Day 1: 27th June 2018

Technology Session – Talk Summaries

Chair: Mike Reeder – Lloyd's Register

15:15.	How to Transform a 'Big Data' Archive: The Story Behind AAPG Datapages Exploration Objects (DEO)	Chris Morgan	Lynx Information System
15:30	Broadening Your Geological Perspective	Howard Nicolls	Spectrum Geo
15:45	Taking Exploration Technologies to the Next Level	Andrew Weller	Searcher Seismic
16:00	The latest Airborne Gravity Instrumentation; How to Use Effectively and its Role in a Low-Price Environment	Jonathan Watson	Bridgeporth
16:15	Basins and Fault Blocks – the Value of Gravity from Full Tensor Gradiometry Data	Colm Murphy	Bell Geospace
16:30	Enabling the Revolution in Seismic Digital Transformation	Stuart Darling	ION
16:45	Advanced Multi-Sensor GeoStreamer Acquisition and Imaging Solutions	Martin Widmaier	PGS
17:00	Multiple Source Marine Seismic Acquisition in Australia	James Walllace	Polarcus
17:15	Bold, Smart, Inventive – Technology Game Changers	Sian Grant	Geokinetics

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TECHNOLOGY SESSION PRESENTATION

How to Transform a 'Big Data' Archive: The Story Behind AAPG Datapages Exploration Objects (DEO)

Chris Morgan

Lynx Information System Ltd, UK

www.lynxinfo.co.uk

Lynx has worked with AAPG Datapages over the past few years to design, develop and build the Datapages Exploration Objects (DEO) web map, providing geographical search of the AAPG's huge international journal archive. This talk will discuss Lynx's roles in the process from the initial proposal and help with developing a sales model, database and web application design and build, to managing the ongoing input of data, by georectifying and geolocating all maps and sections included in journal articles and papers from AAPG Datapages.

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TECHNOLOGY SESSION PRESENTATION

Broadening your Geological Perspective

Howard Nicolls, Phil Cook, Julian Mather, Nicolas Hand

Spectrum Geo Ltd, UK

www.spectrumgeo.com

In recent years there have been substantial improvements in a variety of seismic acquisition, processing and imaging technologies. In such an ever-evolving environment, legacy data is often overlooked as inferior input data compared to newer recording systems and advanced survey programs. However, when retrieved and enhanced with modern re-processing it can be of significant value. Moreover, geological information obtained from old surveys can be used to identify areas of interest and optimize acquisition parameters for new seismic surveys.

This can be of particular benefit when multiple legacy 3D surveys are reprocessed together to output a uniform dataset that can cover entire basins. Individual surveys are often optimized for particular objectives with little regard for the regional outlook and suffer from under migration at the survey edges. Hence it can be difficult to build a regional geological interpretation. After reprocessing the datasets are seamlessly matched with full migration aperture at the survey edges and horizons can be tracked across a single contiguous dataset.

Case studies from offshore Australia are used to illustrate the benefit.

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Figure 1 shows the survey outlines for the Olympus 3D. The surveys were acquired between 1992 and 2011 with a wide range of source and streamer configurations. Streamer depths varied from 6 to 9 m, streamer count ranged from three to fourteen, cable lengths from 3800 to 7500 m, and inline near-offsets from 52 to 307 m.

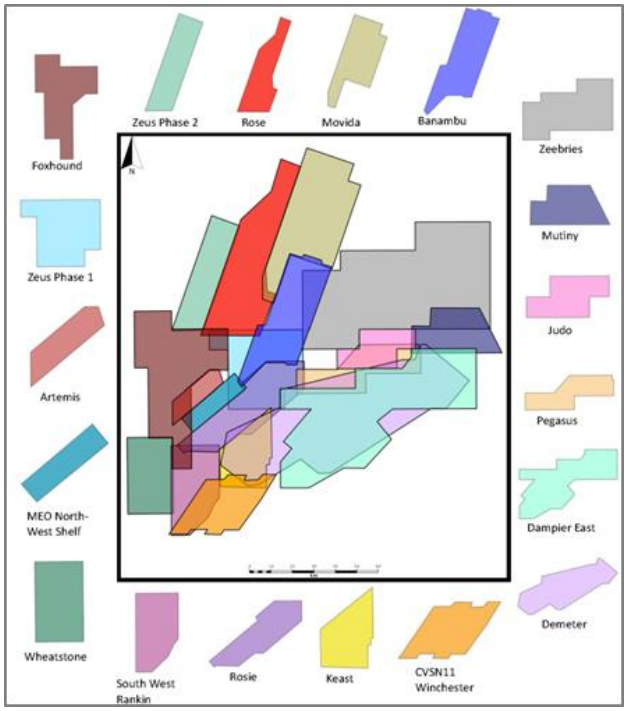

Figure 1. Olympus Survey Outline

Figure 2 shows an arbitrary line before and after re-processing. The survey merge points are clearly visible in the legacy dataset. Reprocessing has created a high-quality seamless broadband dataset suitable for regional and detailed stratigraphic exploration in the area, for targets such as Mungaroo channel sands and the Lower Keraudren Sandstones.

