truck	
WEATHERING RECORDING CREW	(rotated between parties)	
Weight Drop/Recorder	Toyote 4x4 Trucks (2)	
Supervisor/Seismologist	Toyota 4x4 Truck	
Accomodation	Caravan	
Accomodation/Office	Caravan	
Spare Parts	Trailer	

~ APPENDIX VI ~

PERSONNEL LISTS

APPENDIX VI

PERSONNEL LISTS

	Party 1161 **(February 1997 - January 1998)**	**Party 1160** **(September - December 1997)**
Geco-Prakla (Australia) Pty Ltd	Party Chief	Party Chief
	Assistant Party Chief/ Administrator	Assistant Party Chief/ Administrator
	Health, Safety & Environment Officer	Health, Safety & Environment Officer
	Mechanic (1 - 2)	Mechanic (1 - 2)
	Mechanic's Offsider	
	IMS Operator (3D operations)	
	Instrument Engineer	Instrument Engineer
	Vibrator Technician (1 - 2)	Vibrator Technician
	Technican (Cable, geophone repair etc)	Technican (Cable, geophone repair etc)
	Cooks (2)	Cooks (2)
	Camp Attendant	Camp Attendant
	Supply Driver	Supply Driver
	GPS Survey Crew (5 - 7)	
	Observers (1 - 3)	Observers (2 - 3)
	Vibrator Operators (4)	Vibrator Operators (3 - 4)
	Line Crew (16 - 18 for 2D operations, 28 - 32 for 3D)	Line Crew (16 - 19)
Dynamic Satellite Surveys Pty Ltd		GPS Survey Crew (4 - 8)
Denham & O'Keefe Earth Moving Contractors	Supervisor) Operators (5 - 10)) Mechanic) Cook)	rotated between parties
Geodrill Pty Ltd	Supervisor) Drillers (2 - 3)) Offsiders, etc. (5 - 7)) Mechanic) Cook)	rotated between parties
Velocity Data Pty Ltd	Seismologist) Observers (2))	rotated between parties

~ APPENDIX VII ~

DATA PROCESSING HISTORY

Processed Line	Joint Vent	Area Name	Acq	Pro	Santos Staff	Station	Statn Int	Line Length	Fld	No Chns	Acq Date	Data Proc	Stat Proc	Brute Rec	Prelim Stack	Prelim App	Final Stack	CGM App	Mig Rec	Tape Arc	CGM Rec	To GQS
97-DULL3D	TOO	DULLINGARI/BURKE 3D	GEC	WGC	EXPMIH		40.00	1427.335	24	768	160897	190897	260897	220997	240997	021097	301197	200198	200198	051197	130298	210198
97-GNS	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	1116-324	37.50	29.700	60	120	201297	070198	190198	200298	200298	160398	090498	300498	270598	260698	260698	270598
97-GPG	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	688-200	37.50	18.300	60	120	171297	070198	190198	060298	060298	160398	090498	130598	190598	260698	260698	210598
97-GPH	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	392-200	37.50	7.200	60	120	191297	070198	190198	060298	060298	170398	090498	130598	190598	260698	260698	030698
97-HEL	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-484	37.50	10.650	60	120	091297	191297	190198	060298	060298	170398	090498	140598	190598	260698	260698	030698
97-HEN	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	445-200	37.50	9.188	60	120	081297	191297	190198	060298	060298	170398	090498	140598	190598	260698	260698	030698
97-HEX	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-400	37.50	7.500	60	120	031297	191297	190198	060298	060298	170398	090498	140598	190598	260698	260698	030698
97-HEY	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	432-200	37.50	8.700	60	120	041297	191297	190198	060298	060298	170398	090498	140598	190598	260698	260698	030698
97-HFC	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-656	37.50	17.100	60	120	151297	230198	190198	200298	200298	180398	090498	150698	190698	260698	260698	220698
97-HFCD	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	208-332	37.50	4.650	60	120	151297	230198	190198	160298	200298	200398	090498	270598	280598	260698	260698	120698
97-HFE	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	360-200	37.50	6.000	60	120	031297	191297	190198	060298	060298	170398	090498	220598	270598	260698	260698	030698
97-HFF	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	688-200	37.50	18.300	60	120	141297	090298	190198	270298	270298	180398	090498	220598	270598	260698	260698	230698
97-HFG	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-544	37.50	12.900	60	120	121297	191297	190198	200298	200298	180398	090498	290598	050698	260698	260698	190698
97-HFH	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-367	37.50	6.263	60	120	111297	191297	190198	200298	200298	180398	090498	270598	280598	260698	260698	030698
97-HFK	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-524	37.50	12.150	60	120	101297	191297	190198	060298	060298	170398	090498	220598	270598	260698	260698	030698
97-HFKD	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	294-430	37.50	5.100	60	120	101297	191297	190198	160298	160298	200398	090498	270598	280598	260698	260698	120698
97-HFP	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-440	37.50	9.000	60	120	081297	191297	190198	060298	060298	170398	090498	260598	270598	260698	260698	030698
97-HFQ	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	543-200	37.50	12.863	60	120	081297	191297	190198	060298	060298	170398	090498	260598	270598	260698	260698	030698
97-HFR	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	916-206	37.50	26.625	60	120	071297	191297	190198	200298	200298	190398	090498	220598	220598	260698	260698	220698
97-HFT	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-680	37.50	18.000	60	120	161297	070198	190198	160298	160298	190398	090498	290598	050698	260698	260698	190698
97-HGG	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	508-200	37.50	11.550	60	120	191297	070198	190198	060298	060298	190398	090498	260598	280598	260698	260698	030698
97-HGH	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-408	37.50	7.800	60	120	121297	230198	190198	200298	200298	200398	090498	260598	280598	260698	260698	230698
97-HGJ	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	205-388	37.50	6.863	60	120	181297	070198	190198	060298	060298	200398	090498	260598	280598	260698	260698	030698
97-HGK	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	557-817	37.50	9.750	60	120	181297	070198	190198	160298	160298	200398	090498	260598	280598	260698	260698	030698
97-HHQ	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	200-664	37.50	17.400	60	120	050397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HHR	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	201-585	37.50	14.400	60	120	050397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HHS	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	200-452	37.50	9.450	60	120	060397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HHT	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	201-557	37.50	13.350	60	120	060397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HHW	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	200-668	37.50	17.550	60	120	070397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HHX	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	201-441	37.50	9.000	60	120	070397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HHY	PE	PROXIMAL GAS	GEC	WGC	EXPMGM	205-1401	37.50	44.850	60	120	130397	200397	270397	100497	100497	110497	300497	060597	020597	290597	290597	220597
97-HHZ	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	200-624	37.50	15.900	60	120	070397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HJA	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	201-505	37.50	11.400	60	120	080397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HJB	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	200-388	37.50	7.050	60	120	080397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HJC	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	201-561	37.50	13.500	60	120	040397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HJD	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	200-668	37.50	17.550	60	120	040397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HJE	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	201-573	37.50	13.950	60	120	040397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HJF	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	200-464	37.50	9.900	60	120	030397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HJG	MEI	WANTANA/WARRAH	GEC	WGC	EXPPAG	200-492	37.50	10.950	60	120	080397	180397	210397	040497	040497	110497	220497	020597	220497	060597	060597	070597
97-HJH	MEI	WANTANA/WARRAH	GEC	WGC	EXPPAG	201-493	37.50	10.950	60	120	090397	180397	210397	040497	040497	110497	220497	020597	220497	060597	060597	070597
97-HJJ	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	405-897	37.50	18.450	60	120	120397	200397	260397	100497	100497	180497	300497	060597	020597	210597	210597	160597
97-HJK	MEI	WANTANA/WARRAH	GEC	WGC	EXPSJA	579-1185	37.50	22.725	60	120	110397	180397	260397	100497	100497	180497	300497	060597	020597	210597	210597	130597
97-HKY	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	201-501	37.50	11.250	60	120	010297	110297	270297	070397	070397	260397	110497	210497	180497	080597	080597	200597
97-HKZ	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	200-508	37.50	11.550	60	120	010297	110297	270297	070397	070397	260397	110497	210497	180497	080597	080597	200597
97-HLA	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	201-537	37.50	12.600	60	120	030297	110297	270297	070397	070397	260397	110497	210497	180497	080597	080597	200597
97-HLB	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	200-544	37.50	12.900	60	120	030297	110297	260297	070397	070397	260397	110497	210497	180497	080597	080597	200597
97-HLC	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	201-573	37.50	13.950	60	120	060297	110297	260297	070397	070397	260397	110497	210497	180497	080597	080597	200597

