
## PGS Data Processing A/P Pty. Ltd.

# Data Processing Report

# 3D and 2D SEISMIC SURVEYS BLOCK T/39P, BASS STRAIT AUSTRALIA

**For**

**Benaris Petroleum N.V.**

**Prepared by:**

**PGS Data Processing, Perth, Western Australia**

**May 2006**

# TABLE OF CONTENTS

# LIST OF FIGURES



# LIST OF TABLES

# 1. INTRODUCTION

## 1.1 Survey Area

The Project included a 3D and a 2D Survey located in Block T/39P, in the Bass Strait between Victoria and Tasmania. The 2D Survey was positioned on the north-western edge of the 3D Survey. The nominal strike direction in the area was 309 degrees which was the sail-line direction for the 3D Survey.

The 3D Survey was 203 sq kms (full fold) and the 2D was 380 shot kms (330 kms full fold).
There was little variation in the water depth, being approximately 75 m.

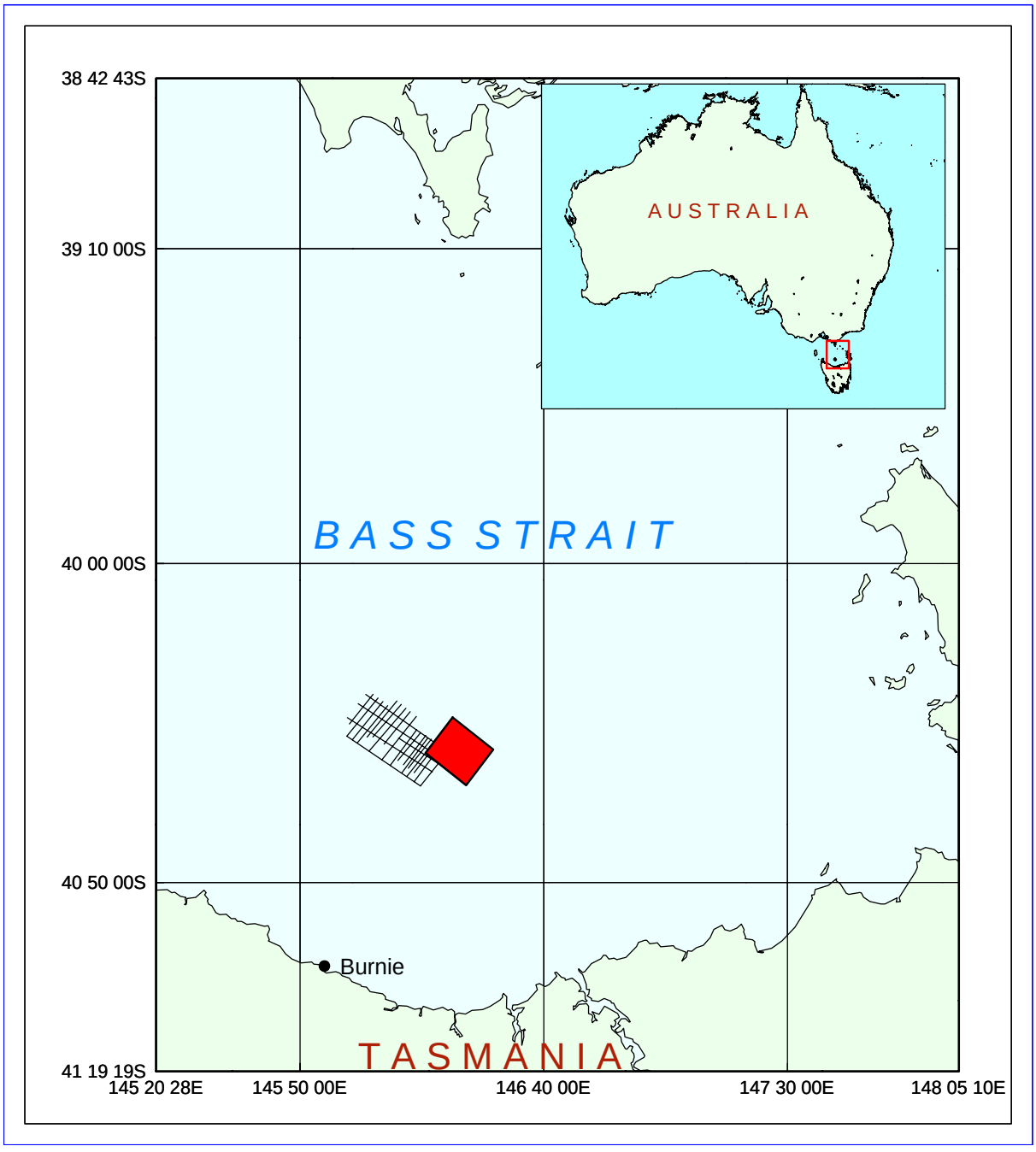



*Fig 1 : Map Showing Position of 2D and 3D Surveys*

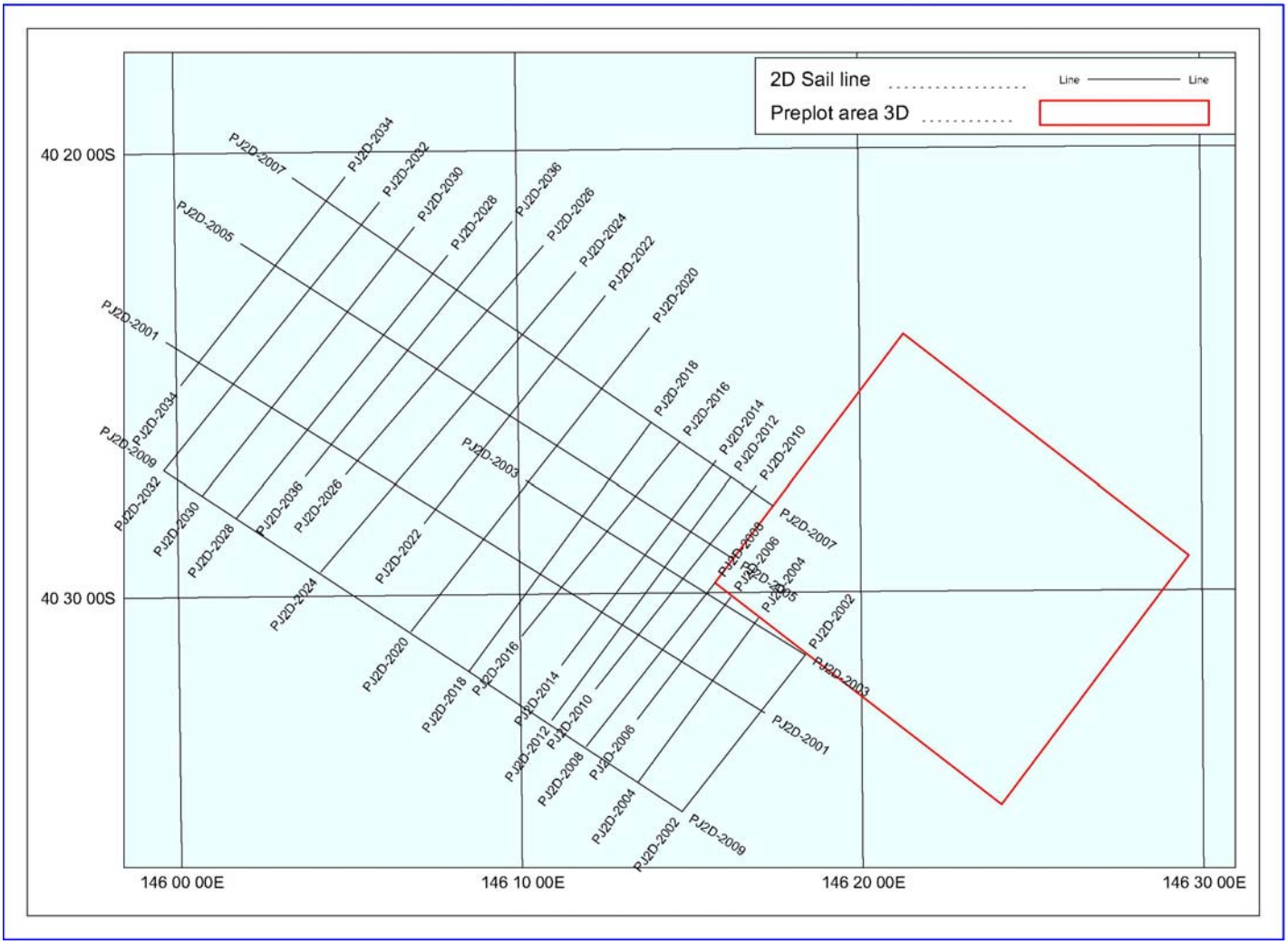



*Fig 2 : Map Showing the 23 2D Lines*

## 1.2 Geophysical Objectives

- 3D – to delineate and quantify recognised prospects.
- 2D – for Regional appraisal of area adjoining the 3D prospect.
- Preserve amplitudes such that any AVO anomalies were preserved;
- Optimise the migration imaging;
- Maximise Signal/Noise;
- Provide a zero phase match with existing 2D data.

## 1.3 Acquisition Configuration

A full description of the acquisition details for both the 3D and 2D Surveys are given in the following Appendices:

**Appendix 1** has detailed acquisition parameters
**Appendix 2** details line naming conventions
**Appendix 3** details lines acquired and processed

# 2. PRODUCTION PROCESSING

## 2.1 Processing Summary

**Pre-migration processing:**

1. Reformat.
2. Time Shifts to MSL – Instr. Corr.(-120ms); Source/cable Corr.(+9ms) ; Tidal Corr.
3. Navigation/Seismic Merge – X,Y's created.
4. Observer's Log Edits.
5. Tape Output.
6. Low-cut Filter 4/18 – 90/72 (Hz/dBperOct.).
7. Swell Noise Attenuation (Seq. 24 and 25 only).
8. Resample to 4ms. (no anti-alias filter).
9. NMO apply (Reformat 1km Velocities).
10. Trim On-mute (for precursor and first breaks).
11. Despike (shot domain).
12. Spherical Divergence (t gain).
13. NMO remove (Reformat 1km Velocities).
14. Tau-P Deconvolution (Design 0-4000ms; 32+208ms operator).
15. Muting in Tau-P domain (removal of linear noise).
16. Removal of Spherical Divergence (t gain).
17. Tape Output.
18. Spherical Divergence (t**0.5 gain).
19. Dephase Filter (convert, using far-field, to digital minimum phase).
20. **2D SRME (Surface Related Multiple Elimination).**
21. Removal of Spherical Divergence (t**0.5 gain).
22. Disk Output (backed-up).
23. Sort to 2D CMP domain.
24. Spherical Divergence (v**2 t gain).
25. NMO apply (SRME 1km Velocities).
26. Despike (2D CMP domain).
27. Hi-res Radon Demultiple (ramped 750-850ms).
28. NMO remove (SRME 1km Velocities).
29. Removal of Spherical Divergence (v**2 t gain).
30. Tape Output.--------
31. Channel Summation (12.5m to 25m group).
32. Sort into Offset Planes.
33. Spherical Divergence (v**2 t gain).
34. NMO apply (SRME 1km Velocities).
35. Interpolation of Missing Offsets (xline dirn, upto 3-bin width, 3D only).
36. Trim On-mute.
37. Exponential Gain (0/0, 1500/4, 3000/14 – ms/dB).
38. Removal of Spherical Divergence (v**2 t gain).
39. NMO remove (SRME 1km Velocities).
40. Bottom Taper (4900-5000ms).
41. PSTM Input à Disk (backed-up).

**Migration and Post-migration Processing:**

42. PSTM (approx. 60deg aperture in zone of interest; smoothed 1km PSTM Velocities).
43. Disk Output (backed-up).
44. Sort to CDP Domain.
45. NMO apply (50m Smoothed Dense Velocities).
46. Trim On-mute.
47. Despike (CDP domain).
48. **Hi-res Radon Demultiple (ramped 800-1000ms).**
49. Disk Output (backed-up).
50. Output to SEG Y Tape - Final PSTM Gathers (3590).
51. Outer Trace Mute.
52. Inner Trace Mute.
53. Stack **(Plus Angle Stacks 5-20, 20-40deg and Difference Display).**
54. Exponential Gain (0/0, 1500/0, 3000/6 – ms/dB).
55. Disk Output (backed-up).
56. Sort to Xline (3D only).
57. Despike (Xline domain ; 3D only).
58. Deconvolution (3-gate design; 21 trace average).
59. Deterministic Zero Phasing Filter (designed from Far-field).
60. Polarity Reversal (to match previous 2D data).
61. Q Compensation (Phase only).
62. Sort to Inline (3D only).
63. Disk Output (backed-up).
64. Time-variant Bandpass Filters.
65. Residual Exponential Gain (0/0, 4000/3 – ms/dB).
66. Trace Summation in Inline Direction (3D only; to 25m intervalà 25x25m).
67. Output to SEG Y Tape - Final 3D (Exabyte, 3590 and DVD).
    Raw 3D (3590).
    Final Angles (Exabyte, 3590 and DVD).
    Final 2D (Exabyte, 3590 and DVD).
    Raw 2D (3590).

The Processes or Deliverables that are extra to Contract are highlighted.

## 2.2 Pre-Migration Processing Details

### 1. Reformat field tapes

The field data were reformatted, from **PGS** demultiplexed SEG-D 8036 format, into **PGS** internal format. 1392 data channels were output to 5120ms at a 2ms sample interval.

### 2. Recording Instrument Delay

A recording instrument delay of –120ms was applied.

### 3. Datum Correction

A gun and cable correction of +9ms was applied:

### 4. Tidal Correction

Theoretical static corrections computed from tidal prediction tables were applied to data to account for tidal movements. The tables were obtained by PGS from MetOcean Engineers Pty Ltd.

### 5. Navigation/Seismic Merge

The final P1/90 navigation data was transferred to the **PGS** Cube Manager processing system and subsequently merged with the seismic data on the basis of line and shot number. A 12.5 x 25m grid was used for the 3D Survey and this was extended to cover the 2D Survey. Near-trace displays and a volume were generated to verify the integrity of the navigation/seismic merges.

**Appendix 6** details processing grid and geodesy information.

### 6. Shot and Channel Edits

Bad shots and channels, identified from the Onboard QC, were zeroed.

### 7. Tape Output

To 3590E tape.

### 8. Low-cut and Anti-alias Filter

Zero phase 4/18 – 90/72 (Hz/dBperOctave) Butterworth filter applied.

### 9. Swell Noise Attenuation (sail-line 1004, sequence 25 only)

A program for the suppression of swell noise and interference noise called Seismic Interference Noise Killer (SINK) was applied to this one sequence. It was applied over a bandwidth of 0 to 15 Hz, modelled over 15 ensembles with a threshold scalar limit of 0.8 (only scalars below this were applied to the data).

### 10. Resample

Resample from 2ms to 4ms.

### 11. NMO

NMO correction applied using 1km velocities picked from the Reformat data. For the 3D, the velocities were picked from 2D lines from selected prime sail-line sequences.

**12. Trim Muting**

Preliminary muting to remove the precursor and direct and refracted arrivals from the shot records.
The muting comprised an offset invariant on-mute at 84ms with a 16ms ramp and an offset variant mute of 368/0, 706/450, 2520/1500, 4500/2900 (offset/TWT) with a 100ms ramp.

**13. Constrained De-spike**

Amplitude anomalies were computed over running spatial windows of 7 traces within each shot. Average amplitudes were computed using mean absolute values within a gate, scale factors then calculated based on the average amplitudes of the 'working trace' and its neighbouring traces using the median values. A threshold scalar limit of 0.7 was applied (only scalars below this were applied to the data). 120ms time gates overlapping 50% were used.

**14. Amplitude Compensation**

Gain correction of $T^{1.0}$ was applied.

**15. Inverse NMO**

NMO corrections applied in **step 2.2.11** were removed.

**16. Tau-P Predictive Deconvolution**

Shots separated into individual cables.
Data padded to 6500ms pre-transform. Data transformed into 681 P-traces within range –680 to 680us/m.
1 window; 0.01% pw; operator 208ms + 32ms gap; design window 0-4000ms for all P values; application 0-6500ms.

**17. Linear Tau-P Domain Mute**

To remove some vessel noise, direct arrivals, refractions and aliased noise, some muting within the Tau-P domain was applied.

'Flower shaped' mute: 1/1300, 64/2240, 116/3100, 147/3800, 179/6000, 501/6000, 533/3800, 566/3100, 617/2240, 681/1300 (P trace seqno/Tau).

Additionnal mute for aliased energy: 1/1700, 193/0, 681/0 (P trace seqno/Tau).

Data transformed back into TX, cut to 5000ms and edits and trim muting re-applied.

**18. Amplitude Compensation removal**

Removal of gain correction of $T^{1.0}$ which was applied in **step 2.2.14.**

**19. Tape Output**

To 3590E tape.

**20. Amplitude Compensation**

Gain correction of $T^{0.5}$was applied.

**21. Dephase Filter**

A filter was designed to convert the modelled far-field signature (including instrument, source and streamer depth phase response) plus low cut/anti-alias filter and resample application, to its minimum phase equivalent.

**21. 2D Surface Related Multiple Elimination (SRME)**

SRME modeling and subtraction of multiple model from the traces.

Filter design window : 400ms by 70 traces
Filter length : 80ms
Least squares adaptive multiple subtraction used.

For the modelling of multiples the water bottom was muted out (150ms post nmo) beforehand to target the deeper multiples within the zone of interest. The velocity used for pre-SRME interpolation/extrapolation of missing traces was an average of the first pass and water velocity.

**22. Amplitude Compensation removal**

Removal of gain correction of $T^{0.5}$ which was applied in **step 2.2.20.**

23. Disk Output

**24. 2nd Pass Velocity Analysis (1km grid)**

Post SRME data was input into Radon Demultiple and used to generate velocities:
For the 3D, the velocities were picked from 2D lines from selected prime sail-line sequences.
These velocities were picked using PGS' interactive velocity analysis package, tVat. Iso-velocity displays, velocity time slices, NMO-corrected gathers and stack sections were used to QC velocity picks.

**25. Sort to 2D CMP**

In the case of 3D, for each source/streamer component.

**26. Amplitude Compensation**

Gain correction of $V^2T$ was applied (using $2^{nd}$ pass velocities).

**27. NMO**

NMO correction applied using $2^{nd}$ pass 1km velocities.

**28. Trim Muting**

Mute as in **step 2.2.12** re-applied.

**29. Constrained De-spike**

Amplitude anomalies were computed over running spatial windows of 7 traces within each 2D CMP. Average amplitudes were computed using mean absolute values within a gate, scale factors then calculated based on the average amplitudes of the 'working trace' and its neighbouring traces using the median values. A threshold scalar limit of 0.7 was applied (only scalars below this were applied to the data). 120ms time gates overlapping 50% were used.

## 30. First Pass High Resolution Radon Demulitple

2D CMP ordered data was represented as a series of parabolae and classified into primary events with little curvature and multiple events with considerable curvature. The latter group forms the 'multiple model', which was subsequently subtracted from the data. The following parameters were used for this process.

| | |
|---|---|
| Residual time range for data : | -500 to 4360ms of move out at reference offset 4430m. |
| Residual time range for multiples : | 220 to 4360ms of move out at reference offset 4430m. |
| Number of parabolae : | 301 |
| Application ramp : : | 750ms(0%) – 850ms(100%). |

A wraparound 512ms AGC was used.

## 31. Inverse NMO

NMO corrections applied in **step 2.2.27** were removed.

## 32. Amplitude Compensation removal

Removal of gain correction of $V^2T$ which was applied in **step 2.2.26.**

## 33. Tape Output

To 3590E tape.

## 34. 3rd Pass PSTM Velocity Analysis (1km grid)

Radon Demultiple data input, decimated to alternate channels. Bending ray Kirchhoff PSTM using the smoothed (2000m radius trim-mean) $2^{nd}$ Pass velocities. Aperture (twt/half aperture) 100/130, 300/367, 500/568, 900/1171, 1400/2049, 1900/2379, 2500/3000, 3000/3500, 4000/3500, 5000/3000.
These velocities were picked using PGS' interactive velocity analysis package, tVat. Iso-velocity displays, velocity time slices, NMO-corrected gathers and stack sections were used to QC velocity picks

## 35. Channel Decimation

Adjacent channel summation in shot domain resulting in an effective group interval of 25m for both 2D and 3D. $2^{nd}$ Pass velocities applied for summation.

## 36. Amplitude Compensation

Gain correction of $V^2T$ was applied (using $2^{nd}$ pass velocities).

## 37. NMO

NMO correction applied using $2^{nd}$ pass 1km velocities.

**38. Sparse Radon Interpolation (SPRINT) – applied to 3D data only.**

3D data sorted into offset planes (121-4396/incr by 75m) for input into Sprint and later into the PSTM.

SPRINT performs pre-stack interpolation as an alternative to flex binning. SPRINT is based on least squares sparse linear Radon transforms, and is applied to cross-lines for each offset class separately. The method uses the exact (irregular) trace positions, is not sensitive to weak or strong traces next to gaps and can interpolate beyond aliasing. SPRINT only interpolates coherent energy (with, in this case, three different dips in each spatial/temporal window), and as a consequence the interpolated data looks cleaner than the original data. The module has an option to add spectrally balanced noise such that in each window the interpolated data has a similarly shaped spectrum as the adjacent original traces.

The following Sprint parameters were used for production :
Spatial Window: 14 traces
Temporal Window: 256 msec

*Table 1 : 'SPRINT' parameters*

| Offsets | Sprint Gap | Comments |
|---|---|---|
| 121 | 3 Traces | 1st group |
| 4396 | 3 Traces | Last group |

**39. Trim Muting**

Mute as in **step 2.2.12** re-applied.

**40. Residual Gain Recovery**

The following gain was applied to balance the data in time prior to the PSTM-

*Table 2 : Residual Exponential gain*

| TWT ms | Gain dB |
|---|---|
| 0 | 0 |
| 1500 | +4dB |
| 3000 | +14dB |

**41. Constrained De-spike**

Amplitude anomalies were computed over running spatial windows of 7 traces in the xline direction within the offset planes for the 3D and in the shot domain for 2D. Average amplitudes were computed using mean absolute values within a gate, scale factors then calculated based on the average amplitudes of the 'working trace' and its neighbouring traces using the median values. A threshold scalar limit of 0.7 was applied (only scalars below this were applied to the data). 120ms time gates overlapping 50% were used.

**42. Amplitude Compensation removal**

Removal of gain correction of $V^2T$ which was applied in **step 2.2.36.**

**43. Inverse NMO**

NMO corrections applied in **step 2.2.37** were removed.

## 2.3 Migration and Post Migration Processing

### 1. Pre-Stack Kirchhoff 3D Migration (TAPSTM)

The migration was run on offset planes from 121m to 4396m, incrementing by 75m, for the 3D volume and 108m to 4408m, incrementing by 50m for the 2D.
The following parameters were used:

Curved ray algorithm
Aperture (twt/half aperture in m.) 100/130, 300/367, 500/568, 900/1171, 1400/2049, 1900/2379, 2500/3000, 3000/3500, 4000/3500, 5000/3000.
Migrated velocity field was generated from the 3rd Pass Velocities in **2.2.34**, trim-mean smoothed over a radius of 2.0km. These Migration Velocities, in Western 3D format, were shipped to the Client.
25x12.5 input/output bin spacing.

### 2. 4th Pass PSTM Velocity Analysis (0.5km grid)

The input migrated gathers had Radon Demultiple applied to improve the resolution of the coherencies. 6$^{th}$ order velocities were picked using PGS' interactive velocity analysis package, tVat. Iso-velocity displays, velocity time slices, NMO-corrected gathers and stack sections were used to QC velocity picks

The approved velocities provided the control and the starting point for the Dense Velocity autopicking and the final angle mutes (3D only). For the 3D, these velocities were smoothed, both spatially with a 2km radius trim-mean filter, and temporally with a 1000ms boxcar filter, to produce the angle mutes for the angle stacks.

### 3. Dense Velocity Auto-picking

The approved velocities from **step 2.3.2** were used as a guide for autopicking coherencies which were derived from the migrated gathers above. Velocities were produced on a 50m x 50m grid, using the auto-picking tool in **PGS**'s interactive velocity analysis package, tVat. The maximum deviation allowed was 3% from the interpolated guide function. The input, approved velocities from **step 2.3.2,** were maintained and not overwritten by the autopicking.

### 4. Dense Velocity Conditioning

The dense velocities from **step 2.3.3** were conditioned for final stacking in the following manner:

Water bottom time/velocity replacement (WBT picked from data/1450m/s).
Temporal resample at 50ms.
RMS velocities smoothed over 200m radius with a 20% alpha-trim.
Water bottom time/velocity replacement post-smoothing.

These dense velocities, for stacking, were archived and shipped to the Client**,** in Western 3D format.

### 5. NMO

Using the final velocity field from **step 2.3.4,** 6$^{th}$ order NMO corrections were applied

### 6. Trim Muting

Mute as in **step 2.2.12** re-applied.

## 7. Constrained De-spike

Amplitude anomalies were computed over running spatial windows of 7 traces within the CDP gathers. Average amplitudes were computed using mean absolute values within a gate, scale factors then calculated based on the average amplitudes of the 'working trace' and its neighbouring traces using the median values. A threshold scalar limit of 0.7 was applied (only scalars below this were applied to the data). 120ms time gates overlapping 50% were used.

## 8. Second Pass High Resolution Radon Demulitple

CDP ordered data was represented as a series of parabolae and classified into primary events with little curvature and multiple events with considerable curvature. The latter group forms the 'multiple model', which was subsequently subtracted from the data. The following parameters were used for this process.

Residual time range for data : -500 to 4360ms of move out at reference offset 4430m.
Residual time range for multiples : 130 to 4360ms of move out at reference offset 4430m.
Number of parabolae : 301
Application ramp : : 800ms(0%) – 1000ms(100%).
A wraparound 512ms AGC was used.

## 9. Migrated Gather SEG-Y Output

PSTM gathers were archived on 3590B tapes in SEG-Y format.

These tapes were sent to the Client. Tape listings for these shipments can be found in **Appendix 7.**

## 10. Mutes

The following mutes were used to produce the stack data:-
Full offsets stacks (2D and 3D) - Inner and Outer mutes in Tables 8 and 9
Near offset volume for 3D - Angle Mutes 5-20 degrees
Far offsets volume for 3D - Angle Mutes 20-40 degrees
Incident angle mutes were computed from 0.5km velocities from **step 2.3.2** after trim-mean smoothing over a 2.0 km radius followed by temporal boxcar smoothing over 1000ms. The curved ray option instantaneous Dix's equation was used.

*Table 3 : Outer Mute applied (ramp=20ms)*

| Offset (m) | TWT (ms) |
|---|---|
| 215 | 2 |
| 600 | 500 |
| 871 | 1000 |
| 1321 | 1600 |
| 2221 | 2400 |
| 4400 | 4000 |

*Table 4 : Inner Mute applied(ramp=20ms)*

| Offset (m) | TWT (ms) |
|---|---|
| 140 | 0 |
| 141 | 600 |
| 300 | 800 |
| 301 | 4980 |

## 11. Stacks

One stack was produced for each 2D Line and three volume stacks were produced for the 3D according to the mutes described in **step 2.3.10.**

## 12. Raw Stack SEG-Y Output

Two raw stack products were archived in SEG-Y format.
3D Raw Stack (Full Offsets)
2D Raw Stacks (Full Offsets)

These products were sent to the Client. Listings for these shipments can be found in **Appendix 7.**

## 13. Ensemble Balance for Acquisition Footprint – 3D only

Amplitude anomalies were computed over running spatial windows of 7 traces in the Xline direction. Average amplitudes were computed using mean absolute values within a gate, scale factors then calculated based on the average amplitudes of the 'working trace' and its neighbouring traces using the median values. Scalars within the limits of 1.0-3.0 were applied to remove low-amplitude bands at sail-line edges 120ms time gates overlapping 50% were used.

## 14. Predictive Deconvolution

3 window, 21 trace running design in Xline direction, 0.01% pw.
Operators 100ms + 24ms gap, 100ms + 24ms gap and 84ms + 40ms gap.
Design windows 50-700, 1100-2700ms, 2500-4400ms.
Application windows 0-500ms, 700-2500ms, 2700-5000ms.