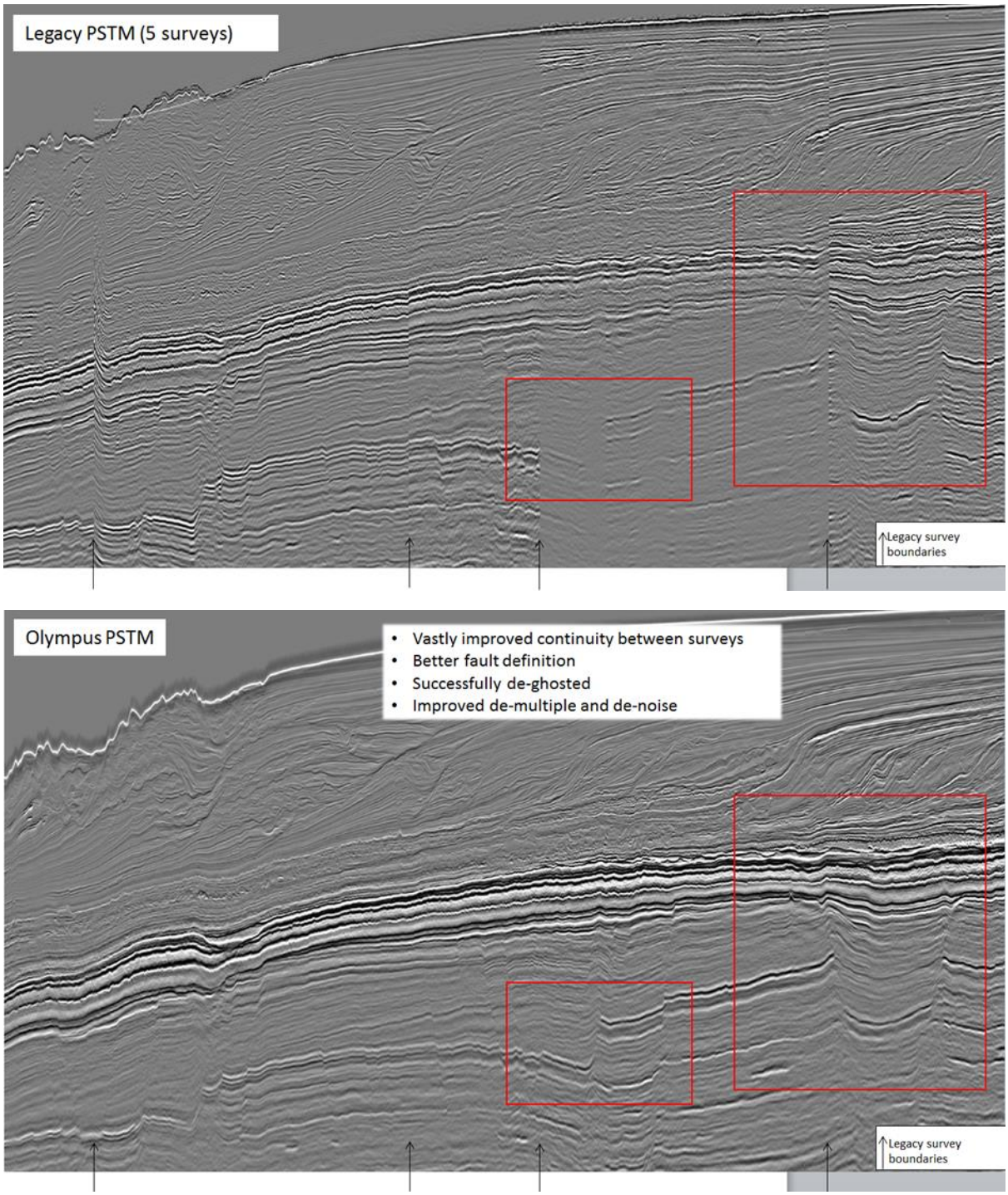

Figure 2. Arbitrary line before (top) and after (bottom) reprocessing

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TECHNOLOGY SESSION PRESENTATION

The latest Airborne Gravity Instrumentation; How to Use Effectively and its Role in a Low-Price Environment

Jonathan Watson

Bridgeporth Ltd, UK

www.bridgeporth.com

Recent advances in the development of high-resolution airborne gravity instrumentation, along with the need for improved cost-efficiency within the exploration industry, has led to a subtle change in application.

Simply being a low-cost, complimentary tool to seismic acquisition, is no longer enough. Potential field geophysics now warrants its inclusion, by delivering quality datasets, at the correct stage in the exploration cycle and integrating those datasets to maximise the usefulness.

This talk brings the latest advances to the fore with a number of case studies.

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TECHNOLOGY SESSION PRESENTATION

Enabling the Revolution in Seismic Digital Transformation

Stuart Darling

ION, UK

www.iongeo.com

The nexus of prolonged industry downturn and acceleration of maritime digitalization capabilities is re-shaping the future of the oil and gas industry. This assures that even with an emerging market recovery, seismic operations will never be the same.

ION's strategy is now weighted substantially towards driving maritime digitalization in both our core and new markets. Our offerings will enable our customers to retain cost efficiencies, through new ways of working, that drive improved project economics and performance. This will involve making onshore-offshore workflows more efficient, further the trend towards reducing levels of offshore manpower, and support new methods for acquiring and quality controlling data.

We will describe new software architectures and Cloud-based data sharing protocols that are behind this evolution. We will then highlight the introduction of elegant technology for achieving more accurate data, faster turns and safer gun-string handling during 4D operations. Lastly, we will cover developments in fleet diagnostics and data QA/QC in a more fully connected onshore / offshore ecosystem.

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TECHNOLOGY SESSION PRESENTATION

Bold, Smart, Inventive – Technology Game Changers

Sian Grant

Geokinetics, UK

www.geokinetics.com

The business environment of oil and gas exploration and production - ever changing, competitive and tough - is a powerful driver of innovation. As scientists, geophysicists and operations managers, we are constantly motivated to ask, 'How can we do things better?' In this short presentation, Geokinetics introduces technology innovations to answer that question.

Bold:	Fresh thinking to take us beyond 'The Way it's Always Been Done.
Smart	Building on the collaborative skills and efforts of smart people within Geokinetics and partner companies.
Inventive:	Applying existing skills and knowledge in new ways to solve different problems.