Processed Line	Joint Vent	Area Name	Acq	Pro	Santos Staff	Station	Statn Int	Line Length	Fld	No Chns	Acq Date	Data Proc	Stat Proc	Brute Rec	Prelim Stack	Prelim App	Final Stack	CGM App	Mig Rec	Tape Arc	CGM Rec	To GQS
97-HLD	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	200-412	37.50	7.950	60	120	060297	110297	260297	070397	070397	260397	110497	280497	180497	080597	080597	200597
97-HLE	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	200-600	37.50	15.000	60	120	070297	110297	280297	070397	070397	270397	110497	210497	180497	080597	080597	200597
97-HLF	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	201-441	37.50	9.000	60	120	060297	110297	260297	070397	070397	270397	110497	210497	180497	080597	080597	200597
97-HLG	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	201-621	37.50	15.750	60	120	070297	140297	260297	070397	070397	270397	110497	210497	180497	080597	080597	200597
97-HLH	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	200-500	37.50	11.250	60	120	080297	140297	260297	070397	070397	270397	110497	280497	180497	080597	080597	200597
97-HLJ	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	200-800	37.50	22.500	60	120	110297	140297	270297	070397	070397	270397	150497	210497	180497	080597	080597	200597
97-HLK	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	201-601	37.50	15.000	60	120	100297	140297	260297	070397	070397	270397	110497	210497	180497	080597	080597	210597
97-HLL	MEI	INNAMINCKA FLANK	GEC	WGC	EXPPAG	201-369	37.50	6.300	60	120	090297	140297	260297	070397	070397	270397	110497	210497	180497	080597	080597	200597
97-HLM	PE	CUTTAPIRRIE REGIONAL	GEC	WGC	EXPMIH	200-732	37.50	19.950	60	120	280397	020497	150497	300497	020597	120597	210597	210597	210597	270597	270597	280597
97-HLN	PE	CUTTAPIRRIE REGIONAL	GEC	WGC	EXPMIH	413-1001	37.50	22.050	60	120	230397	010497	150497	220497	220497	300497	130597	210597	130597	270597	270597	280597
97-HLP	PE	CUTTAPIRRIE REGIONAL	GEC	WGC	EXPMIH	201-868	37.50	25.013	60	120	260397	020497	150497	300497	020597	120597	210597	210597	210597	270597	270597	280597
97-HLQ	PE	CUTTAPIRRIE REGIONAL	GEC	WGC	EXPMIH	200-708	37.50	19.050	60	120	270397	020497	150497	220497	220497	060597	130597	210597	130597	270597	270597	280597
97-HLR	PE	CUTTAPIRRIE REGIONAL	GEC	WGC	EXPMIH	201-801	37.50	22.500	60	120	220397	010497	150497	220497	220497	060597	130597	210597	130597	270597	270597	280597
97-HLS	PE	CUTTAPIRRIE REGIONAL	GEC	WGC	EXPMIH	200-560	37.50	13.500	60	120	210397	010497	150497	220497	220497	060597	130597	210597	130597	270597	270597	280597
97-HLT	PE	CUTTAPIRRIE REGIONAL	GEC	WGC	EXPMIH	201-753	37.50	20.700	60	120	200397	010497	150497	220497	220497	060597	130597	210597	130597	270597	270597	280597
97-HLW	PE	PROXIMAL GAS	GEC	WGC	EXPMGM	200-1016	37.50	30.600	60	120	190397	250397	010497	090497	100497	110497	240497	060597	050597	290597	290597	220597
97-HLX	PE	PROXIMAL GAS	GEC	WGC	EXPMGM	205-661	37.50	17.100	60	120	180397	250397	020497	090497	100497	110497	300497	060597	050597	290597	290597	220597
97-HLY	PE	PROXIMAL GAS	GEC	WGC	EXPMGM	200-652	37.50	16.950	60	120	140397	200397	020497	090497	100497	110497	300497	060597	050597	290597	290597	220597
97-HLZ	PE	PROXIMAL GAS	GEC	WGC	EXPMGM	200-492	37.50	10.950	60	120	180397	250397	010497	090497	100497	110497	240497	060597	050597	290597	290597	220597
97-HMA	PE	PROXIMAL GAS	GEC	WGC	EXPMGM	200-476	37.50	10.350	60	120	140397	200397	020497	090497	100497	110497	300497	090597	050597	290597	290597	220597
97-HMB	PE	PROXIMAL GAS	GEC	WGC	EXPMGM	349-721	37.50	13.950	60	120	160397	200397	020497	090497	100497	110497	300497	060597	050597	290597	290597	220597
97-HMC	PE	PROXIMAL GAS	GEC	WGC	EXPMGM	316-716	37.50	15.000	60	120	160397	250397	020497	090497	100497	110497	300497	060597	050597	290597	290597	220597
97-HMD	PE	PROXIMAL GAS	GEC	WGC	EXPMGM	200-480	37.50	10.500	60	120	170397	250397	020497	090497	100497	110497	300497	060597	050597	290597	290597	220597
97-HME	PE	PROXIMAL GAS	GEC	WGC	EXPMGM	201-465	37.50	9.900	60	120	150397	200397	020497	090497	100497	110497	300497	060597	050597	290597	290597	220597
97-HMF	PE	PROXIMAL GAS	GEC	WGC	EXPMGM	200-608	37.50	15.300	60	120	150397	200397	020497	090497	100497	110497	300497	060597	050597	290597	290597	220597
97-HMH	PE	DISTAL GAS	GEC	WGC	EXPMIH	200-348	37.50	5.550	60	120	270297	140397	170497	050597	080597	200597	280597	300597	280597	120697	120697	130697
97-HMJ	PE	DISTAL GAS	GEC	WGC	EXPMIH	200-528	37.50	12.300	60	120	260297	140397	170497	050597	080597	200597	280597	300597	280597	120697	120697	130697
97-HMK	PE	DISTAL GAS	GEC	WGC	EXPMIH	200-361	37.50	6.000	60	120	270297	140397	170497	050597	080597	200597	280597	300597	280597	120697	120697	130697
97-HML	PE	DISTAL GAS	GEC	WGC	EXPMIH	201-641	37.50	16.500	60	120	260297	140397	150497	240497	240497	200597	280597	300597	280597	120697	120697	130697
97-HMM	PE	DISTAL GAS	GEC	WGC	EXPMIH	226-720	37.50	18.525	60	120	250297	140397	170497	050597	080597	200597	280597	100697	280597	120697	120697	130697
97-HMN	PE	DISTAL GAS	GEC	WGC	EXPMIH	201-605	37.50	15.150	60	120	240297	140397	150497	240497	240497	200597	280597	040697	280597	120697	120697	130697
97-HMP	PE	DISTAL GAS	GEC	WGC	EXPMIH	201-541	37.50	12.750	60	120	250297	140397	170497	050597	080597	200597	280597	040697	280597	120697	120697	130697
97-HMQ	PE	DISTAL GAS	GEC	WGC	EXPMIH	200-680	37.50	18.000	60	120	240297	140397	170497	050597	080597	200597	280597	040697	280597	120697	120697	130697
97-HMR	PE	DISTAL GAS	GEC	WGC	EXPMIH	201-1013	37.50	30.450	60	120	010397	140397	150497	240497	240497	200597	280597	040697	280597	120697	120697	130697
97-HMS	PE	DISTAL GAS	GEC	WGC	EXPMIH	200-680	37.50	18.000	60	120	280297	140397	170497	050597	080597	200597	280597	100697	280597	120697	120697	130697
97-HMT	PE	DISTAL GAS	GEC	WGC	EXPMIH	201-681	37.50	18.000	60	120	270297	140397	170497	050597	080597	200597	280597	040697	280597	120697	120697	130697
97-HNK	MEI	MERINDAL DETAIL	GEC	WGC	EXPPAG	200-388	37.50	7.050	60	120	090397	180397	210397	040497	040497	110497	220497	020597	220497	060597	060597	070597
97-HNL	MEI	MERINDAL DETAIL	GEC	WGC	EXPPAG	201-389	37.50	7.050	60	120	090397	180397	210397	040497	040497	110497	220497	020597	220497	060597	060597	070597
97-HNM	MEI	MERINDAL DETAIL	GEC	WGC	EXPPAG	200-428	37.50	8.550	60	120	090397	180397	210397	040497	040497	110497	220497	020597	220497	060597	060597	070597
97-HNN	MEI	MERINDAL DETAIL	GEC	WGC	EXPPAG	201-425	37.50	8.400	60	120	100397	180397	210397	040497	040497	110497	220497	020597	220497	060597	060597	070597
97-HNP	MEI	MERINDAL DETAIL	GEC	WGC	EXPPAG	200-456	37.50	9.600	60	120	110397	200397	210397	040497	040497	110497	220497	020597	220497	060597	060597	070597
97-HNR	MEI	MEROO	GEC	WGC	EXPPAG	200-416	37.50	8.100	60	120	010397	170397	210497	150497	150497	140597	290597	260697	290597	020797	020797	140797
97-HNS	MEI	MEROO	GEC	WGC	EXPPAG	201-417	37.50	8.100	60	120	020397	170397	210497	030497	030497	140597	290597	260697	290597	020797	020797	140797
97-HNT	MEI	MEROO	GEC	WGC	EXPPAG	200-416	37.50	8.100	60	120	020397	170397	210497	150497	150497	140597	290597	260697	290597	020797	020797	140797
97-HNW	MEI	MEROO	GEC	WGC	EXPPAG	201-413	37.50	7.950	60	120	020397	170397	210497	150497	150497	140597	290597	260697	290597	020797	020797	140797
97-HNX	MEI	MEROO	GEC	WGC	EXPPAG	200-412	37.50	7.950	60	120	030397	170397	210497	150497	150497	140597	290597	260697	290597	020797	020797	140797
97-HPA	PE	DERAMOOKOO PLATFORM	GEC	WGC	EXPMIH	200-388	37.50	7.050	60	120	240397	020497	150497	050597	050597	120597	210597	220597	210597	290597	290597	280597

Processed Line	Joint Vent	Area Name	Acq	Pro	Santos Staff	Station	Statn Int	Line Length	Fld	No Chns	Acq Date	Data Proc	Stat Proc	Brute Rec	Prelim Stack	Prelim App	Final Stack	CGM App	Mig Rec	Tape Arc	CGM Rec	To GQS
97-HPB	PE	DERAMOOKOO PLATFORM	GEC	WGC	EXPMIH	200-388	37.50	7.050	60	120	230397	020497	150497	180497	280497	070597	210597	220597	210597	290597	290597	280597
97-HPC	PE	DERAMOOKOO PLATFORM	GEC	WGC	EXPMIH	201-577	37.50	14.100	60	120	260397	020497	150497	050597	050597	120597	210597	220597	210597	290597	290597	280597
97-HPD	PE	DERAMOOKOO PLATFORM	GEC	WGC	EXPMIH	201-361	37.50	6.000	60	120	240397	020497	150497	180497	280497	300497	210597	220597	210597	290597	290597	280597
97-HPE	PE	DERAMOOKOO PLATFORM	GEC	WGC	EXPMIH	201-441	37.50	9.000	60	120	240397	020497	150497	180497	280497	070597	210597	220597	210597	290597	290597	280597
97-HPF	PE	DERAMOOKOO PLATFORM	GEC	WGC	EXPMIH	201-417	37.50	8.100	60	120	270397	020497	150497	180497	280497	070597	210597	220597	210597	290597	290597	280597
97-HPG	PE	DERAMOOKOO PLATFORM	GEC	WGC	EXPMIH	200-392	37.50	7.200	60	120	240397	020497	150497	180497	280497	070597	210597	220597	210597	290597	290597	280597
97-HPH	PE	DERAMOOKOO PLATFORM	GEC	WGC	EXPMIH	215-416	37.50	7.538	60	120	230397	020497	150497	180497	280497	070597	210597	220597	210597	290597	290597	280597
97-HPJ	PE	DERAMOOKOO PLATFORM	GEC	WGC	EXPMIH	201-417	37.50	8.100	60	120	290397	020497	150497	180497	280497	300497	210597	220597	210597	290597	290597	280597
97-HPK	PE	DERAMOOKOO PLATFORM	GEC	WGC	EXPMIH	200-360	37.50	6.000	60	120	290397	020497	150497	180497	280497	300497	210597	220597	210597	290597	290597	280597
97-HPL	MEI	INNAMINCKA FLANK EXT	GEC	WGC	EXPPAG	201-469	37.50	10.050	60	120	070597	160597	020597	210597	210597	230597	280597	290597	280597	040697	040697	030697
97-HPM	MEI	INNAMINCKA FLANK EXT	GEC	WGC	EXPPAG	200-468	37.50	10.050	60	120	080597	160597	020597	210597	210597	230597	280597	290597	280597	040697	040697	030697
97-HPN	MEI	INNAMINCKA FLANK EXT	GEC	WGC	EXPPAG	201-469	37.50	10.050	60	120	080597	160597	020597	210597	210597	270597	280597	290597	280597	040697	040697	030697
97-HPP	PC	PUP DETAIL	GEC	WGC	EXPSJA	200-680	37.50	18.000	60	120	090997	160997	190997	101097	171097	311097	141197	121297	251197	291297	291297	291297
97-HPQ	PC	PUP DETAIL	GEC	WGC	EXPSJA	200-540	37.50	12.750	60	120	070997	160997	190997	101097	171097	311097	141197	231297	251197	291297	291297	291297
97-HPR	PC	PUP DETAIL	GEC	WGC	EXPSJA	201-565	37.50	13.650	60	120	070997	160997	190997	101097	171097	311097	141197	121297	251197	291297	291297	291297
97-HPW	PC	PUP DETAIL	GEC	WGC	EXPSJA	201-664	37.50	17.363	60	120	090997	160997	190997	101097	171097	311097	141197	121297	251197	291297	291297	291297
97-HPY	PC	PUP DETAIL	GEC	WGC	EXPSJA	200-964	37.50	28.650	60	120	080997	160997	190997	101097	171097	311097	141197	121297	251197	291297	291297	291297
97-HPZ	PC	PUP DETAIL	GEC	WGC	EXPSJA	201-645	37.50	16.650	60	120	070997	160997	190997	101097	171097	311097	141197	121297	251197	291297	291297	291297
97-HQH	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	200-396	37.50	7.350	60	120	030497	070497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQJ	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	201-493	37.50	10.950	60	120	030497	070497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQK	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	200-548	37.50	13.050	60	120	020497	070497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQL	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	201-497	37.50	11.100	60	120	020497	070497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQM	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	200-455	37.50	9.563	60	120	020497	070497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQN	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	201-565	37.50	13.650	60	120	010497	030497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQP	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	200-528	37.50	12.300	60	120	010497	030497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQQ	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	201-373	37.50	6.450	60	120	040497	070497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQR	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	200-380	37.50	6.750	60	120	300397	030497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQS	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	200-600	37.50	15.000	60	120	310397	030497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQT	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	201-629	37.50	16.050	60	120	310397	030497	080497	150497	150497	160497	280497	300497	280497	050597	050597	140597
97-HQW	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	200-372	37.50	6.450	60	120	030497	070497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQX	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	201-585	37.50	14.400	60	120	030497	070497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQY	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	200-488	37.50	10.800	60	120	040497	070497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HQZ	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	201-365	37.50	6.150	60	120	040497	070497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HRA	MOO	SWAN LAKE SW	GEC	WGC	EXPMGM	200-364	37.50	6.150	60	120	040497	070497	080497	150497	150497	160497	280497	300497	280497	050597	050597	020597
97-HRB	PC	WL43	GEC	WGC	EXPSJA	201-361	37.50	6.000	60	120	060997	160997	190997	101097	171097	291097	141197	181297	251197	291297	291297	150198
97-HRC	PC	WL43	GEC	WGC	EXPSJA	201-369	37.50	6.300	60	120	060997	160997	190997	101097	171097	291097	141197	181297	251197	291297	291297	150198
97-HRD	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-436	37.50	8.850	60	120	010997	080997	160997	230997	230997	211097	061197	041297	251197	231297	231297	191297
97-HRE	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-476	37.50	10.350	60	120	010997	080997	160997	230997	230997	211097	061197	041297	251197	231297	231297	191297
97-HRF	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-440	37.50	9.000	60	120	310897	080997	160997	230997	230997	211097	061197	041297	251197	231297	231297	191297
97-HRG	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-557	37.50	13.350	60	120	020997	080997	160997	230997	230997	211097	061197	041297	251197	231297	231297	191297
97-HRH	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-632	37.50	16.200	60	120	020997	110997	160997	230997	230997	211097	061197	041297	251197	231297	231297	191297
97-HRJ	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-453	37.50	9.450	60	120	030997	110997	160997	230997	230997	211097	061197	041297	251197	231297	231297	191297
97-HRK	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-524	37.50	12.150	60	120	030997	110997	160997	230997	230997	211097	061197	041297	251197	231297	231297	191297
97-HRL	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-689	37.50	18.300	60	120	040997	110997	160997	230997	230997	161097	031197	261197	251197	091297	231297	281197
97-HRM	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-636	37.50	16.350	60	120	040997	110997	160997	230997	230997	161097	031197	261197	251197	091297	231297	281197
97-HRN	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-621	37.50	15.750	60	120	050997	110997	160997	230997	230997	161097	031197	261197	251197	091297	231297	281197
97-HRP	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-620	37.50	15.750	60	120	060997	110997	160997	230997	230997	161097	061197	261197	251197	091297	231297	281197

