



Essential  
Petroleum  
Resources  
Limited

**PEP 151  
Onshore Otway Basin Victoria**

**Annual Report**

**for the Period  
16 May 2002 to 15 May 2003**

**Permit Year 1**

**Prepared by:  
Sandra Menpes  
Essential Petroleum Resources Ltd, Operator**

**December 2003**

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Enclosure 1	PEP 151, Nelson Seismic Survey, Planned Seismic Lines, Planned and old upholes, 15 May 2003
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## 1. Introduction

Petroleum exploration permit 151 (PEP 151) is located over the onshore Otway Basin, Victoria. The permit was awarded 100% to Essential Petroleum Resources Ltd (Essential Petroleum) under the Petroleum (Submerged Lands) Act 1967 on 16 May 2002.

PEP 151 was awarded for a period of five years. The first year of exploration activity has been completed in compliance with the conditions of the award and the details of this activity are included below.

## 2. Administration

PEP 151 was awarded 100% to Essential Petroleum.

The minimum work requirements for the permit are shown in the Table 1 below.

**Table 1: Work Program for PEP 151**

<b>Year of Term of Permit</b>	<b>Minimum Work Requirements</b>	<b>Estimated Expenditure in Constant Dollars (indicative only)</b>
Year 1	Data review	\$50,000
Year 2	100 km 2D seismic	\$450,000
Year 3	One well	\$1,000,000
Year 4	Data review and 50km 2D seismic	\$225,000
Year 5	One well	\$1,000,000

### **3. Exploration Activity, Permit Year 1 ending 15 May 2003**

#### **3.1 Geophysical and Geological Studies**

A review of existing wells penetrating lower Sherbrook Group sediments in the Portland Trough was undertaken. The review highlighted the need for palynological studies to assist the correlation of Sherbrook Group sediments to wells in adjacent licences. Palynological analysis of four sidewall cores and two cuttings samples from the lower Sherbrook Group in Najaba-1A is currently underway.

#### **3.2 Drilling**

No exploration drilling was undertaken during the permit year.

#### **3.3 Seismic Acquisition**

The 2003 Nelson 3D Seismic Survey commenced prior to the end of the reporting period. Line preparation (Exploration Field Services), surveying (Dynamic Satellite Surveys), uphole drilling (Thompson Drilling/Expertest) and vibroseis recording (Trace Energy Services, Crew 401) are currently underway.

The survey will be completed in Permit Year 2 and will be described in the second annual report for PEP 151. A map of the planned 2003 Nelson 3D Seismic Survey is included as Enclosure 1.

#### **3.4 Seismic Processing/Reprocessing**

No seismic data were processed or reprocessed during Permit Year 1.

#### **3.5 Reports Submitted**

An operation plan for the Nelson Seismic Survey OEP03A was submitted prior to the commencement of the survey (see Section 5 "Environmental Compliance" below)

### **4. Work Planned for Permit Year 2**

The minimum work requirements for Permit Year 2 are 100km 2D seismic with an estimated expenditure of \$450,000.

Work planned for Permit Year 2 includes:

- completion of the data acquisition phase, 2003 Nelson 3D Seismic Survey
- processing and interpretation of the 2003 Nelson 3D Seismic Survey
- a source rock and maturation study to assess source rock quality and the timing of maturation in and around PEP 151
- palynological studies to assist the correlation of Sherbrook Group sediments within the permit and to allow correlation with productive units in the Port Campbell embayment and Shipwreck Trough.
- the ongoing development of depositional models to predict reservoir distribution

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## 5. Environmental and Native Title Compliance

### 5.1 Environmental Compliance

In February 2003 Essential Petroleum was granted consent to explore for oil and gas in the Lower Glenelg National Park by the Minister for Environment under section 40(3) of the National Parks Act 1975. Permission was granted subject to certain terms and conditions being met including the preparation of a detailed Operation Plan in line with *ISO 14001, Environmental Management Systems* or another similar recognised framework.

