



## **Exploration Permit**

# **VIC/P42**

## **Quarterly Report**

**14 November 2002 – 13 February 2003**

**Bass Strait Oil Company Ltd**

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## VIC/P42

### QUARTERLY REPORT FOR THE PERIOD

**14 NOVEMBER 2002 to 13 FEBRUARY 2003**

#### 1. PARTICIPATING INTERESTS

Bass Strait Oil Company Ltd	50% (Operator, Joint Venture Partner)
Inpex Alpha Ltd	50% (Joint Venture Partner)

#### 2. GOVERNMENT RELATED MATTERS

There are no government related matters to report this quarter.

#### 3. EXPLORATION ACTIVITIES

##### 3.1 Seismic Aquisition

A draft copy of the Vic/P42 3D seismic acquisition report was received in November; it was returned to Western Geco KL for further amendments.  
The Final Field Operations and Navigation Report for the 3D seismic survey GBA 02B was received and accepted on 17<sup>th</sup> January, 2003.

##### 3.2 Seismic Processing

##### 3.2.1 3D Seismic Survey GBA 02B

The final processing report was received from Western Geco (Melbourne) on 31<sup>st</sup> January and was copied and sent to Inpex Alpha and the DPI on 4<sup>th</sup> February. The processed data were received in several formats:

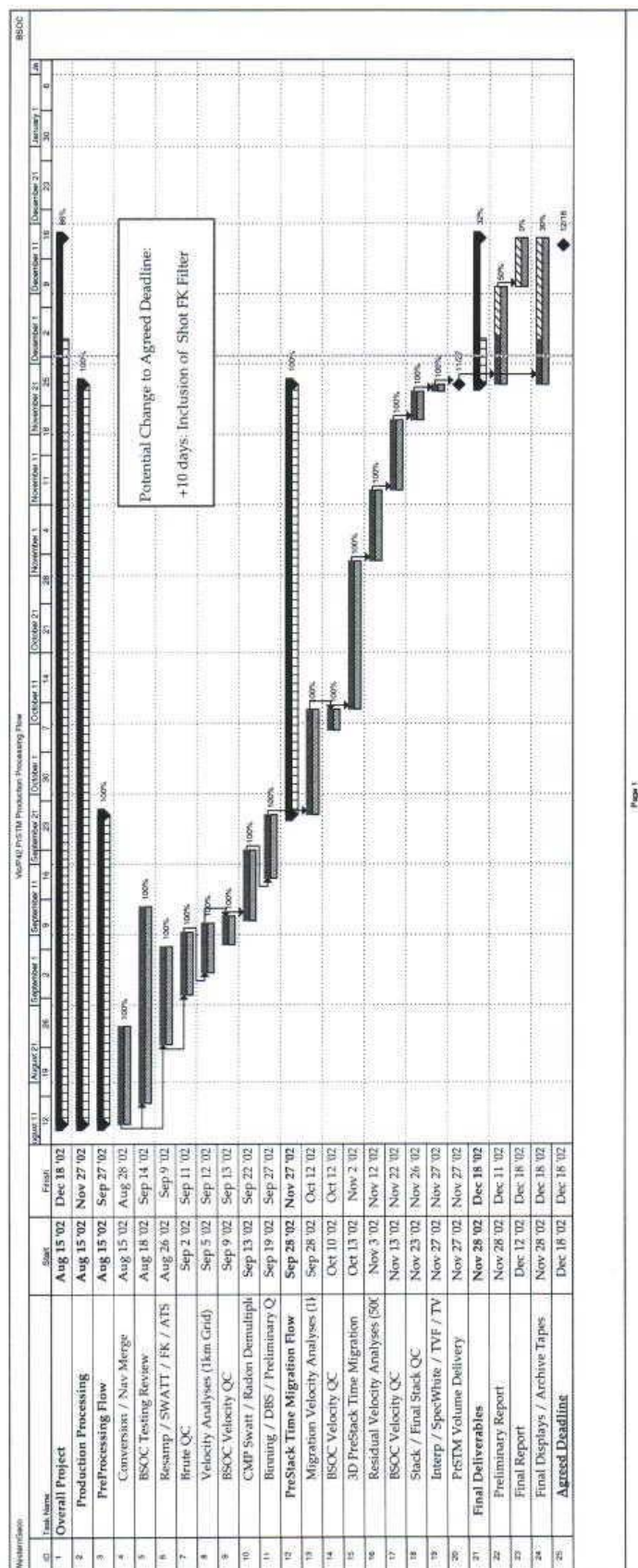
1. Near Trace Volume on 5G Exabyte tapes.
2. Raw Migrated Stack Volume on 5G Exabyte tapes.
3. Filtered and Scaled Migrated Stack Volume on 5G Exabyte tapes.
4. Raw 5 to 14 degree Angle Stack Volume on 5G Exabyte tapes.
5. Raw 14 to 23 degree Angle Stack Volume on 5G Exabyte tapes.
6. Raw 23 to 32 degree Angle Stack Volume on 5G Exabyte tapes.
7. CD-ROM containing WGC format of the brute velocities, first pass velocities, second pass velocities, third pass velocities and HDVA velocities.