Processed Line	Joint Vent	Area Name	Acq	Pro	Santos Staff	Station	Statn Int	Line Length	Fld	No Chns	Acq Date	Data Proc	Stat Proc	Brute Rec	Prelim Stack	Prelim App	Final Stack	CGM App	Mig Rec	Tape Arc	CGM Rec	To GQS
97-HRQ	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-468	37.50	10.050	60	120	300897	160997	160997	180997	180997	161097	031197	261197	251197	091297	231297	281197
97-HRR	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-585	37.50	14.400	60	120	300897	080997	160997	180997	180997	161097	031197	261197	251197	091297	231297	281197
97-HRS	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-580	37.50	14.250	60	120	290897	050997	160997	180997	180997	161097	031197	261197	251197	091297	231297	281197
97-HRT	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-437	37.50	8.850	60	120	290897	050997	160997	180997	180997	201097	061197	121297	251197	231297	231297	191297
97-HRW	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-449	37.50	9.300	60	120	280897	050997	160997	180997	180997	161097	031197	261197	251197	091297	231297	281197
97-HRX	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-368	37.50	6.300	60	120	280897	050997	160997	180997	180997	161097	031197	261197	251197	091297	231297	281197
97-HRY	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-373	37.50	6.450	60	120	280897	050997	160997	180997	180997	161097	031197	261197	251197	091297	231297	281197
97-HRZ	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-364	37.50	6.150	60	120	280897	050997	160997	180997	180997	161097	031197	261197	251197	091297	231297	281197
97-HSA	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-524	37.50	12.150	60	120	270897	050997	160997	180997	180997	201097	071197	041297	251197	231297	231297	191297
97-HSB	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-329	37.50	4.800	60	120	270897	050997	160997	180997	180997	201097	071197	041297	251197	231297	231297	191297
97-HSC	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-524	37.50	12.150	60	120	300897	080997	160997	180997	180997	161097	031197	261197	251197	091297	231297	281197
97-HSD	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-685	37.50	18.150	60	120	310897	080997	160997	180997	180997	161097	031197	261197	251197	091297	231297	281197
97-HSE	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-625	37.50	15.900	60	120	270897	050997	160997	180997	180997	281097	071197	041297	251197	231297	231297	191297
97-HSF	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-500	37.50	11.250	60	120	250897	010997	090997	230997	230997	281097	071197	261197	251197	091297	231297	281197
97-HSG	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-613	37.50	15.450	60	120	220897	270897	090997	230997	230997	281097	071197	041297	251197	231297	231297	191297
97-HSH	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-392	37.50	7.200	60	120	210897	270897	090997	180997	180997	281097	071197	041297	251197	231297	231297	191297
97-HSJ	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-409	37.50	7.800	60	120	210897	270897	090997	180997	180997	281097	071197	261197	251197	091297	231297	281197
97-HSK	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-480	37.50	10.500	60	120	210897	270897	090997	180997	180997	281097	071197	041297	251197	231297	231297	191297
97-HSL	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-505	37.50	11.400	60	120	200897	270897	090997	180997	180997	281097	071197	041297	251197	231297	231297	191297
97-HSM	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-521	37.50	12.000	60	120	190897	260897	090997	180997	180997	281097	071197	041297	251197	231297	231297	191297
97-HSN	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-808	37.50	22.800	60	120	200897	260897	090997	180997	180997	281097	071197	041297	251197	231297	231297	191297
97-HSP	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-653	37.50	16.950	60	120	190897	260897	090997	180997	180997	281097	071197	041297	251197	231297	231297	191297
97-HSQ	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-813	37.50	22.950	60	120	180897	260897	090997	180997	180997	281097	071197	041297	251197	231297	231297	191297
97-HSR	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-680	37.50	18.000	60	120	180897	260897	090997	180997	180997	281097	071197	041297	251197	231297	231297	191297
97-HSS	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-560	37.50	13.500	60	120	220897	270897	090997	180997	180997	281097	101197	041297	251197	231297	231297	191297
97-HST	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-437	37.50	8.850	60	120	220897	270897	090997	180997	180997	281097	101197	041297	251197	231297	231297	191297
97-HSW	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-364	37.50	6.150	60	120	220897	270897	090997	180997	180997	281097	101197	041297	251197	231297	231297	191297
97-HSX	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-577	37.50	14.100	60	120	230897	270897	090997	180997	180997	281097	101197	041297	251197	231297	231297	191297
97-HSY	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-500	37.50	11.250	60	120	230897	010997	090997	180997	180997	281097	101197	041297	251197	231297	231297	191297
97-HSZ	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-525	37.50	12.150	60	120	240897	010997	090997	180997	180997	281097	101197	161297	251197	231297	231297	191297
97-HTA	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-488	37.50	10.800	60	120	240897	010997	090997	230997	230997	281097	101197	041297	251197	231297	231297	191297
97-HTB	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-633	37.50	16.200	60	120	240897	010997	090997	230997	230997	291097	101197	041297	251197	231297	231297	191297
97-HTC	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-640	37.50	16.500	60	120	260897	010997	090997	230997	230997	291097	101197	041297	251197	231297	231297	191297
97-HTD	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-529	37.50	12.300	60	120	250897	010997	090997	230997	230997	291097	101197	041297	251197	231297	231297	191297
97-HTE	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-721	37.50	19.500	60	120	260897	050997	090997	230997	230997	161097	031197	261197	251197	091297	231297	281197
97-HTF	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	200-468	37.50	10.050	60	120	250897	010997	090997	230997	230997	291097	101197	041297	251197	231297	231297	191297
97-HTG	PSW	EAST/CENTRAL GAS	GEC	WGC	EXPSJA	201-337	37.50	5.100	60	120	270897	050997	160997	230997	230997	291097	101197	041297	251197	231297	231297	191297
97-HWT	NM	CORKWOOD NOSE (SWATH	GEC	WGC	EXPPAG	200-720	37.50	19.500	60	120	110997	170997	220997	290997	290997	041197	121197	211197	191197	271197	271197	051297
97-HWTD	NM	CORKWOOD NOSE (SWATH	GEC	WGC	EXPPAG	200-720	37.50	19.500	60	120	120997	170997	220997	300997	300997	051197	171197	261197	191197	271197	271197	051297
97-HWW	NM	CORKWOOD NOSE (SWATH	GEC	WGC	EXPPAG	200-720	37.50	19.500	60	120	120997	170997	220997	300997	300997	041197	121197	211197	191197	271197	271197	051297
97-HWX	NM	CORKWOOD NOSE (SWATH	GEC	WGC	EXPPAG	200-720	37.50	19.500	60	120	110997	170997	220997	290997	290997	051197	121197	211197	191197	271197	271197	051297
97-HWXD	NM	CORKWOOD NOSE (SWATH	GEC	WGC	EXPPAG	200-720	37.50	19.500	60	120	120997	170997	220997	300997	300997	051197	171197	261197	191197	271197	271197	051297
97-HYT	PE	TOOROO	GEC	WGC	EXPPAG	200-400	37.50	7.500	60	120	211097	301097	111197	191197	191197	081297	151297	181297	221297	080198	080198	150198
97-HYW	PE	TOOROO	GEC	WGC	EXPPAG	201-389	37.50	7.050	60	120	221097	301097	111197	191197	191197	081297	151297	181297	221297	080198	080198	150198
97-HYX	PE	TOOROO	GEC	WGC	EXPPAG	201-413	37.50	7.950	60	120	201097	301097	111197	191197	191197	081297	151297	181297	221297	080198	080198	150198
97-HYY	PE	TOOROO	GEC	WGC	EXPPAG	201-493	37.50	10.950	60	120	211097	301097	111197	191197	191197	081297	151297	181297	221297	080198	080198	150198
97-HYZ	PE	TOOROO	GEC	WGC	EXPPAG	200-508	37.50	11.550	60	120	221097	301097	111197	191197	191197	081297	151297	181297	221297	080198	080198	150198