The following studies were conducted on behalf of Essential Petroleum to assist in the planning and implementation of the 2003 Nelson 3D Seismic Survey in compliance with the terms and conditions described above. The reports are included in the Nelson Seismic Survey OEP03A Operation Plan:

- Assessment of the Risk of Petroleum Exploration at Lower Glenelg National Park. Preliminary Assessment of Risk and Recommendations for Further Assessment (January 2002) (and Supplement July 2002) <sup>1</sup>
- Assessment of the Risk of Petroleum Exploration at Lower Glenelg National Park. Flora and Fauna Survey of Potential Impact Sites (July 2002) <sup>1</sup>
- Assessment of the Risk of Petroleum Exploration at Lower Glenelg National Park. Assessment of River Crossing Points and Additional Roads and Tracks (May 2003) <sup>1</sup>
- Report to Essential Petroleum, Seismic Survey Phase, PEP 151, South East Victoria (April 2003) <sup>2</sup>
- Archaeological Sites Impact Assessment PEP 151, Lower Glenelg National Park and Adjacent Private Land, Western Victoria <sup>2</sup>
- Nelson Seismic Program, Environmental Assessment and Mitigation Plan (April 2003) <sup>3</sup>

<sup>1</sup> Centre for Environmental Management, School of Science, University of Ballarat

<sup>2</sup> Luebbers and Associates, Heritage Consultants

<sup>3</sup> NSR Environmental Consultants Pty Ltd

### 5.2 Native Title Compliance

The Company has completed a Section 31 Agreement granting exploration consent and is currently negotiating a Production Consent Agreement for future production licensing.

## 6. Expenditure, Permit Year 1

The minimum work requirement for the first permit year was data review at an estimated cost of \$50,000. The minimum work requirement has been satisfied with expenditure in Permit Year 1 of \$246,294.

An Expenditure Statement for PEP 151 for the period 16 May 2002 to 15 May 2003 is attached.

## PEP 151 Onshore Otway Basin, Victoria

### Annual Statement of Expenditure

16 May 2002 to 15 May 2003

Permit Year 1

Exploration Activity	Description	Expenditure
<b>Geophysical and Geological Studies</b>	General research	\$30,386
	Data Purchases	\$1,449
	Drafting	\$1,672
<b>Environment and Native Title Compliance</b>	Native Title Negotiations	\$65,466
	Environment - Consulting	\$6,907
<b>Seismic Survey</b>	Seismic acquisition	\$90,353
	Environment - Consulting	\$43,693
	Traditional Owner - Consulting	\$1,155
	Travel	\$1,217
<b>Other</b>	Travel	\$3,996
<b>TOTAL</b>		<b>\$246,294</b>

**MINERAL RESOURCES DEVELOPMENT ACT (1990)**

**SCHEDULE 15, PART 1: EXPLORATION EXPENDITURE  
for EXPLORATION LICENCES and exploration on MINING LICENCES**

**Section 1. Tenement type, number and operation name: (One licence only per form)**

Type	Exploration Licence
Number	PEP 151
Operation Name (optional)	

**Section 2. Period covered by this return:**

<b>Six-month period:</b>		<b>If Final Report:</b>	
From	16 November 2002	From	
To	15 May 2003	To	

**Section 3. If accompanying an Annual Technical report, give:**

Title of Technical Report	PEP 151 Onshore Otway Basin. Annual Report for the Period 16 May 2002 to 15 May 2003, Permit Year 1
Author	Sandra Menpes

**Section 4. Locality of Operation:**

Nearby town names	Nelson, Dartmoor
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**Section 5. Work Program for the next six months:**

<b>Activities proposed</b> (please mark with an "X"):	
<input type="checkbox"/> Literature review	<input type="checkbox"/> Drilling and/or costeaning
<input type="checkbox"/> Geological mapping	<input type="checkbox"/> Airborne geophysics
<input type="checkbox"/> Rock/soil/stream sediment sampling	<input type="checkbox"/> Geophysical Interpretation
	<input checked="" type="checkbox"/> Other: Seismic Survey, Source Rock and Maturation Study, Palynological Study

**Section 6. Summary of Operations and Expenditure:**

Mark the work done for the appropriate subsections with an "X" or similar, except where indicated.  
If a Technical Report accompanies the Expenditure Report, complete the right-hand columns to indicate the data supplied with the Technical Report.