Copies of this processed data were made for Joint Venture Partner Inpex Alpha, and were sent to Inpex Tokyo.

Copies were also made for the Department of Primary Industries and were being prepared for delivery at quarter's end.

Processing step	% completed (of total km)
▪ Conversion to WG Omega format	100
▪ Swatt / FK/ ATS	100
▪ First Pass Velocities Analyses	100
▪ First Pass Velocities Picked	100
▪ First Pass Velocities QC	100
▪ CMP Swatt / Radon Demultiple	100
▪ DBS / Flex merge	100
▪ Targeted Kirchhoff PSTM on velocity lines	100
▪ Second Pass Velocities Analyses	100
▪ Second Pass Velocities Picked	100
▪ Second Pass Velocities QC	100
▪ Production Kirchhoff PSTM	100
▪ Third Pass Velocities Analyses	100
▪ Third Pass Velocities Picked	100
▪ Third Pass Velocities QC	100
▪ Final Stack	100
▪ Post Stack Processing	100
▪ SEG-Y archive	100

**Table 1.** Status of processing at quarter's end



**Figure 1. Production Processing Flow**

### 3.3 Seismic Interpretation and Evaluation

Loading of the filtered and scaled Vic/P42 BSOC PSTM 3D data encountered problems during loading of tape number 1 of 5. After scanning and attempting to load all 5 tapes, it was evident that the problem was a "tape read error", and a new tape number 1 (containing inlines 1956 to 2165) was requested from Western Geco. Interpretation of the data began and was on-going at end quarter.

Regional seismic interpretation continued with mapping of the Top Latrobe Group and Top 'Coarse Clastics' seismic events extended through the Bream and Kingfish 3D datasets.