Processed Line	Joint Vent	Area Name	Acq	Pro	Santos Staff	Station	Statn Int	Line Length	Fld	No Chns	Acq Date	Data Proc	Stat Proc	Brute Rec	Prelim Stack	Prelim App	Final Stack	CGM App	Mig Rec	Tape Arc	CGM Rec	To GQS
97-HZC	PE	CUTTAPIRRIE TERRACE	GEC	WGC	EXPPAG	200-452	37.50	9.450	60	120	221097	301097	111197	191197	191197	021297	051297	181297	221297	080198	080198	150198
97-HZD	PE	CUTTAPIRRIE TERRACE	GEC	WGC	EXPPAG	200-480	37.50	10.500	60	120	241097	301097	111197	191197	191197	021297	051297	181297	221297	080198	080198	150198
97-HZE	PE	CUTTAPIRRIE TERRACE	GEC	WGC	EXPPAG	201-513	37.50	11.700	60	120	231097	301097	111197	191197	191197	021297	051297	181297	221297	080198	080198	150198
97-HZF	PE	CUTTAPIRRIE TERRACE	GEC	WGC	EXPPAG	200-548	37.50	13.050	60	120	231097	301097	111197	191197	191197	021297	051297	181297	221297	080198	080198	150198
97-MOO3D	MOO	MOOMBA/BIG LAKE 3D	GEC	DIG	EXPMIH		50.00	2437.637	24	768	140797	180797	210797	071097	161097	311097	281197	140198	120198	111297	020298	200198
97-POND3D	MEI	PONDRINIE 3D	GEC	DIG	EXPPAG		35.00	907.644	24	768	060597	090597	090597	080797	170797	250797	010997	180997	230997	020997	161297	230997
97-TOO3D	TOO	TOOLACHEE FIELD 3D	GEC	WGC	EXPPAG		40.00	2064.062	24	768	091197	181197	031297	090198	210198	200298	160498	170498	170498	170498	010698	270498
97-YBHD	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	212-336	37.50	4.650	60	120	141297	070198	190198	160298	200298	200398	090498	270598	280598	260698	260698	120698
97-GNT	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	496-670	37.50	6.525	60	120	170298	230298	060398	180398	180398	200398	090498	300498	050698	260698	260698	030698
97-GNW	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	448-596	37.50	5.550	60	120	170298	230298	060398	180398	180398	200398	090498	300498	050698	260698	260698	030698
97-GNX	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	547-860	37.50	11.738	60	120	130298	230298	060398	180398	180398	200398	090498	300498	050698	260698	260698	050698
97-GNY	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	616-482	37.50	5.025	60	120	130298	230298	060398	180398	180398	200398	090498	300498	120698	260698	260698	190698
97-GNZ	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	460-747	37.50	10.763	60	120	140298	230298	060398	180398	180398	200398	090498	300498	050698	260698	260698	030698
97-GPE	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-844	37.50	24.150	60	120	030298	120298	090398	200398	200398	230398	090498	130598	190598	260698	260698	030698
97-GPF	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-512	37.50	11.700	60	120	100298	230298	090398	180398	180398	230398	090498	130598	190598	260698	260698	030698
97-HEE	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	725-200	37.50	19.688	60	120	160298	230298	090398	180398	180398	240398	090498	130598	190598	260698	260698	050698
97-HEP	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	211-545	37.50	12.525	60	120	140298	230298	090398	180398	180398	230398	090498	140598	190598	260698	260698	030698
97-HES	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	632-200	37.50	16.200	60	120	070298	120298	090398	180398	180398	230398	090498	110698	150698	260698	260698	190698
97-HESD	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	500-236	37.50	9.900	60	120	040298	230298	100398	260398	260398	290498	190598	110698	150698	260698	260698	190698
97-HEW	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-701	37.50	18.788	60	120	300198	120298	060398	180398	180398	230398	090498	140598	150698	260698	260698	190698
97-HEZ	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	768-200	37.50	21.300	60	120	300198	120298	060398	260398	260398	290498	090498	270598	280598	260698	260698	030698
97-HFW	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	364-200	37.50	6.150	60	120	010298	120298	100398	180398	180398	230398	090498	260598	270598	260698	260698	030698
97-HFX	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	200-364	37.50	6.150	60	120	010298	120298	100398	180398	180398	230398	090498	260598	270598	260698	260698	030698
97-HFY	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	704-208	37.50	18.600	60	120	290198	120298	100398	180398	180398	230398	090498	200598	210598	260698	260698	210598
97-HGA	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	764-365	37.50	14.963	60	120	120298	230298	100398	180398	180398	240398	090498	260598	270598	260698	260698	050698
97-HGB	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	480-206	37.50	10.275	60	120	010298	120298	100398	180398	180398	240398	090498	260598	270598	260698	260698	120698
97-HGBD	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	350-206	37.50	5.400	60	120	010298	120298	100398	260398	260398	290498	190598	270598	280598	260698	260698	120698
97-HGE	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	204-644	37.50	16.500	60	120	120298	230298	100398	180398	180398	240398	090498	260598	280598	260698	260698	030698
97-HGED	PE	WESTERN PROSPECTS	GEC	WGC	EXPMIH	262-458	37.50	7.350	60	120	110298	230298	100398	260398	260398	290498	190598	270598	280598	260698	260698	120698
97-HPS	PC	PUP DETAIL	GEC	WGC	EXPPAG	201-657	37.50	17.100	60	120	200298	270298	230398	080498	080498	050598	140598	280598	220598	290698	260698	010698
97-HPT	PC	PUP DETAIL	GEC	WGC	EXPPAG	200-668	37.50	17.550	60	120	190298	270298	230398	080498	080498	050598	140598	280598	220598	290698	260698	010698
97-HPWX	PC	PUP DETAIL	GEC	WGC	EXPPAG	664-972	37.50	11.588	60	120	180298	270298	230398	080498	080498	050598	140598	280598	220598	290698	260698	010698
97-HPX	PC	PUP DETAIL	GEC	WGC	EXPPAG	201-529	37.50	12.300	60	120	180298	270298	230398	080498	080498	050598	140598	280598	220598	290698	260698	010698
97-HZA	PE	ELLAR	GEC	WGC	EXPMIH	200-520	37.50	12.000	60	120	310198	120298	110298	200298	200298	040398	110398	240398	020498	260698	260698	230498
97-HZB	PE	ELLAR	GEC	WGC	EXPMIH	200-484	37.50	10.650	60	120	310198	120298	110298	200298	200298	040398	110398	240398	020498	260698	260698	230498
Total Kilometers											9627	9627	9627	9627	9627	9627	9627	9627	9627	9627	9627	9627
Backlog												0	0	0	0	0	0	0	0	0	0	0
Stage Backlog													0	0	0	0	0	0	0	0	0	0
Total Lines											223	223	223	223	223	223	223	223	223	223	223	223
Backlog												0	0	0	0	0	0	0	0	0	0	0
Stage Backlog													0	0	0	0	0	0	0	0	0	0

~ APPENDIX VIII ~

DATA PROCESSING REPORTS

Seismic Processing Report
By Joint Venture(Block) and Area

PE -WESTERN PROSPECTS 1997 SOUTH AUSTRALI

Processed Line	Acq. Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-GNS	GEC	WGC 1116-324	37.50	60	201297	190198	200298	160398	090498	300498	270598	260698	270598
97-GNT	GEC	WGC 496-670	37.50	60	170298	060398	180398	200398	090498	300498	050698	260698	030698
97-GNW	GEC	WGC 448-596	37.50	60	170298	060398	180398	200398	090498	300498	050698	260698	030698
97-GNX	GEC	WGC 547-860	37.50	60	130298	060398	180398	200398	090498	300498	050698	260698	050698
97-GNY	GEC	WGC 616-482	37.50	60	130298	060398	180398	200398	090498	300498	120698	260698	190698
97-GNZ	GEC	WGC 460-747	37.50	60	140298	060398	180398	200398	090498	300498	050698	260698	030698
97-GPE	GEC	WGC 200-844	37.50	60	030298	090398	200398	230398	090498	130598	190598	260698	030698
97-GPF	GEC	WGC 200-512	37.50	60	100298	090398	180398	230398	090498	130598	190598	260698	030698
97-GPG	GEC	WGC 688-200	37.50	60	171297	190198	060298	160398	090498	130598	190598	260698	210598
97-GPH	GEC	WGC 392-200	37.50	60	191297	190198	060298	170398	090498	130598	190598	260698	030698
97-HEE	GEC	WGC 725-200	37.50	60	160298	090398	180398	240398	090498	130598	190598	260698	050698
97-HEL	GEC	WGC 200-484	37.50	60	091297	190198	060298	170398	090498	140598	190598	260698	030698
97-HEN	GEC	WGC 445-200	37.50	60	081297	190198	060298	170398	090498	140598	190598	260698	030698
97-HEP	GEC	WGC 211-545	37.50	60	140298	090398	180398	230398	090498	140598	190598	260698	030698
97-HES	GEC	WGC 632-200	37.50	60	070298	090398	180398	230398	090498	110698	150698	260698	190698
97-HESD	GEC	WGC 500-236	37.50	60	040298	100398	260398	290498	190598	110698	150698	260698	190698
97-HEW	GEC	WGC 200-701	37.50	60	300198	060398	180398	230398	090498	140598	150698	260698	190698
97-HEX	GEC	WGC 200-400	37.50	60	031297	190198	060298	170398	090498	140598	190598	260698	030698
97-HEY	GEC	WGC 432-200	37.50	60	041297	190198	060298	170398	090498	140598	190598	260698	030698
97-HEZ	GEC	WGC 768-200	37.50	60	300198	060398	260398	290498	090498	270598	280598	260698	030698
97-HFC	GEC	WGC 200-656	37.50	60	151297	190198	200298	180398	090498	150698	190698	260698	220698
97-HFCD	GEC	WGC 208-332	37.50	60	151297	190198	200298	200398	090498	270598	280598	260698	120698
97-HFE	GEC	WGC 360-200	37.50	60	031297	190198	060298	170398	090498	220598	270598	260698	030698
97-HFF	GEC	WGC 688-200	37.50	60	141297	190198	270298	180398	090498	220598	270598	260698	230698
97-HFG	GEC	WGC 200-544	37.50	60	121297	190198	200298	180398	090498	290598	050698	260698	190698
97-HFH	GEC	WGC 200-367	37.50	60	111297	190198	200298	180398	090498	270598	280598	260698	030698
97-HFK	GEC	WGC 200-524	37.50	60	101297	190198	060298	170398	090498	220598	270598	260698	030698
97-HFKD	GEC	WGC 294-430	37.50	60	101297	190198	160298	200398	090498	270598	280598	260698	120698
97-HFP	GEC	WGC 200-440	37.50	60	081297	190198	060298	170398	090498	260598	270598	260698	030698
97-HFQ	GEC	WGC 543-200	37.50	60	081297	190198	060298	170398	090498	260598	270598	260698	030698
97-HFR	GEC	WGC 916-206	37.50	60	071297	190198	200298	190398	090498	220598	220598	260698	220598
97-HFT	GEC	WGC 200-680	37.50	60	161297	190198	160298	190398	090498	290598	050698	260698	190698
97-HFW	GEC	WGC 364-200	37.50	60	010298	100398	180398	230398	090498	260598	270598	260698	030698
97-HFX	GEC	WGC 200-364	37.50	60	010298	100398	180398	230398	090498	260598	270598	260698	030698
97-HFY	GEC	WGC 704-208	37.50	60	290198	100398	180398	230398	090498	200598	210598	260698	210598
97-HGA	GEC	WGC 764-365	37.50	60	120298	100398	180398	240398	090498	260598	270598	260698	050698
97-HGB	GEC	WGC 480-206	37.50	60	010298	100398	180398	240398	090498	260598	270598	260698	120698
97-HGBD	GEC	WGC 350-206	37.50	60	010298	100398	260398	290498	190598	270598	280598	260698	120698
97-HGE	GEC	WGC 204-644	37.50	60	120298	100398	180398	240398	090498	260598	280598	260698	030698
97-HGED	GEC	WGC 262-458	37.50	60	110298	100398	260398	290498	190598	270598	280598	260698	120698
97-HGG	GEC	WGC 508-200	37.50	60	191297	190198	060298	190398	090498	260598	280598	260698	030698
97-HGH	GEC	WGC 200-408	37.50	60	121297	190198	200298	200398	090498	260598	280598	260698	230698
97-HGJ	GEC	WGC 205-388	37.50	60	181297	190198	060298	200398	090498	260598	280598	260698	030698
97-HGK	GEC	WGC 557-817	37.50	60	181297	190198	160298	200398	090498	260598	280598	260698	030698
97-YBHD	GEC	WGC 212-336	37.50	60	141297	190198	200298	200398	090498	270598	280598	260698	120698
Total Kilometers				540.0		540.0	540.0	540.0	540.0	540.0	540.0	540.0	540.0

Notes: SURFACE CONDITIONS
Sand dunes with interdune sandy corridors. NW Branch of Cooper Creek. Floodplains with lakes and swamp.
Extremely sensitive wetland area.

STATICS
Upholes. Model : 1st 2-4m layer surface weighted 100%
2nd/3rd layers surface weighted 0%.
Datum om AHD. Replacement velocity 2000m/sec.

ARCHIVE TAPES
SEGY : MX-568

PE **-WESTERN PROSPECTS 1997 SOUTH AUSTRALI**

CGM : FDX-126

VARIATIONS TO STANDARD SEQUENCE
Anzomex G primer charges used in the Tirrawarra Swamp zone. 2 holes, 2m apart, 2m depth.
Shot locations 150m apart giving nominal 15 fold.
Shot data phase matched the vibroseis - 180 phase shift, -12ms bulk shift.

Lines 97-GNX, 97-HGA and 97-HEE were processed as crooked lines. These three lines were unable to be retained as straight lines due to the high environmental constraints imposed in the area.

TRIALS
f-x deconvolution tests : feedback of 25%,50%,65%.
The 50% feedback stack was chosen.

MEI -WANTANA/WARRAH 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HHQ	GEC	WGC	200-664	37.50	60	050397	260397	100497	180497	300497	060597	020597	210597	160597
97-HHR	GEC	WGC	201-585	37.50	60	050397	260397	100497	180497	300497	060597	020597	210597	160597
97-HHS	GEC	WGC	200-452	37.50	60	060397	260397	100497	180497	300497	060597	020597	210597	160597
97-HHT	GEC	WGC	201-557	37.50	60	060397	260397	100497	180497	300497	060597	020597	210597	160597
97-HHW	GEC	WGC	200-668	37.50	60	070397	260397	100497	180497	300497	060597	020597	210597	160597
97-HHX	GEC	WGC	201-441	37.50	60	070397	260397	100497	180497	300497	060597	020597	210597	160597
97-HHZ	GEC	WGC	200-624	37.50	60	070397	260397	100497	180497	300497	060597	020597	210597	160597
97-HJA	GEC	WGC	201-505	37.50	60	080397	260397	100497	180497	300497	060597	020597	210597	160597
97-HJB	GEC	WGC	200-388	37.50	60	080397	260397	100497	180497	300497	060597	020597	210597	160597
97-HJC	GEC	WGC	201-561	37.50	60	040397	260397	100497	180497	300497	060597	020597	210597	160597
97-HJD	GEC	WGC	200-668	37.50	60	040397	260397	100497	180497	300497	060597	020597	210597	160597
97-HJE	GEC	WGC	201-573	37.50	60	040397	260397	100497	180497	300497	060597	020597	210597	160597
97-HJF	GEC	WGC	200-464	37.50	60	030397	260397	100497	180497	300497	060597	020597	210597	160597
97-HJG	GEC	WGC	200-492	37.50	60	080397	210397	040497	110497	220497	020597	220497	060597	070597
97-HJH	GEC	WGC	201-493	37.50	60	090397	210397	040497	110497	220497	020597	220497	060597	070597
97-HJJ	GEC	WGC	405-897	37.50	60	120397	260397	100497	180497	300497	060597	020597	210597	160597
97-HJK	GEC	WGC	579-1185	37.50	60	110397	260397	100497	180497	300497	060597	020597	210597	130597
Total Kilometers						233.5	233.5	233.5	233.5	233.5	233.5	233.5	233.5	233.5

Notes:

SURFACE CONDITIONS
Low sandunes and sand clay flats

STATICS
1997 UHs interpreted with thin surface layer following elevation and flat base of weathering at 15-20m.
Average UH depth 36m.

