

110001



# VAN DIEMEN'S LAND RESOURCES N.L.

151-155 DORCAS STREET  
SOUTH MELBOURNE 3205 AUSTRALIA  
TELEPHONE 690 5390 TELEX AA33427

**New Address: 17-23 Queensbridge Street, South Melbourne. 3205**  
**Telephone : 62 3837**

17th December 1981

The Director of Mines,  
Department of Mines,  
G.P.O. Box 124B,  
HOBART. Tas. 7001

of M.	A.O.	C.G.	E.O.	D.S.M.E.
				Registrar
Received	25 FEB 1982			E & IL
Answered				
DEPT. OF MINES				
REF. No. 1466/82				

Dear Sir,

Re: Final Report - period ending August 8, 1981

In accordance with the directions of Geological and Geophysical surveys of the Petroleum (Submerged Lands) Act 1967, we enclose two (2) copies of the Final Report covering operations carried out by our company with respect to Petroleum Exploration Permit T/17P.

We regret the lateness of this report.

Yours faithfully,  
VAN DIEMEN'S LAND RESOURCES N.L.

TONY HILL  
Geologist

Encl:

Van Diemen's Land Resources N.L.  
17-23 Queensbridge Street  
South Melbourne, Vic. 3205

REPORT No. 702/9

110002

QUARTERLY REPORT  
FOR THE PERIOD  
MAY 8TH TO AUGUST 7TH, 1981

ON

EXPLORATION PERMIT  
FOR PETROLEUM  
T/17P  
OTWAY BASIN, TASMANIA

FOR

VAN DIEMEN'S LAND RESOURCES N.L.  
CONSORTIUM

General Geological Services  
Work Order: VAN 702

December, 1981

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## Appendix

Progress Report: Seismic Interpretation T/17P,  
 Otway Basin - Van Diemen's Land Resources N.L.  
 by E.R. Denton & Associates

## Illustrations

VAN 702/8 Water Depth (1:100 000) - *missing*  
 VAN 702/7 Top of Sherbrook unconformity (1:100,000)

Figure 1. Locality Map of T/17P

(iii)

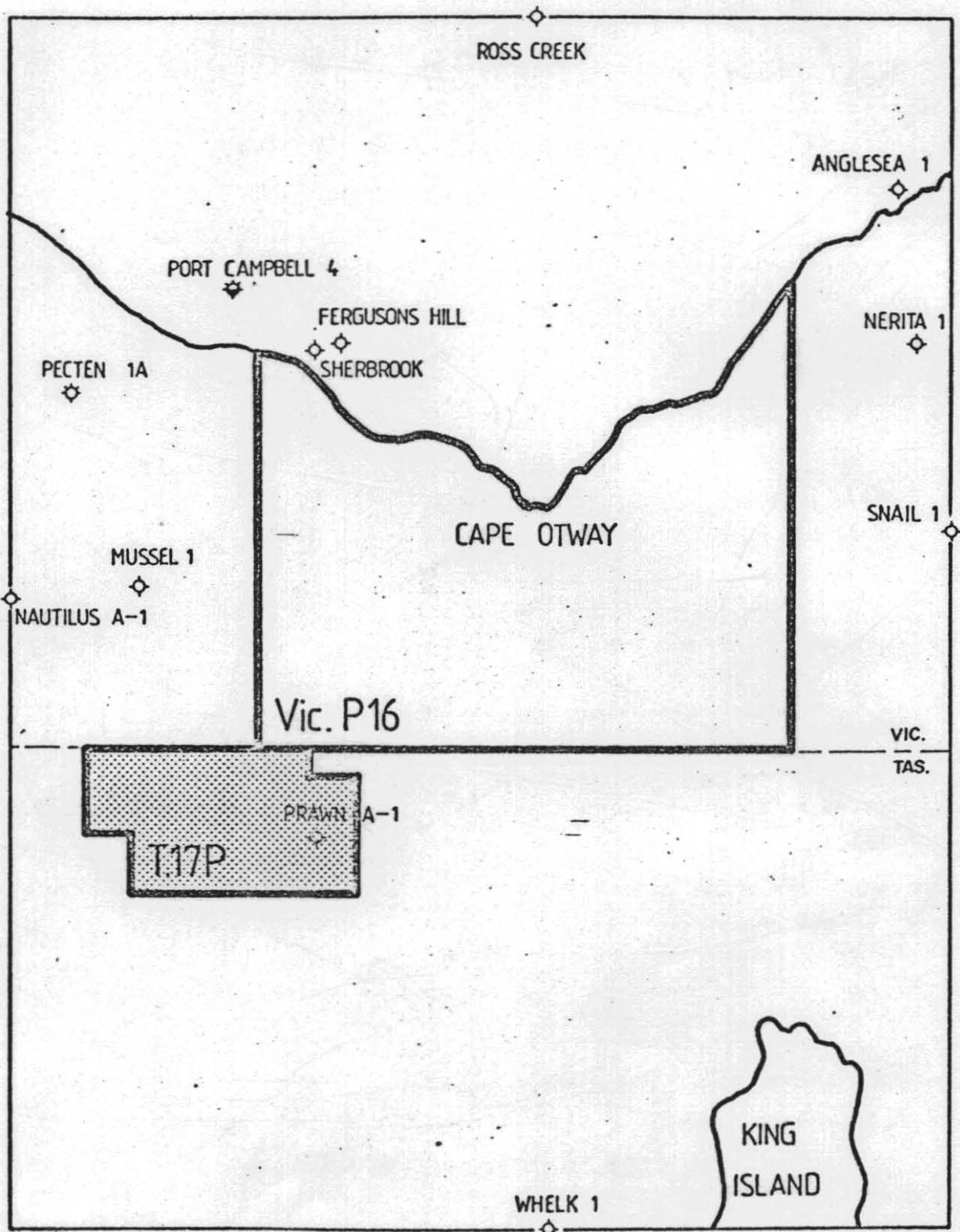
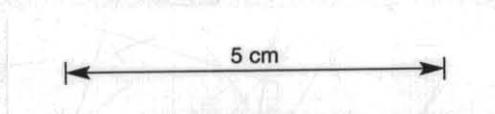


FIGURE 1 - LOCALITY MAP OF T-17P



1. INTRODUCTION

This quarterly report presents operations carried out and planned by General Geological Services on behalf of Van Diemen's Land Resources N.L. in connection with T/17P during the period May 8th to August 7th, 1981.

Interpretation of the recent OBV 81 Marine Seismic Survey has been the main preoccupation during the last quarter and a progress report by our geophysical consultants is included within the text. A preliminary map of water depth at a scale of 1:100 000 is also presented.

An outline of a paper delivered by General Geological Services at the PESA Symposium on South-Eastern Australian Oil Exploration on the 14th November 1981 has not been previously submitted and is included within this report. It presents a palaeoenvironmental viewpoint on the hydrocarbon potential of the south eastern Otway Basin of Victoria and Tasmania.

In response to requests by the Bureau of Mineral Resources (B.M.R.), Van Diemen's Land Resources has agreed to supply any information deemed relevant to their forthcoming Bass Project. A 4000 kilometre seismic survey is planned by the B.M.R., and will tie in wells from the Otway, Bass and Gippsland Basins in an attempt to upgrade the hydrocarbon potential within the region.

The following quarter will see the completion of the final seismic interpretation report on T/17P. In addition, the Data Processing Report on the OBV 81 Marine Seismic Survey will be prepared by Geophysical Services International (G.S.I.) and included in the next quarterly report.

2. OPERATIONS PERFORMED

2.1 Palaeoenvironmental Interpretation

A paper entitled 'The Hydrocarbon Potential of the South Eastern Otway Basin of Victoria and Tasmania' (by C. Glazebrook, R.C. Glenie and A.G. Link) was delivered by General Geological Services at the PESA Symposium on South Eastern Australian Oil Exploration during mid-November, 1980. The study has not been previously reported in Van Diemen's Land Resources' quarterly reports, though it included a review of data in T/17P. An abstract of the paper as presented at the symposium is given below.

The south-eastern Otway Basin region embraces Mesozoic and Cainozoic fluvio-lacustrine, marginal marine, and open marine sediments that were deposited in contrasting tectonic settings including rift valley, continental margin, and intra-cratonic basin. Carbonaceous sediments in the Eumeralla Formation, the Belfast Mudstone, the Eastern View Formation and the Pember Mudstone are regarded as having undergone sufficient maturation for hydrocarbon generation.

Vertical profile analysis of wells in the region indicate a variety of litho-facies relating to open marine and fluvial deltaic paleoenvironments. Several types of combined structural-stratigraphic traps are discriminated. Major exploration targets are the Pretty Hill Sandstone, the Waarre Sandstone, the Timboon Sand, and the Eastern View Formation.

2.2 OBV 81 Seismic Survey

A total of 139.7 km of high resolution marine seismic on 6 lines was completed over the permit during the period 1/2/81 to 2/2/81. The purpose of this survey was to investigate the area referred to as the 'Prawn Deep', and to produce a basic high resolution grid for future work.

2.3 Geophysical Interpretation

A progress report submitted by E.R. Denton & Associates on the interpretation of seismic data from the OBV 81 Marine Seismic Survey in T/17P is appended. One map at 1:100 000 scale has been produced and is enclosed with this report.

Parameters for data processing were selected during April, with data being processed at 96 trace, 48 fold with Velscans every 3 kms. A 32 ms gapped deconvolution was used with payout to 5 second record length. Final seismic sections of good quality were received at the end of June with good quality results.

The Data Processing Report by G.S.I. is in preparation and is expected to be finalised towards the end of the next quarter.

3. OPERATIONS PLANNED

The next quarter will see the completion of seismic interpretative work by E. R. Denton & Associates and the construction of 1:100 000 scale water depth map.

In addition, it is proposed that a Burial and Thermal Geohistory Analysis of the Otway Basin will be commenced by Paltech Pty. Ltd. and will include a detailed study of T/17P.

The objective of this geochemical analysis is:

- \* to identify areas of maximum palaeo-heat-flow in the basin, and hence maximum potential oil generation during basin development,
- \* to relate the timing of such theoretical oil generation to the time of formation of drilled structures, and
- \* to aid the prediction of timing of formation of undrilled target structures and hence the likelihood of such structures containing hydrocarbons.

It is proposed that the Geohistory Analysis of the Otway Basin be conducted in two stages:-

- Stage I - Individual well analysis
- Stage II - Basin-wide analysis

Stage I

This stage basically involves the production of a Burial and Thermal Geohistory Diagram for each well within the basin and a report accompanying each diagram.

The Stage I report will include, for each well, a description of the salient features of the Geohistory Diagram concentrating on the geotectonic aspects and their significance in the light of current theories on the formation of the Otway Basin and other Southern Margin Basins.

Stage II

This stage involves the basin-wide analysis of factors such as heat-flow and subsidence rates, for specific time intervals, as measures from the Geohistory Diagrams produced in Stage I.

A time series of maps of the Otway Basin will be produced showing:

- \* thermal indicator (i.e. vitrinite reflectance =  $R_o$ ) values for particular geologic horizons at selected time instants, which will indicate areas of maximum heat flow and potential hydrocarbon,
- \* broad-scale palaeostructure for selected geologic horizons through time, and
- \* basement subsidence.

A report for this stage will include the above-mentioned maps and an assessment of favourable areas for hydrocarbon generation and entrapment.

In addition to the forthcoming report on Burial and Thermal Geohistory Analysis, the Data Processing Report on the OBV 81 survey will be submitted at the end of the next quarter.

4. EXPENDITURE

Van Diemen's Land Resources N.L.

Permit T/17P

Quarterly Report - Expenditure

Quarter: May 1 - July 30, 1981

Lease fees (Rental)	Office Overhead	Office Studies	Field Work		
			Geological	Geophysical	Drilling
	\$4,800	\$3,800	-	-	-

signed: *Jawitk*

30 October, 1981

Progress Report:  
Seismic Interpretation of T/17P

Van Diemen's Land Resources N.L.

New 1981 seismic data, shot by GSI using the MV Eugene McDermott, were processed and made available to Van Diemen's Land Resources during July, 1981.

The aim of the current interpretation project is to integrate the new data with a grid previously shot by Hematite Petroleum:-

H03 Seismic Survey	1973
H04 " "	1974

and produce maps in two way reflection time at two horizons:-

Top of Sherbrook  
Top of Otway

Any structural leads which become evident from these maps will be followed by velocity studies to allow mapping in depth over areas of interest.

Although the 1981 data are better than those obtained during previous surveys, reflections below the Tertiary-Sherbrook unconformity are still generally poor over Tas 17P and mapping has so far been limited to the Top of the Sherbrook horizon.

Ties to well control were made at the wells:-

Well	Formation/Group	Reflection Time
Prawn A-1	Sherbrook	1.134
	Otway	2.026
Mussel 1	Paaratte	1.087
	Waarre	1.513

On northeast to southwest dip lines, interpretation is aided at the Sherbrook by downlap of basal Tertiary beds against the unconformity. A water depth map at a scale of 1:100 000 was submitted to Van Diemen's Land Resources during October, 1981.

The water depth map shows the continental margin passing through the prospect area near its western margin. Here water depths increase rapidly and variations in the water bottom profile have influenced horizon times in this area.