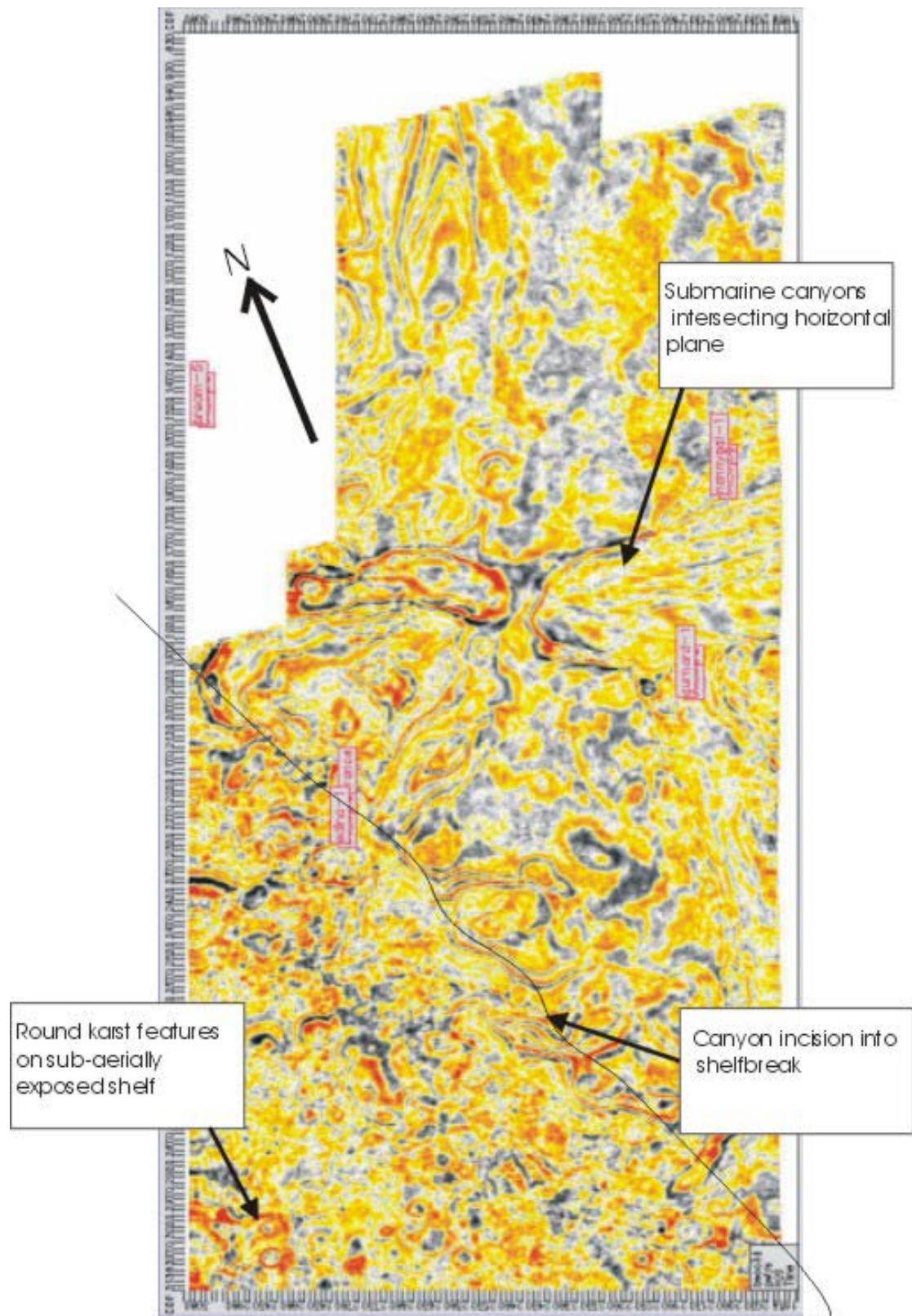
During January the interpretation of the BSOC 3D continued:

- Mistie analysis of BSOC 3D with Kingfish and Bream 3D surveys, and G92C 2D survey – negligible misties and all zero phase.
- Well seismic correlation for Gurnard-1, Nannygai-1, Edina-1, Pike-1, Devilfish-1, Melville-1, Bream-5, Orange Roughy-1 and Kingfish-7 were completed. Checkshot and sonic log data were re-input and calibrated and a reflectivity series generated – these were convolved with wavelets extracted from intersecting seismic data to generate synthetic traces.
- Seismic events have been mapped in TWT on Geoquest for the 3D area for the following seismic events: 2 submarine canyon events, Top Latrobe Group "G" Event, Top Gurnard Formation and 53mya Event (Intra-Latrobe). Fault polygons have been mapped and seismic attributes generated.
- TWT data have been imported to Petrosys for mapping and a simple layer cake depth conversion