## 15. Zero Phasing Filter

A filter was designed to convert the modelled far-field signature (including instrument, source and streamer depth phase response) plus low cut/anti-alias filter, resample application and dephase filter, to its zero phase equivalent. The polarity was reversed after the filter application to match the existing 2D data in the Client's Archive (approx. positive standard polarity for zero phase).

## 14. Q Compensation

Phase-only Q compensation was applied with the following parameters:-

Q value of 110
Amplitude threshold:15dB
Amplitude rolloff: 0B/oct
Reference frequency : 50Hz

## 15. Xline Summation

Adjacent summation of CDP traces in the subline direction resulting in a 25x25m bin spacing.

## 16. Time-variant Bandpass Filtering

The following bandpass filters were applied to the data:-

*Table 5 : Time-variant Bandpass Filters*

| TWT ms | Filter(Hz/dBperOct.) |
|---|---|
| 0-800 | 8/18 – 80/66 |
| 1200-1800 | 8/18 – 70/59 |
| 2000-2800 | 8/18 – 60/53 |
| 3000-3800 | 7/18 – 50/46 |
| 4000-5000 | 6/18 – 40/40 |

## 17. Residual Gain Recovery

The following final residual gain was applied to balance the data in time:-

*Table 6 : Final Residual Exponential gain*

| TWT ms | Gain dB |
|---|---|
| 100 | 0 |
| 4000 | +3dB |

## 18. Final Stack SEG-Y Output

Five final stack products were archived in SEG-Y format.
3D Final Stack (Full Offsets)
3D Final Stack (Near Angle)
3D Final Stack (Far Angle)
3D Final Difference Stack (Far minus Near)
2D Final Stacks (Full Offsets)

These products were sent to the Client. Listings for these shipments can be found in **Appendix 7.**

# 3. VELOCITY ANALYSIS

## 3.1 Velocity Passes

**First Pass Velocity Analysis** - 1km interval from the Reformat data, using 6th order nmo. For the 3D data the velocities were picked from 2D CMP gathers from selected prime sail-line sequences at an approximate 1km interval.

**Second pass Velocity Analysis** - 1km interval from the SRME data, with radon demultiple applied, using 6th order nmo. For the 3D data the velocities were picked from 2D CMP gathers from selected prime sail-line sequences at an approximate 1km interval.

**Third Pass Velocity Analysis** - 1km interval from the first pass radon demultiple data that was pre-stack migrated onto the velocity locations. For the 3D data, the velocities were picked from 3D migrated gathers on a regular 1km grid throughout the Survey.
A smoothed version of these velocities represented the **Final Migration Velocities** for the data (**2.3.1**) which were shipped to the Client.

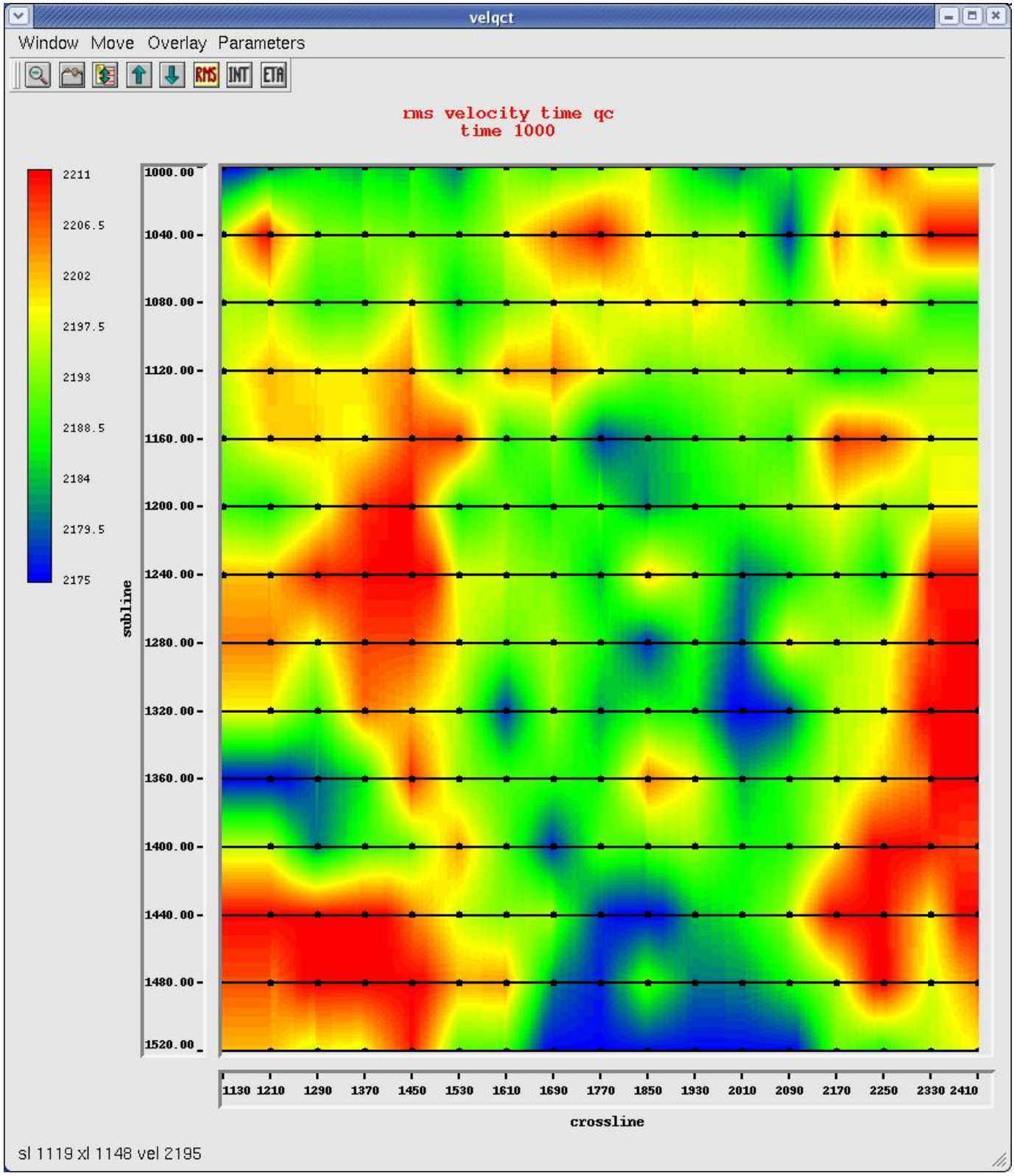
**Fourth Pass Velocity Analysis** - 0.5km interval from the PSTM gathers with radon demultiple applied, using 6th order nmo.
For the 3D, a smoothed version of these velocities was used to produce the angle mutes for the Near and Far Angle Stacks (**2.3.10**).

**Dense Velocity Analysis** – 50x50m interval from the PSTM gathers with radon demultiple applied, using 6th order nmo. The fourth pass velocities acted as a guide for autopicking the semblances. A 3% maximum deviation, from the guide function, was allowed in the autopicking.

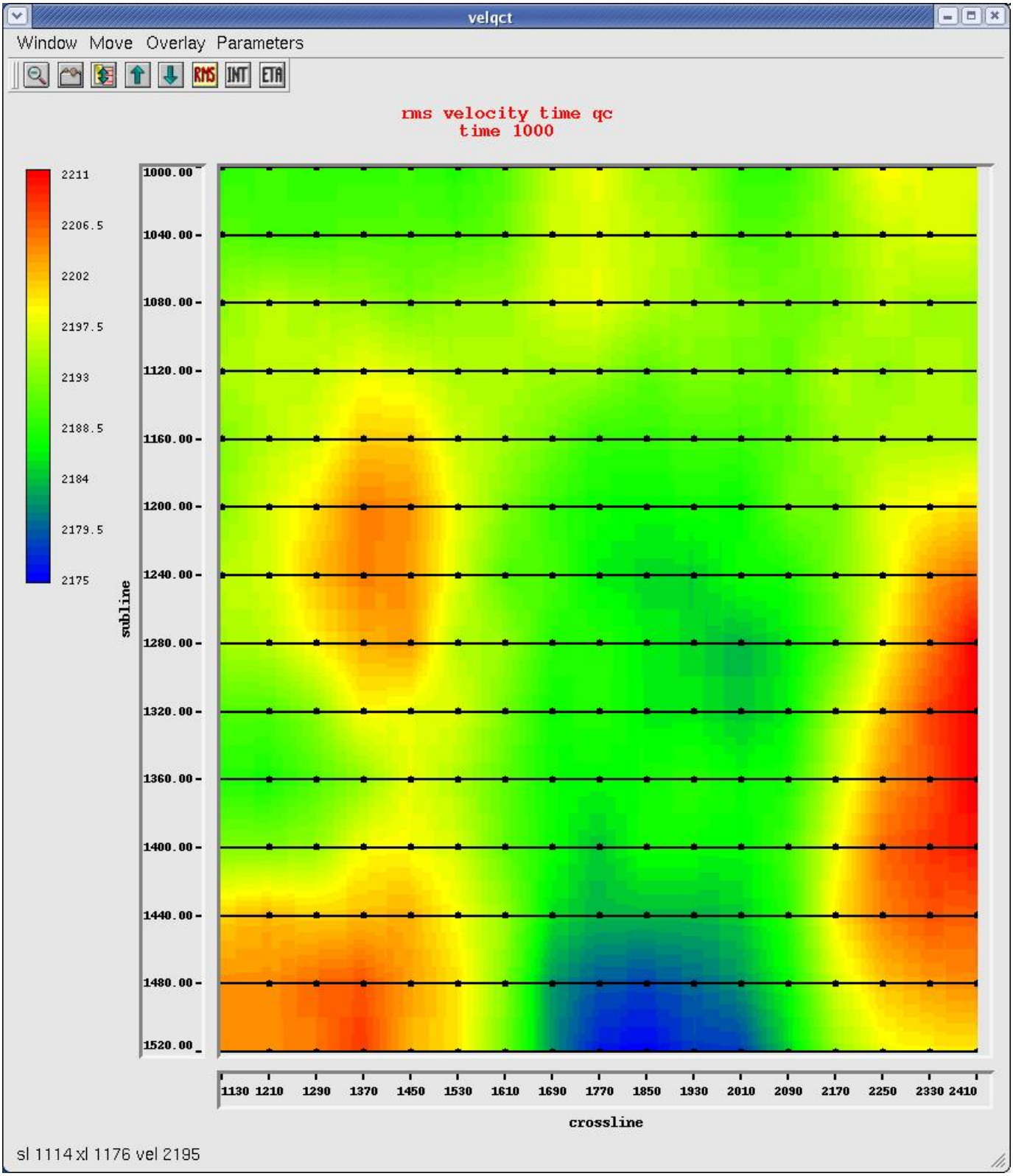
These velocities were smoothed as described in **2.3.4** before being used to stack the data and shipped to the Client as the **Final Stacking Velocities**.

All the velocity analyses above were performed using PGS's interactive velocity analysis package, 'tVat'. Iso-velocity displays, velocity time slices, NMO-corrected gathers and stacked sections were used to QC the velocity picks.