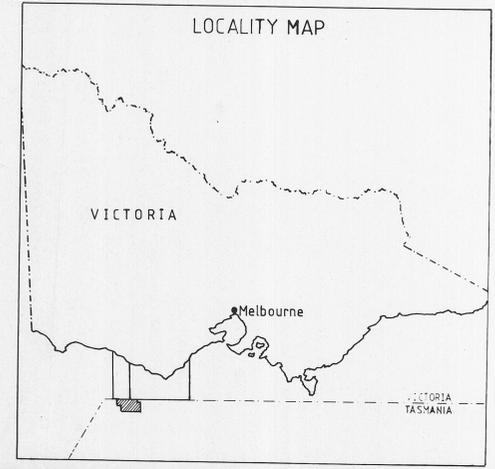
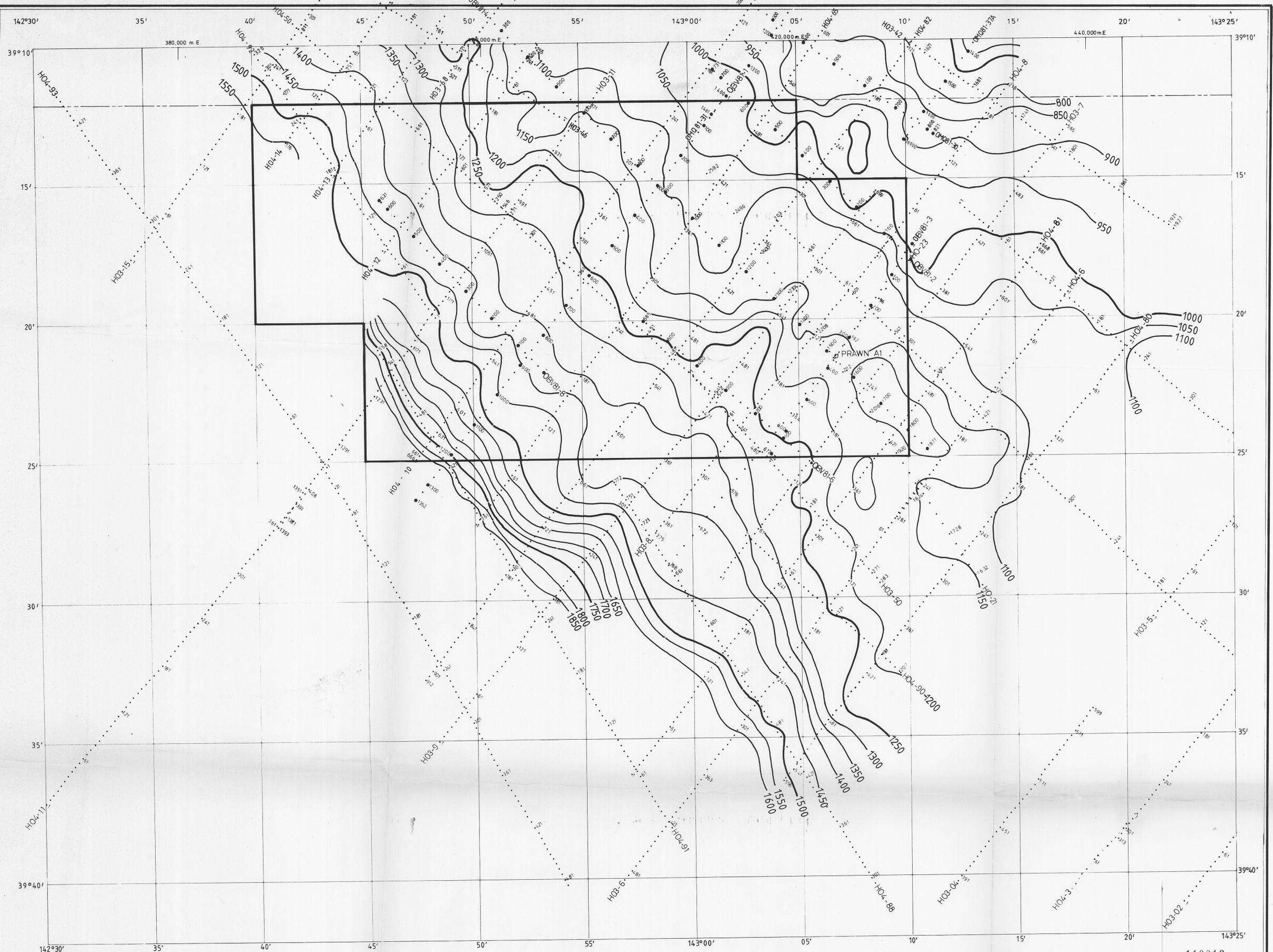
Ties to old data were achieved by averaging time ties at all intersections and a static correction of -0.020 seconds was applied to all H03 and H04 data.

Structure at the Top of Sherbrook shows regional dip to the southwest and no closed structures seem to be present within the prospect area.

Mapping at a lower Sherbrook horizon or the Otway should begin during November when regional mapping of the Sherbrook in the Cape Otway area to the north has been completed.



E. R. Denton  
Geophysicist



110012

VAN DIEMEN'S LAND RESOURCES NL.	
T - 17P OTWAY BASIN	
SEISMIC MAP	
TOP OF SHERBROOK UNCONFORMITY	
VAN 702/7	
Datum: Sea Level	Contour Int.: 50m sec
Scale 1:100,000	
Author: E.R.D.	Date: Oct,81
Enclosure: <i>CR-0115</i> <i>Vol. I</i>	



Van Diemen's Land Resources N.L.  
155 Dorcas Street,  
South Melbourne, 3205

TPR T/17P Part 8  
OR-115  
VOL 2/4

110013

REPORT 702/5

Div. No.	A.G.	CG	CC&M	D.S.A.E.
RECEIVED	25 NOV 1980			Registrar
ANSWERED	DEPT OF MINES			E&I
REF. No.				

QUARTERLY REPORT

ON

TAS. T.17P

OTWAY BASIN, VICTORIA

FOR

VAN DIEMENS LAND RESOURCES N.L.

CONSORTIUM

General Geological Services

Work Order 702

October 1980

I N D E X

- 1.00 Introduction
- 2.00 Operations Performed
- 2.10 Establishing Operations
- 2.20 Data Collection
- 2.30 Geological & Geophysical  
Evaluation Programme
- 2.40 Technical Advice Available
- 3.00 Operations Planned
- 3.10 Interpretation
- 4.00 Expenditure
- 5.00 Appendices
- 5.10 Work Programme Year 1 Tas. T17P
- 5.20 Report on Available Seismic Data
- 5.30 Seismic Data Review - Preliminary
- 5.40 Well Data Review - Preliminary
- 6.00 Illustrations Accompanying Report
- VAN - 702/1 Location Plan P.16
- VAN - 702/2 Basic Data Plan - 1:250,000 - Preliminary  
(MISSING)

1.00

Introduction

This report presents the operations carried out and planned in connection with Tas.T.17P (refer Location Plan VAN 702/1. during the period 1st August 1980 to 30th September 1980. Permit Tas.T.17P was granted on the 8th day of August 1980 to:

Van Diemens Land Resources N.L.

Bulldog Oil and Gas Ltd.

Oil and Minerals Quest N.L.

Pasadena Projects Pty. Ltd. (A subsidiary of  
South Eastern Resources Ltd.)

Theseus Investments Ltd.

Terrex Resources N.L.

All correspondence should be addressed to:

General Geological Services,

155 Dorcas Street,

South Melbourne. 3205

The area covers 16 offshore graticular blocks and has an approximate area of 1,040 square kms.

The main involvement during the period has been the establishment of an operating base and operating and reporting procedure followed by data collection and selection of preliminary base maps for compilation and interpretation studies.

GEOLOGICAL AND GEOPHYSICAL EVALUATION PROGRAMME

2.00

Operations Performed2.10 Establishing Operations

Van Diemens Land Resources N.L. as the Operator for the Consortium to explore Tas. T17P has established operation offices at the following address:

155-155 Dorcas Street,

South Melbourne. 3205

Telephone: 690 5900 Telex: AA33427

Reports on all operations carried out with respect to the permit will be sent to the appropriate State Department (for distribution to the appropriate Commonwealth Department) and to all members of the consortia.

