

Environmental Impact Classification
Pursuant to Section 98 of the *Petroleum Act 2000*

Seismic Operations in the Otway Basin, South Australia

January 2002

INTRODUCTION

Pursuant to section 98 of the *Petroleum Act 2000* (the Act) the Minister must classify the regulated activities covered by a prepared Environmental Impact Report (EIR) as either low, medium or high impact.

The classification must be made on the basis of:

- The prepared Environmental Impact Report (EIR);
- Comments received from the Department of Environment and Heritage (DEH) and the Department of Water Resources (DWR) in accordance with established inter-Government Memorandum of Administrative Arrangements; and
- Criteria established for classifying the level of environmental impact of regulated activities; a copy of which is found on the PIRSA Petroleum Group web page:

<http://www.pir.sa.gov.au/dhtml/ss/section.php?sectID=943&templD=8>

This document summarises the classification made by PIRSA on the activity of seismic operations undertaken in the Otway Basin, in the south east of South Australia. This classification is based on the information provided in the December 2001 EIR prepared by DCR Consulting.

The EIR assessed here was prepared to satisfy the requirement for the preparation and approval of a Statement of Environmental Objectives (SEO) under Part 12 of the Act for the undertaking of seismic operations in the Otway Basin.

The generic nature of the EIR resulted in the decision to submit the review of the pre-existing Otway Basin seismic SEO to a public consultation process. This was identified within the draft SEO itself and covered by the transitional provisions of the *Petroleum Act 2000*.

SUMMARY OF CLASSIFICATION

1. From an analysis of the environmental significance of the various potential impacts associated with this operation against the classification criteria (as summarised in attachment #1) the activity of seismic operations as described in the EIR has been assessed and classified as **low impact**.

2. DEH and DWR support the low impact classification. In addition, the comments and recommendations provided by these agencies have been embodied in the EIR and the Statement of Environmental Objectives for Seismic Operations in the Otway Basin, South Australia (Cockshell & Langley, 2001).
3. Therefore pursuant to delegated powers dated 25th September 2000 and gazetted 28th September 2001. I hereby classify this regulated activity as **low impact**.

B A GOLDSTEIN

Director Petroleum Group

Office of Minerals and Energy Resources

Delegate of the Minister for Minerals and Energy

CLASSIFICATION OF THE LEVEL OF ENVIRONMENTAL IMPACT OF THE ACTIVITY OF SEISMIC SURVEYING IN OTWAY BASIN, SOUTH AUSTRALIA																	Attachment	
FILE: PIRSA 01/0203, 86/00026-VO2																		
ASSESSOR: ROB LANGLEY																		
Using the following criteria, the activity of geophysical seismic surveying, as described in the "Environmental impact report for seismic operations in the Otway Basin, South Australia, (Roberts, 2001) has been assessed as a low impact activity.																		
ABBREVIATIONS: H = High certainty; M = Medium certainty; L = Low certainty																		
Refs*	TYPE OF IMPACT	EVENT(S)	POTENTIAL CONSEQUENCES	PREDICABILITY						MANAGEABILITY						COMMENTS	Environmental significance	
				SIZE	SCOPE	DURATION	FREQUENCY	STAKEHOLDERS	SIGNIFICANCE	AVOIDANCE	PROBABILITY	DURATION	SIZE AND SCOPE	CUMULATIVE EFFECTS	STAKEHOLDERS			SIGNIFICANCE
	Natural Environment Impacts																	
	Soil Impacts																	
EIR p24, p28 & p37.		Soil disturbance during construction of seismic lines and uphole sites.	Disturbance to soils by compaction, bogging or erosion.	H	H	H	H	H	1	Yes	Low	Short	Small	None	Low	1	Seismic surveys will avoid early summer and wet seasons. Wet ground will be avoided after rain. Line preparation does not result in any removal of top soil. Some compaction may occur in sandy soils due to vibrator pad - some ripping may be required.	Low
EIR p23, p24, p.28 & p38		Spills of fuel during refuelling of vehicles and uphole drilling equipment.	Soil contamination and poisoning of vegetation directly impacted on.	H	H	H	H	H	1	Yes	Low	Short	Small	None	Low	1	Refuelling will be undertaken only in designated bunded areas. Careful procedures will be followed when servicing vehicles. Any contaminated soil from spills will be removed to an acceptable waste repository.	Low
	Surface Waters																	
EIR p23, p24, p.28 & p38		Accidental fuels and oil spills.	Pollution of surface waters.	H	H	H	H	H	1	Yes	Low	Short	Small	None	Low	1	Very small amounts involved good provision for cleanup of any spill. Surveys occur in dry season when very little amount of surface waters is present.	Low
	Groundwater Impacts																	
EIR p18, p27 & p42		Drilling of upholes.	Disturbance to groundwater by intersection of shallow Dilwyn Formation aquifer.	H	H	H	H	H	1	No	Low	Long	Small	None	Yes	2	Drillers experienced in recognising Dilwyn Formation. Concrete plug placed if formation intersected - standard procedures followed. Consultation with local DWR Officers takes place and Dilwyn formation depth maps used in planning uphole survey.	Low
EIR p22, p23 & p37		Disposal of uphole cuttings and mud disposal.	Contamination of aquifers through infiltration.	H	H	H	H	H	1	Yes	Low	Short	Small	None	Low	1	Drilling muds used are non-toxic.	Low
EIR p19, p24		Rubbish disposal via burial.	Aquifer contamination of aquifers through infiltration of any liquid waste.	H	H	H	H	H	1	Yes	Low	Short	Small	None	Low	1	Litter, waste and rubbish shall be removed from campsites and deposited at EPA licensed waste disposal area. That is there will be no burial of wastes at campsites.	Low
	Vegetation Impacts																	
EIR p10, p16 p21 & p28		Seismic line preparation.	Physical damage to and/or removal of vegetation.	H	H	H	H	H	1	No	High	Short	Small	None	Low	2	Seismic lines prepared using the Hydro-ax or other types of slashers. Root stock will be left intact. Cable will be hand carried through narrow strips of vegetation.	Low
EIR, p10, p16, p20, & p28		Seismic line preparation.	Removal of endangered and vulnerable species.	H	H	H	H	H	1	No	Low	Short	Small	None	Low	1	Seismic lines will be scouted prior to line preparation. Seismic line preparation techniques employed in this survey will involve minimal removal of perennial plant species with root stock being left in place to enable regrowth.	Low
EIR p23 & p24 & p25		Spills of fuel during refuelling of seismic survey vehicles.	Damage to vegetation directly impacted on by the spill.	H	H	H	H	H	1	Yes	Low	Short	Small	None	Low	1	Refuelling will be strictly undertaken in designated area.	Low
EIR p20, p23, p24, p32 & p36		Introduction and establishment of exotic weed species.	Demise of local native flora species.	H	H	H	H	M	2	Yes	Low	Long	Small	Yes	Low	3	All vehicles to be washed prior to entering the area, this will minimise the risk of any exotic plant seeds being brought into the area.	Low
	Fauna Impacts																	
EIR p11, p16, p24 & p36		Seismic line preparation.	Destruction of local habitat.	H	H	H	H	H	1	No	Medium	Short	Small	None	Low	1	Minimal vegetation impact only. Hydro-ax or slashers used in vegetated areas. Root stock left in place. Line weaves to minimise removal of shrubs and trees.	Low
EIR p20, p23, p24, p32, p36 & p37		Introduction and establishment of exotic weed species.	Demise of local habitat.	H	H	H	H	H	1	No	Low	Long	Small	Yes	Low	3	To avoid any weeds being brought into the area, all vehicles to be washed prior to entering the area.	Low
	Sensitive Area Impacts																	
EIR p38, p37, p34 & p25		Seismic line preparation within native vegetation heritage agreement area.	Reducing the biological value of the area.	H	H	H	H	H	1	No	Low	Short	Small	None	No	1	Careful line siting and line preparation techniques are not anticipated to threaten any special biological values.	Low

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	Social Environment																	
	Community Resource Impacts																	
EIR p31,p32 & p38		Vehicular use of public roads in the survey area.	Degradation of road through heavy vehicle use.	H	H	H	H	H	1	No	Low	Short	Small	None	None	1	Survey vehicle use of public roads is of a short duration when accessing intersecting seismic lines (Maximum six weeks and more usually between one and two weeks). Compensation to be paid for any damage caused.	Low
EIR p16, p23, p28, p31, p35 & p37		Seismic line preparation through areas of native vegetation.	General visual obtrusiveness of the seismic lines.	H	H	H	H	M	2	No	Medium	Short	Small	None	None	2	Seismic lines will weave through the area to break up line of sight. Doglegs will be placed where appropriate.	Low
	Cultural & Heritage Impacts																	
EIR p25, p27, p28, p32 & p36 & p 37		Seismic line preparation.	Disturbance of Aboriginal cultural sites.	H	H	H	H	M	2	Yes	Low	Long	Small	None	Yes	1	Prior to line preparation, local heritage custodians will be consulted, and where any archaeological sites are identified they will be flagged and avoided.	Low
EIR p25, p28, p32 & p36 & p37			Disturbance to European cultural sites.	H	H	H	H	M	2	Yes	Low	Long	Small	None	Yes	1	Cultural sites will be identified in the planning stage of the survey. Safe operating distances will be maintained when operating in the vicinity of sites.	Low
	Community Health & Safety																	
EIR p25,p31, p32 & p38		Vehicular use of public roads in the survey area.	Public vehicles colliding with heavy vehicles entering and exiting from seismic lines and with survey vehicles using roads in the survey area..	H	H	H	H	H	1	No	Low	Long	Small	None	None	3	Drivers undergo frequent driver training. Seismic surveys have had an extremely low incidence of collisions in the Otway Basin with no occurrences in at least the last 12 years. Appropriate approved warning signage will be placed in consultation with the local police	Low
	Economic Environment																	
	Existing Land Use Impacts																	
EIR p21, p30 & p32		Seismic line preparation.	Disturbance to existing land uses.	H	H	H	H	M	2	No	Medium	Short	Small	Some	Some	2	The speed of data acquisition (averages eight kms a day). Line recording only occurs for a few hours a any specific site with little impact to farming or significant interference to land owner. In any case, occupiers will be consulted and notified and where necessary, compensated for any deprivation of the use or damage to the land.	Low
EIR p23, p25 & p32		Wildfire initiated by seismic operations.	Disturbance to existing land uses.	H	H	H	H	H	1	Yes	Low	Long	Large	Some	Yes	2	Wildfire prevention is a key component in seismic operations with the requirement for comprehensive fire prevention management system to be	Low

* Roberts,D., 2001, Environmental impact for for seismic operations in the Otway Basin, 2nd edn; DCR Geoconsulting report for the Office of Minerals and Energy Resources, South Australia, Department of Primary Industries and Resources South Australia. Report Book 2001/010, 2nd edn.