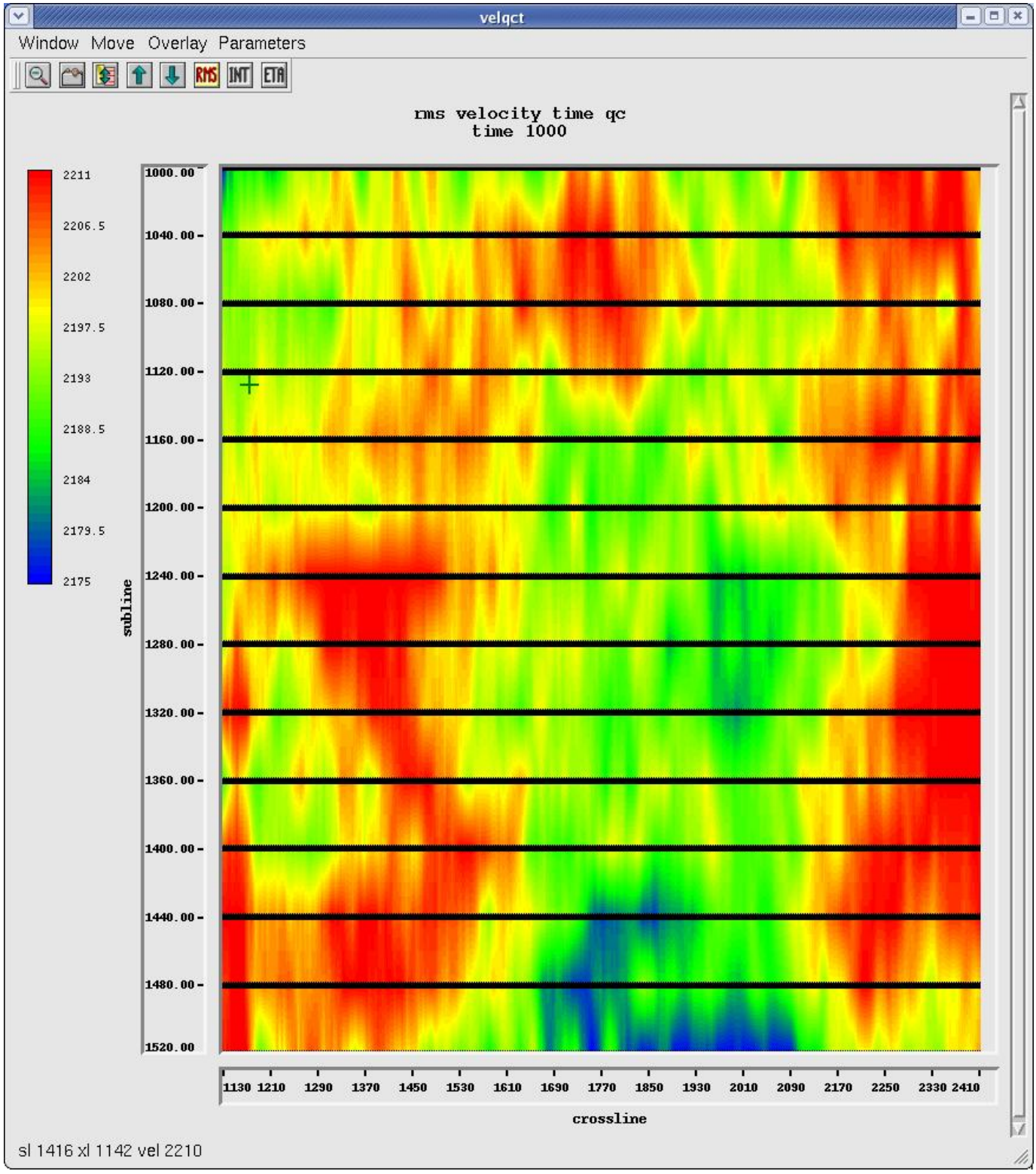
## 3.2 3D Velocity Timeslices



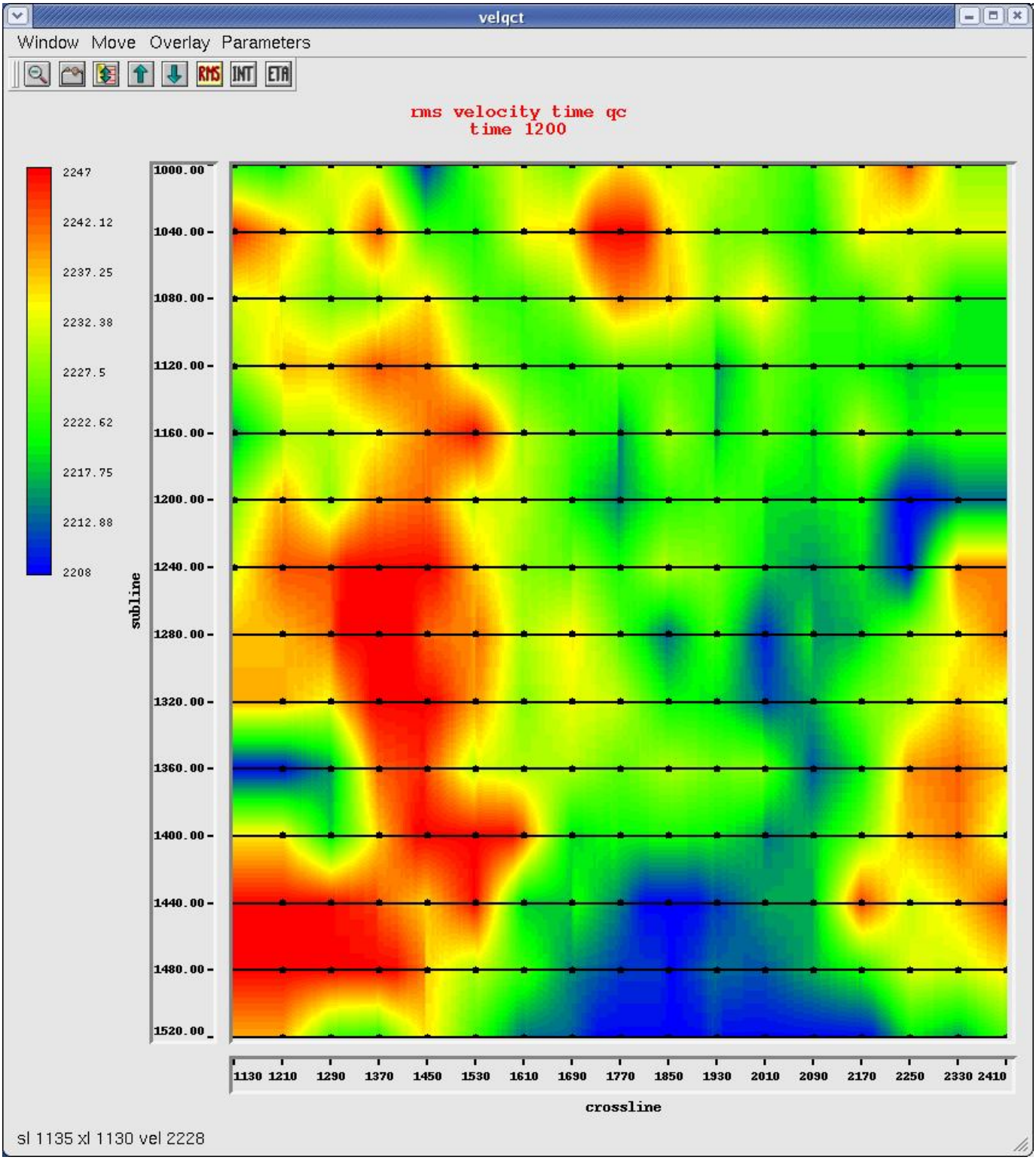

Third Pass Timeslice, 1000ms



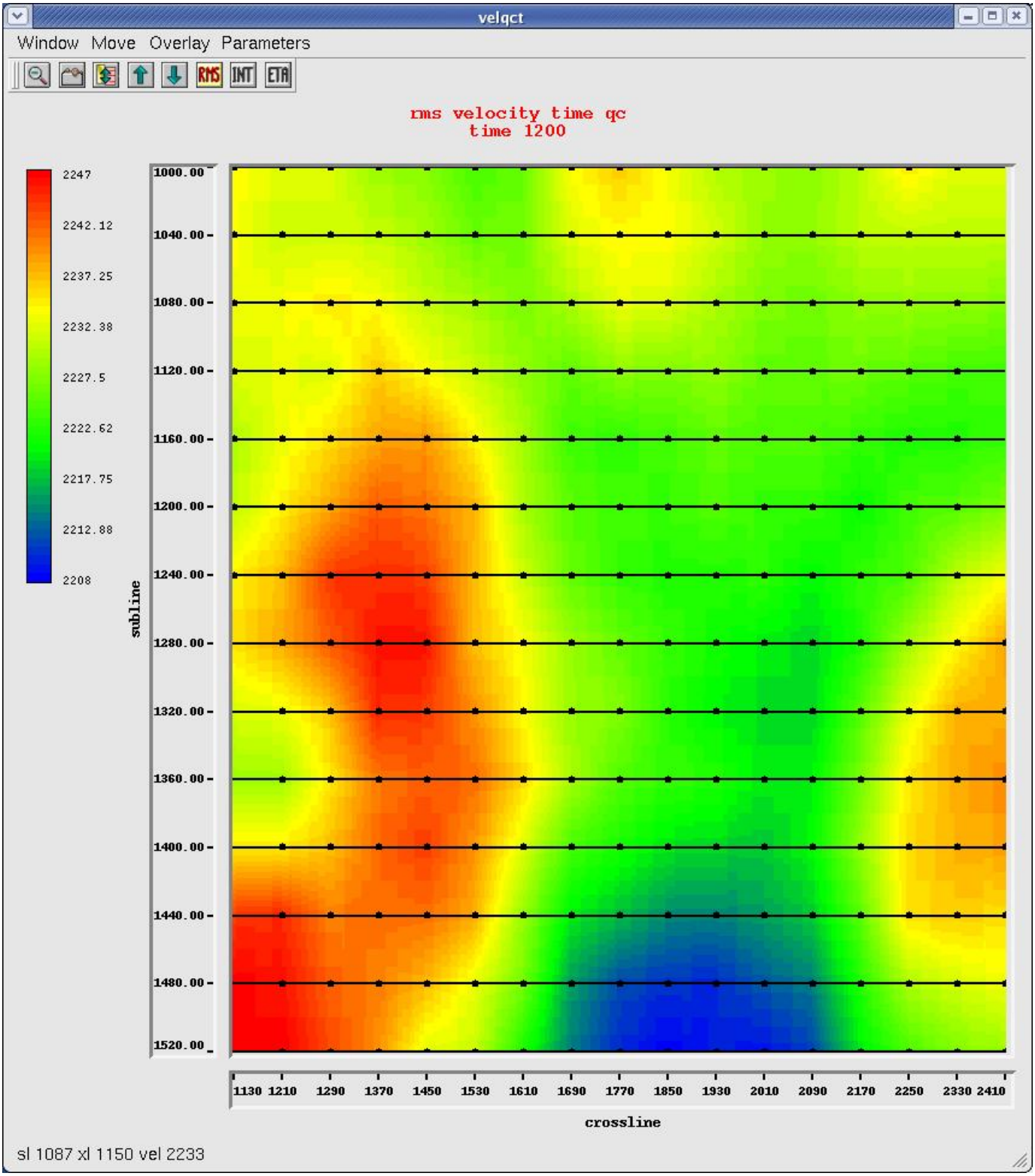

Third Pass Timeslice, 1000ms, smoothed for Migration



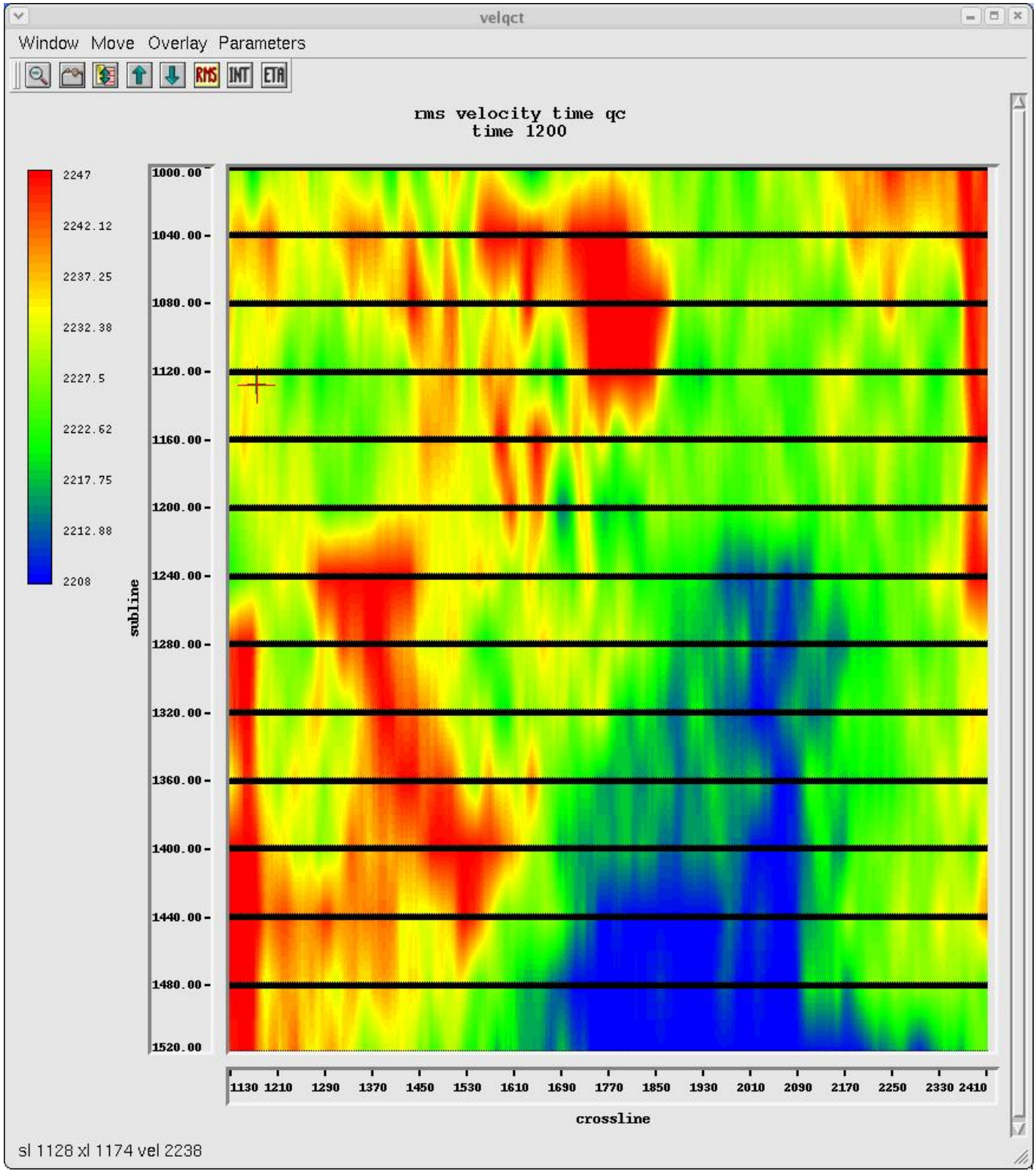

Dense Velocity Pass Timeslice, 1000ms, used for stacking



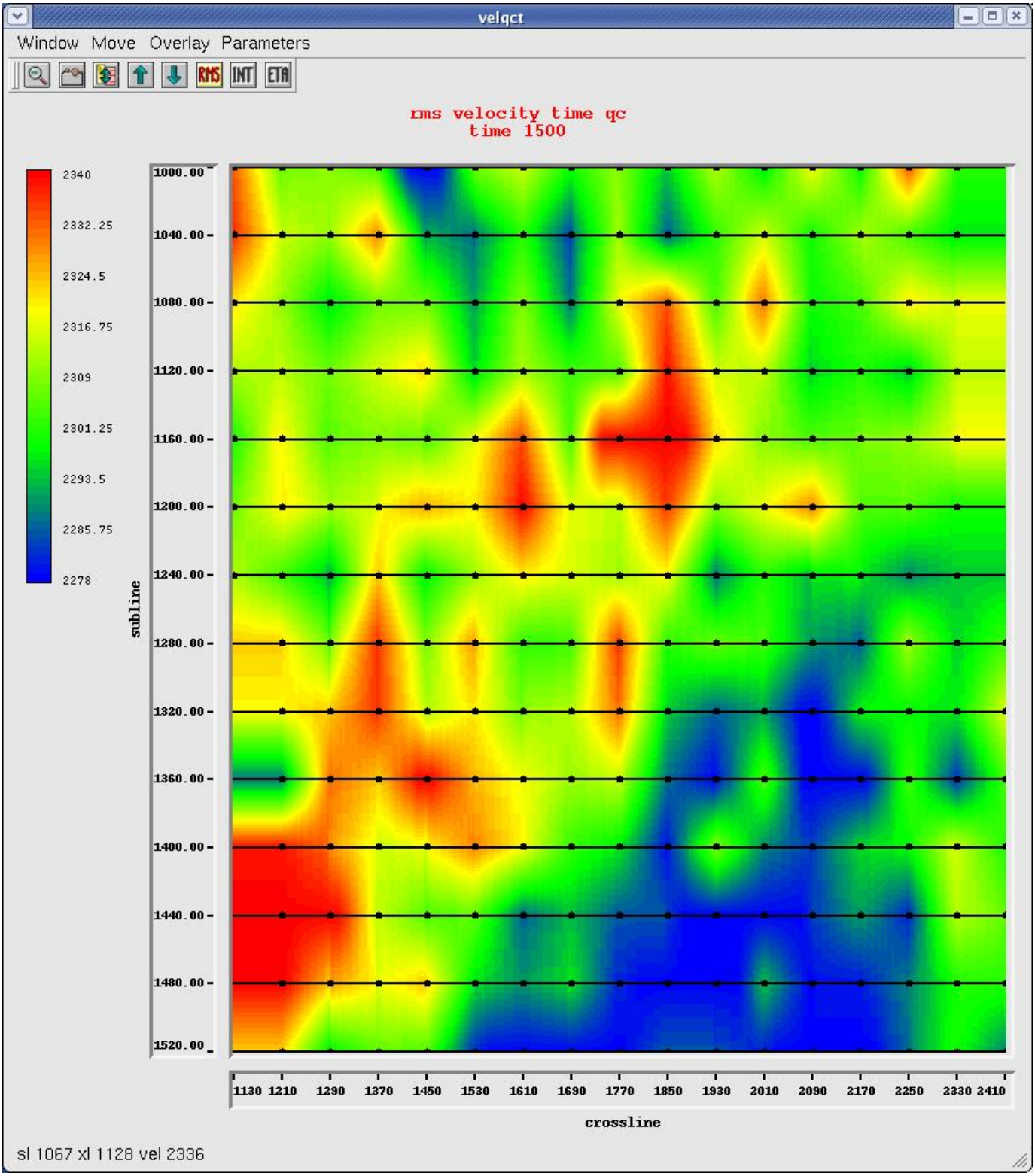

Third Pass Timeslice, 1200ms



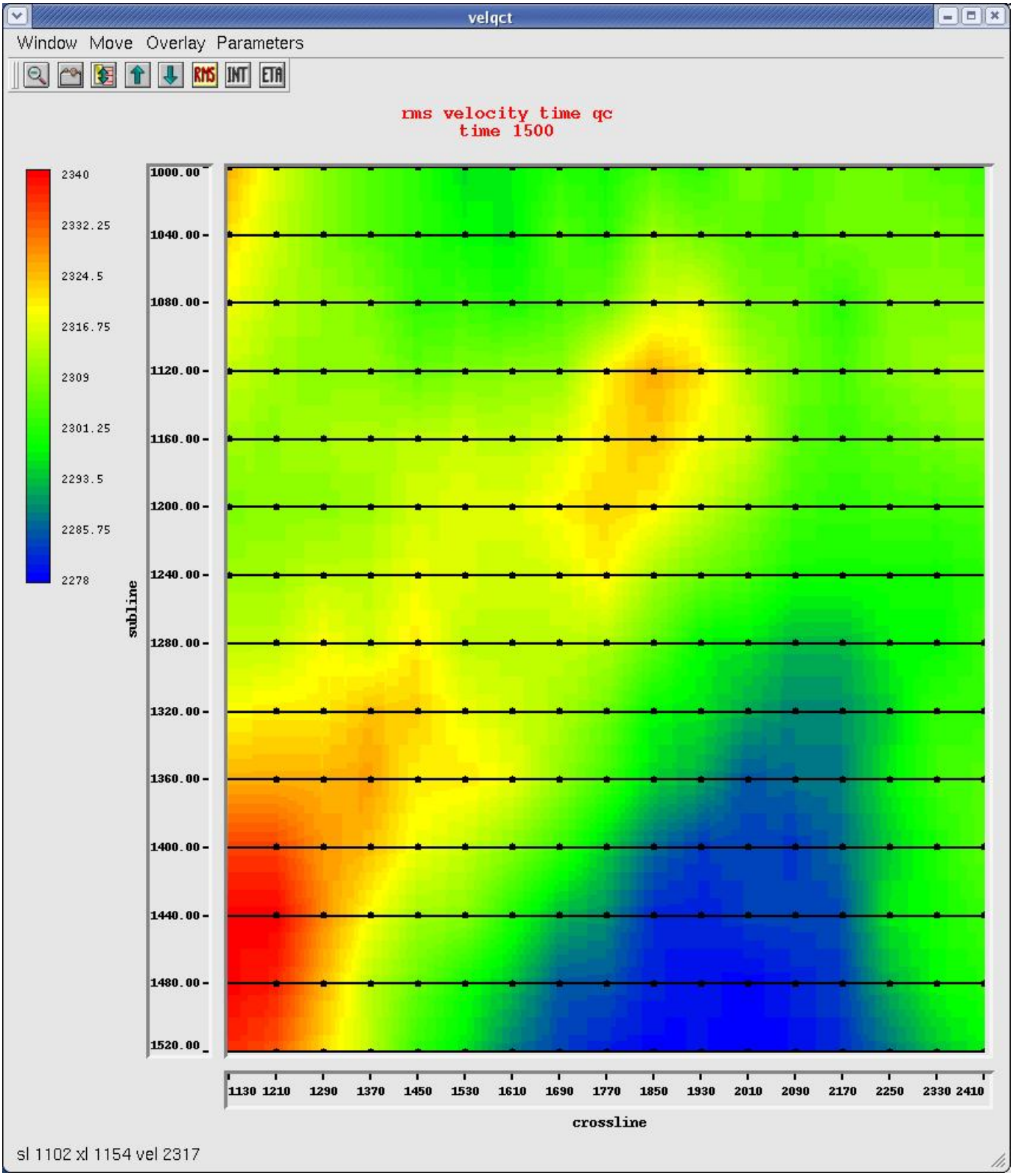

Third Pass Timeslice, 1200ms, smoothed for Migration



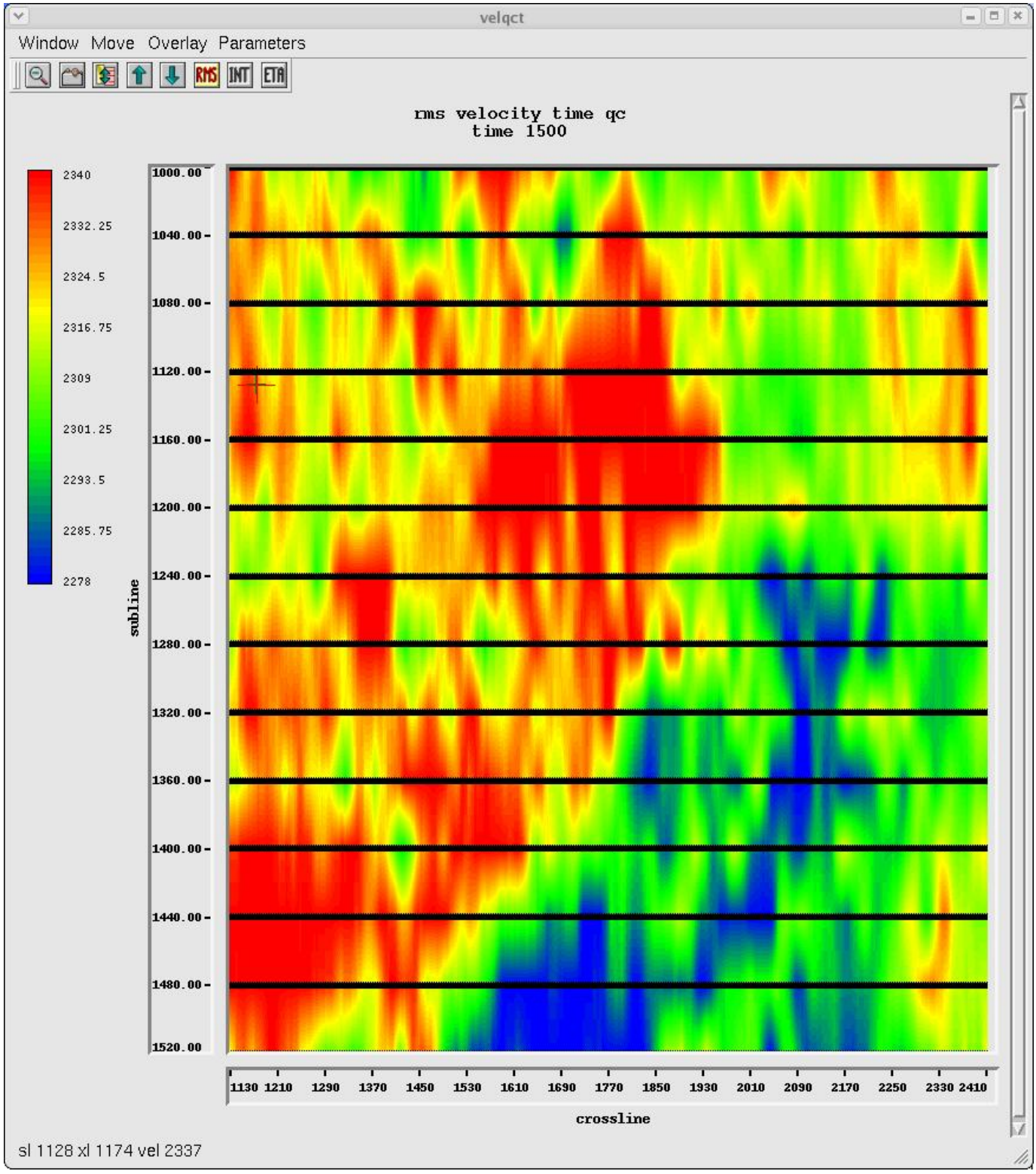

Dense Velocity Pass Timeslice, 1200ms, used for stacking




Third Pass Timeslice, 1500ms




Third Pass Timeslice, 1500ms, smoothed for Migration




Dense Velocity Pass Timeslice, 1500ms, used for stacking

# 4. PARAMETER TESTING

Tests results were reviewed interactively within **PGS**'s 2Dviewer program, often with the Benaris Client Representative, Mr. Ron Angove. Powerpoints, summarising the tests, were also sent to the same Client Representative in Melbourne.

The tests produced are summarised by the following Test Log and by linked Powerpoints:-

**Benaris T/39 P Testing Log**

**RESAMPLE TEST:-**

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 01t0_rf_1252060_nosrme-2msSTK.job | 2D stk 1252; from ref., NO SRME at 2ms SR | 29/11/2005 |
| 2 | 01t0_rf_1252060_nosrme-STK.job | 2D stk 1252; from ref., NO SRME at 4ms SR | 29/11/2005 |
| 3 | 01q0_rf_1252060_shot1403.job | Shot with wt; 2ms SR. | 1/12/2005 |
| 4 | 01q0_rf_1252060_shot1403_4ms.job | Shot with wt; 4ms SR. | 1/12/2005 |
| **General Comments: 1km vels picked on Test line from 1252060; mute picked from gathers; vvt + 9dB exp. gain 0-3sec applied.** | | | |
| **This was the basis for the stack comparisons for the SRME and Tau-P testing also.** | | | |
| | | | |
| **4ms SR; LC of 4Hz; SINK on 2 sequences only (24 and 25).** | | | |
| | | | |

**SRME TEST:-**

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 02t0_SRME_1252060_avgvel_1.job | Surface SRME with avg 1km vels. | 30/11/2005 |
| 2 | 02t0_ADSUB_1252060_avgvel_1.job | ADSUB of above with avg vels - Adsub using defs of 80/400/50. | 30/11/2005 |
| 3 | 02t0_ADSUBPRED_1252060_avgvel_1.job | Predicted Multiple from above. | 30/11/2005 |
| 4 | 02t0_DIFF_NOSRME_minus_ADSUBdef.job | Difference showing data removed from above. | 30/11/2005 |
| 5 | 02t0_SRME_1252060_primvel_1.job | Surface SRME with primary 1km vels vels. | 30/11/2005 |
| 6 | 02t0_ADSUB_1252060_avgvel_1.job | ADSUB of above with primary vels - Adsub using defs of 80/400/50. | 30/11/2005 |
| 7 | 02t0_ADSUB_1252060_avgvel_200_30.job | ADSUB of above with avg vels - Adsub using params of 80/200/30. | 30/11/2005 |
| 8 | 02t0_ADSUB_1252060_avgvel_200_15.job | ADSUB of above with avg vels - Adsub using params of 80/200/15. | 30/11/2005 |
| 9 | 02t0_DIFF_NOSRME_minus_ADSUB200_30.job | Difference showing data removed from 80/200/30 above. | 30/11/2005 |
| 10 | 02t0_DIFF_NOSRME_minus_ADSUB200_15.job | Difference showing data removed from 80/200/15 above. | 30/11/2005 |
| 11 | 02t0_ADSUB_1252060_avgvel_200_50.job | ADSUB of above with avg vels - Adsub using params of 80/200/50. | 30/11/2005 |
| 12 | 02t0_DIFF_NOSRME_minus_ADSUB200_50.job | Difference showing data removed from 80/200/50 above. | 30/11/2005 |
| 13 | 02t0_ADSUB_1252060_avgvel_400_70.job | Trying a milder version of adsub than orig. - others look too severe. | 30/11/2005 |
| 14 | 02t0_DIFF_NOSRME_minus_ADSUB400_70.job | Difference showing data removed from 80/400/70 above. | 30/11/2005 |
| 15 | 02t0_ADSUB_1252060_avgvel_400_100.job | Trying an even milder version of adsub than others. | 1/12/2005 |
| 16 | 02t0_DIFF_NOSRME_minus_ADSUB400_100.job | Difference showing data removed from 80/400/100 above. | 1/12/2005 |
| 17 | 02t0_pre-SRME_shot1402.job | Shot from centre of line PRE-SRME. | 1/12/2005 |
| 18 | 02t0_ADSUB_400_70_shot1402.job | Shot from centre of line POST-SRME (adsub 80/400/70). | 1/12/2005 |
| 19 | 02t0_SRMEPRED_400_70_shot1402.job | Shot from centre of line - Predicted multiples. | 1/12/2005 |
| **General Comments: No diff. between avg/prim. Vels; avg used for other tests. Preference is 80/400/70 version.** | | | |
| | **Will look at Tau-P DBS and combination of this with SRME. Ppt 01_SR_SRME sent to RA(1/12/05) incl. SR comps.** | | |
| | **(shots and stacks) and NOSRME stk plus 80/400/70 and 80/200/30 versions of SRME.** | | |
| | | | |
| | | | |
| | | | |

## TAU-P DBS/SRME TEST

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 03t0_TPDBS_1252060_32_208.job | STK - TP DBS(32/208) - without SRME | 2/12/2005 |
| 2 | 03t0_TPDBS_1252060_32_208_shot1402.job | Shot Gaths - pre/post DBS in both TX and Tau-P - without SRME | 2/12/2005 |
| 3 | 04t0_SRME40070TPDBS_1252060_32_208.job | STK - SRME(400/70) + TP DBS(32/208) | 2/12/2005 |
| 4 | 04t0_TPDBS32208_1252060_SRME40070.job | STK - TP DBS(32/208) + SRME(400/70) - WB muted from SRME | 2/12/2005 |
| 5 | 05t0_TPDBS_1252060_32_208_muteTP.job | STK - TP DBS(32/208) - without SRME - followed by mute in TP domain | 4/12/2005 |
| 6 | 05t0_TPDBS_1252060_32_208_adjtrSUM.job | STK - TP DBS(32/208) - without SRME - followed by TR SUM to 25m group | 4/12/2005 |
| | | | |
| 7 | 07t0_TPDBS_1252060_32_208_newvel_STK.job | STK - TP DBS Stack repeated with Newvels (picked from TPDBS vel) | 5/12/2005 |
| 8 | 07t0_TPDBSSRME_1252060_32_208_newvel_STK.job | STK - TP DBS+SRME Stk repeated with Newvels (picked from TPDBS vel) | 5/12/2005 |
| 9 | 07t0_SRMETPDBS_1252060_32_208_newvel_STK.job | STK - SRME+TP DBS Stk repeated with Newvels (picked from TPDBS vel) | 5/12/2005 |
| 10 | 08t0_TPDBS32208_1252060_ISRME_STK.job | STK - Iterative SRME using Adsub param 400/70 - 1 extra iteration | 12/07/2005 |
| 11 | 08t0_TPDBS32208_1252060_ISRME_AD30_STK.job | STK - Iterative SRME using Adsub param 400/30 - 1 extra iteration- no better | 12/07/2005 |
| 12 | 08t0_TPDBS32208_1252060_IME_STK.job | STK -Interbed ME (IME) using Adsub param 400/70 - applied on TPDBS+SRME | 12/07/2005 |
| | | | |
| | | | |
| **General Comments: From Shot gathers- TP DBS only gives cleaner result than SRME on it's own.** | | | |
| **7-8 requested by Client- NMO'd CDP's also output for each to help with the +/- SRME decision- alot of multiple left below 2sec in the** | | | |
| **TP velocity analysis without SRME (3 sets of vels produced- no TP/SRME, TP only and TP+SRME)-easier to be positive about mult. Content** | | | |
| **than stacks. CDPS examined for 7-9. CDP's also produced on 10 and 12.** | | | |
| | | | |
| **Tau-P approved with muting within the Tau-P domain; SRME approved after the TP DBS; so far the one pass of SRME preferred(final decision);** | | | |
| | | | |
| **Powerpoints sent to RA - 01-SR_SRME.ppt, 02_SRME.ppt and 03_SRME.ppt., 03a_SRME.ppt.** | | | |

## REVIEW OF ANGLES ON 2D CDP GATHERS

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 10t0_PRODTPDBS_1252060_CDP_angle_plot.job | 30,35,40 and 45deg angles overlain on gathers - data out to 40deg | 12/08/2005 |
| 2 | 10t0_TPDBSSRME_1252060_CDP_angle.job | 30,35,40 and 45deg angles overlain on gathers - data out to 40deg | 12/08/2005 |
| 3 | 10t0_TPDBSSRME_1252060_CDP_angle_plot.job | 30,35,40 and 45deg angles overlain on gathers - data out to 40deg | 12/08/2005 |
| | | | |
| **General Comments:** | | | |
| **Angle decisions will be made later.** | | | |
| | | | |
| | | | |
| | | | |

## VEL2 ANALYSIS TESTING + RADON DEMULT. TESTS

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | Corridor, squelch, semb v ncoh, Rademul(60,100,150) | Vel Anal's reviewed for Vel2. Results sent to RA in 4_VEL2.ppt. | 19/12/2005 |
| 2 | 13t0_RAD_1252060_RAD10060_NORADSTK.job | TPDBS+SRME STK - No Radon Demultiple+ gaths at Vel locns | 21/12/2005 |
| 3 | 13t0_RAD_1252060_RAD10060_NOINTSTK.job | STK - Radon Demultiple(as Vel2)+ gaths at Vel locns- No pre-interp | 21/12/2005 |
| 4 | 13t0_RAD_1252060_RAD10060_INTSTK.job | As above but 1:2 pre-interp in 2DCDP's. | 21/12/2005 |
| 5 | 13t0_RAD_1252060_RAD10060adj_INTSTK.job | Appl switched from 100/1500, 60/2000 to 100/1000, 60/1500 - harsher. | 21/12/2005 |
| 6 | | Tested to see if could be more severe in zone of interest. | |
| 7 | | | |
| **General Comments:** | | | |
| **Powerpoints sent to RA - 4_VEL2.ppt(Coh+Gaths, +/- Rademul) - Rademul analyses approved for Vel2 Prod.** | | | |
| **New vels picked on Test Line (191205), trend slightly higher below 1300ms- reasonable tie to 5 supplied Wells.** | | | |
| **CDP's analysed in TP space +/- Rademul.** | | | |
| | | | |
| | | | |
| | | | |

Powerpoints relevant to Tests and Quality Control hyperlinked:-

01_SR_SRME.ppt, 02_SRME.ppt, 03_SRME.ppt, 03a_SRME.ppt, 04_VEL2.ppt.

## RADON DEMULT. TESTS(cont)

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 13t0_RAD_1252060_RAD130220_INT2STK.job | STK+CDP's - Cuts 1500/220, 2000/130. 1:2 interp. Win. -500 - 2500ms. 300 P trs | 22/12/05 |
| 2 | 13t0_RAD_1252060_RAD130220_NOINTSTK.job | STK+CDP's - Cuts 1500/220, 2000/130.**NO interp**. Win. -500 - 2500ms. 300 P trs | 22/12/05 |
| 3 | 13t0_RAD_1252060_RAD130220_NOINTSTK2.job | STK+CDP's - Cuts 1500/220, 2000/130.NO interp. Win. -500 - **3000**ms. 350 P trs | 22/12/05 |
| 4 | 13t0_RAD_1252060_RAD130220_NOINTSTK3.job | STK+CDP's - Cuts 1500/220, 2000/130.NO interp. Win. -500 - **4360**ms. 251 P trs | 22/12/05 |
| 5 | 13t0_RAD_1252060_RAD130220_NOINTSTK4.job | STK+CDP's - Cuts 1500/220, 2000/130.NO interp. Win. -500 - 4360ms. **301** P trs | 22/12/05 |
| 6 | 13t0_RAD_1252060_RAD130220_NOINTSTK5.job | STK+CDP's - Cuts 1500/220, 2000/130.NO interp. Win. -500 - 4360ms. **351** P trs | 22/12/05 |
| 7 | 13t0_RAD_1252060_RAD130220_NOINTSTK6.job | STK+CDP's - Cuts 1500/220, 2000/130.NO interp. Win. -500 - **3500**ms. 251 P trs | 22/12/05 |
| 8 | 13t0_RAD_1252060_RAD130220_NOINTSTK7.job | STK+CDP's - Cuts 1500/220, 2000/130.NO interp. Win. -500 - 4360ms. **480** P trs | 22/12/05 |
| 9 | 13t0_RAD_1252060_RAD130220_NOINTSTK9.job | STK+CDP's - Cuts **1500/180, 2000/80**.NO interp. Win. -500 - 4360ms. 301 P trs | 22/12/05 |
| 10 | 13t0_RAD_1252060_RAD130220_NOINTSTK10.job | STK+CDP's - Cuts **1500/150, 2000/80**.NO interp. Win. -500 - 4360ms. 301 P trs | 22/12/05 |
| 11 | 13t0_RAD_1252060_RAD130220_NOINTSTK11.job | STK+CDP's - Cuts **1500/130, 2000/80**.NO interp. Win. -500 - 4360ms. 301 P trs | 22/12/05 |
| 12 | 13t0_RAD_1252060_RAD130220_NOINTSTK12.job | STK+CDP's - Cuts **1500/110,** 2000/80.NO interp. Win. -500 - 4360ms. 301 P trs | 23/12/05 |
| 13 | 13t0_RAD_1252060_RAD130220_NOINTSTK13.job | STK+CDP's - Cuts **1500/100,** 2000/80.NO interp. Win. -500 - 4360ms. 301 P trs | 23/12/05 |
| 14 | 16t0_NORAD_1252060_newotm.job | **Final Review of above using approved Vel2 vels and wider OTM -** | |
| 15 | 16t0_RAD220_1252060_newotm.job | | |
| 16 | 16t0_RAD130_1252060_newotm.job | | |
| 17 | 16t0_NORAD_2D_2001082_STK.job | | |
| 18 | 16t0_RAD220_2D_2001082_STK.job | | |
| 19 | 16t0_RAD130_2D_2001082_STK.job | | |
| 20 | 16t0_NORAD_2D_2022102_STK.job | | |
| 21 | 16t0_RAD220_2D_2001082_STK.job | | |
| 22 | 16t0_RAD130_2D_2001082_STK.job | | |

**General Comments:**

All test keyed to far offset 4430m. The 220/130 are the orig cuts of 100/60 converted to the offset 4430m. Preferred without Interp.
Interp. just seems to introduce more noise. Item 3, with win to 4360ms, matches with orig 3000m reference. Extending the win this much deals with all the longer moveout (even 3500ms didn't). Even extending P trs to 480 made very little difference (301 chosen).
Items 9,10,11,12,13 - tried harsher cuts - Item 11 preferred.
Powerpoint 05_Demult.ppt, comp. gaths/stks +/- 'Item 11 Demult', prepared and sent to RA.
Will use LA Vel2's on 1252 and 2D 2001 to have a closer look at Demult on gaths/stks - poss. review with 2D PSTM- comp. to Item 4 as less severe option.
Only very slight differences on PSTM Stks of 1252/2001 comparing Rademul applied pre-PSTM with the same Rademul applied post-PSTM.
However the PSTM gathers were cleaner on the mid and far offsets when the Rademul was applied pre-PSTM.

After review of former tests with the Client, items 14-22 were produced, from which Powerpoint 06_Demult.ppt was produced and sent to RA.
The recommendation, which was accepted by the Client, was to apply the milder 'dT = 220' rademul, pre-PSTM, and to ramp it on between 750-850ms to protect the shallower data.

## PRE-PROCESSING SHOT COMPARISONS

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| | | | 16/01/06 |

**General Comments:**

The Powerpoint 07_Shotcomp.ppt was produced to compare a shot from each of the test lines, 1252060, 2001082 and 2022102, through Reformat, TP DBS, SRME and Radon Demultiple.

## CHANNEL SUMMATION CONFIRMATION TEST

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 17t0_chansum_2dstk_1252060.job | Stk comparison with RAD1 stk + shots before and after SUM. | 18/01/06 |

**General Comments:**

No depreciation of resolution; more continuous shallow events in shot domain due to attenuation of some x-cutting noise - include in Sequence.

Powerpoints relevant to Tests and Quality Control hyperlinked:-

05_Demult.ppt, 06R_Demult.ppt, 07_Shotcomp.ppt.

The Powerpoint 06R_Demult.ppt was a replacement for the original 06.. referred to in the Test Log. This was produced when a geometry error was discovered, and corrected for, in the 2D stack data.

The 07_Shotcomp.ppt shows the amount of noise in the original reformat shot data and the gradual reduction of this noise through the processes upto the first pass of radon demultiple.

## PSTM Testing

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 18t0_PSTM1240_60_vel3_accum_STK.job | SL1240 - 60 deg apert. to 2500ms with a 3000m half apert. limit below(comp. to Vel3) | 24/01/06 |
| 2 | 18t0_PSTM1240_lapert_vel3_accum_STK.job | SL1240 - Above apert. increased below 500ms to upper limit of 3500m. | 24/01/06 |
| | | | |
| | | | |
| General Comments: | | | |
| 60 deg apert. was perfectly adequate down to 2500ms, but there was some improvement to the Basement with the wider apert below (3500m at 3000ms). | | | |
| This combination was used for Production. | | | |
| | | | |

## Sprint (offset interp.) Testing (Plus general QC of PSTM input)

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| | 19t..... jobs | | 25/01/06 |
| General Comments: | | | |
| Offsets 121(nearest), 196, 646, 1921 and 3496m were examined in timeslices and for two xlines with coverage gaps (1160, 1440) during Sprint testing. | | | |
| Offset 121 contained 6-trace gaps while 3496 contained 5-trace gaps. The remainder contained no more than 2-trace gaps. The timeslices looked good allowing all gaps to be filled by the interpolation. However, on closer inspection of the deeper data on zoomed vertical sections it was obvious that some of the larger gaps contained some unacceptable interpolation. Thus a decision was made to restrict the interpolation to a maximum of three traces. This still filled all gaps on the near and mid offsets, the exception being offset 121 which had gaps throughout and would probably be omitted prior to stack. The remainder was two narrow 5-trace gaps on the edge of the far offsets. Fold maps were produced pre and post Sprint to confirm the improvement to the coverage. Stacks were produced with/without for xlines 1160 and 1440.<br><br>These two xlines were examined, for all of these offsets, from the prepared input to the PSTM after the Sprint, top/bottom muting and a 'despike' ensemble balance applied in the xline direction, to ensure the data looked good for the migration. | | | |
| | | | |

## POST-PSTM 2nd PASS RADON DEMULTIPLE TESTS (using approved Vel4 velocities, 3D lines 1172/1252, 2D lines 2022,2024).

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 22t0_1172_1252_NORAD2.job | Gaths+Stacks- NO RAD. applied. | 2/10/2006 |
| 2 | 22t0_1172_1252_RAD2_130origwin.job | Gaths+Stacks- selected RAD1 parameters but with **dT of 130ms; applied from 0ms.** | 2/10/2006 |
| 3 | 22t0_1172_1252_RAD2_1303000win.job | As above but with window changed from -500-4360 to **-500-3000ms**. | 2/10/2006 |
| 4 | 22t0_1172_1252_RAD2_130origwin_10Hz.job | As 2 but with apply frequency restricted to **10-100Hz**. | 2/11/2006 |
| 5 | 22t0_1172_1252_RAD2_130win6000_10Hz.job | 4360ms window extended to **6000ms**. | 2/11/2006 |
| 6 | 22t0_1172_1252_RAD2_80origwin_10Hz.job | **Dt 80ms.** | 13/2/2006 |
| 7 | 22t0_1172_1252_RAD2_170origwin_10Hz.job | **Dt 170ms.** | 13/2/2006 |
| 8 | 22t0_2022_NORAD2.job | **No RAD.** | 13/2/2006 |
| 9 | 22t0_2022_RAD130origwin10hz.job | **Dt 130ms.** | 13/2/2006 |
| 10 | 22t0_2022_RAD80origwin10hz.job | **Dt 80ms.** | 13/2/2006 |
| 11 | 22t0_2022_RAD170origwin10hz.job | **Dt 170ms.** | 13/2/2006 |
| 12 | 22t0_2022_RAD130origwinnointerp.job | Dt 130 with **no pre-Rademul interpolation.** | 13/2/2006 |
| 13 | 22t0_2024_RAD130origwin10hz.job | **Dt 130ms.** | 13/2/2006 |
| 14 | 22t0_2024_RAD170origwin10hz.job | **Dt 170ms.** | 13/2/2006 |
| 15 | 22t0_2024_RAD80origwin10hz.job | **Dt 80ms.** | 13/2/2006 |
| 16 | 22t0_2024_RAD130win600010hz.job | 4360ms window extended to **6000ms**. | 13/2/2006 |
| General Comments: | | | |
| 4360ms window preferred to shorter or longer window. Restrict freq for apply to 10-100Hz preferred. Dt of 130 ms preferred. Better with CDP interp. | | | |
| Approved - Does a slight amount on stacks but good job on gaths. Ramp 800-1000ms. | | | |
| | | | |

Powerpoints relevant to Tests and Quality Control hyperlinked:-

08_VEL2_3DPSTMQC.ppt, 09_VEL3_slices.ppt, 10_3DPSTMQC_slices.ppt, 11_3DPSTMQC_stks.ppt, 12_VEL4_slices.ppt, 13_2DPSTMQC_stks.ppt.

## Inner-Trace Mute

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 24t0_1252_RAD130_NOITM_prelOTM.job | 1252, **NO ITM**, using prelim OTM. | 14/2/2006 |
| 2 | 24t0_1252_RAD130_no121ITM496_prelOTM.job | 1252, **removing offset 121m complete + 5 others upto and incl. 496m from 600ms.** | 14/2/2006 |
| 3 | 24t0_1252_RAD130_no121ITM271_prelOTM.job | 1252, **removing offset 121m complete + 2 others upto and incl. 271m from 600ms.** | 14/2/2006 |
| 4 | 24t0_1252_RAD130_no121NOITM_prelOTM.job | 1252, **removing offset 121m complete only.** | 14/2/2006 |
| | | | |
| | | | |
| | | | |
| **General Comments:** | | | |
| **3d - took out 121 from 0ms. Plus second/third offsets from about 800ms. Ramped 600-800ms.** | | | |
| **2D - will be confirmed - no need to remove 121m completely in 2D.** | | | |

## Outer-Trace Mute

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 24t0_1252_RAD130_FINITM_prelOTM.job | Selected ITM + **prelim OTM.** | 15/2/2006 |
| 2 | 24t0_1252_RAD130_FINITM_tightOTM.job | Selected ITM + tighter **OTM.** | 15/2/2006 |
| 3 | 24t0_1252_RAD130_FINITM_wideOTM.job | Selected ITM + wider **OTM.** | 15/2/2006 |
| 4 | 24t0_2024_RAD130_NOITM_PRELOTM.job | 2024, **no ITM, prel OTM.** | 15/2/2006 |
| 5 | 24t0_2024_RAD130_FINITM_FINOTM.job | 2024, with **selected ITM and OTM.** | 15/2/2006 |
| | | | |
| | | | |
| **General Comments:** | | | |
| **Prelim/wider/tighter - chose tighter with Prelim in the very shallow. All mutes were reasonable, picked off vel. Analysis gathers.** | | | |
| | | | |

## Dense Velocities

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| | | | 16/2/2006 |
| **General Comments:** | | | |
| **Compared sublines/xlines and gathers. Dense did a consistently good job in shallow; very little in zone of interest. Gaths occasionnally convincing.** | | | |
| **Checked unsmoothed v smoothed - needed 200m smoothing, otherwise jittery on events. Approved for use.** | | | |

## Trim Statics

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| | | | 17/2/2006 |
| **General Comments:** | | | |
| **Reviewed on gathers with/without statics. Good on isolated events but in zone of interest, where mult still existed - produced jumps (unstable).** | | | |
| **Tried various static limits from 12 to 28ms. Generally 12 not enough but larger values unstable.** | | | |

## Angle Gathers

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 27t0_1252_gathmute_5-10.job.....5-45.job | **3 gathers for 8 different angle ranges.** | 17/2/2006 |
| **General Comments:** | | | |
| **Prod angle gaths 5-10, 5-15.... 5-45 on three gathers in zone of interest on 1252 - sent to RA - 14_3DPSTM_anggaths.ppt.** | | | |
| **The Powerpoint was reproduced at different locations, away from the volcanics - 14a_3DPSTM_anggaths_revised.ppt.** | | | |

Powerpoints relevant to Tests and Quality Control hyperlinked:-

12a_VEL4_dense_slices.ppt, 14_3DPSTM_anggaths.ppt, 14a_3DPSTM_anggaths.ppt, 19_RAW_ANGSTK.ppt, 15_Post-vel4comp_stks.ppt.

'14a' is a revision of '14' – Client requested example gathers away from the volcanics.

.

## POST-STK TESTING

### Residual Gain

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | | | 17/2/2006 |
| General Comments: | | | |
| 0/0, 1500/0, 3000/6 (ms/dB) - Good for both 2D and 3D. | | Tested on a variety of 3D and 2D lines. | |

### Zero Phasing Filter

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 25t0_1252_RAD130_FINITMOTM_dense.job | Final Raw Stack. | 17/2/2006 |
| 2 | 25t0_1252_RAD130_dense_ZP.job | Final Raw Stack - plus zero phasing filter, designed from Far Field. | 17/2/2006 |
| General Comments: | | | |
| 1252 +/- filter- sent to RA (PPT) - commented that the data had to be reversed in polarity to match previous 2D (see Qcomp. below). | | | |

### Ensemble Balance (in Xline direction)

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 28t0_3D_rawstk_xl.job | Xlines without Ensemble Balance. | 27/2/2006 |
| 2 | 28t0_3D_rawstk_xl_EB7.job | Xlines with Ensemble Balance. | 27/2/2006 |
| General Comments: | | | |
| A 7tr, 120ms window, ensemble balance was applied in the xline direction to deal with the 'acquisition footprint' between sail-lines. | | | |
| The balance was set up to raise anomalously weak amplitudes on the sail-line edges rather than adjust higher amplitudes or those of a general level. | | | |
| The balance was affective, not only in the shallow, but also in healing seams in the area of interest that were hardly noticeable beforehand. | | | |
| This process was included into the sequence. | | | |

### Q Compensation (Amp/Phase)

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 30t0_3D_rawstk_xl1933_EB7_qcomp.... | Input was xline 1933 with EB and the zero-phasing applied. | 28/2/2006 |
| General Comments: | | | |
| Testing of Q compensation (both amp+phase and phase only). Tested q values of 110 and 160. | | | |
| The Q comp. (phase only) was affective in improving the resolution but the amplitude part was too severe and introduced ringing and reduced the character of the events. The Q comp. (phase only) was included in the sequence, using a q=110, but the amplitude part was omitted. | | | |
| Powerpoint 16_ZP_Q_comp.ppt was sent to the Client. This included the ZP+polarity reversal (SEG positive for zero phase) which was accepted by the Client and the Q comp. comparisons discussed above of which the phase only was preferred. | | | |

### FXY Deconvolution

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 31t0_3Dxline_FXY137.job | FXY decon. designed on a 13x7 trace window. | 28/2/2006 |
| 2 | 31t0_3Dxline_FXY2111.job | FXY decon. designed on a 21x11 trace window. | 28/2/2006 |
| General Comments: | | | |
| Reviewed on xline 1933. Some success in attenuating weak noise in the first 500ms but no difference below this. Not included. | | | |

### Trace Mixing

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 32t0_3D_TRMIX3.job | Xline 1933; 3 trace mix with 1:2:1 weights. | 28/02/2006 |
| General Comments: | | | |
| No benefit - smearing of some detail. | | | |

Powerpoints relevant to Tests and Quality Control hyperlinked:-

16_ZP_Q_comp.ppt, .

## Post-stack Deconvolution

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 33t.... and 34t.... | Xline 1933. | 2/03/2006 |
| General Comments: | | | |
| Tested 1, 7, 15 and 21 trace designs. Tested 2 versus 3 window designs, plus the relative positions of the windows, particularly the first and second in the 3 window design. Gaps of 24, 28, 32, 40 and 48ms reviewed. Total operator lengths of 240 and 124ms reviewed. | | | |
| 3-window, with 21tr design preferred. Gap+operators of 24+100, 24+100, 40+84ms. Following windows for design and application- 50-700, 1100-2700, 2500-4400 for design; 0-500, 700-2500, 2700-5000 for the respective applications. This preferred DAS presented to Client in 17_DAS.ppt Accepted by Client and inserted into sequence. | | | |

## Interpolation/Summation Test

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 35t0_3D_INTERP_x1933.job | Xline 1933 interpolated to 12.5m interval and compared to 25m equivalent. | 2/03/2006 |
| 2 | 35t0_3D_SUM_s1252.job | Subline 1252, with trace summation to 25m, compared to decimated section at 25m. | 2/03/2006 |
| General Comments: | | | |
| Note that the Xline direction is the nominal dip direction. 18_BIN_SIZE.ppt sent to Client for consideration. | | | |
| No benefit , in the Final output, in converting to a 12.5x12.5m interval or retaining the 12.5m. Client agreed to an xline summation to a 25x25m Final output. | | | |
| | | | |
| | | | |

## TVF

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | 36t0_3D-TVF_0-6.job | Xline 1933 band-limited to 0-6Hz. | 9/03/2006 |
| 2 | 36t0_3D-TVF_3-6.job | Xline 1933 band-limited to 3-6Hz. | 9/03/2006 |
| 3 | 36t0_3D-TVF_4-8.job .....etc | Xline 1933 band-limited to 4-8Hz. | 9/03/2006 |
| General Comments: | | | |
| Xline 1933 filtered with overlapping octave bandwidths upto 120Hz. From these a set of TVF filters were selected. | | | |
| Butterworth filters of 8-80, 8-70, 8-60, 7-50, 6-40Hz were applied between 0-800, 1200-1800, 2000-2800, 3000-3800 and 4000-5000ms respectively. | | | |

## Final Residual Gain

| ITEM | TEST JOB | DESCRIPTION | DATE |
|---|---|---|---|
| 1 | | | 9/03/2006 |
| General Comments: | | | |
| Final adjustment to gain of 100/0, 4000/3 - ms/dB - QC'd on Final versions of data. | | | |

Powerpoints relevant to Tests and Quality Control hyperlinked:-

17_DAS.ppt, 18_BIN_SIZE.ppt, 20_FINAL_stks.ppt

‘20’ is a review of the Raw versus Final Stack product for selected lines.

.

# 5. PERSONNEL

**Client Representation (Benaris Petroleum N.V.):-**

The Client was represented by

| | |
|---|---|
| Ron Angove | Geophysicist (Benaris) |

**PGS Data Processing Representation:-**

The PGS Data Processing personnel involved in the processing of this data were

| | |
|---|---|
| Rod Reed | Area Processing Manager (AP Region) |
| Denny Rompotes | Processing Manager |
| Dave Mellors | Processing Supervisor |
| Lana Abzalov | Senior Geophysicist |
| Paul Bouloudas | Velocity QA Supervisor |
| Terry Allen | Area Geophysicist |

# 6. APPENDICES

## 6.1 Appendix 1 – Aquisition Parameters

**PJ3D Survey**

| | | |
|---|---|---|
| 3D Definition: | | |
| Acquisition Mode | : | 3D |
| Shot interval (flip-flop) | : | 18.75 m |
| Line orientation | : | 307.9° or 127.9° |
| Acquisition bin size | : | 25 x 6.25 m |
| Nominal fold | : | 58 |
| Nominal near offset | : | 94 m |
| Nominal offset spacing | : | 75 m |
| | | |
| Energy Source | | |
| Source type | : | Tuned Air Gun Array (Bolt guns) |
| Number of sources | : | 2 |
| Air pressure | : | 1800 psi |
| Volume | : | 2500 cu.in. |
| Source separation | : | 50 m |
| Number of sub-arrays | : | 2x3 |
| Sub-array separation | : | 10 m |
| Source length | : | 14 m |
| Source depth | : | 6 m |
| Gun synchronisation | : | 90% within +/-1 ms; 10% within +/-1.5 ms |
| | | |
| Streamer | | |
| Number of Streamer | : | 4 |
| Streamer length | : | 4350 m |
| Streamer separation | : | 100 m |
| Streamer depth | : | 8 m +/- 1 m |
| Group length | : | 12.5 m |
| Number of groups/streamer | : | 348 |
| | | |
| Data Recording | | |
| System | : | Syntrak 960-24 |
| Live channels | : | 1392 |
| Auxiliary channels | : | 48 |
| Record length | : | 5.12 sec |
| Sampling rate | : | 2 ms |
| Lo-cut filter – Hydrophone | : | 3Hz, slope 12dB/octave |
| Hi-cut filter – Hydrophone | : | 206Hz, slope 276 dB/octave |
| Format | : | SEGD 8036, rev. 1.0 |
| Media | : | 3590 tapes |
| | | |
| Gravity | : | N/A |

**PJ2D Survey**

| | | |
|---|---|---|
| 2D Definition: | | |
| Acquisition Mode | : | 2D |
| Shot interval (single source) | : | 25 m |
| Line orientation | : | see Fig. 2 |
| Acquisition bin size | : | 6.25 m |
| Nominal fold | : | 87 |
| Nominal near offset | : | 94 m |
| Nominal offset spacing | : | 50 |
| | | |
| Energy Source | | |
| Source type | : | Tuned Air Gun Array (Bolt guns) |
| Number of sources | : | 1 (starboard) |
| Air pressure | : | 1800 psi |
| Volume | : | 2500 cu.in. |
| Number of sub-arrays | : | 3 |
| Sub-array separation | : | 10 m |
| Source length | : | 14 m |
| Source depth | : | 6 m |
| Gun synchronisation | : | 90% within +/-1 ms; 10% within +/-1.5 ms |
| | | |
| Streamer | | |
| Number of Streamer | : | 4 (Inner Stb, ch349-696, used in processing) |
| Streamer length | : | 4350 m |
| Streamer separation | : | 100 m |
| Streamer depth | : | 8 m +/- 1 m |
| Group length | : | 12.5 m |
| Number of groups/streamer | : | 348 |
| | | |
| Data Recording | | |
| System | : | Syntrak 960-24 |
| Live channels | : | 1392 |
| Auxiliary channels | : | 48 |
| Record length | : | 5.12 sec |
| Sampling rate | : | 2 ms |
| Lo-cut filter – Hydrophone | : | 3Hz, slope 12dB/octave |
| Hi-cut filter – Hydrophone | : | 206Hz, slope 276 dB/octave |
| Format | : | SEGD 8036, rev. 1.0 |
| Media | : | 3590 tapes |
| | | |
| Gravity | : | N/A |

## 6.2 Appendix 2 – Line Naming Conventions

Each Sail Line had a unique number. The Sail Line Numbering System is designed as follows:

AAAAXXXXBYX

where

| | |
|---|---|
| AAAA | survey identifier, in this case PJ05 |
| XXXX | four digit line no |
| B | type of line, P for Prime, J for Infill, R for Reshoot |
| Y | pass no |
| X | Sequence number |

The number: PJ051156R2002 shows that it is the second re-shoot pass on Sail Line PJ051156.

Columns covered by a specific Line will be from Line no -3 to Line no +4

Example: Sail Line 1156 covers CMP columns 1153 to 1160

The Shot Point was defined as the nominal CMP for the first group.

## 6.3 Appendix 3 – Field Tape Line Listings

*Table 7 : Field Tape Data Pre-processed for **PJ 3D** Project*

| | LINE NAME | SEQ | F_SHOT | L_SHOT | KMS |
|---|---|---|---|---|---|
| 1 | PJ051004P1 | 25 | 885 | 1804 | 17.25 |
| 2 | PJ051012P1 | 44 | 885 | 1805 | 17.27 |
| 3 | PJ051020P1 | 50 | 885 | 1805 | 17.27 |
| 4 | PJ051028P1 | 52 | 885 | 1805 | 17.27 |
| 5 | PJ051036P1 | 58 | 885 | 1805 | 17.27 |
| 6 | PJ051044P1 | 61 | 886 | 1805 | 17.25 |
| 7 | PJ051052J3 | 76 | 886 | 1806 | 17.27 |
| 8 | PJ051052P1 | 65 | 886 | 1806 | 17.27 |
| 9 | PJ051060J1 | 74 | 886 | 1806 | 17.27 |
| 10 | PJ051060P1 | 72 | 886 | 1806 | 17.27 |
| 11 | PJ051068P1 | 68 | 886 | 1806 | 17.27 |
| 12 | PJ051076P1 | 63 | 887 | 1806 | 17.25 |
| 13 | PJ051084P1 | 56 | 887 | 1806 | 17.25 |
| 14 | PJ051092P1 | 48 | 887 | 1807 | 17.27 |
| 15 | PJ051100P1 | 46 | 887 | 1807 | 17.27 |
| 16 | PJ051108J1 | 42 | 888 | 1807 | 17.25 |
| 17 | PJ051108P1 | 40 | 888 | 1807 | 17.25 |
| 18 | PJ051116J1 | 38 | 888 | 1807 | 17.25 |
| 19 | PJ051116P1 | 36 | 888 | 1807 | 17.25 |
| 20 | PJ051124P1 | 34 | 888 | 1807 | 17.25 |
| 21 | PJ051132P1 | 32 | 888 | 1807 | 17.25 |
| 22 | PJ051140P1 | 30 | 888 | 1808 | 17.27 |
| 23 | PJ051148P1 | 28 | 889 | 1808 | 17.25 |
| 24 | PJ051156P2 | 26 | 889 | 1808 | 17.25 |
| 25 | PJ051164P1 | 22 | 889 | 1808 | 17.25 |
| 26 | PJ051172J1 | 20 | 889 | 1808 | 17.25 |
| 27 | PJ051172P1 | 18 | 889 | 1808 | 17.25 |
| 28 | PJ051180P1 | 17 | 890 | 1809 | 17.25 |
| 29 | PJ051188P1 | 15 | 890 | 1809 | 17.25 |
| 30 | PJ051196P1 | 13 | 890 | 1809 | 17.25 |
| 31 | PJ051204P1 | 11 | 890 | 1809 | 17.25 |
| 32 | PJ051212P1 | 10 | 891 | 1809 | 17.23 |
| 33 | PJ051220P1 | 8 | 891 | 1810 | 17.25 |
| 34 | PJ051228P2 | 6 | 891 | 1810 | 17.25 |
| 35 | PJ051236P1 | 2 | 891 | 1810 | 17.25 |
| 36 | PJ051244P1 | 54 | 891 | 1810 | 17.25 |
| 37 | PJ051252P1 | 60 | 892 | 1810 | 17.23 |
| 38 | PJ051260J1 | 80 | 892 | 1811 | 17.25 |
| 39 | PJ051260P1 | 78 | 892 | 1811 | 17.25 |
| 40 | PJ051268J1 | 79 | 1008 | 1927 | 17.25 |
| 41 | PJ051268P1 | 77 | 1008 | 1927 | 17.25 |
| 42 | PJ051276P1 | 75 | 1008 | 1927 | 17.25 |
| 43 | PJ051284P1 | 71 | 1009 | 1927 | 17.23 |
| 44 | PJ051292J1 | 69 | 1009 | 1927 | 17.23 |
| 45 | PJ051292P1 | 64 | 1009 | 1927 | 17.23 |
| 46 | PJ051300P1 | 62 | 1009 | 1928 | 17.25 |
| 47 | PJ051308P1 | 59 | 1009 | 1928 | 17.25 |
| 48 | PJ051316P1 | 57 | 1010 | 1928 | 17.23 |
| 49 | PJ051324P1 | 47 | 1010 | 1928 | 17.23 |
| 50 | PJ051332P1 | 45 | 1010 | 1928 | 17.23 |

| | | | | | |
|---|---|---|---|---|---|
| 51 | PJ051340J1 | 43 | 1010 | 1928 | 17.23 |
| 52 | PJ051340P1 | 41 | 1010 | 1928 | 17.23 |
| 53 | PJ051348P1 | 39 | 1010 | 1929 | 17.25 |
| 54 | PJ051356P1 | 37 | 1011 | 1929 | 17.23 |
| 55 | PJ051364P1 | 35 | 1011 | 1929 | 17.23 |
| 56 | PJ051372P1 | 33 | 1011 | 1929 | 17.23 |
| 57 | PJ051380P1 | 31 | 1011 | 1929 | 17.23 |
| 58 | PJ051388P1 | 29 | 1012 | 1930 | 17.23 |
| 59 | PJ051396P1 | 27 | 1012 | 1930 | 17.23 |
| 60 | PJ051404P1 | 23 | 1012 | 1930 | 17.23 |
| 61 | PJ051412P1 | 21 | 1012 | 1930 | 17.23 |
| 62 | PJ051420J1 | 19 | 1013 | 1930 | 17.21 |
| 63 | PJ051420P1 | 14 | 1013 | 1930 | 17.21 |
| 64 | PJ051428P1 | 12 | 1013 | 1931 | 17.23 |
| 65 | PJ051436P1 | 9 | 1013 | 1931 | 17.23 |
| 66 | PJ051444P1 | 7 | 1014 | 1931 | 17.21 |
| 67 | PJ051452P1 | 5 | 1013 | 1931 | 17.23 |
| 68 | PJ051460P1 | 3 | 1014 | 1931 | 17.21 |
| 69 | PJ051468P1 | 16 | 1014 | 1932 | 17.23 |
| 70 | PJ051476P1 | 49 | 1014 | 1932 | 17.23 |
| 71 | PJ051484P1 | 51 | 1014 | 1932 | 17.23 |
| 72 | PJ051492P1 | 53 | 1015 | 1932 | 17.21 |
| 73 | PJ051500J1 | 73 | 1015 | 1932 | 17.21 |
| 74 | PJ051500P1 | 55 | 1015 | 1932 | 17.21 |
| 75 | PJ051508P1 | 66 | 1015 | 1932 | 17.21 |
| 76 | PJ051516P1 | 1 | 1001 | 1919 | 17.23 |

Sail-Line KM Total 1310.46

*Table 8 : Field Tape Data Pre-processed for **PJ 2D** Project*

| | LINE NAME | SEQ | F_SHOT | L_SHOT | KMS |
|---|---|---|---|---|---|
| 1 | PJ2D-2001 | 82 | 1001 | 2256 | 31.40 |
| 2 | PJ2D-2002 | 86 | 914 | 1333 | 10.50 |
| 3 | PJ2D-2003 | 103 | 1001 | 1634 | 15.85 |
| 4 | PJ2D-2004 | 88 | 914 | 1340 | 10.68 |
| 5 | PJ2D-2005 | 83 | 914 | 1971 | 26.45 |
| 6 | PJ2D-2006 | 90 | 914 | 1257 | 8.60 |
| 7 | PJ2D-2007 | 81 | 914 | 1966 | 26.33 |
| 8 | PJ2D-2008 | 92 | 914 | 1347 | 10.85 |
| 9 | PJ2D-2009 | 84 | 1001 | 2118 | 27.95 |
| 10 | PJ2D-2010 | 85 | 1001 | 1519 | 12.98 |
| 11 | PJ2D-2012 | 87 | 1001 | 1590 | 14.75 |
| 12 | PJ2D-2014 | 89 | 1001 | 1514 | 12.85 |
| 13 | PJ2D-2016 | 91 | 1001 | 1503 | 12.58 |
| 14 | PJ2D-2018 | 93 | 1001 | 1601 | 15.03 |
| 15 | PJ2D-2020 | 94 | 914 | 1642 | 18.23 |
| 16 | PJ2D-2022 | 102 | 914 | 1484 | 14.28 |
| 17 | PJ2D-2024 | 95 | 1001 | 1742 | 18.55 |
| 18 | PJ2D-2026 | 101 | 1001 | 1590 | 14.75 |
| 19 | PJ2D-2028 | 96 | 914 | 1561 | 16.20 |
| 20 | PJ2D-2030 | 98 | 914 | 1570 | 16.43 |
| 21 | PJ2D-2032 | 100 | 914 | 1574 | 16.53 |
| 22 | PJ2D-2034 | 97 | 1001 | 1529 | 13.23 |
| 23 | PJ2D-2036 | 99 | 1001 | 1632 | 15.80 |
| | | | Line KM Total | | 380.75 |

## 6.4 Appendix 4 – Dephase Filter

Designed by PGS – Minimum Phasing Filter
Number of samples: 101
Zero Time Reference Sample 21
Time sample increment: 4 msec

*Table 9 : Coefficient Listing*

| Sample No. | Time (ms) | Value | Sample No. | Time (ms) | Value |
|---|---|---|---|---|---|
| 1 | -80 | 1.11356E-03 | 88 | 268 | 2.18300E-03 |
| 2 | -76 | 1.85868E-03 | 89 | 272 | 5.67800E-03 |
| 3 | -72 | 1.75412E-03 | 90 | 276 | -3.80332E-03 |
| 4 | -68 | -3.51824E-03 | 91 | 280 | 3.08200E-03 |
| 5 | -64 | 1.09180E-02 | 92 | 284 | -3.47188E-03 |
| 6 | -60 | -2.24448E-02 | 93 | 288 | -3.28772E-03 |
| 7 | -56 | 1.74252E-02 | 94 | 292 | -4.25480E-04 |
| 8 | -52 | -3.39732E-02 | 95 | 296 | -2.88856E-03 |
| 9 | -48 | -5.81400E-03 | 96 | 300 | -1.92992E-03 |
| 10 | -44 | -2.73824E-02 | 97 | 304 | -4.90800E-04 |
| 11 | -40 | -5.27840E-02 | 98 | 308 | -4.85720E-03 |
| 12 | -36 | -3.18608E-02 | 99 | 312 | 4.07680E-03 |
| 13 | -32 | -9.85480E-02 | 100 | 316 | -1.38732E-03 |
| 14 | -28 | -6.80080E-02 | 101 | 320 | 2.19392E-03 |
| 15 | -24 | -1.45696E-01 | | | |
| 16 | -20 | -1.23124E-01 | | | |
| 17 | -16 | -2.01560E-01 | | | |
| 18 | -12 | -2.12444E-01 | | | |
| 19 | -8 | -2.96916E-01 | | | |
| 20 | -4 | -1.36996E-01 | | | |
| 21 | 0 | 6.08040E-01 | | | |
| 22 | 4 | 2.29188E-01 | | | |
| 23 | 8 | -2.34332E-01 | | | |
| 24 | 12 | 9.03760E-02 | | | |
| 25 | 16 | 1.38924E-02 | | | |
| 26 | 20 | -5.62840E-02 | | | |
| 27 | 24 | 3.93912E-02 | | | |
| 28 | 28 | 3.51156E-03 | | | |
| 29 | 32 | -1.39448E-02 | | | |
| 30 | 36 | 2.46104E-02 | | | |
| 31 | 40 | 6.73560E-03 | | | |
| 32 | 44 | -7.15920E-03 | | | |
| 33 | 48 | 2.84980E-02 | | | |
| 34 | 52 | -1.74184E-03 | | | |
| 35 | 56 | 5.94240E-03 | | | |
| 36 | 60 | 2.34068E-02 | | | |
| 37 | 64 | -5.82080E-03 | | | |
| 38 | 68 | 1.61768E-02 | | | |
| 39 | 72 | 1.22828E-02 | | | |
| 40 | 76 | -3.06556E-03 | | | |

| | | | | | |
|---|---|---|---|---|---|
| 41 | 80 | 1.89368E-02 | | | |
| 42 | 84 | 2.08412E-03 | | | |
| 43 | 88 | 2.82708E-03 | | | |
| 44 | 92 | 1.52020E-02 | | | |
| 45 | 96 | -3.97508E-03 | | | |
| 46 | 100 | 8.53360E-03 | | | |
| 47 | 104 | 7.26400E-03 | | | |
| 48 | 108 | -4.37720E-03 | | | |
| 49 | 112 | 1.05236E-02 | | | |
| 50 | 116 | -8.65000E-04 | | | |
| 51 | 120 | -1.00536E-03 | | | |
| 52 | 124 | 7.67320E-03 | | | |
| 53 | 128 | -5.68400E-03 | | | |
| 54 | 132 | 2.56956E-03 | | | |
| 55 | 136 | 1.89888E-03 | | | |
| 56 | 140 | -6.41600E-03 | | | |
| 57 | 144 | 3.62896E-03 | | | |
| 58 | 148 | -3.91680E-03 | | | |
| 59 | 152 | -4.52000E-03 | | | |
| 60 | 156 | 1.58176E-03 | | | |
| 61 | 160 | -7.36560E-03 | | | |
| 62 | 164 | -2.28924E-03 | | | |
| 63 | 168 | -2.06952E-03 | | | |
| 64 | 172 | -7.95920E-03 | | | |
| 65 | 176 | -1.27972E-03 | | | |
| 66 | 180 | -5.54960E-03 | | | |
| 67 | 184 | -6.61960E-03 | | | |
| 68 | 188 | -1.92960E-03 | | | |
| 69 | 192 | -7.61600E-03 | | | |
| 70 | 196 | -4.73160E-03 | | | |
| 71 | 200 | -3.79936E-03 | | | |
| 72 | 204 | -7.63640E-03 | | | |
| 73 | 208 | -3.72840E-03 | | | |
| 74 | 212 | -5.15200E-03 | | | |
| 75 | 216 | -6.38440E-03 | | | |
| 76 | 220 | -3.45900E-03 | | | |
| 77 | 224 | -4.40240E-03 | | | |
| 78 | 228 | -5.97200E-03 | | | |
| 79 | 232 | -1.89236E-04 | | | |
| 80 | 236 | -5.55280E-03 | | | |
| 81 | 240 | -8.63960E-04 | | | |
| 82 | 244 | 1.02452E-03 | | | |
| 83 | 248 | -3.56624E-03 | | | |
| 84 | 252 | 6.77000E-03 | | | |
| 85 | 256 | -1.03332E-03 | | | |
| 86 | 260 | 8.43000E-03 | | | |
| 87 | 264 | 2.41448E-03 | | | |

## 6.5 Appendix 5 – Zero Phasing Filter

Designed by PGS – Zero Phasing Filter
Number of samples: 101
Zero Time Reference Sample 48
Time sample increment: 4 msec

*Table 10 : Coefficient Listing*

| Sample No. | Time (ms) | Value | Sample No. | Time (ms) | Value |
|---|---|---|---|---|---|
| 1 | -188 | 6.42640E-04 | 88 | 160 | -8.18640E-04 |
| 2 | -184 | -5.67720E-04 | 89 | 164 | -2.21568E-04 |
| 3 | -180 | 2.95384E-03 | 90 | 168 | 2.82808E-03 |
| 4 | -176 | -1.64084E-03 | 91 | 172 | -2.20580E-03 |
| 5 | -172 | 5.29680E-03 | 92 | 176 | 1.55324E-03 |
| 6 | -168 | 2.88804E-04 | 93 | 180 | 5.88000E-04 |
| 7 | -164 | 4.24120E-03 | 94 | 184 | -1.67952E-03 |
| 8 | -160 | 6.46120E-03 | 95 | 188 | 2.07812E-03 |
| 9 | -156 | 2.69728E-03 | 96 | 192 | -1.42492E-03 |
| 10 | -152 | 1.05012E-02 | 97 | 196 | 2.53976E-04 |
| 11 | -148 | 7.67840E-03 | 98 | 200 | 4.96720E-04 |
| 12 | -144 | 9.00520E-03 | 99 | 204 | -9.96360E-04 |
| 13 | -140 | 1.62440E-02 | 100 | 208 | 6.52520E-04 |
| 14 | -136 | 1.06584E-02 | 101 | 212 | -4.23160E-04 |
| 15 | -132 | 1.82920E-02 | | | |
| 16 | -128 | 2.09772E-02 | | | |
| 17 | -124 | 1.68012E-02 | | | |
| 18 | -120 | 2.89996E-02 | | | |
| 19 | -116 | 2.47600E-02 | | | |
| 20 | -112 | 2.71544E-02 | | | |
| 21 | -108 | 3.86324E-02 | | | |
| 22 | -104 | 2.87168E-02 | | | |
| 23 | -100 | 4.20360E-02 | | | |
| 24 | -96 | 4.27680E-02 | | | |
| 25 | -92 | 3.88648E-02 | | | |
| 26 | -88 | 5.30760E-02 | | | |
| 27 | -84 | 4.74120E-02 | | | |
| 28 | -80 | 5.07040E-02 | | | |
| 29 | -76 | 5.82680E-02 | | | |
| 30 | -72 | 5.99840E-02 | | | |
| 31 | -68 | 4.36320E-02 | | | |
| 32 | -64 | 7.66520E-02 | | | |
| 33 | -60 | 5.10640E-02 | | | |
| 34 | -56 | 3.74880E-02 | | | |
| 35 | -52 | 1.02604E-01 | | | |
| 36 | -48 | -1.25968E-02 | | | |
| 37 | -44 | 9.07560E-02 | | | |
| 38 | -40 | 6.37280E-02 | | | |
| 39 | -36 | -4.60000E-02 | | | |
| 40 | -32 | 1.66976E-01 | | | |

| | | | | | |
|---|---|---|---|---|---|
| 41 | -28 | -4.29440E-02 | | | |
| 42 | -24 | -3.23136E-02 | | | |
| 43 | -20 | 2.23620E-01 | | | |
| 44 | -16 | -2.38040E-01 | | | |
| 45 | -12 | -6.38680E-01 | | | |
| 46 | -8 | -2.31524E-01 | | | |
| 47 | -4 | 2.19212E-01 | | | |
| 48 | 0 | -2.12992E-03 | | | |
| 49 | 4 | 4.44200E-02 | | | |
| 50 | 8 | 8.93200E-02 | | | |
| 51 | 12 | -5.26040E-02 | | | |
| 52 | 16 | 1.05580E-01 | | | |
| 53 | 20 | -3.33584E-02 | | | |
| 54 | 24 | 2.94792E-02 | | | |
| 55 | 28 | 2.26752E-02 | | | |
| 56 | 32 | -2.46520E-02 | | | |
| 57 | 36 | 2.55444E-02 | | | |
| 58 | 40 | -2.33872E-02 | | | |
| 59 | 44 | 6.46360E-03 | | | |
| 60 | 48 | -1.10320E-02 | | | |
| 61 | 52 | 4.93680E-03 | | | |
| 62 | 56 | 7.98880E-03 | | | |
| 63 | 60 | 6.60160E-03 | | | |
| 64 | 64 | 2.01416E-02 | | | |
| 65 | 68 | -7.21360E-03 | | | |
| 66 | 72 | 2.49708E-02 | | | |
| 67 | 76 | -4.60840E-03 | | | |
| 68 | 80 | 1.03592E-02 | | | |
| 69 | 84 | 1.12104E-02 | | | |
| 70 | 88 | -5.11720E-03 | | | |
| 71 | 92 | 1.45912E-02 | | | |
| 72 | 96 | -6.04080E-04 | | | |
| 73 | 100 | 2.17984E-03 | | | |
| 74 | 104 | 1.00896E-02 | | | |
| 75 | 108 | -2.89820E-03 | | | |
| 76 | 112 | 6.90800E-03 | | | |
| 77 | 116 | 5.08800E-03 | | | |
| 78 | 120 | -1.62248E-03 | | | |
| 79 | 124 | 8.18760E-03 | | | |
| 80 | 128 | 1.25400E-04 | | | |
| 81 | 132 | 1.15080E-03 | | | |
| 82 | 136 | 5.87360E-03 | | | |
| 83 | 140 | -2.26052E-03 | | | |
| 84 | 144 | 3.42476E-03 | | | |
| 85 | 148 | 2.22692E-03 | | | |
| 86 | 152 | -1.98828E-03 | | | |
| 87 | 156 | 3.99840E-03 | | | |

## 6.6 Appendix 6 – Geodesy and Processing Grid Details

**Survey Datum**

| | |
|---|---|
| Name : | GDA94 |
| Ellipsoid : | GRS 1980 |
| Semi Major Axis : | 6 378 137 m |
| 1/Flattening : | 298.2572221 |

**Map Projection**

| | |
|---|---|
| Projection : | Transverse Mercator |
| Projection System : | UTM, Zone 55 |
| Central Meridian : | 147$^{o}$ E. |
| Scale Factor on Central Meridian : | 0.9996 |
| Latitude of Origin : | 0$^{o}$ |
| False Northing : | 10000000 m |
| False Easting : | 500000 m |

**3D Processing grid (12.5x25m Grid)**

Subline range : 961 to 1560 inc 1; migration output data range 1000 to 1520 inc 1
Xline range : 681 to 2865 inc 1; migration output data range 1100 to 2450 inc 1

| | | |
|---|---|---|
| Origin | | 453446.764 / 5503169.882 |
| Subline Compass Angle | | 307.93deg |
| **Bin Size** | **between sublines:** | **25.0** |
| | between xlines: | 12.5 |

Used for 3D Gather and Raw Stack Outputs.

**Final Stack 3D SEG Y Output grid (post-xline summation 25x25m Grid)**

Subline range : 961 to 1560 inc 1; Output data range 1000 to 1520 inc 1
Xline range : 340 to 1432 inc 1; Output data range 576 to 1199 inc 1

| | | |
|---|---|---|
| Origin | | 453461.539 / 5503158.338 |
| Subline Compass Angle | | 307.93deg |
| **Bin Size** | **between sublines:** | **25.0** |
| | between xlines: | 25.0 |

Used for Final 3D Outputs, including the 3D Migration and Dense Stacking Velocities and the P6/98 Bin Coordinate file..

## 6.7 Appendix 7 – Deliverables Tape Listing

*Table 11 :* ***PJ 3D*** *Pre-STM Gather SEGY*

| | |
|---|---|
| **SURVEY:** | **PJ 3D** |
| **DATA:** | **PreSTM Gather SEGY** |
| **Shipment Date:** | **23 March 2006** |
| **Transmittal :** | **#06-037** |

| | PROJECT | DATASET | TAPE NO. | INLINE RANGE | XLINE RANGE | MEDIA |
|---|---|---|---|---|---|---|
| 1 | PJ 3D | 3D Raw Gath | PJ3DS008 | 1000-1020 | 1152-2398 | 3590 |
| 2 | PJ 3D | 3D Raw Gath | PJ3DS009 | 1021-1040 | 1152-2398 | 3590 |
| 3 | PJ 3D | 3D Raw Gath | PJ3DS010 | 1041-1060 | 1152-2398 | 3590 |
| 4 | PJ 3D | 3D Raw Gath | PJ3DS011 | 1061-1080 | 1152-2398 | 3590 |
| 5 | PJ 3D | 3D Raw Gath | PJ3DS012 | 1081-1100 | 1152-2398 | 3590 |
| 6 | PJ 3D | 3D Raw Gath | PJ3DS013 | 1101-1120 | 1152-2398 | 3590 |
| 7 | PJ 3D | 3D Raw Gath | PJ3DS014 | 1121-1140 | 1152-2398 | 3590 |
| 8 | PJ 3D | 3D Raw Gath | PJ3DS015 | 1141-1160 | 1152-2398 | 3590 |
| 9 | PJ 3D | 3D Raw Gath | PJ3DS016 | 1161-1180 | 1152-2398 | 3590 |
| 10 | PJ 3D | 3D Raw Gath | PJ3DS017 | 1181-1200 | 1152-2398 | 3590 |
| 11 | PJ 3D | 3D Raw Gath | PJ3DS018 | 1201-1220 | 1152-2398 | 3590 |
| 12 | PJ 3D | 3D Raw Gath | PJ3DS019 | 1221-1240 | 1152-2398 | 3590 |
| 13 | PJ 3D | 3D Raw Gath | PJ3DS020 | 1241-1260 | 1152-2398 | 3590 |
| 14 | PJ 3D | 3D Raw Gath | PJ3DS021 | 1261-1280 | 1152-2398 | 3590 |
| 15 | PJ 3D | 3D Raw Gath | PJ3DS022 | 1281-1300 | 1152-2398 | 3590 |
| 16 | PJ 3D | 3D Raw Gath | PJ3DS023 | 1301-1320 | 1152-2398 | 3590 |
| 17 | PJ 3D | 3D Raw Gath | PJ3DS024 | 1321-1340 | 1152-2398 | 3590 |
| 18 | PJ 3D | 3D Raw Gath | PJ3DS025 | 1341-1360 | 1152-2398 | 3590 |
| 19 | PJ 3D | 3D Raw Gath | PJ3DS026 | 1361-1380 | 1152-2398 | 3590 |
| 20 | PJ 3D | 3D Raw Gath | PJ3DS027 | 1381-1400 | 1152-2398 | 3590 |
| 21 | PJ 3D | 3D Raw Gath | PJ3DS028 | 1401-1420 | 1152-2398 | 3590 |
| 22 | PJ 3D | 3D Raw Gath | PJ3DS029 | 1421-1440 | 1152-2398 | 3590 |
| 23 | PJ 3D | 3D Raw Gath | PJ3DS030 | 1441-1460 | 1152-2398 | 3590 |
| 24 | PJ 3D | 3D Raw Gath | PJ3DS031 | 1461-1480 | 1152-2398 | 3590 |
| 25 | PJ 3D | 3D Raw Gath | PJ3DS032 | 1481-1500 | 1152-2398 | 3590 |
| 26 | PJ 3D | 3D Raw Gath | PJ3DS033 | 1501-1520 | 1152-2398 | 3590 |

*Table 12 :* ***PJ 2D*** *Pre-STM Gather SEGY*

| | | | | | |
|---|---|---|---|---|---|
| **SURVEY:** | | | **PJ 2D** | | |
| **DATA:** | | | **PreSTM Gather SEGY** | | |
| **Shipment Date:** | | | **23 March 2006** | | |
| **Transmittal :** | | | **#06-037** | | |
| | **PROJECT** | **DATASET** | **TAPE NO.** | **2D LINES** | **MEDIA** |
| 1 | PJ 2D | 2D Raw Gath. | PJ3DS034 | 2001082 | 3590(tar) |
| | | | | 2002086 | |
| | | | | 2003103 | |
| | | | | 2004088 | |
| | | | | 2005083 | |
| | | | | 2006090 | |
| | | | | 2007081 | |
| | | | | 2008092 | |
| 2 | PJ 2D | 2D Raw Gath | PJ3DS035 | 2009084 | 3590(tar) |
| | | | | 2010085 | |
| | | | | 2012087 | |
| | | | | 2014089 | |
| | | | | 2016091 | |
| | | | | 2018093 | |
| | | | | 2020094 | |
| | | | | 2022102 | |
| 3 | PJ 2D | 2D Raw Gath | PJ3DS036 | 2024095 | 3590(tar) |
| | | | | 2026101 | |
| | | | | 2028096 | |
| | | | | 2030098 | |
| | | | | 2032100 | |
| | | | | 2034097 | |
| | | | | 2036099 | |

*Table 13 : **PJ 3D** Raw and Final Migration Stack SEGY*

| | | | | | | |
|---|---|---|---|---|---|---|
| **SURVEY:** | | | **PJ 3D** | | | |
| **DATA:** | | | **Raw and Final Migration Stack SEGY** | | | |
| **Shipment Date:** | | | **20 March 2006** | | | |
| **Transmittal :** | | | **#06-031** | | | |
| | **PROJECT** | **DATASET** | **TAPE NO.** | **INLINE RANGE** | **XLINE RANGE** | **MEDIA** |
| 1 | PJ 3D | 3D Raw Migration(full offset) | PJ3DS004 | 1000-1520 | 1152-2398 | 3590 |
| 2 | PJ 3D | 3D Final Migration(full offset) | PJ3DS001 | 1000-1520 | 576-1199 | 8mm |
| 3 | PJ 3D | 3D Final Migration(Angle 5-20) | PJ3DS002 | 1000-1520 | 576-1199 | 8mm |
| 4 | PJ 3D | 3D Final Migration(Angle 20-40) | PJ3DS003 | 1000-1520 | 576-1199 | 8mm |
| 5 | PJ 3D | 3D Final Migration(Angle Difference) | PJ3DS005 | 1000-1520 | 576-1199 | 8mm |
| **Shipment Date:** | | | **23 March 2006** | | | |
| **Transmittal :** | | | **#06-037** | | | |
| 6 | PJ 3D | 3D Final Migration(full offset)<br>3D Final Migration(Angle 5-20)<br>3D Final Migration(Angle 20-40)<br>3D Final Migration(Angle Difference) | PJ3DS037 | 1000-1520 | 576-1199 | 3590(tar) |
| **Shipment Date:** | | | **24 March 2006** | | | |
| **Transmittal :** | | | **#06-038** | | | |
| 7 | PJ 3D | 3D Final Migration(full offset) | | 1000-1520 | 576-1199 | DVD |
| 8 | PJ 3D | 3D Final Migration(Angle 5-20)<br>3D Final Migration(Angle 20-40) | | 1000-1520 | 576-1199 | DVD |
| 9 | PJ 3D | 3D Final Migration(Angle Difference) | | 1000-1520 | 576-1199 | DVD |

*NB. The Angle Difference Datasets were supplied as Near minus Far, whereas the Client wanted Far minus Near. 2 copies of the latter were sent, as replacements (on DVD only), on 11/05/06 (Transmittal 06-050).*

*Table 14 : **PJ 2D** Raw and Final Migration Stack SEGY*

| | | | | | | |
|---|---|---|---|---|---|---|
| **SURVEY:** | | | **PJ 2D** | | | |
| **DATA:** | | | **Raw and Final Migration Stack SEGY** | | | |
| **Shipment Date:** | | | **20 March 2006** | | | |
| **Transmittal :** | | | **#06-031** | | | |
| | **PROJECT** | **DATASET** | **TAPE NO.** | **INLINE RANGE** | **XLINE RANGE** | **MEDIA** |
| 1 | PJ 2D | 2D Raw Migration(full offset) | PJ3DS007 | | | 3590(tar) |
| 2 | PJ 2D | 2D Final Migration(full offset) | PJ3DS006 | | | 8mm(tar) |
| **Shipment Date:** | | | **23 March 2006** | | | |
| **Transmittal :** | | | **#06-037** | | | |
| 2 | PJ 2D | 2D Final Migration(full offset) | PJ3DS038 | | | 3590(tar) |
| **Shipment Date:** | | | **24 March 2006** | | | |
| **Transmittal :** | | | **#06-038** | | | |
| 3 | PJ 2D | 2D Final Migration(full offset) | | | | DVD |

*Table 15 : **PJ 2D** and **PJ 3D** Velocities and Coordinates*

| | | | | | | |
|---|---|---|---|---|---|---|
| **SURVEY:** | | | **PJ 3D/2D** | | | |
| **DATA:** | | | **Velocities and Coordinates** | | | |
| **Shipment Date:** | | | **20 March 2006** | | | |
| **Transmittal :** | | | **#06-031** | | | |
| | **PROJECT** | **DATASET** | **TAPE NO.** | **INLINE RANGE** | **XLINE RANGE** | **MEDIA** |
| 1 | PJ 3D/2D | 3D and 2D Migration and Dense Stacking Velocities | | | | CD |
| 2 | PJ 2D | 2D Lines - SP to CDP relationship | | | | CD |
| **Shipment Date:** | | | **27 April 2006** | | | |
| **Transmittal :** | | | **#06-044** | | | |
| 3 | PJ 3D | 3D Bin Coordinates (P6/98 format)<br>3D Area Polygon(E/N and Lat/Lon) | | | | CD |

*Table 16 : **PJ 2D** Paper Displays and equivalent CGM's*

| | | | | | | |
|---|---|---|---|---|---|---|
| **SURVEY:** | | | **PJ 2D** | | | |
| **DATA:** | | | **Paper Displays and CGM files** | | | |
| **Shipment Date:** | | | **27 April 2006** | | | |
| **Transmittal :** | | | **#06-044** | | | |
| | **PROJECT** | **DATASET** | **TAPE NO.** | **INLINE RANGE** | **XLINE RANGE** | **MEDIA** |
| 1 | PJ 2D | Final Migration Displays | | | | Paper |
| 1 | PJ 2D | CGM files for above Displays | | | | CD |

*Table 17 :* ***PJ 2D*** *Line Ranges*

| | LINE | XLINE (SHOT) RANGE |
|---|---|---|
| 1 | 2001082 | 1001-2256 |
| 2 | 2002086 | 914-2256 |
| 3 | 2003103 | 1001-1634 |
| 4 | 2004088 | 914-1340 |
| 5 | 2005083 | 914-1971 |
| 6 | 2006090 | 914-1257 |
| 7 | 2007081 | 914-1966 |
| 8 | 2008092 | 914-1347 |
| 9 | 2009084 | 1001-2118 |
| 10 | 2010085 | 1001-1519 |
| 11 | 2012087 | 1001-1590 |
| 12 | 2014089 | 1001-1514 |
| 13 | 2016091 | 1001-1503 |
| 14 | 2018093 | 1001-1601 |
| 15 | 2020094 | 914-1642 |
| 16 | 2022102 | 914-1484 |
| 17 | 2024095 | 1001-1742 |
| 18 | 2026101 | 1001-1590 |
| 19 | 2028096 | 914-1561 |
| 20 | 2030098 | 914-1570 |
| 21 | 2032100 | 914-1574 |
| 22 | 2034097 | 1001-1529 |
| 23 | 2036099 | 1001-1632 |

## 6.8 Appendix 8 – EBCDIC & Trace Headers from SEG Y Deliverables

## PJ 3D Gathers

```
C 1 CLIENT :BENARIS PETROLEUM N.V SURVEY BLOCK PJ3D, BASS STRAIT, AUSTRALIA
      C 2 INLINES  1000-1020;  XLINES  :1152-2398
      C 3 AREA    :T/39 P
      C 4 DATA-SET :PSTM GATH (OFFSETS 196-4396/75)
      C 5
      C 6 TAPE NO: PJ3DS008
      C 7 ACQ PREFIX       :PJ05         PROCESSED DATE     :JANUARY-MARCH 2006
      C 8 SHOT/RCV INTERVAL :18.75/12.5    NO.GUNS/CABLES   :02/04
      C 9 CABLE LENGTH     :4350M        RCVS PER CABLE   :348
      C10 GUN SEPARATION    :50M          CABLE SEPARATION :100M
      C11 PORT SOURCE NO:ARRAY-2          STARBOARD SOURCE NO.:ARRAY-1
      C12 FAR PORT CABLE NO.:STREAMER-4    FAR STARBOARD CABLE NO. :STREAMER-1
      C13 MIN OFFSET       :94M          MAX OFFSET       :4435M
      C14 SPHEROID OF REF   :WGS84        UTM ZONE         :55
      C15 COORDINATES UNITS :METRES       PROCESSED DATUM  :WGS84
      C16 BINNING ORIGIN (E,N)           453446.763892;  5503169.8822769998
      C17 BINNING ORIGIN (XLINE,INLINE)    681,961
      C18 NO. XLINES/INLINES:2185/600      XLINE/INLINE INT :12.5/25.0
      C19 GRID MIN/MAX XLINE:681/2865      GRID MIN/MAX INLINE:961/1560
      C20 ROTATION ANGLE    :308 (DEGR) (CLOCKWISE=POSITIVE)
      C21 SAMPLE RATE (uS)  :4000         MAX TIME (MS)    :5000
      C22 ======PROCESSED ONSHORE BY PGS DATA PROCESSING IN PERTH=========
      C23 REFORMAT; TRACE EDITS,
      C24 RECORDING INSTRUMENT DELAY -120ms, GUN/CABLE STATIC CORRECTION,
      C25 TIDAL STATIC CORRECTION; NAVIGATION MERGE; 1st PASS VELS 1KM GRID;
      C26 TAU-P DOMAIN DBS AND MUTE; DEPHASE FILTER;
      C27 SRME (SURFACE RELATED MULTIPLE ELIMINATION) USING 1st PASS VELOCITY;
      C28 2nd PASS VELS 1KM GRID; HIGH-RES PARABOLIC RADON DEMULTIPLE;
      C29 CHANNEL SUMMATION(12.5 to 25m); SORT TO OFFSET PLANES;
      C30 XLINE INTERPOLATION OF MISSING OFFSET-TRACES;
      C31 3rd PASS PSTM-VELS 1KM GRID;
      C32 KIRCHHOFF 3D TAPSTM - CURVED RAY, 100% 3rd PASS VELS SMOOTHED 2KM;
      C33 SORT TO CDP; 4th PASS PSTM-VELS 0.5KM GRID; DENSE VELS 50m;
      C34 HIGH-RES PARABOLIC RADON DEMULTIPLE; OUTER/INNER MUTES;
      C35
      C36
      C37 =========OUTPUT TO SEGY - 12.5x25m BINS (MIN. PHASE)===========
      C38
      C39
      C40 END EBCDIC

      Tape Binary Header Summary
      Starting Byte Format Name              Origin Name      Origin Type   Origin Format   Value
            (1) INT4   LineArchiveNum       1                ConstantValue Integer        1
            (5) INT4   LineNo              0                ConstantValue Integer        0
            (9) INT4   ReelNo              ReelNo           InternalData  Integer        8
           (13) INT2   NoTraceRecord       NoTraceRecord    InternalData  Integer        58
           (15) INT2   NoAuxTraceRecord    0                ConstantValue Integer        0
           (17) INT2   SampInt             SampInt          InternalData  Integer        4000
           (19) INT2   SampIntOrig         2000             ConstantValue Integer        2000
           (21) INT2   NoSamp              NoSamp           InternalData  Integer        1251
           (23) INT2   NoSampOrig          2561             ConstantValue Integer        2561
           (25) INT2   SampType            SampType         InternalData  Integer        1
           (27) INT2   CDPFold             58               ConstantValue Integer        58
           (29) INT2   SortingType         SortingType      InternalData  Integer        2
           (31) INT2   VerticalSum         1                ConstantValue Integer        1
           (33) INT2   ConstantValue       0                ConstantValue Integer        0
           (35) INT2   ConstantValue       0                ConstantValue Integer        0
           (37) INT2   ConstantValue       0                ConstantValue Integer        0
           (39) INT2   ConstantValue       0                ConstantValue Integer        0
           (41) INT2   ConstantValue       0                ConstantValue Integer        0
           (43) INT2   ConstantValue       0                ConstantValue Integer        0
           (45) INT2   ConstantValue       0                ConstantValue Integer        0
```

| | | | | | | |
|---|---|---|---|---|---|---|
| (47) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (49) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (51) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (53) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (55) | INT2 | LengthUnit | 1 | ConstantValue | Integer | 1 |
| (57) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (59) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |

Reel No: 1 Ensemble No: 1 Trace No: 1
SEGY Trace Header Summary

| Starting Byte | Format | Name | Origin | Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|---|
| (1) | INT4 | TraceSeqNoLine | TraceSeqNoLine | | InternalData | Integer | 1 |
| (5) | INT4 | TraceSeqNoReel | TraceSeqNoReel | | InternalData | Integer | 1 |
| (9) | INT4 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (13) | INT4 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (17) | INT4 | SourcePointNo | 0 | ConstantValue | | Integer | 0 |
| (21) | INT4 | CMPNumber | CMP | PGSHeader | | Integer | 10001152 |
| (25) | INT4 | TraceNoCDP | SEQNO | PGSHeader | | Integer | 1 |
| (29) | INT2 | TraceType | TYPE | PGSHeader | | Integer | 1 |
| (31) | INT2 | NoVertical | VSTACK | PGSHeader | | Integer | 1 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (37) | INT4 | Offset | OFFSET | PGSHeader | | Integer | 121 |
| (41) | INT4 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (47) | INT2 | IntpTrace | TYPE | PGSHeader | | Integer | 1 |
| (49) | INT2 | SourceDepth | SDEPTH | PGSHeader | | Float | 6 |
| (51) | INT4 | CDPNumber | CDP | PGSHeader | | Integer | 85687 |
| (55) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (57) | INT4 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (61) | INT4 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (65) | INT4 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (69) | INT2 | ConstantValue | 1 | ConstantValue | | Integer | 1 |
| (71) | INT2 | ConstantValue | 1 | ConstantValue | | Integer | 1 |
| (73) | INT4 | CMPX | CDP-X | PGSHeader | | Float | 449402 |
| (77) | INT4 | CMPY | CDP-Y | PGSHeader | | Float | 5507558 |
| (81) | INT4 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (85) | INT4 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (89) | INT2 | ConstantValue | 1 | ConstantValue | | Integer | 1 |
| (91) | INT2 | ConstantValue | 1500 | ConstantValue | | Integer | 1500 |
| (93) | INT2 | ReplacementVel | REPVEL | PGSHeader | | Integer | 0 |
| (95) | INT2 | StreamerDepth | RDEPTH | PGSHeader | | Float | 8 |
| (97) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (103) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (105) | INT2 | ConstantValue | 5000 | ConstantValue | | Integer | 5000 |
| (107) | INT2 | ConstantValue | -120 | ConstantValue | | Integer | -120 |
| (109) | INT2 | TimeFirstSample | TIMEFS | PGSHeader | | Integer | 0 |
| (115) | INT2 | NoSampleOnTr | NoSamp | InternalData | | Integer | 1251 |
| (117) | INT2 | SampleInt | SampInt | InternalData | | Integer | 4000 |
| (119) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (121) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (123) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (125) | INT4 | CMPX | CDP-X | PGSHeader | | Float | 449402 |
| (129) | INT4 | CMPY | CDP-Y | PGSHeader | | Float | 5507558 |
| (133) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (135) | INT2 | ConstantValue | 3 | ConstantValue | | Integer | 3 |
| (137) | INT2 | BULKSH | 0 | ConstantValue | | Integer | 0 |
| (139) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (141) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (143) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (145) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (147) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (149) | INT2 | LCFilter | LCFILT | PGSHeader | | Integer | 4 |
| (151) | INT2 | HCFilter | HCFILT | PGSHeader | | Integer | 90 |
| (153) | INT2 | LCSlopeOrder | LCORDER | PGSHeader | | Integer | 18 |
| (155) | INT2 | HCSlopeOrder | HCORDER | PGSHeader | | Integer | 72 |
| (157) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (159) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (161) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |
| (163) | INT2 | ConstantValue | 0 | ConstantValue | | Integer | 0 |

(165) INT2 ConstantValue 0 ConstantValue Integer 0
(167) INT2 ConstantValue 0 ConstantValue Integer 0
(169) INT2 TraceWeightFactor TWF PGSHeader Integer 0
(171) INT2 ConstantValue 0 ConstantValue Integer 0
(173) INT2 ConstantValue 0 ConstantValue Integer 0
(175) INT2 ConstantValue 0 ConstantValue Integer 0
(177) INT4 ResidualCMPStat CMPSTA PGSHeader Float 0
(181) INT2 ConstantValue 0 ConstantValue Integer 0
(183) INT2 Vintage VINTAGE PGSHeader Integer 1
(185) INT4 SubLine SUBLINE PGSHeader Integer 1000
(189) INT4 XLine XLINE PGSHeader Integer 1152
(193) INT4 ConstantValue 0 ConstantValue Integer 0
(197) INT4 ConstantValue 0 ConstantValue Integer 0
(201) INT4 ConstantValue 0 ConstantValue Integer 0
(205) INT4 ConstantValue 0 ConstantValue Integer 0
(209) INT4 ConstantValue 0 ConstantValue Integer 0
(213) INT4 CMPWD wbtime PGSHeader Integer 104
(217) INT4 FloatingDatum POSNMO PGSHeader Float 0
(221) INT4 TotalStatics 0 ConstantValue Integer 0
(225) INT4 ConstantValue 0 ConstantValue Integer 0
(229) INT4 ConstantValue 0 ConstantValue Integer 0
(233) INT4 ConstantValue 0 ConstantValue Integer 0
(237) INT4 FloatingDatum 0 ConstantValue Integer 0

## PJ 2D Gathers

C 1 CLIENT: BENARIS PETROLEUM N.V SURVEY: BLOCK PJ2D,BASS STRAIT,AUSTRALIA
C 2 INLINES: 2002086
C 3 AREA: BENARIS 2D
C 4 DATA-SET: 2D RAW MIG GATHERS
C 5 ACQ PREFIX: PJ2D PROCESSED DATE: JANUARY-MARCH 2006
C 6 SHOT INTERVAL: 25.0; RCV INTERVAL: 12.5;
C 7 CABLE LENGTH: 4350M; RCVS PER CABLE :348;
C 8 MIN OFFSET: 108M; MAX OFFSET: 4408M;
C 9 SPHEROID OF REF: WGS84; UTM ZONE: 55 SOUTH
C10 COORDINATES UNITS: METRES; PROCESSED DATUM: WGS84;
C11 SAMPLE RATE (uS): 4000; MAX TIME: 5000MSEC
C12 PATTERN: LENGTH WIDTH
C13 SWEEP: START HZ END HZ LENGTH MS CHANNEL NO TYPE
C14 PROCESSED ONSHORE BY PGS DATA PROCESSING IN PERTH
C15 REFORMAT; TRACE EDITS;
C16 RECORDING INSTRUMENT DELAY -120ms, GUN/CABLE STATIC CORRECTION;
C17 TIDAL STATIC CORRECTION, NAVIGATION MERGE, 1st PASS VELS 1KM GRID;
C18 TAU-P DOMAIN DBS AND MUTE; DEPHASE FILTER;
C19 SRME (SURFACE RELATED MULTIPLE ELIMINATION) USING 1st PASS VELOCITY;
C20 2nd PASS VELOCITY PICKING 1KM GRID;
C21 HIGH-RES PARABOLIC RADON DEMULTIPLE;
C22 3rd PASS VELOCITY PICKING 1KM GRID;
C23 KIRCHHOFF 3D TAPSTM - CURVED RAY, 100% 3rd PASS VELS SMOOTHED 2KM;
C24 4th PASS VELS PICKING 1km GRID; DENSE VELS 50m;
C25 HIGH-RES PARABOLIC RADON DEMULTIPLE; OUTER/INNER MUTES;
C26
C27 SEGY OUTPUT
C28
C29
C30
C31
C32
C33
C34
C35
C36
C37
C38
C39
C40 END EBCDIC

Tape Binary Header Summary

| Starting Byte | Format | Name | Origin | Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|---|
| (1) | INT4 | LineArchiveNum | 1 | | ConstantValue | Integer | 1 |
| (5) | INT4 | LineNo | 0 | | ConstantValue | Integer | 0 |
| (9) | INT4 | ReelNo | ReelNo | | InternalData | Integer | 0 |
| (13) | INT2 | NoTraceRecord | NoTraceRecord | | InternalData | Integer | 87 |
| (15) | INT2 | NoAuxTraceRecord | 0 | | ConstantValue | Integer | 0 |
| (17) | INT2 | SampInt | SampInt | | InternalData | Integer | 4000 |
| (19) | INT2 | SampIntOrig | 2000 | | ConstantValue | Integer | 2000 |
| (21) | INT2 | NoSamp | NoSamp | | InternalData | Integer | 1251 |
| (23) | INT2 | NoSampOrig | 2561 | | ConstantValue | Integer | 2561 |
| (25) | INT2 | SampType | SampType | | InternalData | Integer | 1 |
| (27) | INT2 | CDPFold | 87 | | ConstantValue | Integer | 87 |
| (29) | INT2 | SortingType | SortingType | | InternalData | Integer | 2 |
| (31) | INT2 | VerticalSum | 1 | | ConstantValue | Integer | 1 |
| (33) | INT2 | ConstantValue | 0 | | ConstantValue | Integer | 0 |
| (35) | INT2 | ConstantValue | 0 | | ConstantValue | Integer | 0 |
| (37) | INT2 | ConstantValue | 0 | | ConstantValue | Integer | 0 |
| (39) | INT2 | ConstantValue | 0 | | ConstantValue | Integer | 0 |
| (41) | INT2 | ConstantValue | 0 | | ConstantValue | Integer | 0 |
| (43) | INT2 | ConstantValue | 0 | | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | | ConstantValue | Integer | 0 |
| (47) | INT2 | ConstantValue | 0 | | ConstantValue | Integer | 0 |
| (49) | INT2 | ConstantValue | 0 | | ConstantValue | Integer | 0 |
| (51) | INT2 | ConstantValue | 0 | | ConstantValue | Integer | 0 |
| (53) | INT2 | ConstantValue | 0 | | ConstantValue | Integer | 0 |

(55) INT2 LengthUnit 1 ConstantValue Integer 1
(57) INT2 ConstantValue 0 ConstantValue Integer 0
(59) INT2 ConstantValue 0 ConstantValue Integer 0

Reel No: 1 Ensemble No: 1 Trace No: 1
SEGY Trace Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | TraceSeqNoLine | TraceSeqNoLine | InternalData | Integer | 1 |
| (5) | INT4 | TraceSeqNoReel | TraceSeqNoReel | InternalData | Integer | 1 |
| (9) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (13) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (17) | INT4 | SourcePointNo | 0 | ConstantValue | Integer | 0 |
| (21) | INT4 | CMPNumber | CMP | PGSHeader | Integer | 20021827 |
| (47) | INT2 | IntpTrace | TYPE | PGSHeader | Integer | 1 |
| (49) | INT2 | SourceDepth | SDEPTH | PGSHeader | Float | 6 |
| (51) | INT4 | CDPNumber | CDP | PGSHeader | Integer | 3135805 |
| (55) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (57) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (61) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (65) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (69) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (71) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (73) | INT4 | CMPX | CDP-X | PGSHeader | Float | 434774 |
| (77) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5505646 |
| (81) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (85) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (89) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (91) | INT2 | ConstantValue | 1500 | ConstantValue | Integer | 1500 |
| (93) | INT2 | ReplacementVel | REPVEL | PGSHeader | Integer | 0 |
| (95) | INT2 | StreamerDepth | RDEPTH | PGSHeader | Float | 8 |
| (97) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (103) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (105) | INT2 | ConstantValue | 5000 | ConstantValue | Integer | 5000 |
| (107) | INT2 | ConstantValue | -120 | ConstantValue | Integer | -120 |
| (109) | INT2 | TimeFirstSample | TIMEFS | PGSHeader | Integer | 0 |
| (115) | INT2 | NoSampleOnTr | NoSamp | InternalData | Integer | 1251 |
| (117) | INT2 | SampleInt | SampInt | InternalData | Integer | 4000 |
| (119) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (121) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (123) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (125) | INT4 | CMPX | CDP-X | PGSHeader | Float | 434774 |
| (129) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5505646 |
| (133) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (135) | INT2 | ConstantValue | 3 | ConstantValue | Integer | 3 |
| (137) | INT2 | BULKSH | 0 | ConstantValue | Integer | 0 |
| (139) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (141) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (143) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (145) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (147) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (149) | INT2 | LCFilter | LCFILT | PGSHeader | Integer | 4 |
| (151) | INT2 | HCFilter | HCFILT | PGSHeader | Integer | 90 |
| (153) | INT2 | LCSlopeOrder | LCORDER | PGSHeader | Integer | 18 |
| (155) | INT2 | HCSlopeOrder | HCORDER | PGSHeader | Integer | 72 |
| (157) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (159) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (161) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (163) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (165) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (167) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (169) | INT2 | TraceWeightFactor | TWF | PGSHeader | Integer | 0 |
| (171) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (173) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (175) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (177) | INT4 | ResidualCMPStat | CMPSTA | PGSHeader | Float | 0 |
| (181) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (183) | INT2 | Vintage | VINTAGE | PGSHeader | Integer | 1 |
| (185) | INT4 | SubLine | SUBLINE | PGSHeader | Integer | 2002086 |
| (189) | INT4 | XLine | XLINE | PGSHeader | Integer | 1827 |

(193) INT4 ConstantValue 0 ConstantValue Integer 0
(197) INT4 ConstantValue 0 ConstantValue Integer 0
(201) INT4 ConstantValue 0 ConstantValue Integer 0
(205) INT4 ConstantValue 0 ConstantValue Integer 0
(209) INT4 ConstantValue 0 ConstantValue Integer 0
(213) INT4 CMPWD wbtime PGSHeader Integer 103
(217) INT4 FloatingDatum POSNMO PGSHeader Float 0
(221) INT4 TotalStatics 0 ConstantValue Integer 0
(225) INT4 ConstantValue 0 ConstantValue Integer 0
(229) INT4 ConstantValue 0 ConstantValue Integer 0
(233) INT4 ConstantValue 0 ConstantValue Integer 0
(237) INT4 FloatingDatum 0 ConstantValue Integer 0

## PJ 3D Final Migrated Stack(full offset)

C 1 CLIENT :BENARIS PETROLEUM N.V SURVEY BLOCK PJ3D, BASS STRAIT, AUSTRALIA
C 2 INLINES 1000-1520; XLINES :576-1199
C 3 AREA :T/39 P
C 4 DATA-SET :FINAL MIG (OFFSETS 196-4396/75)
C 5
C 6 TAPE NO: PJ3DS37
C 7 ACQ PREFIX :PJ05 PROCESSED DATE :JANUARY-MARCH 2006
C 8 SHOT/RCV INTERVAL :18.75/12.5 NO.GUNS/CABLES :02/04
C 9 CABLE LENGTH :4350M RCVS PER CABLE :348
C10 GUN SEPARATION :50M CABLE SEPARATION :100M
C11 PORT SOURCE NO:ARRAY-2 STARBOARD SOURCE NO.:ARRAY-1
C12 FAR PORT CABLE NO.:STREAMER-4 FAR STARBOARD CABLE NO. :STREAMER-1
C13 MIN OFFSET :94M MAX OFFSET :4435M
C14 SPHEROID OF REF :WGS84 UTM ZONE :55
C15 COORDINATES UNITS :METRES PROCESSED DATUM :WGS84
C16 BINNING ORIGIN (E,N) 453461.53; 5503158.50
C17 BINNING ORIGIN (XLINE,INLINE) 340,961
C18 NO. XLINES/INLINES:1093/600 XLINE/INLINE INT :25.0/25.0
C19 GRID MIN/MAX XLINE:340/1432 GRID MIN/MAX INLINE:961/1560
C20 ROTATION ANGLE :308 (DEGR) (CLOCKWISE=POSITIVE)
C21 SAMPLE RATE (uS) :4000 MAX TIME (MS) :5000
C22 ======PROCESSED ONSHORE BY PGS DATA PROCESSING IN PERTH=========
C23 REFORMAT; TRACE EDITS,
C24 RECORDING INSTRUMENT DELAY -120ms, GUN/CABLE STATIC CORRECTION,
C25 TIDAL STATIC CORRECTION; NAVIGATION MERGE; 1st PASS VELS 1KM GRID;
C26 TAU-P DOMAIN DBS AND MUTE; DEPHASE FILTER;
C27 SRME (SURFACE RELATED MULTIPLE ELIMINATION) USING 1st PASS VELOCITY;
C28 2nd PASS VELS 1KM GRID; HIGH-RES PARABOLIC RADON DEMULTIPLE;
C29 CHANNEL SUMMATION(12.5 to 25m); SORT TO OFFSET PLANES;
C30 XLINE INTERPOLATION OF MISSING OFFSET-TRACES;
C31 3rd PASS PSTM-VELS 1KM GRID;
C32 KIRCHHOFF 3D TAPSTM - CURVED RAY, 100% 3rd PASS VELS SMOOTHED 2KM;
C33 SORT TO CDP; 4th PASS PSTM-VELS 0.5KM GRID; DENSE VELS 50m;
C34 HIGH-RES PARABOLIC RADON DEMULTIPLE; OUTER/INNER MUTES;
C35 STACK: DAS 21tr AVG IN XLINE DIRN; ZERO PHASING FILTER+POLARITY REVERSAL;
C36 Q COMPENSATION(phase only); TVF; RESIDUAL GAIN; TRACE SUMMATION(INLINE);
C37 =========OUTPUT TO SEGY - 25x25m BINS===========
C38
C39
C40 END EBCDIC

Tape Binary Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | LineArchiveNum | 1 | ConstantValue | Integer | 1 |
| (5) | INT4 | LineNo | 0 | ConstantValue | Integer | 0 |
| (9) | INT4 | ReelNo | ReelNo | InternalData | Integer | 0 |
| (13) | INT2 | NoTraceRecord | NoTraceRecord | InternalData | Integer | 1 |
| (15) | INT2 | NoAuxTraceRecord | 0 | ConstantValue | Integer | 0 |
| (17) | INT2 | SampInt | SampInt | InternalData | Integer | 4000 |
| (19) | INT2 | SampIntOrig | 2000 | ConstantValue | Integer | 2000 |
| (21) | INT2 | NoSamp | NoSamp | InternalData | Integer | 1251 |
| (23) | INT2 | NoSampOrig | 2561 | ConstantValue | Integer | 2561 |
| (25) | INT2 | SampType | SampType | InternalData | Integer | 1 |
| (27) | INT2 | CDPFold | 1 | ConstantValue | Integer | 1 |
| (29) | INT2 | SortingType | SortingType | InternalData | Integer | 4 |
| (31) | INT2 | VerticalSum | 1 | ConstantValue | Integer | 1 |
| (33) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (39) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (41) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (43) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (49) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (51) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (53) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |

(55) INT2 LengthUnit 1 ConstantValue Integer 1
(57) INT2 ConstantValue 0 ConstantValue Integer 0
(59) INT2 ConstantValue 0 ConstantValue Integer 0

Reel No: 1 Ensemble No: 1 Trace No: 1
SEGY Trace Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | TraceSeqNoLine | TraceSeqNoLine | InternalData | Integer | 1 |
| (5) | INT4 | TraceSeqNoReel | TraceSeqNoReel | InternalData | Integer | 1 |
| (9) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (13) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (17) | INT4 | SourcePointNo | 0 | ConstantValue | Integer | 0 |
| (21) | INT4 | CMPNumber | CMP | PGSHeader | Integer | 10000576 |
| (25) | INT4 | TraceNoCDP | 0 | ConstantValue | Integer | 0 |
| (29) | INT2 | TraceType | TYPE | PGSHeader | Integer | 1 |
| (31) | INT2 | NoVertical | VSTACK | PGSHeader | Integer | 1 |
| (33) | INT2 | NoHorizontal | FOLD | PGSHeader | Integer | 2 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT4 | Offset | 0 | ConstantValue | Integer | 0 |
| (41) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | IntpTrace | TYPE | PGSHeader | Integer | 1 |
| (49) | INT2 | SourceDepth | SDEPTH | PGSHeader | Float | 6 |
| (51) | INT4 | CDPNumber | CDP | PGSHeader | Integer | 42864 |
| (55) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (57) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (61) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (65) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (69) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (71) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (73) | INT4 | CMPX | CDP-X | PGSHeader | Float | 449407 |
| (77) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5507554 |
| (81) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (85) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (89) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (91) | INT2 | ConstantValue | 1450 | ConstantValue | Integer | 1450 |
| (93) | INT2 | ReplacementVel | REPVEL | PGSHeader | Integer | 0 |
| (95) | INT2 | StreamerDepth | RDEPTH | PGSHeader | Float | 8 |
| (97) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (103) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (105) | INT2 | ConstantValue | 5000 | ConstantValue | Integer | 5000 |
| (107) | INT2 | ConstantValue | -120 | ConstantValue | Integer | -120 |
| (109) | INT2 | TimeFirstSample | TIMEFS | PGSHeader | Integer | 0 |
| (115) | INT2 | NoSampleOnTr | NoSamp | InternalData | Integer | 1251 |
| (117) | INT2 | SampleInt | SampInt | InternalData | Integer | 4000 |
| (119) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (121) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (123) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (125) | INT4 | CMPX | CDP-X | PGSHeader | Float | 449407 |
| (129) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5507554 |
| (133) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (135) | INT2 | ConstantValue | 3 | ConstantValue | Integer | 3 |
| (137) | INT2 | BULKSH | 0 | ConstantValue | Integer | 0 |
| (139) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (141) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (143) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (145) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (147) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (149) | INT2 | LCFilter | LCFILT | PGSHeader | Integer | 4 |
| (151) | INT2 | HCFilter | HCFILT | PGSHeader | Integer | 90 |
| (153) | INT2 | LCSlopeOrder | LCORDER | PGSHeader | Integer | 18 |
| (155) | INT2 | HCSlopeOrder | HCORDER | PGSHeader | Integer | 72 |
| (157) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (159) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (161) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (163) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (165) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (167) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (169) | INT2 | TraceWeightFactor | 0 | ConstantValue | Integer | 0 |

(171) INT2 ConstantValue 0 ConstantValue Integer 0
(173) INT2 ConstantValue 0 ConstantValue Integer 0
(175) INT2 ConstantValue 0 ConstantValue Integer 0
(177) INT4 ResidualCMPStat CMPSTA PGSHeader Float 0
(181) INT2 ConstantValue 0 ConstantValue Integer 0
(183) INT2 Vintage VINTAGE PGSHeader Integer 1
(185) INT4 SubLine SUBLINE PGSHeader Integer 1000
(189) INT4 XLine XLINE PGSHeader Integer 576
(193) INT4 ConstantValue 0 ConstantValue Integer 0
(197) INT4 ConstantValue 0 ConstantValue Integer 0
(201) INT4 ConstantValue 0 ConstantValue Integer 0
(205) INT4 ConstantValue 0 ConstantValue Integer 0
(209) INT4 ConstantValue 0 ConstantValue Integer 0
(213) INT4 WBTW WBTIME PGSHeader Integer 104
(217) INT4 FloatingDatum POSNMO PGSHeader Float 0
(221) INT4 TotalStatics 0 ConstantValue Integer 0
(225) INT4 ConstantValue 0 ConstantValue Integer 0
(229) INT4 ConstantValue 0 ConstantValue Integer 0
(233) INT4 ConstantValue 0 ConstantValue Integer 0
(237) INT4 FloatingDatum 0 ConstantValue Integer 0

## PJ 3D Final Migrated Stack(5-20deg)

C 1 CLIENT :BENARIS PETROLEUM N.V SURVEY BLOCK PJ3D, BASS STRAIT, AUSTRALIA
C 2 INLINES 1000-1520; XLINES :576-1199
C 3 AREA :T/39 P
C 4 DATA-SET :FINAL MIG (ANGLE VOLUME 5-20 DEGREES)
C 5
C 6 TAPE NO: PJ3DS37
C 7 ACQ PREFIX :PJ05 PROCESSED DATE :JANUARY-MARCH 2006
C 8 SHOT/RCV INTERVAL :18.75/12.5 NO.GUNS/CABLES :02/04
C 9 CABLE LENGTH :4350M RCVS PER CABLE :348
C10 GUN SEPARATION :50M CABLE SEPARATION :100M
C11 PORT SOURCE NO:ARRAY-2 STARBOARD SOURCE NO.:ARRAY-1
C12 FAR PORT CABLE NO.:STREAMER-4 FAR STARBOARD CABLE NO. :STREAMER-1
C13 MIN OFFSET :94M MAX OFFSET :4435M
C14 SPHEROID OF REF :WGS84 UTM ZONE :55
C15 COORDINATES UNITS :METRES PROCESSED DATUM :WGS84
C16 BINNING ORIGIN (E,N) 453461.53; 5503158.50
C17 BINNING ORIGIN (XLINE,INLINE) 340,961
C18 NO. XLINES/INLINES:1093/600 XLINE/INLINE INT :25.0/25.0
C19 GRID MIN/MAX XLINE:340/1432 GRID MIN/MAX INLINE:961/1560
C20 ROTATION ANGLE :308 (DEGR) (CLOCKWISE=POSITIVE)
C21 SAMPLE RATE (uS) :4000 MAX TIME (MS) :5000
C22 ======PROCESSED ONSHORE BY PGS DATA PROCESSING IN PERTH=========
C23 REFORMAT; TRACE EDITS,
C24 RECORDING INSTRUMENT DELAY -120ms, GUN/CABLE STATIC CORRECTION,
C25 TIDAL STATIC CORRECTION; NAVIGATION MERGE; 1st PASS VELS 1KM GRID;
C26 TAU-P DOMAIN DBS AND MUTE; DEPHASE FILTER;
C27 SRME (SURFACE RELATED MULTIPLE ELIMINATION) USING 1st PASS VELOCITY;
C28 2nd PASS VELS 1KM GRID; HIGH-RES PARABOLIC RADON DEMULTIPLE;
C29 CHANNEL SUMMATION(12.5 to 25m); SORT TO OFFSET PLANES;
C30 XLINE INTERPOLATION OF MISSING OFFSET-TRACES;
C31 3rd PASS PSTM-VELS 1KM GRID;
C32 KIRCHHOFF 3D TAPSTM - CURVED RAY, 100% 3rd PASS VELS SMOOTHED 2KM;
C33 SORT TO CDP; 4th PASS PSTM-VELS 0.5KM GRID; DENSE VELS 50m;
C34 HIGH-RES PARABOLIC RADON DEMULTIPLE; 5-20 DEG MUTE;
C35 STACK: DAS 21tr AVG IN XLINE DIRN; ZERO PHASING FILTER+POLARITY REVERSAL;
C36 Q COMPENSATION(phase only); TVF; RESIDUAL GAIN; TRACE SUMMATION(INLINE);
C37 =========OUTPUT TO SEGY - 25x25m BINS===========
C38
C39
C40 END EBCDIC

Tape Binary Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | LineArchiveNum | 1 | ConstantValue | Integer | 1 |
| (5) | INT4 | LineNo | 0 | ConstantValue | Integer | 0 |
| (9) | INT4 | ReelNo | ReelNo | InternalData | Integer | 0 |
| (13) | INT2 | NoTraceRecord | NoTraceRecord | InternalData | Integer | 1 |
| (15) | INT2 | NoAuxTraceRecord | 0 | ConstantValue | Integer | 0 |
| (17) | INT2 | SampInt | SampInt | InternalData | Integer | 4000 |
| (19) | INT2 | SampIntOrig | 2000 | ConstantValue | Integer | 2000 |
| (21) | INT2 | NoSamp | NoSamp | InternalData | Integer | 1251 |
| (23) | INT2 | NoSampOrig | 2561 | ConstantValue | Integer | 2561 |
| (25) | INT2 | SampType | SampType | InternalData | Integer | 1 |
| (27) | INT2 | CDPFold | 1 | ConstantValue | Integer | 1 |
| (29) | INT2 | SortingType | SortingType | InternalData | Integer | 4 |
| (31) | INT2 | VerticalSum | 1 | ConstantValue | Integer | 1 |
| (33) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (39) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (41) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (43) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (49) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (51) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (53) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |

(55) INT2 LengthUnit 1 ConstantValue Integer 1
(57) INT2 ConstantValue 0 ConstantValue Integer 0
(59) INT2 ConstantValue 0 ConstantValue Integer 0

Reel No: 1 Ensemble No: 1 Trace No: 1
SEGY Trace Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | TraceSeqNoLine | TraceSeqNoLine | InternalData | Integer | 1 |
| (5) | INT4 | TraceSeqNoReel | TraceSeqNoReel | InternalData | Integer | 1 |
| (9) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (13) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (17) | INT4 | SourcePointNo | 0 | ConstantValue | Integer | 0 |
| (21) | INT4 | CMPNumber | CMP | PGSHeader | Integer | 10000576 |
| (25) | INT4 | TraceNoCDP | 0 | ConstantValue | Integer | 0 |
| (29) | INT2 | TraceType | TYPE | PGSHeader | Integer | 1 |
| (31) | INT2 | NoVertical | VSTACK | PGSHeader | Integer | 1 |
| (33) | INT2 | NoHorizontal | FOLD | PGSHeader | Integer | 2 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT4 | Offset | 0 | ConstantValue | Integer | 0 |
| (41) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | IntpTrace | TYPE | PGSHeader | Integer | 1 |
| (49) | INT2 | SourceDepth | SDEPTH | PGSHeader | Float | 6 |
| (51) | INT4 | CDPNumber | CDP | PGSHeader | Integer | 42864 |
| (55) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (57) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (61) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (65) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (69) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (71) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (73) | INT4 | CMPX | CDP-X | PGSHeader | Float | 449407 |
| (77) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5507554 |
| (81) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (85) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (89) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (91) | INT2 | ConstantValue | 1450 | ConstantValue | Integer | 1450 |
| (93) | INT2 | ReplacementVel | REPVEL | PGSHeader | Integer | 0 |
| (95) | INT2 | StreamerDepth | RDEPTH | PGSHeader | Float | 8 |
| (97) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (103) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (105) | INT2 | ConstantValue | 5000 | ConstantValue | Integer | 5000 |
| (107) | INT2 | ConstantValue | -120 | ConstantValue | Integer | -120 |
| (109) | INT2 | TimeFirstSample | TIMEFS | PGSHeader | Integer | 0 |
| (115) | INT2 | NoSampleOnTr | NoSamp | InternalData | Integer | 1251 |
| (117) | INT2 | SampleInt | SampInt | InternalData | Integer | 4000 |
| (119) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (121) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (123) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (125) | INT4 | CMPX | CDP-X | PGSHeader | Float | 449407 |
| (129) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5507554 |
| (133) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (135) | INT2 | ConstantValue | 3 | ConstantValue | Integer | 3 |
| (137) | INT2 | BULKSH | 0 | ConstantValue | Integer | 0 |
| (139) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (141) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (143) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (145) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (147) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (149) | INT2 | LCFilter | LCFILT | PGSHeader | Integer | 4 |
| (151) | INT2 | HCFilter | HCFILT | PGSHeader | Integer | 90 |
| (153) | INT2 | LCSlopeOrder | LCORDER | PGSHeader | Integer | 18 |
| (155) | INT2 | HCSlopeOrder | HCORDER | PGSHeader | Integer | 72 |
| (157) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (159) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (161) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (163) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (165) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (167) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (169) | INT2 | TraceWeightFactor | 0 | ConstantValue | Integer | 0 |

(171) INT2 ConstantValue 0 ConstantValue Integer 0
(173) INT2 ConstantValue 0 ConstantValue Integer 0
(175) INT2 ConstantValue 0 ConstantValue Integer 0
(177) INT4 ResidualCMPStat CMPSTA PGSHeader Float 0
(181) INT2 ConstantValue 0 ConstantValue Integer 0
(183) INT2 Vintage VINTAGE PGSHeader Integer 1
(185) INT4 SubLine SUBLINE PGSHeader Integer 1000
(189) INT4 XLine XLINE PGSHeader Integer 576
(193) INT4 ConstantValue 0 ConstantValue Integer 0
(197) INT4 ConstantValue 0 ConstantValue Integer 0
(201) INT4 ConstantValue 0 ConstantValue Integer 0
(205) INT4 ConstantValue 0 ConstantValue Integer 0
(209) INT4 ConstantValue 0 ConstantValue Integer 0
(213) INT4 WBTW WBTIME PGSHeader Integer 104
(217) INT4 FloatingDatum POSNMO PGSHeader Float 0
(221) INT4 TotalStatics 0 ConstantValue Integer 0
(225) INT4 ConstantValue 0 ConstantValue Integer 0
(229) INT4 ConstantValue 0 ConstantValue Integer 0
(233) INT4 ConstantValue 0 ConstantValue Integer 0
(237) INT4 FloatingDatum 0 ConstantValue Integer 0

## PJ 3D Final Migrated Stack(20-40deg)

C 1 CLIENT :BENARIS PETROLEUM N.V SURVEY BLOCK PJ3D, BASS STRAIT, AUSTRALIA
C 2 INLINES 1000-1520; XLINES :576-1199
C 3 AREA :T/39 P
C 4 DATA-SET :FINAL MIG (ANGLE VOLUME 20-40 DEGREES)
C 5
C 6 TAPE NO: PJ3DS37
C 7 ACQ PREFIX :PJ05 PROCESSED DATE :JANUARY-MARCH 2006
C 8 SHOT/RCV INTERVAL :18.75/12.5 NO.GUNS/CABLES :02/04
C 9 CABLE LENGTH :4350M RCVS PER CABLE :348
C10 GUN SEPARATION :50M CABLE SEPARATION :100M
C11 PORT SOURCE NO:ARRAY-2 STARBOARD SOURCE NO.:ARRAY-1
C12 FAR PORT CABLE NO.:STREAMER-4 FAR STARBOARD CABLE NO. :STREAMER-1
C13 MIN OFFSET :94M MAX OFFSET :4435M
C14 SPHEROID OF REF :WGS84 UTM ZONE :55
C15 COORDINATES UNITS :METRES PROCESSED DATUM :WGS84
C16 BINNING ORIGIN (E,N) 453461.53; 5503158.50
C17 BINNING ORIGIN (XLINE,INLINE) 340,961
C18 NO. XLINES/INLINES:1093/600 XLINE/INLINE INT :25.0/25.0
C19 GRID MIN/MAX XLINE:340/1432 GRID MIN/MAX INLINE:961/1560
C20 ROTATION ANGLE :308 (DEGR) (CLOCKWISE=POSITIVE)
C21 SAMPLE RATE (uS) :4000 MAX TIME (MS) :5000
C22 ======PROCESSED ONSHORE BY PGS DATA PROCESSING IN PERTH=========
C23 REFORMAT; TRACE EDITS,
C24 RECORDING INSTRUMENT DELAY -120ms, GUN/CABLE STATIC CORRECTION,
C25 TIDAL STATIC CORRECTION; NAVIGATION MERGE; 1st PASS VELS 1KM GRID;
C26 TAU-P DOMAIN DBS AND MUTE; DEPHASE FILTER;
C27 SRME (SURFACE RELATED MULTIPLE ELIMINATION) USING 1st PASS VELOCITY;
C28 2nd PASS VELS 1KM GRID; HIGH-RES PARABOLIC RADON DEMULTIPLE;
C29 CHANNEL SUMMATION(12.5 to 25m); SORT TO OFFSET PLANES;
C30 XLINE INTERPOLATION OF MISSING OFFSET-TRACES;
C31 3rd PASS PSTM-VELS 1KM GRID;
C32 KIRCHHOFF 3D TAPSTM - CURVED RAY, 100% 3rd PASS VELS SMOOTHED 2KM;
C33 SORT TO CDP; 4th PASS PSTM-VELS 0.5KM GRID; DENSE VELS 50m;
C34 HIGH-RES PARABOLIC RADON DEMULTIPLE; 20-40 DEG MUTE;
C35 STACK: DAS 21tr AVG IN XLINE DIRN; ZERO PHASING FILTER+POLARITY REVERSAL;
C36 Q COMPENSATION(phase only); TVF; RESIDUAL GAIN; TRACE SUMMATION(INLINE);
C37 =========OUTPUT TO SEGY - 25x25m BINS===========
C38
C39
C40 END EBCDIC

Tape Binary Header Summary

| Starting Byte | Format | Name | Origin | Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|---|
| (1) | INT4 | LineArchiveNum | 1 | ConstantValue | Integer | | 1 |
| (5) | INT4 | LineNo | 0 | ConstantValue | Integer | | 0 |
| (9) | INT4 | ReelNo | ReelNo | InternalData | Integer | | 0 |
| (13) | INT2 | NoTraceRecord | NoTraceRecord | InternalData | Integer | | 1 |
| (15) | INT2 | NoAuxTraceRecord | 0 | ConstantValue | Integer | | 0 |
| (17) | INT2 | SampInt | SampInt | InternalData | Integer | | 4000 |
| (19) | INT2 | SampIntOrig | 2000 | ConstantValue | Integer | | 2000 |
| (21) | INT2 | NoSamp | NoSamp | InternalData | Integer | | 1251 |
| (23) | INT2 | NoSampOrig | 2561 | ConstantValue | Integer | | 2561 |
| (25) | INT2 | SampType | SampType | InternalData | Integer | | 1 |
| (27) | INT2 | CDPFold | 1 | ConstantValue | Integer | | 1 |
| (29) | INT2 | SortingType | SortingType | InternalData | Integer | | 4 |
| (31) | INT2 | VerticalSum | 1 | ConstantValue | Integer | | 1 |
| (33) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (37) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (39) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (41) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (43) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (47) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (49) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (51) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (53) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |

(55) INT2 LengthUnit 1 ConstantValue Integer 1
(57) INT2 ConstantValue 0 ConstantValue Integer 0
(59) INT2 ConstantValue 0 ConstantValue Integer 0

Reel No: 1 Ensemble No: 1 Trace No: 1
SEGY Trace Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | TraceSeqNoLine | TraceSeqNoLine | InternalData | Integer | 1 |
| (5) | INT4 | TraceSeqNoReel | TraceSeqNoReel | InternalData | Integer | 1 |
| (9) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (13) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (17) | INT4 | SourcePointNo | 0 | ConstantValue | Integer | 0 |
| (21) | INT4 | CMPNumber | CMP | PGSHeader | Integer | 10000576 |
| (25) | INT4 | TraceNoCDP | 0 | ConstantValue | Integer | 0 |
| (29) | INT2 | TraceType | TYPE | PGSHeader | Integer | 1 |
| (31) | INT2 | NoVertical | VSTACK | PGSHeader | Integer | 1 |
| (33) | INT2 | NoHorizontal | FOLD | PGSHeader | Integer | 2 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT4 | Offset | 0 | ConstantValue | Integer | 0 |
| (41) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | IntpTrace | TYPE | PGSHeader | Integer | 1 |
| (49) | INT2 | SourceDepth | SDEPTH | PGSHeader | Float | 6 |
| (51) | INT4 | CDPNumber | CDP | PGSHeader | Integer | 42864 |
| (55) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (57) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (61) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (65) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (69) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (71) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (73) | INT4 | CMPX | CDP-X | PGSHeader | Float | 449407 |
| (77) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5507554 |
| (81) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (85) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (89) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (91) | INT2 | ConstantValue | 1450 | ConstantValue | Integer | 1450 |
| (93) | INT2 | ReplacementVel | REPVEL | PGSHeader | Integer | 0 |
| (95) | INT2 | StreamerDepth | RDEPTH | PGSHeader | Float | 8 |
| (97) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (103) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (105) | INT2 | ConstantValue | 5000 | ConstantValue | Integer | 5000 |
| (107) | INT2 | ConstantValue | -120 | ConstantValue | Integer | -120 |
| (109) | INT2 | TimeFirstSample | TIMEFS | PGSHeader | Integer | 0 |
| (115) | INT2 | NoSampleOnTr | NoSamp | InternalData | Integer | 1251 |
| (117) | INT2 | SampleInt | SampInt | InternalData | Integer | 4000 |
| (119) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (121) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (123) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (125) | INT4 | CMPX | CDP-X | PGSHeader | Float | 449407 |
| (129) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5507554 |
| (133) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (135) | INT2 | ConstantValue | 3 | ConstantValue | Integer | 3 |
| (137) | INT2 | BULKSH | 0 | ConstantValue | Integer | 0 |
| (139) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (141) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (143) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (145) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (147) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (149) | INT2 | LCFilter | LCFILT | PGSHeader | Integer | 4 |
| (151) | INT2 | HCFilter | HCFILT | PGSHeader | Integer | 90 |
| (153) | INT2 | LCSlopeOrder | LCORDER | PGSHeader | Integer | 18 |
| (155) | INT2 | HCSlopeOrder | HCORDER | PGSHeader | Integer | 72 |
| (157) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (159) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (161) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (163) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (165) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (167) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (169) | INT2 | TraceWeightFactor | 0 | ConstantValue | Integer | 0 |

(171) INT2 ConstantValue 0 ConstantValue Integer 0
(173) INT2 ConstantValue 0 ConstantValue Integer 0
(175) INT2 ConstantValue 0 ConstantValue Integer 0
(177) INT4 ResidualCMPStat CMPSTA PGSHeader Float 0
(181) INT2 ConstantValue 0 ConstantValue Integer 0
(183) INT2 Vintage VINTAGE PGSHeader Integer 1
(185) INT4 SubLine SUBLINE PGSHeader Integer 1000
(189) INT4 XLine XLINE PGSHeader Integer 576
(193) INT4 ConstantValue 0 ConstantValue Integer 0
(197) INT4 ConstantValue 0 ConstantValue Integer 0
(201) INT4 ConstantValue 0 ConstantValue Integer 0
(205) INT4 ConstantValue 0 ConstantValue Integer 0
(209) INT4 ConstantValue 0 ConstantValue Integer 0
(213) INT4 WBTW WBTIME PGSHeader Integer 104
(217) INT4 FloatingDatum POSNMO PGSHeader Float 0
(221) INT4 TotalStatics 0 ConstantValue Integer 0
(225) INT4 ConstantValue 0 ConstantValue Integer 0
(229) INT4 ConstantValue 0 ConstantValue Integer 0
(233) INT4 ConstantValue 0 ConstantValue Integer 0
(237) INT4 FloatingDatum 0 ConstantValue Integer 0

16:42:58 Reel No: 1 Ensemble No: 17 Trace No: 10001
SEGY Trace Header Summary
Starting Byte Format Name Origin Name Origin Type Origin Format Value
(1) INT4 TraceSeqNoLine TraceSeqNoLine InternalData Integer 10001
(5) INT4 TraceSeqNoReel TraceSeqNoReel InternalData Integer 10001
(9) INT4 ConstantValue 0 ConstantValue Integer 0
(13) INT4 ConstantValue 0 ConstantValue Integer 0
(17) INT4 SourcePointNo 0 ConstantValue Integer 0
(21) INT4 CMPNumber CMP PGSHeader Integer 10160592
(25) INT4 TraceNoCDP 0 ConstantValue Integer 0
(29) INT2 TraceType TYPE PGSHeader Integer 1
(31) INT2 NoVertical VSTACK PGSHeader Integer 1
(33) INT2 NoHorizontal FOLD PGSHeader Integer 2
(35) INT2 ConstantValue 0 ConstantValue Integer 0
(37) INT4 Offset 0 ConstantValue Integer 0
(41) INT4 ConstantValue 0 ConstantValue Integer 0
(45) INT2 ConstantValue 0 ConstantValue Integer 0
(47) INT2 IntpTrace TYPE PGSHeader Integer 1
(49) INT2 SourceDepth SDEPTH PGSHeader Float 6
(51) INT4 CDPNumber CDP PGSHeader Integer 60368
(55) INT2 ConstantValue 0 ConstantValue Integer 0
(57) INT4 ConstantValue 0 ConstantValue Integer 0
(61) INT4 ConstantValue 0 ConstantValue Integer 0
(65) INT4 ConstantValue 0 ConstantValue Integer 0
(69) INT2 ConstantValue 1 ConstantValue Integer 1
(71) INT2 ConstantValue 1 ConstantValue Integer 1
(73) INT4 CMPX CDP-X PGSHeader Float 449337
(77) INT4 CMPY CDP-Y PGSHeader Float 5508115
(81) INT4 ConstantValue 0 ConstantValue Integer 0
(85) INT4 ConstantValue 0 ConstantValue Integer 0
(89) INT2 ConstantValue 1 ConstantValue Integer 1
(91) INT2 ConstantValue 1450 ConstantValue Integer 1450
(93) INT2 ReplacementVel REPVEL PGSHeader Integer 0
(95) INT2 StreamerDepth RDEPTH PGSHeader Float 8
(97) INT2 ConstantValue 0 ConstantValue Integer 0
(103) INT2 ConstantValue 0 ConstantValue Integer 0
(105) INT2 ConstantValue 5000 ConstantValue Integer 5000
(107) INT2 ConstantValue -120 ConstantValue Integer -120
(109) INT2 TimeFirstSample TIMEFS PGSHeader Integer 0
(115) INT2 NoSampleOnTr NoSamp InternalData Integer 1251
(117) INT2 SampleInt SampInt InternalData Integer 4000
(119) INT2 ConstantValue 0 ConstantValue Integer 0
(121) INT2 ConstantValue 0 ConstantValue Integer 0
(123) INT2 ConstantValue 0 ConstantValue Integer 0
(125) INT4 CMPX CDP-X PGSHeader Float 449337
(129) INT4 CMPY CDP-Y PGSHeader Float 5508115
(133) INT2 ConstantValue 0 ConstantValue Integer 0
(135) INT2 ConstantValue 3 ConstantValue Integer 3

(137) INT2 BULKSH 0 ConstantValue Integer 0
(139) INT2 ConstantValue 0 ConstantValue Integer 0
(141) INT2 ConstantValue 0 ConstantValue Integer 0
(143) INT2 ConstantValue 0 ConstantValue Integer 0
(145) INT2 ConstantValue 0 ConstantValue Integer 0
(147) INT2 ConstantValue 0 ConstantValue Integer 0
(149) INT2 LCFilter LCFILT PGSHeader Integer 4
(151) INT2 HCFilter HCFILT PGSHeader Integer 90
(153) INT2 LCSlopeOrder LCORDER PGSHeader Integer 18
(155) INT2 HCSlopeOrder HCORDER PGSHeader Integer 72
(157) INT2 ConstantValue 0 ConstantValue Integer 0
(159) INT2 ConstantValue 0 ConstantValue Integer 0
(161) INT2 ConstantValue 0 ConstantValue Integer 0
(163) INT2 ConstantValue 0 ConstantValue Integer 0
(165) INT2 ConstantValue 0 ConstantValue Integer 0
(167) INT2 ConstantValue 0 ConstantValue Integer 0
(169) INT2 TraceWeightFactor 0 ConstantValue Integer 0
(171) INT2 ConstantValue 0 ConstantValue Integer 0
(173) INT2 ConstantValue 0 ConstantValue Integer 0
(175) INT2 ConstantValue 0 ConstantValue Integer 0
(177) INT4 ResidualCMPStat CMPSTA PGSHeader Float 0
(181) INT2 ConstantValue 0 ConstantValue Integer 0
(183) INT2 Vintage VINTAGE PGSHeader Integer 1
(185) INT4 SubLine SUBLINE PGSHeader Integer 1016
(189) INT4 XLine XLINE PGSHeader Integer 592
(193) INT4 ConstantValue 0 ConstantValue Integer 0
(197) INT4 ConstantValue 0 ConstantValue Integer 0
(201) INT4 ConstantValue 0 ConstantValue Integer 0
(205) INT4 ConstantValue 0 ConstantValue Integer 0
(209) INT4 ConstantValue 0 ConstantValue Integer 0
(213) INT4 WBTW WBTIME PGSHeader Integer 101
(217) INT4 FloatingDatum POSNMO PGSHeader Float 0
(221) INT4 TotalStatics 0 ConstantValue Integer 0
(225) INT4 ConstantValue 0 ConstantValue Integer 0
(229) INT4 ConstantValue 0 ConstantValue Integer 0
(233) INT4 ConstantValue 0 ConstantValue Integer 0
(237) INT4 FloatingDatum 0 ConstantValue Integer 0

## PJ 3D Final Migrated Stack(Angle Difference)

C 1 CLIENT :BENARIS PETROLEUM N.V SURVEY BLOCK PJ3D, BASS STRAIT, AUSTRALIA
C 2 INLINES 1000-1520; XLINES :576-1199
C 3 AREA :T/39 P
C 4 DATA-SET :FINAL MIG (ANGLE VOLUME DIFFERENCE - NEARS MINUS FARS)
C 5
C 6 TAPE NO: PJ3DS37
C 7 ACQ PREFIX :PJ05 PROCESSED DATE :JANUARY-MARCH 2006
C 8 SHOT/RCV INTERVAL :18.75/12.5 NO.GUNS/CABLES :02/04
C 9 CABLE LENGTH :4350M RCVS PER CABLE :348
C10 GUN SEPARATION :50M CABLE SEPARATION :100M
C11 PORT SOURCE NO:ARRAY-2 STARBOARD SOURCE NO.:ARRAY-1
C12 FAR PORT CABLE NO.:STREAMER-4 FAR STARBOARD CABLE NO. :STREAMER-1
C13 MIN OFFSET :94M MAX OFFSET :4435M
C14 SPHEROID OF REF :WGS84 UTM ZONE :55
C15 COORDINATES UNITS :METRES PROCESSED DATUM :WGS84
C16 BINNING ORIGIN (E,N) 453461.53; 5503158.50
C17 BINNING ORIGIN (XLINE,INLINE) 340,961
C18 NO. XLINES/INLINES:1093/600 XLINE/INLINE INT :25.0/25.0
C19 GRID MIN/MAX XLINE:340/1432 GRID MIN/MAX INLINE:961/1560
C20 ROTATION ANGLE :308 (DEGR) (CLOCKWISE=POSITIVE)
C21 SAMPLE RATE (uS) :4000 MAX TIME (MS) :5000
C22 ======PROCESSED ONSHORE BY PGS DATA PROCESSING IN PERTH=========
C23 REFORMAT; TRACE EDITS,
C24 RECORDING INSTRUMENT DELAY -120ms, GUN/CABLE STATIC CORRECTION,
C25 TIDAL STATIC CORRECTION; NAVIGATION MERGE; 1st PASS VELS 1KM GRID;
C26 TAU-P DOMAIN DBS AND MUTE; DEPHASE FILTER;
C27 SRME (SURFACE RELATED MULTIPLE ELIMINATION) USING 1st PASS VELOCITY;
C28 2nd PASS VELS 1KM GRID; HIGH-RES PARABOLIC RADON DEMULTIPLE;
C29 CHANNEL SUMMATION(12.5 to 25m); SORT TO OFFSET PLANES;
C30 XLINE INTERPOLATION OF MISSING OFFSET-TRACES;
C31 3rd PASS PSTM-VELS 1KM GRID;
C32 KIRCHHOFF 3D TAPSTM - CURVED RAY, 100% 3rd PASS VELS SMOOTHED 2KM;
C33 SORT TO CDP; 4th PASS PSTM-VELS 0.5KM GRID; DENSE VELS 50m;
C34 HIGH-RES PARABOLIC RADON DEMULTIPLE; 5-20 DEG MUTE;
C35 STACK: DAS 21tr AVG IN XLINE DIRN; ZERO PHASING FILTER+POLARITY REVERSAL;
C36 Q COMPENSATION(phase only); TVF; RESIDUAL GAIN; TRACE SUMMATION(INLINE);
C37 SCALE FAR OFFSETS TO MINUS 1; NEAR OFFSETS ORIGINAL
C38 =========OUTPUT TO SEGY - 25x25m BINS===========
C39
C40 END EBCDIC

Tape Binary Header Summary

| Starting Byte | Format | Name | Origin | Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|---|
| (1) | INT4 | LineArchiveNum | 1 | ConstantValue | Integer | | 1 |
| (5) | INT4 | LineNo | 0 | ConstantValue | Integer | | 0 |
| (9) | INT4 | ReelNo | ReelNo | InternalData | Integer | | 0 |
| (13) | INT2 | NoTraceRecord | NoTraceRecord | InternalData | Integer | | 1 |
| (15) | INT2 | NoAuxTraceRecord | 0 | ConstantValue | Integer | | 0 |
| (17) | INT2 | SampInt | SampInt | InternalData | Integer | | 4000 |
| (19) | INT2 | SampIntOrig | 2000 | ConstantValue | Integer | | 2000 |
| (21) | INT2 | NoSamp | NoSamp | InternalData | Integer | | 1251 |
| (23) | INT2 | NoSampOrig | 2561 | ConstantValue | Integer | | 2561 |
| (25) | INT2 | SampType | SampType | InternalData | Integer | | 1 |
| (27) | INT2 | CDPFold | 1 | ConstantValue | Integer | | 1 |
| (29) | INT2 | SortingType | SortingType | InternalData | Integer | | 4 |
| (31) | INT2 | VerticalSum | 1 | ConstantValue | Integer | | 1 |
| (33) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (37) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (39) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (41) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (43) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (47) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (49) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (51) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |
| (53) | INT2 | ConstantValue | 0 | ConstantValue | Integer | | 0 |

(55) INT2 LengthUnit 1 ConstantValue Integer 1
(57) INT2 ConstantValue 0 ConstantValue Integer 0
(59) INT2 ConstantValue 0 ConstantValue Integer 0

Reel No: 1 Ensemble No: 1 Trace No: 1
SEGY Trace Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | TraceSeqNoLine | TraceSeqNoLine | InternalData | Integer | 1 |
| (5) | INT4 | TraceSeqNoReel | TraceSeqNoReel | InternalData | Integer | 1 |
| (9) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (13) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (17) | INT4 | SourcePointNo | 0 | ConstantValue | Integer | 0 |
| (21) | INT4 | CMPNumber | CMP | PGSHeader | Integer | 10000576 |
| (25) | INT4 | TraceNoCDP | 0 | ConstantValue | Integer | 0 |
| (29) | INT2 | TraceType | TYPE | PGSHeader | Integer | 1 |
| (31) | INT2 | NoVertical | VSTACK | PGSHeader | Integer | 1 |
| (33) | INT2 | NoHorizontal | FOLD | PGSHeader | Integer | 2 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT4 | Offset | 0 | ConstantValue | Integer | 0 |
| (41) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | IntpTrace | TYPE | PGSHeader | Integer | 1 |
| (49) | INT2 | SourceDepth | SDEPTH | PGSHeader | Float | 6 |
| (51) | INT4 | CDPNumber | CDP | PGSHeader | Integer | 42864 |
| (55) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (57) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (61) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (65) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (69) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (71) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (73) | INT4 | CMPX | CDP-X | PGSHeader | Float | 449407 |
| (77) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5507554 |
| (81) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (85) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (89) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (91) | INT2 | ConstantValue | 1450 | ConstantValue | Integer | 1450 |
| (93) | INT2 | ReplacementVel | REPVEL | PGSHeader | Integer | 0 |
| (95) | INT2 | StreamerDepth | RDEPTH | PGSHeader | Float | 8 |
| (97) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (103) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (105) | INT2 | ConstantValue | 5000 | ConstantValue | Integer | 5000 |
| (107) | INT2 | ConstantValue | -120 | ConstantValue | Integer | -120 |
| (109) | INT2 | TimeFirstSample | TIMEFS | PGSHeader | Integer | 0 |
| (115) | INT2 | NoSampleOnTr | NoSamp | InternalData | Integer | 1251 |
| (117) | INT2 | SampleInt | SampInt | InternalData | Integer | 4000 |
| (119) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (121) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (123) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (125) | INT4 | CMPX | CDP-X | PGSHeader | Float | 449407 |
| (129) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5507554 |
| (133) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (135) | INT2 | ConstantValue | 3 | ConstantValue | Integer | 3 |
| (137) | INT2 | BULKSH | 0 | ConstantValue | Integer | 0 |
| (139) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (141) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (143) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (145) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (147) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (149) | INT2 | LCFilter | LCFILT | PGSHeader | Integer | 4 |
| (151) | INT2 | HCFilter | HCFILT | PGSHeader | Integer | 90 |
| (153) | INT2 | LCSlopeOrder | LCORDER | PGSHeader | Integer | 18 |
| (155) | INT2 | HCSlopeOrder | HCORDER | PGSHeader | Integer | 72 |
| (157) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (159) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (161) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (163) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (165) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (167) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (169) | INT2 | TraceWeightFactor | 0 | ConstantValue | Integer | 0 |

(171) INT2 ConstantValue 0 ConstantValue Integer 0
(173) INT2 ConstantValue 0 ConstantValue Integer 0
(175) INT2 ConstantValue 0 ConstantValue Integer 0
(177) INT4 ResidualCMPStat CMPSTA PGSHeader Float 0
(181) INT2 ConstantValue 0 ConstantValue Integer 0
(183) INT2 Vintage VINTAGE PGSHeader Integer 1
(185) INT4 SubLine SUBLINE PGSHeader Integer 1000
(189) INT4 XLine XLINE PGSHeader Integer 576
(193) INT4 ConstantValue 0 ConstantValue Integer 0
(197) INT4 ConstantValue 0 ConstantValue Integer 0
(201) INT4 ConstantValue 0 ConstantValue Integer 0
(205) INT4 ConstantValue 0 ConstantValue Integer 0
(209) INT4 ConstantValue 0 ConstantValue Integer 0
(213) INT4 WBTW WBTIME PGSHeader Integer 104
(217) INT4 FloatingDatum POSNMO PGSHeader Float 0
(221) INT4 TotalStatics 0 ConstantValue Integer 0
(225) INT4 ConstantValue 0 ConstantValue Integer 0
(229) INT4 ConstantValue 0 ConstantValue Integer 0
(233) INT4 ConstantValue 0 ConstantValue Integer 0
(237) INT4 FloatingDatum 0 ConstantValue Integer 0

## PJ 3D Raw Migrated Stack

C 1 CLIENT :BENARIS PETROLEUM N.V SURVEY BLOCK PJ3D, BASS STRAIT, AUSTRALIA
C 2 INLINES 1000-1520; XLINES :1152-2398
C 3 AREA :T/39 P
C 4 DATA-SET :RAW MIG (OFFSETS 196-4396/75)
C 5
C 6 TAPE NO: PJ3DS4
C 7 ACQ PREFIX :PJ05 PROCESSED DATE :JANUARY-MARCH 2006
C 8 SHOT/RCV INTERVAL :18.75/12.5 NO.GUNS/CABLES :02/04
C 9 CABLE LENGTH :4350M RCVS PER CABLE :348
C10 GUN SEPARATION :50M CABLE SEPARATION :100M
C11 PORT SOURCE NO:ARRAY-2 STARBOARD SOURCE NO.:ARRAY-1
C12 FAR PORT CABLE NO.:STREAMER-4 FAR STARBOARD CABLE NO. :STREAMER-1
C13 MIN OFFSET :94M MAX OFFSET :4435M
C14 SPHEROID OF REF :WGS84 UTM ZONE :55
C15 COORDINATES UNITS :METRES PROCESSED DATUM :WGS84
C16 BINNING ORIGIN (E,N) 453446.763892; 5503169.8822769998
C17 BINNING ORIGIN (XLINE,INLINE) 681,961
C18 NO. XLINES/INLINES:2185/600 XLINE/INLINE INT :12.5/25.0
C19 GRID MIN/MAX XLINE:681/2865 GRID MIN/MAX INLINE:961/1560
C20 ROTATION ANGLE :308 (DEGR) (CLOCKWISE=POSITIVE)
C21 SAMPLE RATE (uS) :4000 MAX TIME (MS) :5000
C22 ======PROCESSED ONSHORE BY PGS DATA PROCESSING IN PERTH=========
C23 REFORMAT; TRACE EDITS,
C24 RECORDING INSTRUMENT DELAY -120ms, GUN/CABLE STATIC CORRECTION,
C25 TIDAL STATIC CORRECTION; NAVIGATION MERGE; 1st PASS VELS 1KM GRID;
C26 TAU-P DOMAIN DBS AND MUTE; DEPHASE FILTER;
C27 SRME (SURFACE RELATED MULTIPLE ELIMINATION) USING 1st PASS VELOCITY;
C28 2nd PASS VELS 1KM GRID; HIGH-RES PARABOLIC RADON DEMULTIPLE;
C29 CHANNEL SUMMATION(12.5 to 25m); SORT TO OFFSET PLANES;
C30 XLINE INTERPOLATION OF MISSING OFFSET-TRACES;
C31 3rd PASS PSTM-VELS 1KM GRID;
C32 KIRCHHOFF 3D TAPSTM - CURVED RAY, 100% 3rd PASS VELS SMOOTHED 2KM;
C33 SORT TO CDP; 4th PASS PSTM-VELS 0.5KM GRID; DENSE VELS 50m;
C34 HIGH-RES PARABOLIC RADON DEMULTIPLE; OUTER/INNER MUTES; STACK;
C35
C36
C37 =========OUTPUT TO SEGY - 12.5x25m BINS (MIN. PHASE)==========
C38
C39
C40 END EBCDIC

Tape Binary Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | LineArchiveNum | 1 | ConstantValue | Integer | 1 |
| (5) | INT4 | LineNo | 0 | ConstantValue | Integer | 0 |
| (9) | INT4 | ReelNo | ReelNo | InternalData | Integer | 4 |
| (13) | INT2 | NoTraceRecord | NoTraceRecord | InternalData | Integer | 1 |
| (15) | INT2 | NoAuxTraceRecord | 0 | ConstantValue | Integer | 0 |
| (17) | INT2 | SampInt | SampInt | InternalData | Integer | 4000 |
| (19) | INT2 | SampIntOrig | 2000 | ConstantValue | Integer | 2000 |
| (21) | INT2 | NoSamp | NoSamp | InternalData | Integer | 1251 |
| (23) | INT2 | NoSampOrig | 2561 | ConstantValue | Integer | 2561 |
| (25) | INT2 | SampType | SampType | InternalData | Integer | 1 |
| (27) | INT2 | CDPFold | 1 | ConstantValue | Integer | 1 |
| (29) | INT2 | SortingType | SortingType | InternalData | Integer | 4 |
| (31) | INT2 | VerticalSum | 1 | ConstantValue | Integer | 1 |
| (33) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (39) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (41) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (43) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (49) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (51) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (53) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |

(55) INT2 LengthUnit 1 ConstantValue Integer 1
(57) INT2 ConstantValue 0 ConstantValue Integer 0
(59) INT2 ConstantValue 0 ConstantValue Integer 0

Reel No: 1 Ensemble No: 1 Trace No: 1
SEGY Trace Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | TraceSeqNoLine | TraceSeqNoLine | InternalData | Integer | 1 |
| (5) | INT4 | TraceSeqNoReel | TraceSeqNoReel | InternalData | Integer | 1 |
| (9) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (13) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (17) | INT4 | SourcePointNo | 0 | ConstantValue | Integer | 0 |
| (21) | INT4 | CMPNumber | CMP | PGSHeader | Integer | 10001152 |
| (25) | INT4 | TraceNoCDP | 0 | ConstantValue | Integer | 0 |
| (29) | INT2 | TraceType | TYPE | PGSHeader | Integer | 1 |
| (31) | INT2 | NoVertical | VSTACK | PGSHeader | Integer | 1 |
| (33) | INT2 | NoHorizontal | FOLD | PGSHeader | Integer | 58 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT4 | Offset | 0 | ConstantValue | Integer | 0 |
| (41) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | IntpTrace | TYPE | PGSHeader | Integer | 1 |
| (49) | INT2 | SourceDepth | SDEPTH | PGSHeader | Float | 6 |
| (51) | INT4 | CDPNumber | CDP | PGSHeader | Integer | 85687 |
| (55) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (57) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (61) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (65) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (69) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (71) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (73) | INT4 | CMPX | CDP-X | PGSHeader | Float | 449402 |
| (77) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5507558 |
| (81) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (85) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (89) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (91) | INT2 | ConstantValue | 1450 | ConstantValue | Integer | 1450 |
| (93) | INT2 | ReplacementVel | REPVEL | PGSHeader | Integer | 0 |
| (95) | INT2 | StreamerDepth | RDEPTH | PGSHeader | Float | 8 |
| (97) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (103) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (105) | INT2 | ConstantValue | 5000 | ConstantValue | Integer | 5000 |
| (107) | INT2 | ConstantValue | -120 | ConstantValue | Integer | -120 |
| (109) | INT2 | TimeFirstSample | TIMEFS | PGSHeader | Integer | 0 |
| (115) | INT2 | NoSampleOnTr | NoSamp | InternalData | Integer | 1251 |
| (117) | INT2 | SampleInt | SampInt | InternalData | Integer | 4000 |
| (119) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (121) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (123) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (125) | INT4 | CMPX | CDP-X | PGSHeader | Float | 449402 |
| (129) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5507558 |
| (133) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (135) | INT2 | ConstantValue | 3 | ConstantValue | Integer | 3 |
| (137) | INT2 | BULKSH | 0 | ConstantValue | Integer | 0 |
| (139) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (141) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (143) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (145) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (147) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (149) | INT2 | LCFilter | LCFILT | PGSHeader | Integer | 4 |
| (151) | INT2 | HCFilter | HCFILT | PGSHeader | Integer | 90 |
| (153) | INT2 | LCSlopeOrder | LCORDER | PGSHeader | Integer | 18 |
| (155) | INT2 | HCSlopeOrder | HCORDER | PGSHeader | Integer | 72 |
| (157) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (159) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (161) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (163) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (165) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (167) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (169) | INT2 | TraceWeightFactor | 0 | ConstantValue | Integer | 0 |

(171) INT2 ConstantValue 0 ConstantValue Integer 0
(173) INT2 ConstantValue 0 ConstantValue Integer 0
(175) INT2 ConstantValue 0 ConstantValue Integer 0
(177) INT4 ResidualCMPStat CMPSTA PGSHeader Float 0
(181) INT2 ConstantValue 0 ConstantValue Integer 0
(183) INT2 Vintage VINTAGE PGSHeader Integer 1
(185) INT4 SubLine SUBLINE PGSHeader Integer 1000
(189) INT4 XLine XLINE PGSHeader Integer 1152
(193) INT4 ConstantValue 0 ConstantValue Integer 0
(197) INT4 ConstantValue 0 ConstantValue Integer 0
(201) INT4 ConstantValue 0 ConstantValue Integer 0
(205) INT4 ConstantValue 0 ConstantValue Integer 0
(209) INT4 ConstantValue 0 ConstantValue Integer 0
(217) INT4 FloatingDatum POSNMO PGSHeader Float 0
(221) INT4 TotalStatics 0 ConstantValue Integer 0
(225) INT4 ConstantValue 0 ConstantValue Integer 0
(229) INT4 ConstantValue 0 ConstantValue Integer 0
(233) INT4 ConstantValue 0 ConstantValue Integer 0
(237) INT4 FloatingDatum 0 ConstantValue Integer 0

## PJ 2D Final Migrated Stack

C 1 CLIENT_:BENARIS_PETROLEUM_N.V_SURVEY_BLOCK_PJ2D,_BASS_STRAIT,_AUSTRALIA
C 2 INLINES__2001082
C 3 AREA_____:BENARIS_2D
C 4 DATA-SET_:_2D_FINAL_MIG
C 5 ACQ_PREFIX________:PJ2D__________PROCESSED_DATE___:JANUARY-MARCH_2006
C 6 SHOT_INTERVAL_____:25.0;_________RCV_INTERVAL_:___12.5
C 7 CABLE_LENGTH______:4350M_________RCVS_PER_CABLE___:348
C 8 MIN_OFFSET________:108M__________MAX_OFFSET_______:4408M
C 9 SPHEROID_OF_REF___:WGS84_________UTM_ZONE_________:55
C10 COORDINATES_UNITS_:METRES________PROCESSED_DATUM__:WGS84
C11 SAMPLE_RATE_(uS)__:4000__________MAX_TIME_(MS)____:5000
C12 _____
C13 _____
C14 ======PROCESSED_ONSHORE_BY_PGS_DATA_PROCESSING_IN_PERTH=========
C15 REFORMAT;_TRACE_EDITS,_
C16 RECORDING_INSTRUMENT_DELAY -120ms, GUN/CABLE_STATIC_CORRECTION,
C17 TIDAL_STATIC_CORRECTION, NAVIGATION MERGE,_1st_PASS_VELS_1KM_GRID
C18 TAU-P_DOMAIN_DBS_AND_MUTE;_DEPHASE_FILTER
C19 SRME_(SURFACE_RELATED_MULTIPLE_ELIMINATION)_USING_1st_PASS_VELOCITY;
C20 2nd_PASS_VELOCITY_PICKING_1KM_GRID;
C21 HIGH-RES_PARABOLIC_RADON_DEMULTIPLE;
C22 3rd_PASS_VELOCITY_PICKING_1KM_GRID;
C23 KIRCHHOFF_3D_TAPSTM_-_CURVED_RAY,_100%_3rd_PASS_VELS_SMOOTHED_2KM;
C24 4th_PASS_VELS_PICKING_1km_GRID;_DENSE_VELS_50m;
C25 HIGH-RES_PARABOLIC_RADON_DEMULTIPLE;_OUTER/INNER_MUTES;
C26 STACK:_DAS_21tr_AVG_IN_XLINE_DIRN;_ZERO_PHASING_FILTER+POLARITY_REVERSAL;
C27 Q_COMPENSATION(phase_only);_TVF;_RESIDUAL_GAIN;
C28 __________SEGY_OUTPUT_____________________
C29
C30
C31
C32
C33
C34
C35
C36
C37
C38
C39
C40 END EBCDIC

Tape Binary Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | LineArchiveNum | 1 | ConstantValue | Integer | 1 |
| (5) | INT4 | LineNo | 0 | ConstantValue | Integer | 0 |
| (9) | INT4 | ReelNo | ReelNo | InternalData | Integer | 0 |
| (13) | INT2 | NoTraceRecord | NoTraceRecord | InternalData | Integer | 1 |
| (15) | INT2 | NoAuxTraceRecord | 0 | ConstantValue | Integer | 0 |
| (17) | INT2 | SampInt | SampInt | InternalData | Integer | 4000 |
| (19) | INT2 | SampIntOrig | 2000 | ConstantValue | Integer | 2000 |
| (21) | INT2 | NoSamp | NoSamp | InternalData | Integer | 1251 |
| (23) | INT2 | NoSampOrig | 2561 | ConstantValue | Integer | 2561 |
| (25) | INT2 | SampType | SampType | InternalData | Integer | 1 |
| (27) | INT2 | CDPFold | 1 | ConstantValue | Integer | 1 |
| (29) | INT2 | SortingType | SortingType | InternalData | Integer | 4 |
| (31) | INT2 | VerticalSum | 1 | ConstantValue | Integer | 1 |
| (33) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (39) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (41) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (43) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (49) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (51) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (53) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |

(55) INT2 LengthUnit 1 ConstantValue Integer 1
(57) INT2 ConstantValue 0 ConstantValue Integer 0
(59) INT2 ConstantValue 0 ConstantValue Integer 0

Reel No: 1 Ensemble No: 1 Trace No: 1
SEGY Trace Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | TraceSeqNoLine | TraceSeqNoLine | InternalData | Integer | 1 |
| (5) | INT4 | TraceSeqNoReel | TraceSeqNoReel | InternalData | Integer | 1 |
| (9) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (13) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (17) | INT4 | SourcePointNo | SHOT | PGSHeader | Integer | 1001 |
| (21) | INT4 | CMPNumber | CMP | PGSHeader | Integer | 20012001 |
| (25) | INT4 | TraceNoCDP | 0 | ConstantValue | Integer | 0 |
| (29) | INT2 | TraceType | TYPE | PGSHeader | Integer | 1 |
| (31) | INT2 | NoVertical | VSTACK | PGSHeader | Integer | 1 |
| (33) | INT2 | NoHorizontal | FOLD | PGSHeader | Integer | 87 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT4 | Offset | 0 | ConstantValue | Integer | 0 |
| (41) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | IntpTrace | TYPE | PGSHeader | Integer | 1 |
| (49) | INT2 | SourceDepth | SDEPTH | PGSHeader | Float | 6 |
| (51) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (55) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (57) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (61) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (65) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (69) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (71) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (73) | INT4 | CMPX | CDP-X | PGSHeader | Float | 414713 |
| (77) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5526858 |
| (81) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (85) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (89) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (91) | INT2 | ConstantValue | 1450 | ConstantValue | Integer | 1450 |
| (93) | INT2 | ReplacementVel | REPVEL | PGSHeader | Integer | 0 |
| (95) | INT2 | StreamerDepth | RDEPTH | PGSHeader | Float | 8 |
| (97) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (103) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (105) | INT2 | ConstantValue | 5000 | ConstantValue | Integer | 5000 |
| (107) | INT2 | ConstantValue | -120 | ConstantValue | Integer | -120 |
| (109) | INT2 | TimeFirstSample | TIMEFS | PGSHeader | Integer | 0 |
| (115) | INT2 | NoSampleOnTr | NoSamp | InternalData | Integer | 1251 |
| (117) | INT2 | SampleInt | SampInt | InternalData | Integer | 4000 |
| (119) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (121) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (123) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (125) | INT4 | CMPX | CDP-X | PGSHeader | Float | 414713 |
| (129) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5526858 |
| (133) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (135) | INT2 | ConstantValue | 3 | ConstantValue | Integer | 3 |
| (137) | INT2 | BULKSH | 0 | ConstantValue | Integer | 0 |
| (139) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (141) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (143) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (145) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (147) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (157) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (159) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (161) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (163) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (165) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (167) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (169) | INT2 | TraceWeightFactor | 0 | ConstantValue | Integer | 0 |
| (171) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (173) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (175) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (177) | INT4 | ResidualCMPStat | CMPSTA | PGSHeader | Float | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| (181) INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 | |
| (183) INT2 | Vintage | VINTAGE | PGSHeader | Integer | 1 | |
| (185) INT4 | SubLine | SLINE | PGSHeader | Integer | 2001082 | |
| (189) INT4 | ShotPintNumber | SHOT | PGSHeader | Integer | 1001 | |
| (193) INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 | |
| (197) INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 | |
| (201) INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 | |
| (205) INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 | |
| (209) INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 | |
| (213) INT4 | WBTW | WBTIME | PGSHeader | Integer | 101 | |
| (217) INT4 | FloatingDatum | POSNMO | PGSHeader | Float | 0 | |
| (221) INT4 | TotalStatics | 0 | ConstantValue | Integer | 0 | |
| (225) INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 | |
| (229) INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 | |
| (233) INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 | |
| (237) INT4 | FloatingDatum | 0 | ConstantValue | Integer | 0 | |

## PJ 2D Raw Migrated Stack

C 1 CLIENT_:BENARIS_PETROLEUM_N.V_SURVEY_BLOCK_PJ2D,_BASS_STRAIT,_AUSTRALIA
C 2 INLINES__2001082
C 3 AREA_____:BENARIS_2D
C 4 DATA-SET_:_2D_RAW_MIG
C 5 ACQ_PREFIX________:PJ2D__________PROCESSED_DATE___:JANUARY-MARCH_2006
C 6 SHOT_INTERVAL_____:25.0;_________RCV_INTERVAL_:___12.5
C 7 CABLE_LENGTH______:4350M_________RCVS_PER_CABLE___:348
C 8 MIN_OFFSET________:108M__________MAX_OFFSET_______:4408M
C 9 SPHEROID_OF_REF___:WGS84_________UTM_ZONE_________:55
C10 COORDINATES_UNITS_:METRES________PROCESSED_DATUM__:WGS84
C11 SAMPLE_RATE_(uS)__:4000__________MAX_TIME_(MS)____:5000
C12 _____
C13 _____
C14 ======PROCESSED_ONSHORE_BY_PGS_DATA_PROCESSING_IN_PERTH=========
C15 REFORMAT;_TRACE_EDITS,_
C16 RECORDING_INSTRUMENT_DELAY -120ms, GUN/CABLE_STATIC_CORRECTION,
C17 TIDAL_STATIC_CORRECTION, NAVIGATION MERGE,_1st_PASS_VELS_1KM_GRID
C18 TAU-P_DOMAIN_DBS_AND_MUTE;_DEPHASE_FILTER
C19 SRME_(SURFACE_RELATED_MULTIPLE_ELIMINATION)_USING_1st_PASS_VELOCITY;
C20 2nd_PASS_VELOCITY_PICKING_1KM_GRID;
C21 HIGH-RES_PARABOLIC_RADON_DEMULTIPLE;
C22 3rd_PASS_VELOCITY_PICKING_1KM_GRID;
C23 KIRCHHOFF_3D_TAPSTM_-_CURVED_RAY,_100%_3rd_PASS_VELS_SMOOTHED_2KM;
C24 4th_PASS_VELS_PICKING_1km_GRID;_DENSE_VELS_50m;
C25 HIGH-RES_PARABOLIC_RADON_DEMULTIPLE;_OUTER/INNER_MUTES;
C26 STACK
C27 __________SEGY_OUTPUT_____________________
C28
C29
C30
C31
C32
C33
C34
C35
C36
C37
C38
C39
C40 END EBCDIC

Tape Binary Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | LineArchiveNum | 1 | ConstantValue | Integer | 1 |
| (5) | INT4 | LineNo | 0 | ConstantValue | Integer | 0 |
| (9) | INT4 | ReelNo | ReelNo | InternalData | Integer | 0 |
| (13) | INT2 | NoTraceRecord | NoTraceRecord | InternalData | Integer | 1 |
| (15) | INT2 | NoAuxTraceRecord | 0 | ConstantValue | Integer | 0 |
| (17) | INT2 | SampInt | SampInt | InternalData | Integer | 4000 |
| (19) | INT2 | SampIntOrig | 2000 | ConstantValue | Integer | 2000 |
| (21) | INT2 | NoSamp | NoSamp | InternalData | Integer | 1251 |
| (23) | INT2 | NoSampOrig | 2561 | ConstantValue | Integer | 2561 |
| (25) | INT2 | SampType | SampType | InternalData | Integer | 1 |
| (27) | INT2 | CDPFold | 1 | ConstantValue | Integer | 1 |
| (29) | INT2 | SortingType | SortingType | InternalData | Integer | 4 |
| (31) | INT2 | VerticalSum | 1 | ConstantValue | Integer | 1 |
| (33) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (39) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (41) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (43) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (49) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (51) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (53) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |

(55) INT2 LengthUnit 1 ConstantValue Integer 1
(57) INT2 ConstantValue 0 ConstantValue Integer 0
(59) INT2 ConstantValue 0 ConstantValue Integer 0

Reel No: 1 Ensemble No: 1 Trace No: 1
SEGY Trace Header Summary

| Starting Byte | Format | Name | Origin Name | Origin Type | Origin Format | Value |
|---|---|---|---|---|---|---|
| (1) | INT4 | TraceSeqNoLine | TraceSeqNoLine | InternalData | Integer | 1 |
| (5) | INT4 | TraceSeqNoReel | TraceSeqNoReel | InternalData | Integer | 1 |
| (9) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (13) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (17) | INT4 | SourcePointNo | SHOT | PGSHeader | Integer | 1001 |
| (21) | INT4 | CMPNumber | CMP | PGSHeader | Integer | 20012001 |
| (25) | INT4 | TraceNoCDP | 0 | ConstantValue | Integer | 0 |
| (29) | INT2 | TraceType | TYPE | PGSHeader | Integer | 1 |
| (31) | INT2 | NoVertical | VSTACK | PGSHeader | Integer | 1 |
| (33) | INT2 | NoHorizontal | FOLD | PGSHeader | Integer | 87 |
| (35) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (37) | INT4 | Offset | 0 | ConstantValue | Integer | 0 |
| (41) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (45) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (47) | INT2 | IntpTrace | TYPE | PGSHeader | Integer | 1 |
| (49) | INT2 | SourceDepth | SDEPTH | PGSHeader | Float | 6 |
| (51) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (55) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (57) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (61) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (65) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (69) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (71) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (73) | INT4 | CMPX | CDP-X | PGSHeader | Float | 414713 |
| (77) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5526858 |
| (81) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (85) | INT4 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (89) | INT2 | ConstantValue | 1 | ConstantValue | Integer | 1 |
| (91) | INT2 | ConstantValue | 1450 | ConstantValue | Integer | 1450 |
| (93) | INT2 | ReplacementVel | REPVEL | PGSHeader | Integer | 0 |
| (95) | INT2 | StreamerDepth | RDEPTH | PGSHeader | Float | 8 |
| (97) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (103) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (105) | INT2 | ConstantValue | 5000 | ConstantValue | Integer | 5000 |
| (107) | INT2 | ConstantValue | -120 | ConstantValue | Integer | -120 |
| (109) | INT2 | TimeFirstSample | TIMEFS | PGSHeader | Integer | 0 |
| (115) | INT2 | NoSampleOnTr | NoSamp | InternalData | Integer | 1251 |
| (117) | INT2 | SampleInt | SampInt | InternalData | Integer | 4000 |
| (119) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (121) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (123) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (125) | INT4 | CMPX | CDP-X | PGSHeader | Float | 414713 |
| (129) | INT4 | CMPY | CDP-Y | PGSHeader | Float | 5526858 |
| (133) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (135) | INT2 | ConstantValue | 3 | ConstantValue | Integer | 3 |
| (137) | INT2 | BULKSH | 0 | ConstantValue | Integer | 0 |
| (139) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (141) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (143) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (145) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (147) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (149) | INT2 | LCFilter | LCFILT | PGSHeader | Integer | 4 |
| (151) | INT2 | HCFilter | HCFILT | PGSHeader | Integer | 90 |
| (153) | INT2 | LCSlopeOrder | LCORDER | PGSHeader | Integer | 18 |
| (155) | INT2 | HCSlopeOrder | HCORDER | PGSHeader | Integer | 72 |
| (157) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (159) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (161) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (163) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (165) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (167) | INT2 | ConstantValue | 0 | ConstantValue | Integer | 0 |
| (169) | INT2 | TraceWeightFactor | 0 | ConstantValue | Integer | 0 |

(171) INT2 ConstantValue 0 ConstantValue Integer 0
(173) INT2 ConstantValue 0 ConstantValue Integer 0
(175) INT2 ConstantValue 0 ConstantValue Integer 0
(177) INT4 ResidualCMPStat CMPSTA PGSHeader Float 0
(181) INT2 ConstantValue 0 ConstantValue Integer 0
(183) INT2 Vintage VINTAGE PGSHeader Integer 1
(185) INT4 SubLine SLINE PGSHeader Integer 2001082
(189) INT4 ShotPintNumber SHOT PGSHeader Integer 1001
(193) INT4 ConstantValue 0 ConstantValue Integer 0
(197) INT4 ConstantValue 0 ConstantValue Integer 0
(201) INT4 ConstantValue 0 ConstantValue Integer 0
(205) INT4 ConstantValue 0 ConstantValue Integer 0
(209) INT4 ConstantValue 0 ConstantValue Integer 0
(213) INT4 WBTW WBTIME PGSHeader Integer 101
(217) INT4 FloatingDatum POSNMO PGSHeader Float 0
(221) INT4 TotalStatics 0 ConstantValue Integer 0
(225) INT4 ConstantValue 0 ConstantValue Integer 0
(229) INT4 ConstantValue 0 ConstantValue Integer 0
(233) INT4 ConstantValue 0 ConstantValue Integer 0
(237) INT4 FloatingDatum 0 ConstantValue Integer 0

## 6.9 Appendix 9 – Powerpoints Hyperlinked in Parameter Testing (Section 4)

01_SR_SRME.ppt
02_SRME..ppt
03_SRME.ppt
03a_SRME.ppt
04_VEL2.ppt
05_Demult.ppt
06R_Demult.ppt
07_Shotcomp.ppt
08_VEL2_3DPSTMQC.ppt
09_VEL3_slices.ppt
10_3DPSTMQC_slices.ppt
11_3DPSTMQC_stks.ppt
12_VEL4_slices.ppt
12a_VEL4_dense_slices.ppt
13_2DPSTMQC_stks.ppt
14_3DPSTM_anggaths.ppt
14a_3DPSTM_anggaths_revised.ppt
15_Post-vel4comp_stks.ppt
16_ZP_Q_comp.ppt
17_DAS.ppt
18_BIN_SIZE.ppt
19_RAW_ANGSTK.ppt
20_FINAL_stks.ppt