Work Programme for the Year 1 operation has been included in this first quarterly report (refer Appendix 5.10) and in accordance with that programme, work commenced on collection and assembling of all available existing data in respect of geological and geophysical surveys conducted within and around the Permit area which will have a bearing on the investigation to be carried out.

At this time the Company would like to express its thanks to the Officers of the Tasmanian Department of Mines for their help and advice in this initial data collection stage.

Details of Van Diemens Oil Spill Plan and Emergency Programme Plan have been sent to the Department earlier.

GEOLOGICAL AND GEOPHYSICAL EVALUATION PROGRAMME2.20 Data Collection

Collection of basic geological and geophysical data has commenced. A list of previous seismic section data that has been obtained to date is tabulated in Appendix 5.30 and a review of the quality of this data is briefly reported on in Appendix 5.20.

To aid in evaluation, well data outside the area both onshore and offshore has been collected to enable seismic interpretation and stratigraphic correlations to begin in this part of the Otway Basin.

Preliminary analysis of the well data will include interpretations obtained from time depth curves and bore hole compensated sonic logs to enable various formation tops of interest to be selected. A list of the wells collected to date can be found in Appendix 5.40.

### 2.30 Geological and Geophysical Programme

Base maps scales have been chosen to enable a complete evaluation of the area to begin and an initial Basic Data Plan map has been produced to illustrate the extent of the past seismic work, wells drilled and map coverage. A copy of this is attached to this report in Section 6.

In brief, the initial proposed basic maps are as follows:

<u>Scale</u>	<u>Map</u>	<u>Purpose</u>
1:250,000	Basic Data Map	To show the available data on the Basin including regional geology, well location, useful seismic lines and general permit information.
1:100,000	Tas.T14P Permit Area	Permit area and surrounds only, for basic seismic interpretation and plotting
1:50,000	Evaluation and Permit Area	For detailed geological and geophysical interpretation, mapping and planning.

Other basic geological data and geophysical data has been obtained and is in the process of being obtained. These include various basic reports on wells drilled by previous companies and also past seismic surveys. These come from both P.S.S.A. publications, Company Reports, and published Government Sources. All of these will be used to fully evaluate the Permit Area, Tas.T.17P.

#### 2.40 Technical Advice Available

A Consortium Operations Committee has been established to direct all exploration activities. Full details of that committee have already been presented in the permit application. The Operator, Van Diemens Land Resources N.L. will be responsible for the day to day activities which will be under the direct control of Mr. Colin Glazebrook, Chief Geologist and Exploration Manager.

#### MANAGEMENT AND ADMINISTRATION

##### Administrative Management

All administrative affairs will be carried out by General Geological Services, 155 Dorcas Street, South Melbourne, Victoria.

##### Technical Management

The Operations Committee will be responsible for the overall policy relating to the exploration activities of the Consortium. However, it is intended that they be advised in the latter regard by General Geological Services which have been retained as technical consultants and contractors. General Geological Services, who have been appointed by the Consortium as managers, will provide a full technical management service for the exploration effort and will co-ordinate and supervise any exploration activities that may be undertaken. The services of sub-contractors will be retained to undertake survey and drilling work and other additional Consultants will be retained from time to time to aid in evaluation of the prospect.

TECHNICAL QUALIFICATIONS OF CONSULTANTS PROVIDING  
TECHNICAL SERVICE

General Geological Services is a small professional and technical consulting group whose qualifications have been registered with the Department of Mines.

3.00

OPERATIONS PLANNED

3.10 Interpretation

When data collection and base map preparation is complete the following interpretive maps are planned.

Water Depth

Time Contour Maps - Two Way Time

A - Base of Tertiary (Base of Wangerrip Group - Top of Sherbrooke Group Unconformity)

A<sup>1</sup> - Base of Eastern View Coal Measures

B - Base of Sherbrooke Group (Top of Otway Unconformity)

C - Intra Otway Group - Pretty Hill Sandstone

D - Basement

Other suitable horizons will be mapped according to interpretation of data collected.

Structure Contour Maps

- Based on the above time contour maps, structure contour maps will be constructed using velocity data obtained from time depth curves of previous wells and from past seismic surveys.

These preliminary maps will be prepared prior to any new seismic programme, to aid in selection of seismic target zones for new shooting. After which, re-interpretation will be done. This seismic work may be possible early in 1981 rather than in the second year of the programme.

Following the new seismic programme it is envisaged that further re-interpretation will be necessary and this will include reprocessing.

110021

However, during the first year it is possible that certain selected lines over targets from previous seismic surveys will be reprocessed in order to give an enhanced view of why the previous target area was selected at Prawn and unsuccessful, and to obtain better resolution data to interpret from prior to selection of a new shooting programme.

4.00 Expenditure

110023

VAN DIEMEN'S LAND RESOURCES N.L.

PERMIT TAS. 14P

QUARTERLY REPORT - EXPENDITURE

QUARTER ENDING: 30/9/80

LEASE FEES (RENTALS)	OFFICE OVERHEAD	OFFICE STUDIES	FIELD WORK		
			GEOLOGICAL	GEOPHYSICAL	DRILLING
\$1,000	\$1,000	\$5,800			

SIGNED: 

110024

5.00 Appendices

110025

5.10 Work Programme Year 1 Vic. P.16

110026



## VAN DIEMEN'S LAND RESOURCES N.L.

151-155 DORCAS STREET  
SOUTH MELBOURNE 3205 AUSTRALIA  
TELEPHONE 690 5390 TELEX AA33427

30th September 1980

The Director of Mines,  
Department of Mines,  
Post Office Box 124B,  
HOBART. TAS. 7001

Dear Sir,

re: Work Programme - Permit T17P - Year 1.

As outlined in our submission, the following work will be carried out in the first year.

Data collection of available material, including maps, seismic records and sections, raw well data and available geological and technical reports.

Complete reappraisal of structure and hydrocarbon habitat within the basin will be carried out with particular emphasis on the identification of stratigraphic and combination stratigraphical - structural traps in both the tertiary and upper cretaceous as well as normal primary structural traps occupying the culmination along anticlinal axis.

Base maps will be produced and interpretive basin sections and profiles constructed to aid in basin geological evaluation. In particular, geological tie in with structures in the onshore part of the basin will be used working from well log and seismic data.

Selected seismic reprocessing may be carried out in the area with expectation of enhanced record quality and providing a basis for interpretation of "seismic sequences" by identifying offlapping, onlapping and truncated patterns of cycle terminations. These sequences will be used to determine lateral variations of environment and lithofacies.

Revised velocity analysis and both D.A.S. (Deconvolution after Stack) and a Deconvolution before Stack will be tried. Further reprocessing may then be carried out over interesting situations to give as complete a picture as possible of structures in the Wangerrip and Sherbrooke Groups.

.../2

Estimated Minimum Expenditure - Year 1

\$60,000

If data collection and interpretation provides sufficient information quickly, it is possible that the company may apply to have seismic work carried out during the first year to take advantage of good weather and equipment availability.

Yours faithfully,  
VAN DIEMEN'S LAND RESOURCES N.L.