ARCHIVE TAPES
SEGY: MX-462
CGM: FDX-086

VARIATIONS TO STANDARD SEQUENCE
None
97-HJH reprocessed on ProMAX as part of Merindal AVO study.

MEI -INNAMINCKA FLANK 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HKY	GEC	WGC	201-501	37.50	60	010297	270297	070397	260397	110497	210497	180497	080597	200597
97-HKZ	GEC	WGC	200-508	37.50	60	010297	270297	070397	260397	110497	210497	180497	080597	200597
97-HLA	GEC	WGC	201-537	37.50	60	030297	270297	070397	260397	110497	210497	180497	080597	200597
97-HLB	GEC	WGC	200-544	37.50	60	030297	260297	070397	260397	110497	210497	180497	080597	200597
97-HLC	GEC	WGC	201-573	37.50	60	060297	260297	070397	260397	110497	210497	180497	080597	200597
97-HLD	GEC	WGC	200-412	37.50	60	060297	260297	070397	260397	110497	280497	180497	080597	200597
97-HLE	GEC	WGC	200-600	37.50	60	070297	280297	070397	270397	110497	210497	180497	080597	200597
97-HLF	GEC	WGC	201-441	37.50	60	060297	260297	070397	270397	110497	210497	180497	080597	200597
97-HLG	GEC	WGC	201-621	37.50	60	070297	260297	070397	270397	110497	210497	180497	080597	200597
97-HLH	GEC	WGC	200-500	37.50	60	080297	260297	070397	270397	110497	280497	180497	080597	200597
97-HLJ	GEC	WGC	200-800	37.50	60	110297	270297	070397	270397	150497	210497	180497	080597	200597
97-HLK	GEC	WGC	201-601	37.50	60	100297	260297	070397	270397	110497	210497	180497	080597	210597
97-HLL	GEC	WGC	201-369	37.50	60	090297	260297	070397	270397	110497	210497	180497	080597	200597
Total Kilometers						165.0	165.0	165.0	165.0	165.0	165.0	165.0	165.0	165.0

Notes:

SURFACE CONDITIONS
Rugged gibber hills.

STATICS
1997 UHs interpreted with near surface layer weighted 150% to surface.
Base of weathering consistent ,with weathering increasing with elevation.
Hole depth 48-100m.

ARCHIVE TAPES
SEGY: MX-463
CGM: FDX-087

VARIATIONS TO STANDARD SEQUENCE
Three velocity function used on prelims to cover change in structure
Single large trim window 100-2400ms

PE -CUTTAPIRRIE REGIONAL 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HLM	GEC	WGC	200-732	37.50	60	280397	150497	020597	120597	210597	210597	210597	270597	280597
97-HLN	GEC	WGC	413-1001	37.50	60	230397	150497	220497	300497	130597	210597	130597	270597	280597
97-HLP	GEC	WGC	201-868	37.50	60	260397	150497	020597	120597	210597	210597	210597	270597	280597
97-HLQ	GEC	WGC	200-708	37.50	60	270397	150497	220497	060597	130597	210597	130597	270597	280597
97-HLR	GEC	WGC	201-801	37.50	60	220397	150497	220497	060597	130597	210597	130597	270597	280597
97-HLS	GEC	WGC	200-560	37.50	60	210397	150497	220497	060597	130597	210597	130597	270597	280597
97-HLT	GEC	WGC	201-753	37.50	60	200397	150497	220497	060597	130597	210597	130597	270597	280597
Total Kilometers						142.8	142.8	142.8	142.8	142.8	142.8	142.8	142.8	142.8

Notes: SURFACE CONDITIONS
The area is sand dune country with the Mitkacaldratillie Lakes dominating the water couse system.
The Cuttapirrie Regional and Deramookoo Platform programmes overlap at and north of the Mitkacaldratillie Lakes. There are 3 lines in this area (97-HLM,N,P) which traverse/enter the lakes and had dynamite shots (down holes) as a source within the lake area.

STATICS
Upholes. Model : 1st layer 2-4m surface weighted 100%
2nd/3rd layers surface weighted 0%.
Datum 0m AHD. Replacement velocity 2000m/sec.

ARCHIVE TAPES
SEGY : MX-466
CGM : FDX-092

COMMENTS
The longer NW/SE lines traverse the edge of the Deramookoo Platform in the north and the deeper trough in the south.
Resultant stacks & migrations for this area are very good with very little concern towards misties or data quality.

VARIATIONS TO STANDARD SEQUENCE
f-x deconvolutuion : feedback 0%,25%,50%,65% & 100%.
The 25% feedback stack was chosen.

DATA ANALYSIS
The resultant shot data had a 180 phase shift to match the vibroseis data, and produced a very good merge and stack response.

PE -PROXIMAL GAS 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HHY	GEC	WGC	205-1401	37.50	60	130397	270397	100497	110497	300497	060597	020597	290597	220597
97-HLW	GEC	WGC	200-1016	37.50	60	190397	010497	100497	110497	240497	060597	050597	290597	220597
97-HLX	GEC	WGC	205-661	37.50	60	180397	020497	100497	110497	300497	060597	050597	290597	220597
97-HLY	GEC	WGC	200-652	37.50	60	140397	020497	100497	110497	300497	060597	050597	290597	220597
97-HLZ	GEC	WGC	200-492	37.50	60	180397	010497	100497	110497	240497	060597	050597	290597	220597
97-HMA	GEC	WGC	200-476	37.50	60	140397	020497	100497	110497	300497	090597	050597	290597	220597
97-HMB	GEC	WGC	349-721	37.50	60	160397	020497	100497	110497	300497	060597	050597	290597	220597
97-HMC	GEC	WGC	316-716	37.50	60	160397	020497	100497	110497	300497	060597	050597	290597	220597
97-HMD	GEC	WGC	200-480	37.50	60	170397	020497	100497	110497	300497	060597	050597	290597	220597
97-HME	GEC	WGC	201-465	37.50	60	150397	020497	100497	110497	300497	060597	050597	290597	220597
97-HMF	GEC	WGC	200-608	37.50	60	150397	020497	100497	110497	300497	060597	050597	290597	220597
Total Kilometers						195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5	195.5

Notes: SURFACE CONDITIONS

Terrain -
Clay/sand flats with large steep dunes, particularly in the Northern sector.

STATICS

Type: Uphole.
Weathering: 3 layer interpretation.
Interpolation:
1st layer - 100% weighting relative to surface.
2nd/3rd layers - 0% weighting relative to surface.
Correction velocity: 2000m/s
Datum: 0m AHD.

ARCHIVE TAPES

SEGY: MX-468
CGM: FDX-094

COMMENTS

NO VARIATIONS TO STANDARD PROCESSING SEQUENCE.
Line 97-HHY extends into the 1997 Wantana/Warrah area.

Seismic Processing Report
By Joint Venture(Block) and Area

PE -DISTAL GAS 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HMH	GEC	WGC	200-348	37.50	60	270297	170497	080597	200597	280597	300597	280597	120697	130697
97-HMJ	GEC	WGC	200-528	37.50	60	260297	170497	080597	200597	280597	300597	280597	120697	130697
97-HMK	GEC	WGC	200-361	37.50	60	270297	170497	080597	200597	280597	300597	280597	120697	130697
97-HML	GEC	WGC	201-641	37.50	60	260297	150497	240497	200597	280597	300597	280597	120697	130697
97-HMM	GEC	WGC	226-720	37.50	60	250297	170497	080597	200597	280597	100697	280597	120697	130697
97-HMN	GEC	WGC	201-605	37.50	60	240297	150497	240497	200597	280597	040697	280597	120697	130697
97-HMP	GEC	WGC	201-541	37.50	60	250297	170497	080597	200597	280597	040697	280597	120697	130697
97-HMQ	GEC	WGC	200-680	37.50	60	240297	170497	080597	200597	280597	040697	280597	120697	130697
97-HMR	GEC	WGC	201-1013	37.50	60	010397	150497	240497	200597	280597	040697	280597	120697	130697
97-HMS	GEC	WGC	200-680	37.50	60	280297	170497	080597	200597	280597	100697	280597	120697	130697
97-HMT	GEC	WGC	201-681	37.50	60	270297	170497	080597	200597	280597	040697	280597	120697	130697
Total Kilometers						171.2	171.2	171.2	171.2	171.2	171.2	171.2	171.2	171.2

Notes: SURFACE CONDITIONS
Sand dunes with interdune sandy corridors.
This is an infill programme to the 1996 Distal Gas seismic.

STATICS
Upholes. Model : 1st 2-4m layer surface weighted 100%
2nd/3rd layers surface weighted 0%.
Datum om AHD. Replacement velocity 2000m/sec.

ARCHIVE TAPES
SEGY : MX-474
CGM : FDX-098

COMMENTS
No variations to standard processing sequence.
The regional velocity provided was found to be slow by up to 180m/s although it did not show to be incorrect with the 1996 data at prelim stack. The final vels are in fact slightly faster.

TRIALS
f-x deconvolution tests : feedback of 0%,25%,50%,65% & 100%.
The 25% feedback stack was chosen.

MEI -MERINDAL DETAIL 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HNK	GEC	WGC	200-388	37.50	60	090397	210397	040497	110497	220497	020597	220497	060597	070597
97-HNL	GEC	WGC	201-389	37.50	60	090397	210397	040497	110497	220497	020597	220497	060597	070597
97-HNM	GEC	WGC	200-428	37.50	60	090397	210397	040497	110497	220497	020597	220497	060597	070597
97-HNN	GEC	WGC	201-425	37.50	60	100397	210397	040497	110497	220497	020597	220497	060597	070597
97-HNP	GEC	WGC	200-456	37.50	60	110397	210397	040497	110497	220497	020597	220497	060597	070597
Total Kilometers						40.7	40.7	40.7	40.7	40.7	40.7	40.7	40.7	40.7

Notes:

SURFACE CONDITIONS
Low sandunes and sand clay flats

STATICS
1997 UHs interpreted with thin surface layer following elevation and flat base of weathering at 15-20m.
Average UH depth 36m.

ARCHIVE TAPES
SEGY: MX-462
CGM: FDX-086

VARIATIONS TO STANDARD SEQUENCE
None
97-HNM reprocessed on ProMAX as part of Merindal AVO study.

MEI -MEROO 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HNR	GEC	WGC	200-416	37.50	60	010397	210497	150497	140597	290597	260697	290597	020797	140797
97-HNS	GEC	WGC	201-417	37.50	60	020397	210497	030497	140597	290597	260697	290597	020797	140797
97-HNT	GEC	WGC	200-416	37.50	60	020397	210497	150497	140597	290597	260697	290597	020797	140797
97-HNW	GEC	WGC	201-413	37.50	60	020397	210497	150497	140597	290597	260697	290597	020797	140797
97-HNX	GEC	WGC	200-412	37.50	60	030397	210497	150497	140597	290597	260697	290597	020797	140797
Total Kilometers						40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2

Notes:

SURFACE CONDITIONS
Rugged gibber hills.

STATICS
1997 UHs interpreted with near surface layer weighted 150% to surface.
Base of weathering consistent ,increasing with elevation.
Hole depth 80-100m.

ARCHIVE TAPES
SEGY: MX-477
CGM: FDX-099

VARIATIONS TO STANDARD SEQUENCE
Initial residual statics stacks produced without 1997 UH statics because of UH drilling delay.
Preliminary stacks produced with Miser and Maximum Power statics.
Finals stacked with Miser residuals.
All lines reprocessed on ProMAX.