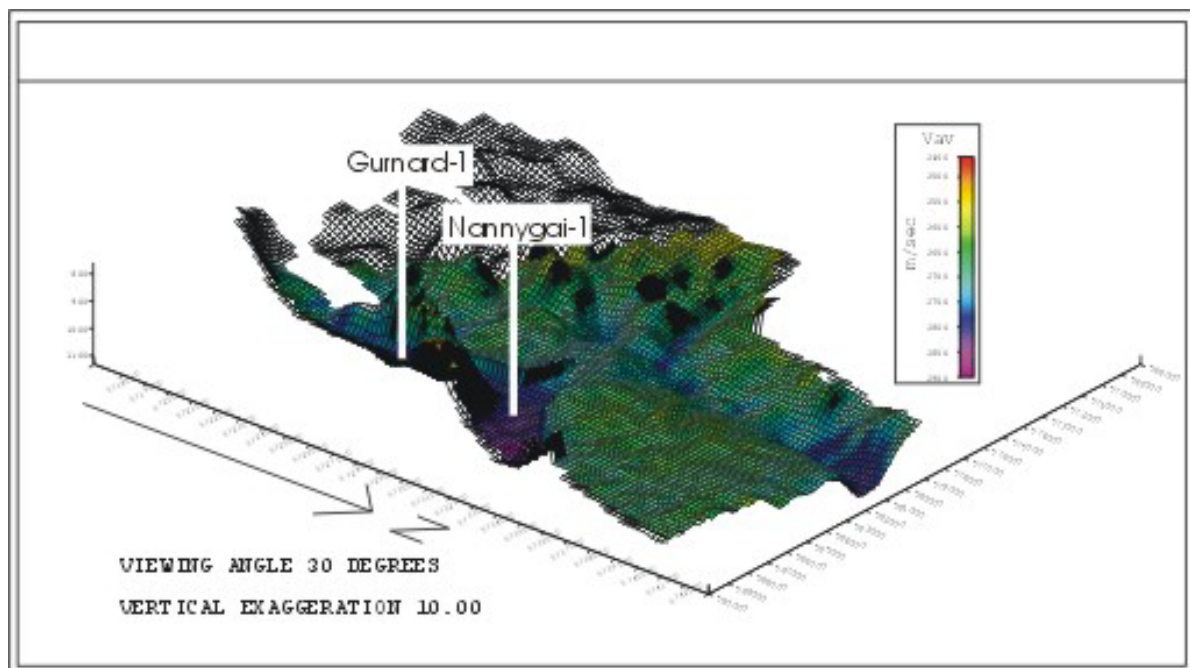
The interpretation of the submarine canyons, critical for the depth conversion to the north, has proceeded well, as they are clearly apparent on seismic data. Figure 2 shows a time slice at 920msec TWT through the northern half of the survey area. The southwest of the survey is dominated by round features believed to be karst related. Canyon incision is evident into the shelf break and the canyons can be seen intersecting the horizontal plane.

At the end of January seismic velocities (including the Western Geco Dense Velocity Analysis) had been imported into Petrosys in preparation for a preliminary layer-cake depth conversion. Seismic velocities are already showing a strong positive correlation with the presence of incised submarine canyons. Velocity information below these canyons in the Lakes Entrance Formation appears to be statistically noisier. The existence of higher velocity carbonate material infilling these submarine canyons, as encountered in Gurnard-1, Nannygai-1 and Kingfish and Bream wells, is apparent from the seismic velocities.





**Figure 2.** Timeslice at 920msec through northern 3D survey area.



**Figure 3.**

Figure 3 shows a wireframe of the base to the submarine canyons TWT as viewed from the north. The seismic velocity (average) to that level is displayed as a colour shading. It is evident that the high velocity material (in purple tones) exists in the deepest part of the canyons, representing the initial fill. Away from the canyon axes lower velocity material is evident (in green and yellow tones).

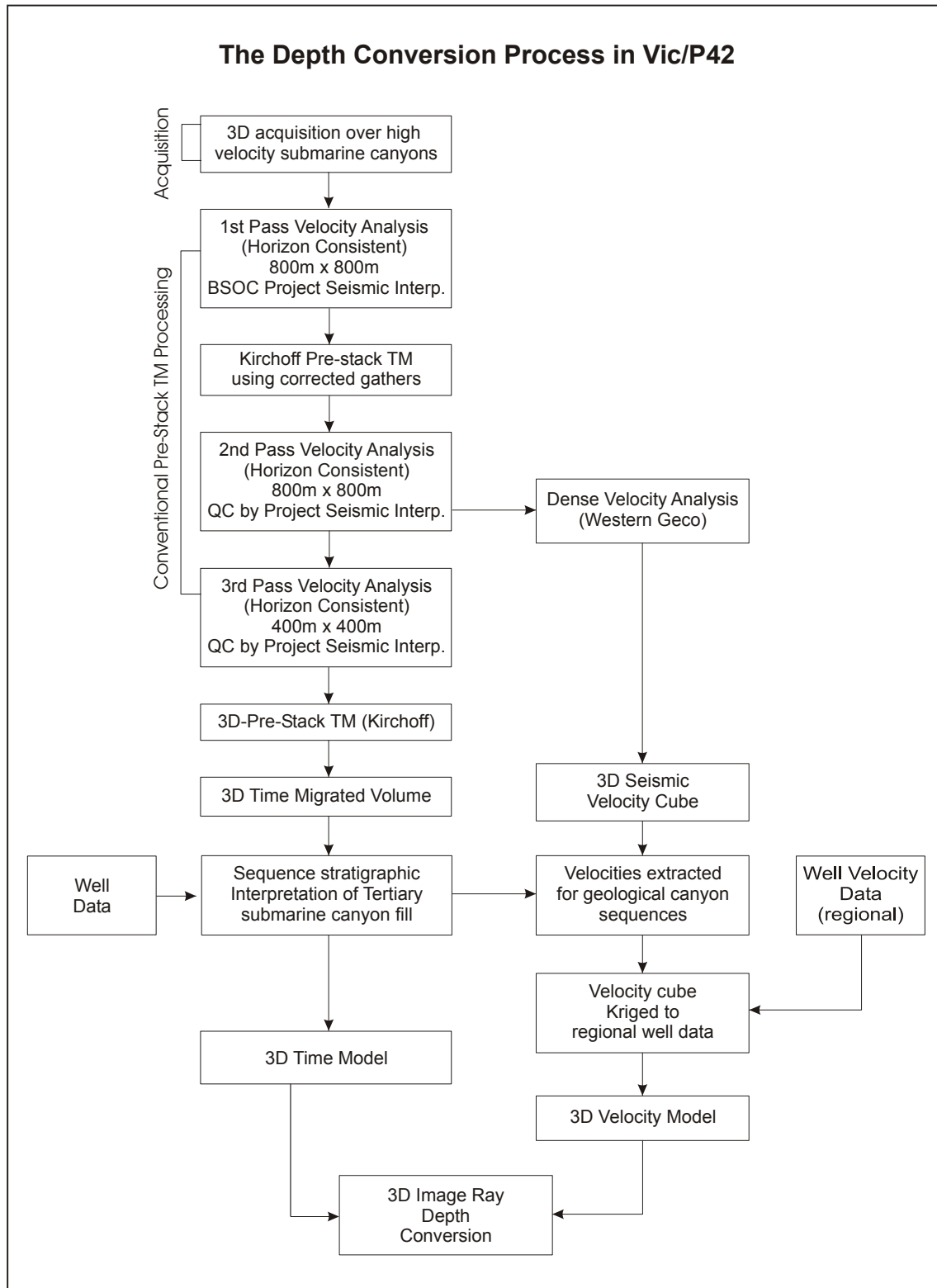
It is evident that the volume of velocity data from wells and seismic is substantial. The DVA velocity cube, which was applied for the first time on seismic data in the Gippsland Basin, has produced a substantial amount of valuable data to correlate wells and dramatically improve the T/z process.

The complexity of the depth conversion will require a substantial effort in time and resources to ensure that these valuable data are used to their optimum.

A revised workflow has been proposed as a preliminary effort to solve this depth conversion process (see Figure 4). This method has been discussed with geoscience staff of the DNRE. Immediate efforts will focus on evaluating this workflow and determining resources required to ensure an optimum depth conversion in Vic/P42.

Alan Partridge of Biostrata Pty Ltd, has been assisting with the biostratigraphic interpretation of Bream-5, Devilfish-1, Edina-1, Gurnard-1, Kingfish-7, Nannygai-1, Omeo-1, Orange Roughy-1 and Pike-1, ensuring their evaluation is based on a revised stratigraphy.





**Figure 4.** Revised workflow proposed for depth conversion in Vic/P42

### 3.4 Workstation

A network card was installed for the HP750C roll plotter to allow network access, however ZEH software was still awaited from Geoquest at end November. ZEH plotting software was installed on the Sunblade 100 workstation in December, as was the Petrosys Exploration Mapping Software, with versions also running in the BSOC PC network environment (to allow uninhibited access to the UNIX machine).

Since the installation of the Petrosys software, different methods of transferring and exporting graphics files (maps and seismic lines etc) have been evaluated to transfer data from Geoframe version 4.0.3 and Petrosys, and to PC drafting packages. It soon became evident that the file formats between the software packages were not always compatible, and different procedures and manipulations of files were required for the transference of seismic lines and colourfilled maps. The biggest problem was found to be in converting the cgm+ files from Geoframe into vector images that can be imported into and ultimately edited in montages on the PC's.

Petrosys and Geoquest technical support staff were unable to completely solve the problems. Many of the "optional" drivers for Petrosys would be required, and these did only a partial job of file conversion. However, third party PC based software is available which is a more cost-effective and technically preferred solution. The US PC based Larson software *CGM Studio*, *CGM to Image* and *CGM Plot Lite* were evaluated and CGM to Image was selected for the graphical file conversion.

### 3.5 Well Planning

Preliminary investigations of drilling rig availability were commenced during December. The operator is continuing preliminary contact / discussions regarding rig availability and sharing as well as project management issues. Contacts made to date include:

- BHPP
- Santos
- Diamond Offshore
- ECL Drilling
- Labrador Drilling
- Origin Energy
- Esso Australia
- Woodside

Origin is seeking expressions of interest for a large jack-up rig capable of performing the Yolla Field development drilling in the first quarter of 2004. This rig would have water depth and sea-state capability that would potentially be suitable for Vic/P42 but it is unlikely that the timing will be acceptable. More likely to be acceptable to Vic/P42 is a joint program with other operators sharing a semi-submersible in the 2<sup>nd</sup> half of 2003 however this is still only conceptual at this stage.

Given the uncertainty in the velocity information, methods of reducing 'depth conversion risk' have been a focus of well design. The concept of 'Pilothe drilling' discussed with the Victorian DNRE in meetings on 18<sup>th</sup> September 2002, has been further developed as a method of reducing "dry hole" risk associated with depth conversion uncertainty in any potential well over the Zane Grey Lead.

Requests for "Expressions of Interest" for drilling project management services are being prepared and are due to be issued late February.

#### 4. REPORTS SUBMITTED

The Final Field Operations and Navigation Report and the Final Processing Report for the Vic/P42 2002 3D Seismic Survey GBA 02B were submitted to the DPI in accordance with the P(SL)A.

These reports were also sent to Inpex Alpha Ltd, in accordance with the JVOA.

#### 5. HEALTH, SAFETY AND ENVIRONMENT

##### 5.1 Incidents

There were no health, safety or environmental incidents recorded during the report period.

#### 6. ESTIMATED EXPENDITURE FOR THE QUARTER

Estimated expenditure for the reporting period is detailed below:

Activity	Estimated Expenditure (\$000's)
Drilling (Melville)	1
Seismic (Acquisition)	178
Seismic (Processing)	270
Geological & Geophysical	363
Permit Administration	85
<b>Total</b>	<b>897</b>