C. GLAZEBROOK  
Exploration Manager

110028

5.20 Report on Available Seismic Data

Bass Strait Block T.17P

An inspection of Bass Strait marine seismic data - Otway Basin area has yielded the following results.

Offshore seismic surveys are identified by their line prefixes and those which extend into Block TAS.17P:

Digital Surveys

1. H04 Series 1974  
GSI Aquapulse source 24 fold CDP Variable Area
2. H03 Series 1973  
GSI Aquapulse source 24 fold CDP Variable Area
3. ER Series 1968  
Western Dynamite 6 fold Variable Density
4. E0 and EP Series 1967  
Western Dynamite source 6 fold CDP Variable Density

Analog Surveys

5. OS Series 1965  
Western Dynamite source 6 fold CDP
6. K Series 1963  
Western Dynamite source 3 fold

Record Quality

All record sections have been played out using either a variable area (post 1973) or variable density display. Quality varies greatly and demonstrates the advances that have been achieved in both recording and processing since exploration commenced offshore in the Otway area during 1963.

Digital data Series H04 and H03 are both very good and could be adequate for detecting stratigraphic anomalies. Analog data are inferior but both series shot for common depth point coverage are still suitable for mapping structure.

Onshore Surveys

Several onshore surveys were obtained to help on interpretation, particularly in the Otway Group. These were:

- Prinetown 1963 - Ray Geophysics Singlefold Dynamite
- Ross Creek 1974 - SSL Vibroseis 12 fold CDP
- Paraparap 1972 - GSI 6 fold CDP Dynamite

The data from the last two surveys is of good quality; the earlier 1963 survey is suitable for mapping structure.

Recommended Projects1. Data Acquisition

The following material has been requested from Department of Mines, Esso and Hematite.

- (a) Transparencies of all final record sections in Block T.17P plus lines tying to adjacent wells.
- (b) Shot Point Location Maps
- (c) Velocity Information for converting seismic times to depth.

Well geophone surveys

BHC Sonic logs

Synthetic seismograms

where available for wells within Otway Basin and adjacent to the prospect area.

2. Seismic Interpretation

Fortunately all the surveys carried out in the Otway Basin have been subsidised except H04 Series 1974. Copies of the final reports of these have been requested from the B.M.R. in Canberra.

As exploration planning cannot proceed until a seismic interpretation is available, the following maps will be prepared initially:

Water depth

Control for Tertiary

Control for Cretaceous Unconformity (Top Otway)

Control for Basement

Other horizons will be selected during interrelation.

These maps will be prepared and presented in two way reflection time - the quickest way to get information on which to plan.

Where large structure are recognisable on reinterpretation from previous surveys. These will be investigated prior to any search for more exotic traps.

5.30 Seismic Data Review - Preliminary

# OTWAY BASIN

110033

DATE	SURVEY NAME	OFFSHORE	ONSHORE	No. KMS
AUG. 1963	MARINE SEISMIC	SOUTH-WEST VICTORIA AREA.	-	40.0
AUG. 1965	MARINE SEISMIC	CAPE GRIM TO CAPE JAFFA AREA	-	2998.6
APRIL - JUNE 1970	AEROMAGNETIC	-	PORTLAND - GEELONG AREA	828.4
MARCH 1973	SEISMIC	PORTLAND - KING ISLAND AREA	-	266.7
1968	MARINE SEISMIC AND MAGNETIC EP-67	SOUTHERN OCEAN WEST OF BASS STRAIT	-	1552.0
JUNE 1972	PARAPARAP SEISMIC	-	TORQUAY AREA SOUTH-WEST OF GEELONG	54.4
SEB. 1974	SEISMIC	-	ROSS CREEK AREA	12.0
SEP. 1963	SEISMIC	-	PRINCETOWN AREA	212.8
MARCH 1967	MARINE SEISMIC	PORT CAMPBELL EMBAYMENT AREA	-	720.0
APRIL 1969	LAND GRAVITY	-	GAMBIER "SUNKLANDS" AREA	1670.4
MARCH 1969	MARINE SEISMIC	RIVOLI BAY AREA SOUTH AUSTRALIA	-	75.2
JUNE 1969	MARINE SEISMIC AND MAGNETIC T69A	WEST COAST AREA OF TASMANIA	-	438.4
APRIL 1969	MARINE SEISMIC AND MAGNETIC EE-68	WEST COAST AREA OF TASMANIA	-	288.0
APRIL 1972	MARINE SEISMIC AND MAGNETIC	TORQUAY EMBAYMENT AREA SOUTH-WEST OF PORT PHILLIP BAY.	-	224.0
DEC. 1971	GRAVITY	-	COLAC - GEELONG AREA	2224.0
SEB. 1970	SEISMIC PROFILER AND MAGNETIC	NORTH-WEST AREA OF TASMANIA	-	961.6
SEP. 1967	MARINE SEISMIC	CONTINENTAL SHELF WEST OF BASS STRAIT	-	3782.4
AN. 1970	069B MARINE SEISMIC AND MAGNETIC	SOUTHERN OCEAN WEST AND NORTH OF BASS STRAIT	-	329.6
APRIL 1974	CAPE NELSON TO CAPE OTWAY SEISMIC	AREA FROM S. AUSTRALIA, VICTORIA BORDER TO NEAR KING ISLAND	-	2880.0





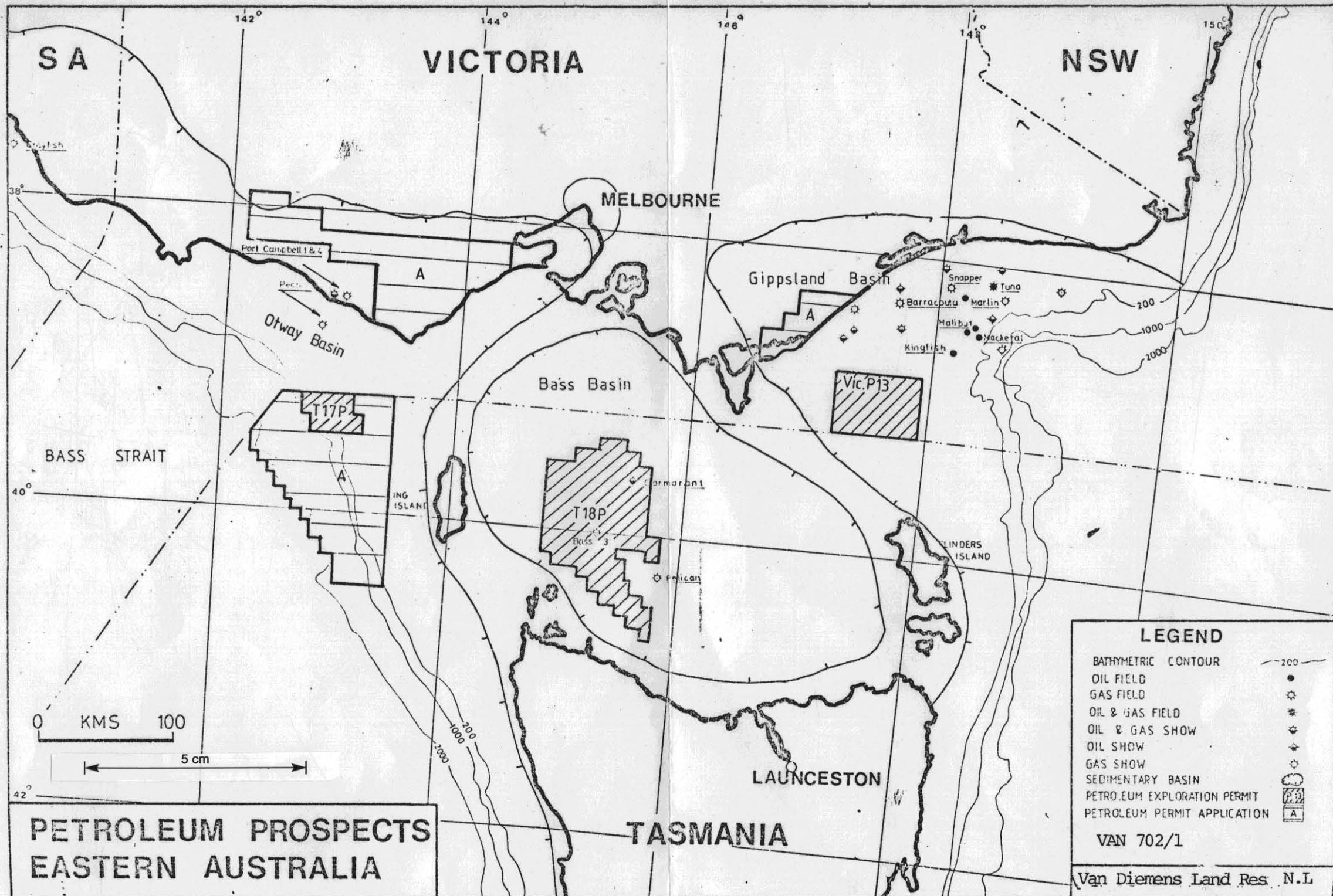
110036

5.40 Well Data Review - Preliminary



110038

6.00 Illustrations Accompanying Report



SA

VICTORIA

NSW

MELBOURNE

Gippsland Basin

Bass Basin

BASS STRAIT

LAUNCESTON

TASMANIA

PETROLEUM PROSPECTS  
EASTERN AUSTRALIA

LEGEND

- BATHYMETRIC CONTOUR — 200
- OIL FIELD ●
- GAS FIELD ☼
- OIL & GAS FIELD \*
- OIL & GAS SHOW ⬇
- OIL SHOW ⬇
- GAS SHOW ⬇
- SEDIMENTARY BASIN [Outline]
- PETROLEUM EXPLORATION PERMIT [T17P]
- PETROLEUM PERMIT APPLICATION [A]

VAN 702/1

Van Diemens Land Res. N.L

0 KMS 100

5 cm

110039

OR-0115 vol 2

Van Diemen's Land Resources N.L.,  
155 Dorcas Street,  
SOUTH MELBOURNE, Vic., 3205

TPR  
OR-115  
Vol 3/4

Part 9

REPORT : 702/7

110040

D of M	A.O.	C.G.	E.O.	D.S.M.E
				Registrar
Received Answered	17 MAR 1981			E & IL
DEPT. OF MINES				
REF. No.				

QUARTERLY REPORT  
ON  
TAS. T.17P  
OTWAY BASIN, VICTORIA  
FOR  
VAN DIEMENS LAND RESOURCES N.L.  
CONSORTIUM

General Geological Services  
Work Order 702

February, 1981

I N D E X

- 1.00      Introduction
- 2.00      Operations Performed
- 2.10      Data Collection
- 2.20      Geological & Geophysical Evaluation Programme
- 3.00      Operations Planned
- OBV81      Seismic Programme
- 4.00      Expenditure
- 5.00      Appendix
- Well Data Review - *MISSING*
- 6.00      Illustration Accompanying Report
- VAN 702/5      Seismic Programme Line Map.

## 1.00 Introduction

This report presents the operations carried out and planned in connection with Tasmania T.17P during the period November 9, 1980 to February 8, 1981.

The main involvement during the period has been mainly the collection of data and selection of preliminary base maps for compilation and interpretation studies. A small seismic survey has been planned for early next quarter

## 2.00 Operations Performed

### 2.10 Data Collection

Collection of basic geological and geophysical data continued.

To aid in evaluation, well data outside the area both onshore and offshore has been collected to enable seismic interpretation and stratigraphic correlations in this part of the Otway Basin.

Preliminary analysis of the well data has commenced and will include interpretations obtained from time depth curves and bore hole compensated sonic logs to enable various formation tops of interest to be selected. A list of the wells collected to date along with interpreted tops can be found in Appendix 5.00.

### 2.20 Geological and Geophysical Programme

#### A. Geological Programme

A programme of stratigraphic interpretation based on past work has been commenced. This will also include a Burial and Thermal Geohistory Analysis. The base maps listed in the previous monthly report have been prepared and will be used as a base for plotting interesting Horizons.

#### B. Geophysical

##### Current Interpretation :

The final subsidy report of the "Cape Nelson to Cape Otway Seismic Survey", April 1974, by E.G. Urschel and J. Denham is available and incorporates the H03 series of traverses shot by GSI during the period September 15 to October 22, 1973 for Hematite Petroleum Pty. Ltd.

The H04 series of seismic traverses were shot during November 1974, also by GSI. Several H04 lines have been inspected but the full set has not yet been acquired. Although similar equipment was used during data acquisition the H04 series seem to be of better quality than the H03 series.

2.00 Operations Performed (cont.)2.20 Geological and Geophysical Programme (cont.)A. Geophysical (cont.)

Normally Van Diemen's Land Resources N.L. would conduct a re-interpretation of all seismic data in T.17P to incorporate both the H03 and H04 series of seismic lines as the Prawn No. A1 well seems to have been drilled offstructure.

However as GSI's seismic vessel will shortly be available in the area with a larger airgun array, a 96 channel streamer cable and a DFS V floating point gain recording system it is proposed to shoot the current programme first. The six lines will tie previous programme into a better network and enable a tie between the Mussel No.1 well and Prawn No.1.

3.00 Operations PlannedOBV81 Seismic ProgrammeA. General

The latest previous shooting inspected was conducted by GSI for Hematite Petroleum Pty. Ltd. during November 1974.

Broad specifications were:-

Airgun Array	1,200 cu. in.
Cable	3,200 m, 48 groups
Instruments	DFS III binary gain

For this survey equipment will be:-

Airgun Array	2,000 cu.in.
Cable	2,400 m, 96 groups
Instruments	DFS V, floating point gain.

Better data should result.

A total of 139.7 km are required to be shot. This survey is to be known as O.B.V.81 and the lines are shown on the accompanying plan VAN 702/5 (Scale 1:100,000).

Details of the lines are as follows:-

Line number convention

Odd	SW-NE
Even	NW-SE

<u>Line</u>	<u>Length (km)</u>	<u>Remarks</u>
OBV81-1	33.0	Tie H04-91 and OBV81-2
OBV81-3	15.5	Prawn A1 well
OBV81-2	17.0	Tie to programme Vic. P16
OBV81-4	47.0	Tie to programme linking Mussel 1 well.
OBV81-6	13.0	Tie H04-50

3.00 Operations Planned (cont.)OBV81 Seismic Programme (cont.)A. General (cont.)

OBV81-8                      14.2                      Tie OBV81-1 and H04-12 of  
NW corner previous coverage.

6 lines 139.7

B. Acquisition Parameters and Specifications

Tas. T. 17P

OBV.81 Survey

Cable	:	2400 metres, 96 trace, 48 fold, 12 metre (40ft. + 5ft.) depth
Airgun Arrar	:	2,000 cu.in.
Shot	:	1 pop per shotpoint, every 25 metres
Sample Rate	:	2 milliseconds all lines
Record Length	:	5 seconds
Filters	:	2 millisecond sample rate
Low Cut	:	(8 Hertz/18dB octave..
High Cut	:	128 Hertz/72dB per octave
Cable Noise	:	3 microbars (to be monitored at boat (riders discretion but on (no account is maximum
Swell Noise	:	4 microbars (allowable to apply to (more than 30% of any line.
Monitor Records Displayed	:	Every 50 shotpoints Defloat monitors on request
EPC Shipboard Section	:	Trace 92
Runout at End of Lines	:	0.5 km has been allowed for on survey plan map
Navigation Specifications	:	Maxiran Shore Stations as per Contractors' specifications
Feathering Angle to be listed	:	Every 100 shotpoints when less than 6° Every 50 shotpoints when 6° to 10° not to exceed 10°

3.00 Operations Planned (cont.)OBV81 Seismic Programme (cont.)B. Aquisition Parameters and Specifications (cont.)

Shotpoint Location  
to be Annotated  
by Navigation  
System : Every 10 shotpoints

Cable Offset : Measured every start of line, and  
every 40 shotpoints

Magnetics and  
Gravity : Not required

B. Data Processing

By discussion following acquisition.

110048

4.00

Expenditure

VAN DIEMEN'S LAND RESOURCES N.L.PERMIT TAS. 14PQUARTERLY REPORT - EXPENDITUREQUARTER ENDING : 8/2/81

LEASE FEES (RENTALS)	OFFICE OVERHEAD	OFFICE STUDIES	FIELD WORK		
			GEOLOGICAL	GEOPHYSICAL	DRILLING
	\$3,200	\$8,400			

SIGNED : \_\_\_\_\_

5.00

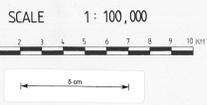
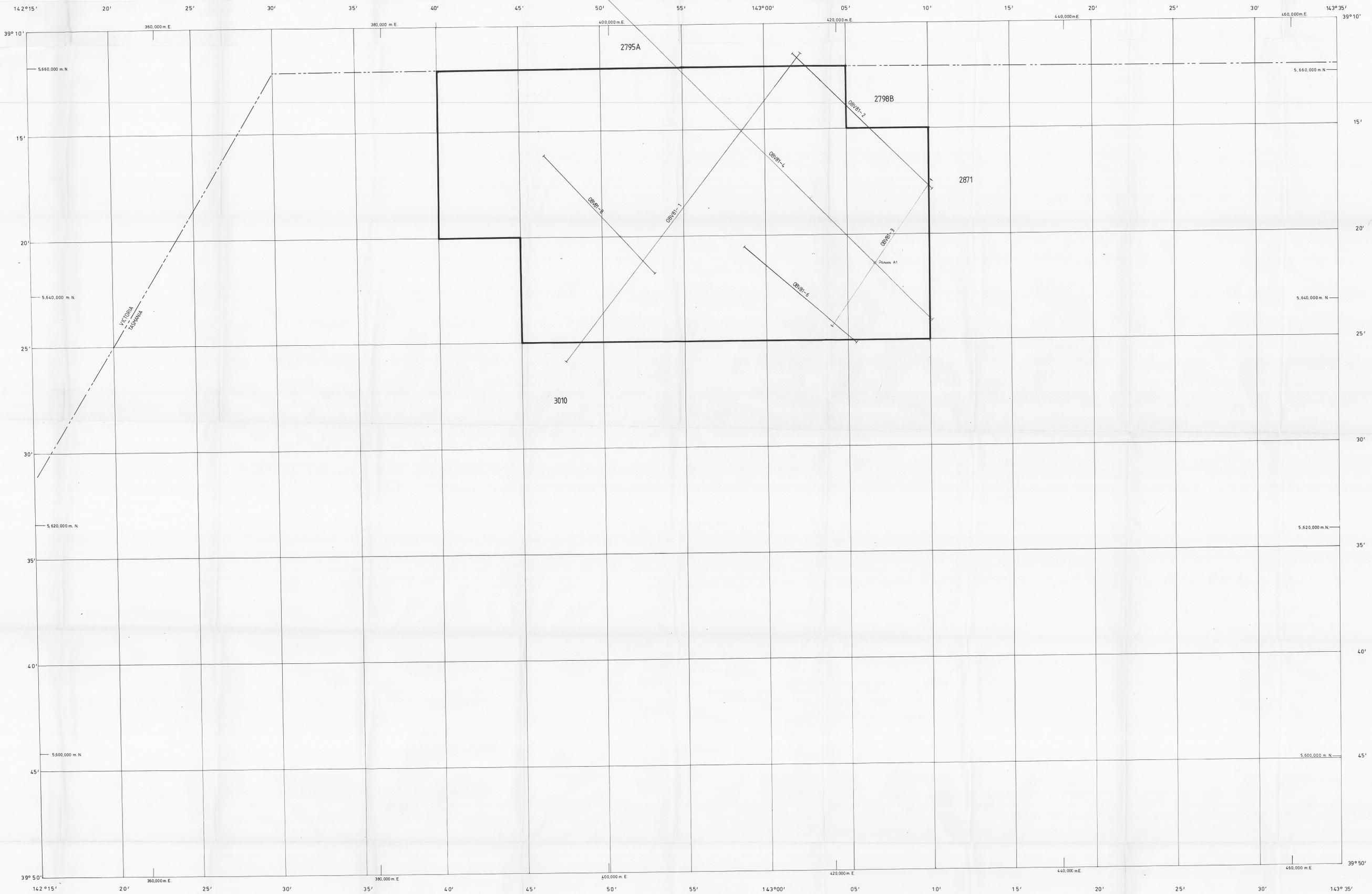
Appendix

Well Data Review - *MISSING*

110051

6.00

Illustration Accompanying Report



SEISMIC PROGRAMME MAP  
T.17P

SHEET. VAN. 702/5

110052  
5 km

CR-015  
Vol. 3

Van Diemen's Land Resources N.L.,  
17-23 Queensbridge Street,  
SOUTH MELBOURNE, Vic., 3205

T/17P part-I

REPORT : 702/8

D of M	A.O.	C.G.	E.O.	D.S.M.E
Received - 9 JUN 1981				Registrar
Answered				E & IL
DEPT. OF MINES				
REF. No. 4717/81				

QUARTERLY REPORT

ON

TAS. T.17P

OTWAY BASIN, VICTORIA

FOR

VAN DIEMENS LAND RESOURCES N.L.