PE -DERAMOOKOO PLATFORM 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HPA	GEC	WGC	200-388	37.50	60	240397	150497	050597	120597	210597	220597	210597	290597	280597
97-HPB	GEC	WGC	200-388	37.50	60	230397	150497	280497	070597	210597	220597	210597	290597	280597
97-HPC	GEC	WGC	201-577	37.50	60	260397	150497	050597	120597	210597	220597	210597	290597	280597
97-HPD	GEC	WGC	201-361	37.50	60	240397	150497	280497	300497	210597	220597	210597	290597	280597
97-HPE	GEC	WGC	201-441	37.50	60	240397	150497	280497	070597	210597	220597	210597	290597	280597
97-HPF	GEC	WGC	201-417	37.50	60	270397	150497	280497	070597	210597	220597	210597	290597	280597
97-HPG	GEC	WGC	200-392	37.50	60	240397	150497	280497	070597	210597	220597	210597	290597	280597
97-HPH	GEC	WGC	215-416	37.50	60	230397	150497	280497	070597	210597	220597	210597	290597	280597
97-HPJ	GEC	WGC	201-417	37.50	60	290397	150497	280497	300497	210597	220597	210597	290597	280597
97-HPK	GEC	WGC	200-360	37.50	60	290397	150497	280497	300497	210597	220597	210597	290597	280597
Total Kilometers						80.1	80.1	80.1	80.1	80.1	80.1	80.1	80.1	80.1

Notes: SURFACE CONDITIONS
The area is sand dune country with the Mitkacaldratillie Lakes dominating the water couse system.
The Cuttapirrie Regional and Deramookoo Platform programmes overlap at and north of the Mitkacaldratillie Lakes. There are 2 lines in this area (97-HPA & C) which traverse the lakes and had dynamite shots (down holes) as a source within the lakes.

STATICS
Upholes. Model : 1st layer 2-4m surface weighted 100%
2nd/3rd layers surface weighted 0%.
Datum 0m AHD. Replacement velocity 2000m/sec.

ARCHIVE TAPES
SEGY : MX-467
CGM : FDX-093

COMMENTS
The longer NW/SE lines traverse the edge of the Deramookoo Platform in the north and the deeper trough in the south.
Resultant stacks & migrations for this area are very good with very little concern towards misties or data quality.

VARIATIONS TO STANDARD SEQUENCE
f-x deconvolutuion : feedback 0%,25%,50%,65% & 100%.
The 25% feedback stack was chosen.

DATA ANALYSIS
The resultant shot data had a 180 phase shift to match the vibroseis data, and produced a very good merge and stack response.
This programme is concentrated on the northern side of the lakes and has varying misties, although
small & within 5ms, which is probably a result of the tighter seismic grid and Tertiary faulting &
folding causing minor ray path errors.
Overall another good result, particularly with the data quality of the area.

MEI -INNAMINCKA FLANK EXT. 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HPL	GEC	WGC	201-469	37.50	60	070597	020597	210597	230597	280597	290597	280597	040697	030697
97-HPM	GEC	WGC	200-468	37.50	60	080597	020597	210597	230597	280597	290597	280597	040697	030697
97-HPN	GEC	WGC	201-469	37.50	60	080597	020597	210597	270597	280597	290597	280597	040697	030697
Total Kilometers						30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2

Notes:

SURFACE CONDITIONS
Rugged gibber hills and gibber plains

STATICS
1997 UHs interpreted with near surface layer weighted 100% to surface.
Base of weathering consistent , weathering increasing with elevation.
Hole depth 48-100m.

ARCHIVE TAPES
SEGY: MX-463
CGM: FDX-087

VARIATIONS TO STANDARD SEQUENCE
Three velocity function used on prelims to cover change
in structure. Single large trim window 100-2400ms

PC -PUP DETAIL 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HPP	GEC	WGC	200-680	37.50	60	090997	190997	171097	311097	141197	121297	251197	291297	291297
97-HPQ	GEC	WGC	200-540	37.50	60	070997	190997	171097	311097	141197	231297	251197	291297	291297
97-HPR	GEC	WGC	201-565	37.50	60	070997	190997	171097	311097	141197	121297	251197	291297	291297
97-HPS	GEC	WGC	201-657	37.50	60	200298	230398	080498	050598	140598	280598	220598	290698	010698
97-HPT	GEC	WGC	200-668	37.50	60	190298	230398	080498	050598	140598	280598	220598	290698	010698
97-HPW	GEC	WGC	201-664	37.50	60	090997	190997	171097	311097	141197	121297	251197	291297	291297
97-HPWX	GEC	WGC	664-972	37.50	60	180298	230398	080498	050598	140598	280598	220598	290698	010698
97-HPX	GEC	WGC	201-529	37.50	60	180298	230398	080498	050598	140598	280598	220598	290698	010698
97-HPY	GEC	WGC	200-964	37.50	60	080997	190997	171097	311097	141197	121297	251197	291297	291297
97-HPZ	GEC	WGC	201-645	37.50	60	070997	190997	171097	311097	141197	121297	251197	291297	291297
Total Kilometers						165.6	165.6	165.6	165.6	165.6	165.6	165.6	165.6	165.6

Notes:

SURFACE CONDITIONS
Twenty metre sandunes and clay floodplain

STATICS
1997 UHs interpreted with thin surface layer following elevation and flat base of weathering at 5-25m
Average UH depth 36m

ARCHIVE TAPES
SEGY: MX-493, 566
CGM: FDX-107, 125

VARIATIONS TO STANDARD SEQUENCE
Trim window tested on second round lines. No difference between single large window, two window and single window covering C to P.

MOO -SWAN LAKE SW 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HQH	GEC	WGC	200-396	37.50	60	030497	080497	150497	160497	280497	300497	280497	050597	020597
97-HQJ	GEC	WGC	201-493	37.50	60	030497	080497	150497	160497	280497	300497	280497	050597	020597
97-HQK	GEC	WGC	200-548	37.50	60	020497	080497	150497	160497	280497	300497	280497	050597	020597
97-HQL	GEC	WGC	201-497	37.50	60	020497	080497	150497	160497	280497	300497	280497	050597	020597
97-HQM	GEC	WGC	200-455	37.50	60	020497	080497	150497	160497	280497	300497	280497	050597	020597
97-HQN	GEC	WGC	201-565	37.50	60	010497	080497	150497	160497	280497	300497	280497	050597	020597
97-HQP	GEC	WGC	200-528	37.50	60	010497	080497	150497	160497	280497	300497	280497	050597	020597
97-HQQ	GEC	WGC	201-373	37.50	60	040497	080497	150497	160497	280497	300497	280497	050597	020597
97-HQR	GEC	WGC	200-380	37.50	60	300397	080497	150497	160497	280497	300497	280497	050597	020597
97-HQS	GEC	WGC	200-600	37.50	60	310397	080497	150497	160497	280497	300497	280497	050597	020597
97-HQT	GEC	WGC	201-629	37.50	60	310397	080497	150497	160497	280497	300497	280497	050597	140597
97-HQW	GEC	WGC	200-372	37.50	60	030497	080497	150497	160497	280497	300497	280497	050597	020597
97-HQX	GEC	WGC	201-585	37.50	60	030497	080497	150497	160497	280497	300497	280497	050597	020597
97-HQY	GEC	WGC	200-488	37.50	60	040497	080497	150497	160497	280497	300497	280497	050597	020597
97-HQZ	GEC	WGC	201-365	37.50	60	040497	080497	150497	160497	280497	300497	280497	050597	020597
97-HRA	GEC	WGC	200-364	37.50	60	040497	080497	150497	160497	280497	300497	280497	050597	020597
Total Kilometers						166.2	166.2	166.2	166.2	166.2	166.2	166.2	166.2	166.2

Notes: SURFACE CONDITIONS

Terrain –
mostly open clay flats with a few widely spaced sand dunes.

STATICS

Type: Uphole.
Weathering: 3 layer interpretation.
Interpolation:
1st layer – 100% weighting relative to surface.
2nd/3rd layers – 0% weighting relative to surface.
Correction velocity: 2000m/s
Datum: 0m AHD.

ARCHIVE TAPES

SEGY: MX-460
CGM: FDX-084

COMMENTS

NO VARIATIONS TO STANDARD PROCESSING SEQUENCE.

PC -WL43 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HRB	GEC	WGC	201-361	37.50	60	060997	190997	171097	291097	141197	181297	251197	100298	150198
97-HRC	GEC	WGC	201-369	37.50	60	060997	190997	171097	291097	141197	181297	251197	100298	150198
Total Kilometers						12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3

Notes:

SURFACE CONDITIONS
Twenty five metre sandunes and clay floodplain

STATICS
1997 UHs interpreted with thin surface layer following elevation and flat base of weathering at 10-35m
Average UH depth 42m

ARCHIVE TAPES
SEGY: MX-493
CGM: FDX-107

VARIATIONS TO STANDARD SEQUENCE
None

PSW -EAST/CENTRAL GAS 1997 SOUTH AUSTRALI

Processed Line	Acq. Pro. Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HRD	GEC WGC 200-436	37.50	60	010997	160997	230997	211097	061197	041297	251197	231297	191297
97-HRE	GEC WGC 200-476	37.50	60	010997	160997	230997	211097	061197	041297	251197	231297	191297
97-HRF	GEC WGC 200-440	37.50	60	310897	160997	230997	211097	061197	041297	251197	231297	191297
97-HRG	GEC WGC 201-557	37.50	60	020997	160997	230997	211097	061197	041297	251197	231297	191297
97-HRH	GEC WGC 200-632	37.50	60	020997	160997	230997	211097	061197	041297	251197	231297	191297
97-HRJ	GEC WGC 201-453	37.50	60	030997	160997	230997	211097	061197	041297	251197	231297	191297
97-HRK	GEC WGC 200-524	37.50	60	030997	160997	230997	211097	061197	041297	251197	231297	191297
97-HRL	GEC WGC 201-689	37.50	60	040997	160997	230997	161097	031197	261197	251197	231297	281197
97-HRM	GEC WGC 200-636	37.50	60	040997	160997	230997	161097	031197	261197	251197	231297	281197
97-HRN	GEC WGC 201-621	37.50	60	050997	160997	230997	161097	031197	261197	251197	231297	281197
97-HRP	GEC WGC 200-620	37.50	60	060997	160997	230997	161097	061197	261197	251197	231297	281197
97-HRQ	GEC WGC 200-468	37.50	60	300897	160997	180997	161097	031197	261197	251197	231297	281197
97-HRR	GEC WGC 201-585	37.50	60	300897	160997	180997	161097	031197	261197	251197	231297	281197
97-HRS	GEC WGC 200-580	37.50	60	290897	160997	180997	161097	031197	261197	251197	231297	281197
97-HRT	GEC WGC 201-437	37.50	60	290897	160997	180997	201097	061197	121297	251197	231297	191297
97-HRW	GEC WGC 201-449	37.50	60	280897	160997	180997	161097	031197	261197	251197	231297	281197
97-HRX	GEC WGC 200-368	37.50	60	280897	160997	180997	161097	031197	261197	251197	231297	281197
97-HRY	GEC WGC 201-373	37.50	60	280897	160997	180997	161097	031197	261197	251197	231297	281197
97-HRZ	GEC WGC 200-364	37.50	60	280897	160997	180997	161097	031197	261197	251197	231297	281197
97-HSA	GEC WGC 200-524	37.50	60	270897	160997	180997	201097	071197	041297	251197	231297	191297
97-HSB	GEC WGC 201-329	37.50	60	270897	160997	180997	201097	071197	041297	251197	231297	191297
97-HSC	GEC WGC 200-524	37.50	60	300897	160997	180997	161097	031197	261197	251197	231297	281197
97-HSD	GEC WGC 201-685	37.50	60	310897	160997	180997	161097	031197	261197	251197	231297	281197
97-HSE	GEC WGC 201-625	37.50	60	270897	160997	180997	281097	071197	041297	251197	231297	191297
97-HSF	GEC WGC 200-500	37.50	60	250897	090997	230997	281097	071197	261197	251197	231297	281197
97-HSG	GEC WGC 201-613	37.50	60	220897	090997	230997	281097	071197	041297	251197	231297	191297
97-HSH	GEC WGC 200-392	37.50	60	210897	090997	180997	281097	071197	041297	251197	231297	191297
97-HSJ	GEC WGC 201-409	37.50	60	210897	090997	180997	281097	071197	261197	251197	231297	281197
97-HSK	GEC WGC 200-480	37.50	60	210897	090997	180997	281097	071197	041297	251197	231297	191297
97-HSL	GEC WGC 201-505	37.50	60	200897	090997	180997	281097	071197	041297	251197	231297	191297
97-HSM	GEC WGC 201-521	37.50	60	190897	090997	180997	281097	071197	041297	251197	231297	191297
97-HSN	GEC WGC 200-808	37.50	60	200897	090997	180997	281097	071197	041297	251197	231297	191297
97-HSP	GEC WGC 201-653	37.50	60	190897	090997	180997	281097	071197	041297	251197	231297	191297
97-HSQ	GEC WGC 201-813	37.50	60	180897	090997	180997	281097	071197	041297	251197	231297	191297
97-HSR	GEC WGC 200-680	37.50	60	180897	090997	180997	281097	071197	041297	251197	231297	191297
97-HSS	GEC WGC 200-560	37.50	60	220897	090997	180997	281097	101197	041297	251197	231297	191297
97-HST	GEC WGC 201-437	37.50	60	220897	090997	180997	281097	101197	041297	251197	231297	191297
97-HSW	GEC WGC 200-364	37.50	60	220897	090997	180997	281097	101197	041297	251197	231297	191297
97-HSX	GEC WGC 201-577	37.50	60	230897	090997	180997	281097	101197	041297	251197	231297	191297
97-HSY	GEC WGC 200-500	37.50	60	230897	090997	180997	281097	101197	041297	251197	231297	191297
97-HSZ	GEC WGC 201-525	37.50	60	240897	090997	180997	281097	101197	161297	251197	231297	191297
97-HTA	GEC WGC 200-488	37.50	60	240897	090997	230997	281097	101197	041297	251197	231297	191297
97-HTB	GEC WGC 201-633	37.50	60	240897	090997	230997	291097	101197	041297	251197	231297	191297
97-HTC	GEC WGC 200-640	37.50	60	260897	090997	230997	291097	101197	041297	251197	231297	191297
97-HTD	GEC WGC 200-529	37.50	60	250897	090997	230997	291097	101197	041297	251197	231297	191297
97-HTE	GEC WGC 201-721	37.50	60	260897	090997	230997	161097	031197	261197	251197	231297	281197
97-HTF	GEC WGC 200-468	37.50	60	250897	090997	230997	291097	101197	041297	251197	231297	191297
97-HTG	GEC WGC 201-337	37.50	60	270897	160997	230997	291097	101197	041297	251197	231297	191297
Total Kilometers				597.2	597.2	597.2	597.2	597.2	597.2	597.2	597.2	597.2

Notes:

SURFACE CONDITIONS
Twenty metre sandunes and interdune corridors.

STATICS
1997 UHs interpreted with thin surface layer following elevation and flat base of weathering at 10-30m
Average UH depth 30m

PSW -EAST/CENTRAL GAS 1997 SOUTH AUSTRALI

ARCHIVE TAPES
SEGY: MX-491, 566
CGM: FDX-105, 125

VARIATIONS TO STANDARD SEQUENCE
None
97-HSX reprocessed from 60.1 in June 1998 to fix 10ms mistie with 88-BPX.
UH tie at 340 removed.

NM -CORKWOOD NOSE (SWATH) 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HWT	GEC	WGC	200-720	37.50	60	110997	220997	290997	041197	121197	211197	191197	091297	051297
97-HWTD	GEC	WGC	200-720	37.50	60	120997	220997	300997	051197	171197	261197	191197	091297	051297
97-HWW	GEC	WGC	200-720	37.50	60	120997	220997	300997	041197	121197	211197	191197	091297	051297
97-HWX	GEC	WGC	200-720	37.50	60	110997	220997	290997	051197	121197	211197	191197	091297	051297
97-HWXD	GEC	WGC	200-720	37.50	60	120997	220997	300997	051197	171197	261197	191197	091297	051297
Total Kilometers						97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5

Notes:

SURFACE CONDITIONS
Small sandridges and rolling gibber

STATICS
1997 UHs interpreted with 5-10m surface layer following elevation and flat base of weathering at 40-50m on the dunes and 40-60m on gibber.
Average UH depth 84m

ARCHIVE TAPES
SEGY: MX-490
CGM: FDX-103

VARIATIONS TO STANDARD SEQUENCE
none

PE -TOOROO 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HYT	GEC	WGC	200-400	37.50	60	211097	111197	191197	081297	151297	181297	221297	100298	150198
97-HYW	GEC	WGC	201-389	37.50	60	221097	111197	191197	081297	151297	181297	221297	100298	150198
97-HYX	GEC	WGC	201-413	37.50	60	201097	111197	191197	081297	151297	181297	221297	100298	150198
97-HYY	GEC	WGC	201-493	37.50	60	211097	111197	191197	081297	151297	181297	221297	100298	150198
97-HYZ	GEC	WGC	200-508	37.50	60	221097	111197	191197	081297	151297	181297	221297	100298	150198
Total Kilometers						45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0

Notes:

SURFACE CONDITIONS
Small sandridges and claypans

STATICS
1997 UHs interpreted with thin surface layer following elevation and flat base of weathering at 20-30m.
Average UH depth 42m.

ARCHIVE TAPES
SEGY: MX-496
CGM: FDX-109

VARIATIONS TO STANDARD SEQUENCE
none

PE -ELLAR 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HZA	GEC	WGC	200-520	37.50	60	310198	110298	200298	040398	110398	240398	020498	260698	230498
97-HZB	GEC	WGC	200-484	37.50	60	310198	110298	200298	040398	110398	240398	020498	260698	230498
Total Kilometers						22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7

Notes: SURFACE CONDITIONS
Sand dunes with interdune sandy corridors.
Adjacent to the sensitive Western Prospects programme.

STATICS
Upholes. Model : 1st 2-4m layer surface weighted 100%
2nd/3rd layers surface weighted 0%.
Datum om AHD. Replacement velocity 2000m/sec.

ARCHIVE TAPES
SEGY : MX-568
CGM : FDX-126

COMMENTS
No variations to the standard sequence.

TRIALS
Nil

PE -CUTTAPIRRIE TERRACE 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-HZC	GEC	WGC	200-452	37.50	60	221097	111197	191197	021297	051297	181297	221297	100298	150198
97-HZD	GEC	WGC	200-480	37.50	60	241097	111197	191197	021297	051297	181297	221297	100298	150198
[redacted]HZE	GEC	WGC	201-513	37.50	60	231097	111197	191197	021297	051297	181297	221297	100298	150198
97-HZF	GEC	WGC	200-548	37.50	60	231097	111197	191197	021297	051297	181297	221297	100298	150198
Total Kilometers						44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7

Notes:

SURFACE CONDITIONS
Ten metre sandunes and large claypans

STATICS
1997 UHs interpreted with thin surface layer following elevation and flat base of weathering at 8-20m.
Average UH depth 30m

ARCHIVE TAPES
SEGY: MX-496
CGM: FDX-109

VARIATIONS TO STANDARD SEQUENCE
none

TOO -DULLINGARI/BURKE 3D 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-DULL3D	GEC	WGC	-	40.00	24	160897	260897	240997	021097	301197	200198	200198	240498	210198
Total Kilometers						1427.3	1427.3	1427.3	1427.3	1427.3	1427.3	1427.3	1427.3	1427.3

Notes: SURFACE CONDITIONS
The area is sand dune country.
The 3D survey covers the Dullingari North, Dullingari and Burke fields.

STATICS
Upholes. Model : 1st layer 2-6m surface weighted 100%
2nd/3rd layers surface weighted 0%.
Datum 0m AHD. Replacement velocity 2000m/sec.
Statics generated via Petrosys gridding and back interpolated to the shot and receiver locations.

ARCHIVE TAPES
SEGY : MX-545,503,502,494,489
CGM : FDX-111

VARIATIONS TO STANDARD SEQUENCE
Deconvolution Before Stack tests : Spike 120ms, 200ms & 300ms operators. Designature.
With and Without Spectral whitening.
Result : Spike 120ms with Spectral Whitening.
Prestack Gain : 200ms, 500ms, 1000ms, 3600ms windows
Result : 500ms windows with 10% overlaps.
DMO tests as there was a significant increase in the footprint at the final stack stage. It was eventually attributed to the DMO Result : Flex Binning in conjunction with DMO
Spectral Whitening : 10-80Hz
Filter : High cut, Low cut and Octave Filter tests Result : 10-80Hz 0-800ms
8-70Hz 4000ms
Migration sub-volume : 95%, 97.5% and 100% Result : 97.5%

DATA ANALYSIS
QC of Preliminary Stack, Residual Statics and Final Stack done on Promax.
Preliminary Stack sub-volume post stack processed and migrated on Promax for initial interpretation.

MOO -MOOMBA/BIG LAKE 3D 1997 SOUTH AUSTRALI

Processed Line	Acq. Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-MOO3D	GEC DIG	-	50.00	24	140797	210797	161097	311097	281197	140198	120198	140198	200198
Total Kilometers					2437.6	2437.6	2437.6	2437.6	2437.6	2437.6	2437.6	2437.6	2437.6

Notes: SURFACE CONDITIONS

The area is sand dune country and has the Moomba Plant and facilities almost at the centre of the area. The Moomba airstrip and the Big Lake Satellite are also located within the 3D grid.
The 3D survey covers an area of 797 sq km, the largest recorded by Santos and it Joint Venture partners.

STATICS

Upholes. Model : 1st layer 2-6m surface weighted 100%
2nd/3rd layers surface weighted 0%.
Datum 0m AHD. Replacement velocity 2000m/sec.
Statics generated via Petrosys gridding and back interpolated to the shot and receiver locations.

ARCHIVE TAPES

SEGY : EXA-3658, 3680, 3679, 3682, 3681, 3646
CGM : MOOMBA_3D_CGM

VARIATIONS TO STANDARD SEQUENCE

Parameters are the same as the 1996 Moomba North Flank 3D
Deconvolution Before Stack tests : Spike 100ms with and without Spectral whitening.
Result : Spike 100ms with Spectral Whitening.
Migration sub-volume : 95%, 97.5% and 100% Result : 100%
The 1996 Moomba North Flank 3D was merged at the Stack stage to allow both volumes to be post stack processed equally, especially the migration.
The complete volume was SEGY and CGM archived.

DATA ANALYSIS

QC of Preliminary Stack, Residual Statics and Final Stack done on Promax.
Two Preliminary Stack sub-volumes were migrated on Promax for initial interpretation to assist the location of new well locations.

MEI -PONDRINIE 3D 1997 SOUTH AUSTRALI

Processed Line	Acq.	Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-POND3D	GEC	DIG	-	35.00	24	060597	090597	170797	250797	010997	180997	230997	230997	230997
Total Kilometers						907.6	907.6	907.6	907.6	907.6	907.6	907.6	907.6	907.6

Notes: SURFACE CONDITIONS
Gibber hills in the south and east sloping to the north and west through rolling gibber to low dunes.

STATICS
48 extra holes drilled on receiver lines
Holes interpreted with near surface layer (10m) following surface and base of weathering at 20-90m relative to datum. Statics generated via Petrosys gridding and back interpolated to the shot and receiver locations.

ARCHIVE TAPES
SEGY : 3611-FMIG
CGM : PONDRINIE_3D_CGM

VARIATIONS TO STANDARD SEQUENCE
DBS tests :
Designature, 100ms and 200ms spiking followed by prestack spectral whitening.
200ms spike windows 300-2700ms, 1880-3500ms + whitening using 100ms operator, 10 filters, 5-80Hz selected.
Residual statics
Initial residual pass gave lack of amplitude to statics. Tests showed pass filter and maximum allowed shift of 20ms to be cause. Filter changed to 15-40Hz and maximum shift increased to 32ms. Spikes in residuals manually edited.
DMO
No testing
Poststack Spectral Whitening and Filter
8-90Hz whitening, 12-80,Hz (zero), 10-75Hz(1250ms), 8-70Hz(2000ms)
Migration
Two sub volumes tested with 95%, 97.5% and 100% stacking velocities. 97.5% selected

TOO -TOOLACHEE FIELD 3D 1997 SOUTH AUSTRALI

Processed Line	Acq. Pro.	Station	Station Int.	Fld	Acq. Date	Stat Proc.	Prelim. Stack	Prelim. Appr.	Final Stack	CGM App.	Migr. Rec.	Tape Arch.	To GQS
97-TOO3D	GEC WGC	-	40.00	24	091197	031297	210198	200298	160498	170498	170498	280498	270498
Total Kilometers					2064.1	2064.1	2064.1	2064.1	2064.1	2064.1	2064.1	2064.1	2064.1

Notes: SURFACE CONDITIONS
Ten metre sandunes and interdune corridors.

