

## Final project report

<i>Project ID</i>	2002/3.04
<i>Title</i>	Reprocessing and interpretation of multichannel seismic reflection data in Western Ross Sea ( <b>RIMARS</b> )
<i>Principal investigator</i>	Riccardo Geletti
<i>Institution</i>	Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS)
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<i>Duration</i>	6 years
<i>Assigned funding</i>	28.000,00 Euro

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### Activities and results

More than 3000 km of multichannel seismic reflection profiles (MCS) have been reprocessed and re-analysed in the Victoria Land Basin (VLB - western Ross Sea). The non-standard processing performed on MCS data on the area allowed the identification of new structural elements and improve the resolution. The results of this project reported on the evidence of a Gas-Hydrate Related Bottom Simulating Reflector (BSR) for the first time in the Ross Sea. The reprocessed MCS profiles collected in 1990 by the Italian R/V OGS Explora are: IT90AR60S, IT90AR61S, IT90AR61SB, IT90AR63S, IT90AR64S, IT90AR65S, IT90AR68S, IT90AR69S, IT90AR70S, IT90AR71S, IT90AR72S, IT90AR73S, IT90AR74S, IT90AR75S, IT90AR76S.

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### Products

#### A – papers in scientific magazines

1. Geletti R. and Busetti M., (under submission). Evidence of a Bottom Simulating Reflector linked to gas hydrate and gas seepage in the western Ross Sea (Antarctica). *Journal of Geophysical Research - Solid Earth*

#### B – book chapters

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#### C - proceedings of international conferences

1. M. Busetti and R. Geletti, 2003: *Extension and Inversion Tectonic in the Victoria Land Basin (Ross Sea)*. IXth International Symposium on Antarctic Earth Sciences (ISAES), Potsdam, Germany, 6<sup>th</sup> – 13<sup>th</sup> September, 2003. P74
2. Geletti R., Praeg D. and Busetti M., 2008: Evidence of gas hydrates and mud volcanoes in the western Ross Sea, Antarctica. 33rd International Geological Congress (Oslo, 6-14 August, 2008). Poster 1352489

#### D – proceedings of national meetings and conferences

1. Geletti R., Busetti M. **2009**. *Evidenze di bottom simulating reflector (BSR) e gas seep nel Mare di Ross occidentale (Antartide)*. 28° GNGTS, 16-19 november 2009, Geofisica di esplorazione e produzione : Expanded Abstract, 644 – 648

#### E – thematic maps

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#### F – patents, prototypes and data bases

1. Update of the Seismic Data Library System (SDLS data base) with the reprocessed seismic profiles

#### G – exhibits, organization of conferences, editing and similar

1. Geletti R.: *Multiple attenuation on the 2D seismic profiles acquired in the western Ross Sea*. ROSSMAP Workshop at the OGS (Trieste 17 - 21 June 2007).
2. Geletti R.: *Linkage between gas seepages and tectonic features in the Ross Sea (Antarctica)*. PETROBRAS-OGS meeting at the OGS (Trieste, 9-10 July 2007)

## Programma Nazionale di Ricerche in Antartide (PNRA)

### H - formation (PhD thesis, research fellowships, etc.)

1. research fellowship in interpretation of the reprocessed seismic profiles in western Ross Sea
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### Research units

Riccardo Geletti  
Martina Busetti

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**Date: 30/03/2010**

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