CONSORTIUM

General Geological Services  
Work Order : 702

May, 1981

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1. INTRODUCTION
2. OPERATIONS PERFORMED  
OBV 81 Seismic Survey
3. OPERATIONS PLANNED  
Data Processing and Interpretation OBV 81 Survey
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5. APPENDICES  
OBV 81 Marine Seismic Survey. Operations Report  
under separate cover.
6. ILLUSTRATIONS ACCOMPANYING REPORT  
Van 702/6 Post Plot Map OBV Marine Seismic Survey

1. INTRODUCTION

This report presents the operations carried out and planned in connection with T.17P during the period February 9, 1981 to May 8, 1981. The main involvement during this period has been the data acquisition and data processing of the OBV 81 survey. The seismic sections from this survey should be in the Company's possession for interpretation during the next quarter.

## 2. OPERATIONS PERFORMED

### OBV 81 Seismic Survey

A total of 140 km of high resolution marine seismic on 6 lines was completed over the permit during the period 1/2/81 to 2/2/81. The purpose of this survey was to investigate the area classified as the Prawn Deep and to produce a basic high resolution grid for future work.

Quality control on the survey indicated that good quality results can be expected in processing and no weather downturn was experienced. Full operational details are listed in the separate Appendix. GSI Marine Operations Report and the lines shot are shown on plan VAN 702/6 in Section 6.

Parameters for data processing were selected during April, the data will be processed at 96 trace, 48 fold with Velscans every 3 km. A 32 ms gapped deconvolution will be used with payout to 5 sec record length.

Final sections for this survey are expected at the end of June 1981.

3. OPERATIONS PLANNED

Data Processing and Interpretation OBV 81 Survey

This commenced early in April and will be continued during the next quarter. The objective is the highlighting of structure in the vicinity of the Prawn Deep where Prawn No.1 well drilled in 1968 was apparently offstructure.

Extensive block faulting is expected along the Mussel platform this holding possibilities for wedgeout traps within the permit area from hydrocarbon migration up out of the Voluta Trough.

4. EXPENDITURE

VAN DIEMENS LAND RESOURCES N.L.PERMIT T.17PQUARTERLY REPORT - EXPENDITURE

QUARTER ENDING : 8/5/81

LEASE FEES (RENTAL)	OFFICE OVERHEAD	OFFICE STUDIES	FIELD WORK		
			GEOLOGICAL	GEOPHYSICAL	DRILLING
	4,800	9,200		70,000	

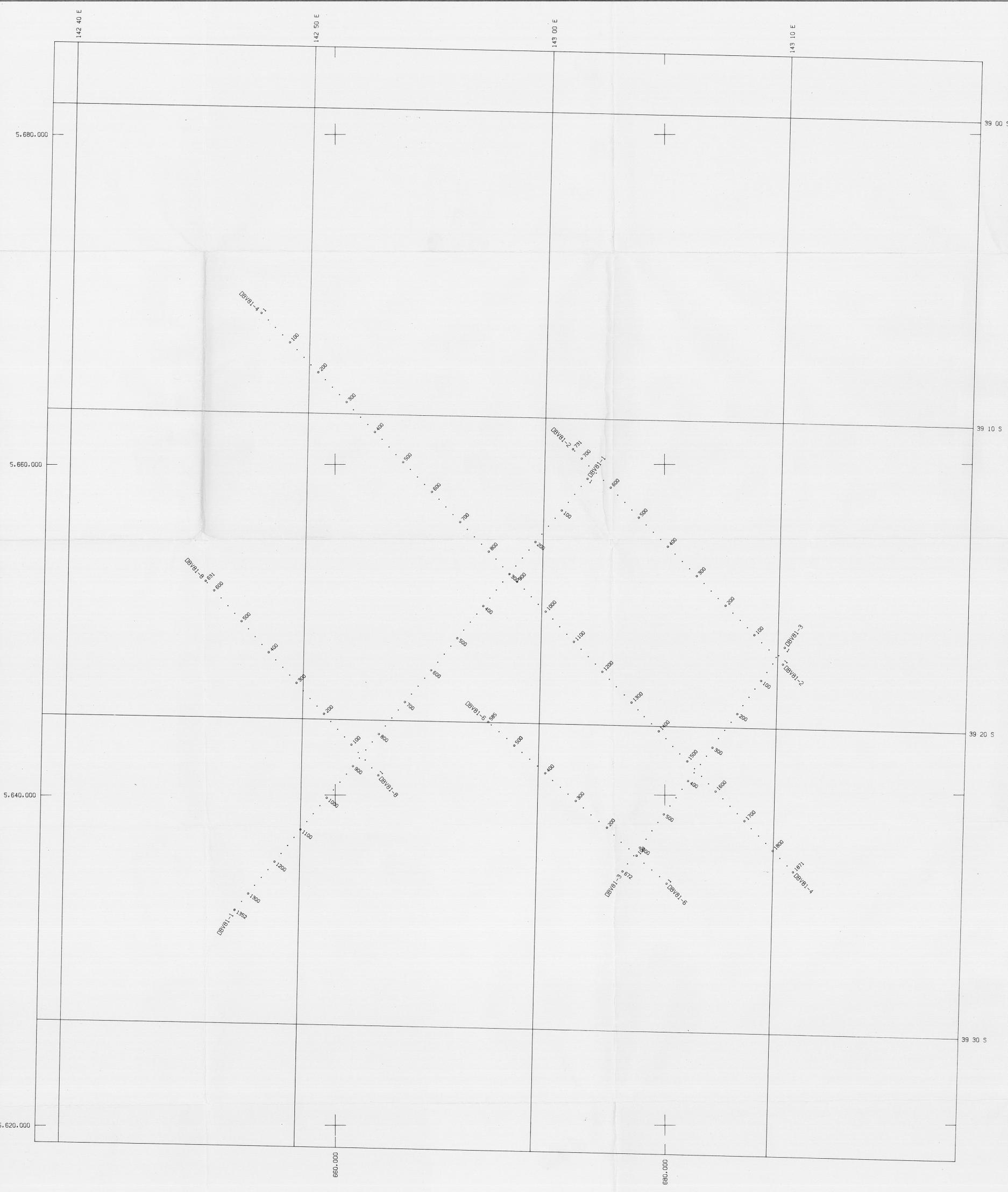
SIGNED: \_\_\_\_\_

*David Hein*

5. APPENDIX

Under Seperate Cover OBV 81 Seismic  
Survey - Operations Report

6. ILLUSTRATIONS ACCOMPANYING REPORT



POSITION MAP  
 VAN DIEMEN'S LAND RESOURCE N.L.  
 OTWAY BASIN, AUSTRALIA  
 SURVEY BY  
 GEOPHYSICAL SERVICE INC.  
 110062 SCALE 1:100,000 *CR-0115 vol 4.*  
 VAN 70216



ELLIPSOID: AUSTRALIAN  
 SEMI-MAJOR AXIS: 6378160.000  
 SEMI-MINOR AXIS: 6356774.719  
 PROJECTION: UNIVERSAL TRANSVERSE MERCATOR  
 U.T.M. ZONE: 54  
 ORIGIN LATITUDE: 00 00 00.00 N  
 CENTRAL MERIDIAN: 141 00 00.00 E  
 ORIGIN SCALE FACTOR: 0.9996000  
 FALSE NORTHING: 10000000.00  
 FALSE EASTING: 500000.00  
 PROJECTION UNITS: METERS  
 POSITION MAPPED: CENTER OF AIRGUNS