STATICS
11 extra holes drilled on intersections on the 1980 grid prior to recording.
Holes interpreted with near surface layer (10m) following surface and base of weathering at 20-40m.
Statics generated via Petrosys gridding and back interpolated to the shot and receiver lines.

ARCHIVE TAPES
SEGY : MX-543,544,547 to 551
CGM : FDX-121

VARIATIONS TO STANDARD SEQUENCE
DBS tests :
No testing. Identical to adjoining Dullingari Burke 3D, 120ms spike + 8-90Hz prestack whitening.
Residual statics
Errors in 3 upholes were detected after gridding source and receiver residuals.
Statics recomputed and residual statics rerun.
DMO
Little recording footprint was seen prior to DMO except for an area about the Toolachee plant which was testeded with conventional DMO and Spatial Dealiasing (FAT) DMO. The coventiional DMO plus K-filtering gave best results on the test, but after application to the complete dataset was unsuitable. FAT DMO with progressive stack was then applied succesfully to the volume. No flexbinning was used.
Poststack Spectral Whitening and Filter
Not tested 10-80Hz spectral whitening with 10-75Hz filter
Migration
Two sub volumes tested with 95%, 97.5% and 100% stacking velocities. 98% selected

~ APPENDIX IX ~

3D SOURCE AND SPREAD LAYOUTS

1. PONDRINIE 3D

1.1 *Line naming convention*

Receiver	97-PR092 to 97-PR356 incrementing by 4
Zig Zag Source	97-PS092 to 97-PS352 incrementing by 4
Perpendicular Source	97-PS500 to 97-PS628 incrementing by 8

Source and receiver lines 092 had origins at the south west corner of the survey.

1.2 *Swath*

Each full swath consisted of eight receiver lines of 96 channels, with the zig zag source between the fourth and fifth receiver line. The first swath on the edge of a panel contained 5 receiver lines with the zig zag source between the first and second receiver line. An additional receiver line was added to the swath for each move up of the zig zag until a full swath was reached. No more than 4 receiver lines were live either side of the source.
The procedure was reversed as the swath reached the edge of a panel so that the last source zig zag was between the fourth and fifth receiver line.

1.3 *Roll on, Roll off, Boundary Steps*

The first VP in a zig zag was recorded into 49 channels. Two extra channels were added behind the VP as the source rolled into the spread until the full 96 channel split was achieved. Channels were dropped as the source rolled out of the spread.
Where the swath boundary encountered a step, the number of line channels was maximised up to 96. That is, the number of live channels was determined by the longest receiver line(s) in the swath.

1.4 *Source position offsets*

When a VP required to be offset more than 7m in the in-line zig zag direction because access was denied by terrain, pipelines, production facilities or roads, the offset was in a direction parallel to the receiver lines from the VP and in multiplies of 35 metres, up to a maximum of 140 metres.

All offsets were precisely noted in the observer's log and surveyed for XYZ position.

1.5 *Perpendicular source*

The perpendicular lines overlapped the source positions of the 1996 3D, including offset sources. The standard source was 4 VPs between each receiver line. The receivers rolled along 8 stations for every source line so that the source was between channels 48 and 49.

1.6 *Zig Zag source*

The receivers rolled along 2 stations for every source point such that the source was between channels 48 and 49 for each receiver line.

1.7 *Number of Sweeps per VP*

The two outer panels were recorded with one 6 second sweep per VP. In addition the four most westerly and easterly source lines were recorded with one 6 second sweep per VP. The inner panel was recorded with two 6 second sweeps per VP.

1.8 *Experimental*

Sweep length and frequency trials were conducted at two locations using a single VP. The proposed trial locations were in the gibber hills near receiver lines PR150 and PR330.

Sweep Length	Frequency	Sweeps
3,6,15 sec	5-90 Hz	1
3,6 sec	5-80 Hz	1,2
3,6 sec	5-65 Hz	1
3,6,15 sec	5-50 Hz	1

2. MOOMBA/BIG LAKE 3D

2.1 *Line naming convention*

Receiver lines	97-M088 to M424 incrementing in 4's
Source lines	97-M1060 to M1588 incrementing in 8's
	97-M1216 to M1344 incrementing in 8's
	97-M500 to M596 incrementing in 8's

Source line 97-M1060 was the south western most source line.

Receiver line 97-M88 was the south eastern most receiver line.

2.2 *Definitions*

Patch	-	All live receivers for source position
Swath	-	All the source positions between any two receiver lines
Panel	-	Defined by the number of source positions able to be recorded in a swath before a cross line roll was required

2.3 *Patch layout*

Each patch consisted of eight receiver lines of 96 channels when fully rolled on. The standard source position for each swath was 4 VPs falling between the fourth and fifth receiver lines of each eight line patch.

2.4 *Roll on/Roll off*

The standard position for the source line was between receivers 48/49. The first and last receivers defined the outside boundaries of the surface coverage.

The first and last source lines were recorded into a spread of 96 channels. For the orthogonal source lines 97-M500 - 596, the outermost source line defined the outside boundary. These bounding source lines were recorded into a spread of only 48 channels.

A normal roll on/roll off occured until the 96 split was achieved.

2.5 *Boundary steps/Patch definition*

Where the boundaries of the surface coverage step in the number of live traces for each receiver line was maximised up to the standard 96, ie. the number of live traces was not restricted to the shortest line of the patch but each line in the patch used all available spread.

2.6 *Source position offsets/recoveries*

Where a source position needed to be offset because of terrain, pipelines or structures, the offset was parallel to the receiver line direction and in multiples of 50 metres.

All offsets were clearly noted on the observers' logs and surveyed for accurate XYZ positions.

2.7 *Zig Zag Source*

The receivers rolled along 2 stations for every source point increment such that the source was between channels 48 and 49 for each receiver line.

3. DULLINGARI/BURKE 3D

3.1 *Line naming convention*

Receiver lines	97-DR5368 to DR5864 incrementing in 8's
Source lines	97-DS5372 to DS5860 incrementing in 8's

Source line 97-DS5372 was the south western most source line.

Receiver line 97-DR5368 was the western most receiver line.

3.2 *Definitions*

Patch	-	All live receivers for source position
Swath	-	All the source positions between any two receiver lines
Panel	-	Defined by the number of source positions able to be recorded in a swath before a cross line roll was required

3.3 *Patch layout*

Each patch consisted of eight receiver lines of 96 channels when fully rolled on. The standard source position for each swath was 4 VPs falling between the fourth and fifth receiver lines of each eight line patch.

3.4 *Roll on/Roll off*

The standard position for the source line was between receivers 48/49. The first and last receivers defined the outside boundaries of the surface coverage.

The first and last source lines were recorded into a patch of 5 receiver lines. The first and last source positions on each line were recorded into 49 channels per receiver line.

A normal roll on/roll off occurred until the 96 split was achieved.

3.5 *Boundary steps/Patch definition*

Where the boundaries of the surface coverage step in the number of live traces for each receiver line was maximised up to the standard 96, ie. the number of live traces was not restricted to the shortest line of the patch but each line in the patch used all available spread.

3.6 *Source position offsets/recoveries*

Where a source position needed to be offset because of terrain, pipelines or structures, the offset was parallel to the receiver line direction and in multiples of 40 metres.

All offsets were clearly noted on the observers' logs and surveyed for accurate XYZ positions.

3.7 *Zig Zag Source*

The receivers rolled along 2 stations for every source point increment such that the source was between channels 48 and 49 for each receiver line.

3.8 *Recording Panels*

The recording panels for the Dullingari/Burke 3D Seismic Survey were as follows:

Panel	Direction	VPs	No. VPs	Traces	No. Traces
1	E → W	1888 - 2030	72	1888 - 2078	191
2	W → E	2032 - 2110	40	1985 - 2158	174
3	E → W	2112 - 2190	40	2065 - 2238	174
4	W → E	2192 - 2270	40	2145 - 2318	174
5	E → W	2272 - 2406	68	2225 - 2407	183

Note: Panel 3 DS5860 to DS5668 recorded VPs 2112 to 2230.

4. TOOLACHEE FIELD 3D

4.1 *Line naming convention*

Receiver lines	97-TR1000 to TR1720 incrementing in 8's
Source lines	97-TS1004 to TS1716 incrementing in 8's

4.2 *Definitions*

Patch	-	All live receivers for source position
Swath	-	All the source positions between any two receiver lines
Panel	-	Defined by the number of source positions able to be recorded in a swath before a cross line roll was required

4.3 *Patch layout*

Each patch consisted of eight receiver lines of 96 channels when fully rolled on. The standard source position for each swath were 4 VPs falling between the fourth and fifth receiver lines of each eight line patch.

4.4 *Roll on/Roll off*

The standard position for the source line was between receivers 48/49. The first and last receivers defined the outside boundaries of the surface coverage.

The first and last source lines were recorded into a patch of 5 receiver lines. The first and last source positions on each line were recorded into 49 channels per receiver line.

A normal roll on/roll off occurred until the 96 split was achieved.

4.5 *Boundary steps/Patch definition*

Where the boundaries of the surface coverage step in the number of live traces for each receiver line was maximised up to the standard 96, ie. the number of live traces was not restricted to the shortest line of the patch but each line in the patch used all available spread.

4.6 *Source position offsets/recoveries*

Where a source position needed to be offset because of terrain, pipelines or structures, the offset was parallel to the receiver line direction and in multiples of 40 metres.

All offsets were clearly noted on the observers' logs and surveyed for accurate XYZ positions.

4.7 *Zig Zag Source*

The receivers rolled along 2 stations for every source point increment such that the source was between channels 48 and 49 for each receiver line.

4.8 *Receiver Lines*

Receiver position tolerance in the orthogonal direction was +/-10m. This enabled the line to weave and thus "break line of sight". However, all receiver and source positions were surveyed to an accuracy of +/-1m in the horizontal direction.

4.9 *Recording Panels*

The Toolachee Field 3D was recorded as 6 panels, four inner panels of 40 VPs and two outer panels of 64 and 60 VPs.

Recording began at the southern end of either panel 1 or 6 to avoid a long transport between the southern end of panels 1 and 2.

Panel 2 included VPs 5120-5126 at start of line 97-TS1004 to TS1188.
Panel 5 included VPs 5418-5478 at end of line 97-TS1004 to TS1092.

Panel	VPs	No. VPs
1	5000-5126	64
2	5128-5206	40
3	5208-5286	40
4	5288-5366	40
5	5368-5446	40
6	5448-5566	60

300000M E
350000M E
400000M E
450000M E
500000M E
26 26 28S
26 30 00S
27 00 00S
27 30 00S
28 00 00S
28 30 00S
29 00 00S
29 01 44S
138 56 40E
139 30 00E
140 00 00E
140 30 00E
141 00 00E
141 08 13E
7050000M N
7000000M N
6950000M N
6900000M N
6850000M N
6800000M N

Clifton
Haddon
Patchawarra East
Distal Gas
Koonchera
Western Prospects
Deramookoo Platform
Tooroo
Patchawarra Central
Elliah
Cuttapirrie Terrace
Cuttapirrie Regional
Innamincka Flank
Proximal Gas
Meroo
Nth Moorari Regional
P.U.P. Detail
WL43
Merri-Inna
Pondrinie 3D
Wantana Warrah
Patchawarra Southwest
Swan Lake SW
Moomba
Corkwood Nose
East/Central Gas
Moomba/Big Lake 3D
Dullingari/Burke 3D
Nappa-Murt
Toolachee Field 3D
Lake Hope
Murta
Toolachee

97-TR1720
97-TR1000
97-DR5368
97-DR5864
97-MR088

1: 500000
0 10 20 30 40 50
KILOMETRES

UNIVERSAL TRANSVERSE MERCATOR PROJECTION
AUSTRALIAN NATIONAL SPHEROID
CENTRAL MERIDIAN 141 00 00E

Santos

SA97 SEISMIC SURVEY

P.E.L. 5 & 6 SOUTH AUSTRALIA

LINE LOCATION MAP

Date : March 12, 1998	Author : K Seedsman	ENCL
Contour Interval :	Drafted :	1
Datum : AUSTRALIAN NATIONAL	File No. :	

User : expsja File : expsja9417.hpgl Date : March 12, 1998