<b>Do not include the following as expenditure:</b>		
• Insurance	• Transfer costs	• Company Prospectus
• Departmental Fees	• Legal costs	• Land Access Compensation
• Bond	• Advertising	• Title Search
		• Fines

Attachment 1: Schedule 15, Part 1: Exploration Expenditure for Exploration Licences And Exploration On Mining Licences

Exploration Work type	Work Done (mark with an "X" or provide details)	Expenditure	Data and Format Supplier in the Technical Report	
			Digital	Hard copy
<b>Office Studies</b>				
Literature search				
Database compilation				
Computer modelling				
Reprocessing of data				
General research	X	\$13,097		
Environment Consulting	X	\$38		
Native Title Negotiations	X	\$51,341		
	<b>Subtotal</b>	<b>\$64,476</b>		
<b>Airborne Exploration Surveys (state line kms)</b>				
Aeromagnetics		kms		
Radiometrics		kms		
Electromagnetics		kms		
Gravity		kms		
Digital terrain modelling		kms		
Other (specify)		kms		
	<b>Subtotal</b>	<b>\$</b>		
<b>Remote Sensing</b>				
Aerial photography				
LANDSAT				
SPOT				
MSS				
Other (specify)				
	<b>Subtotal</b>	<b>\$</b>		
<b>Ground Exploration Surveys</b>				
<b>Geological mapping</b>				
Regional				
Reconnaissance				
Prospect				
Underground				
Coastal				
<b>Ground geophysics</b>				
Radiometrics				
Magnetics				
Gravity				
Digital terrain modelling				
Electromagnetics				
SP/AP/EP				
IP				
AMT				
Resistivity				
Complex resistivity				
Seismic reflection	X	\$90,353		
Seismic refraction				
Travel etc	X	\$1,217		
Consultant Traditional Owners	X	\$1,155		
Environmental planning etc for Nelson Seismic Survey	X	\$8,345		

Attachment 1: Schedule 15, Part 1: Exploration Expenditure for Exploration Licences And Exploration On Mining Licences

<b>Geochemical Surveying (state number of samples)</b>					
Drill (cuttings, core, etc.)					
Stream sediment					
Soil					
Rock chip					
Laterite					
Water					
Biogeochemistry					
Isotope					
Whole rock					
Mineral analysis					
Drill sample					
Laboratory analysis (type)					
Other (specify)					
<b>Ground Exploration Subtotal</b>				<b>\$ 101,070</b>	
<b>Drilling (state number of holes &amp; metres)</b>					
Diamond		holes	metres		
Reverse circulation (RC)		holes	metres		
Rotary air blast (RAB)		holes	metres		
Air-core		holes	metres		
Auger		holes	metres		
Other (specify)		holes	metres		
Field staff wages					
Vehicles					
Consumables					
Allowances					
<b>Subtotal</b>				<b>\$</b>	
<b>Other Operations</b>					
Costeaming/Ditchwitching					
Bulk sampling					
Mill process testing					
Ore reserve calculation					
Shaft restoration					
Mining					
Shaft restoration					
Mining					
Petrology					
Mineral processing					
Other (specify)					
<b>Subtotal</b>				<b>\$</b>	
<b>Rehabilitation</b>					
After drilling					
Track maintenance					
Monitoring					
Other (specify)					
<b>Subtotal</b>				<b>\$</b>	
<b>Administration (less than 15% of total)</b>					
Drafting					
Other		X		\$629	
<b>Subtotal</b>				<b>\$629</b>	
<b>TOTAL EXPENDITURE</b>				<b>\$166,175</b>	

**Section 7. Comments on your exploration activities:**

Exploration efforts in the past six months have concentrated on continued planning and preparation for seismic acquisition in the Lower Glenelg National Park. Additional work includes a site assessment survey (river crossing points etc), provision of an inventory of archaeological sites that may be affected by the survey, and the preparation of an operation plan.

The 2003 Nelson 3D Seismic Survey commenced prior to the end of the reporting period. Line preparation, surveying, uphole drilling and vibroseis recording are currently underway.

I certify that the information contained herein, is a true statement of the operations carried out and the monies expended on the above mentioned Exploration Licence during the period specified as required under the *Mineral Resources Development Act (1990)* and the Regulations thereunder.

I have attached the Technical Report

1. Name: W. J. R. Blake

2. Name:

Position: Director of Exploration

Position:

Signature:

Signature:

Date: 1 December 2003

Date: